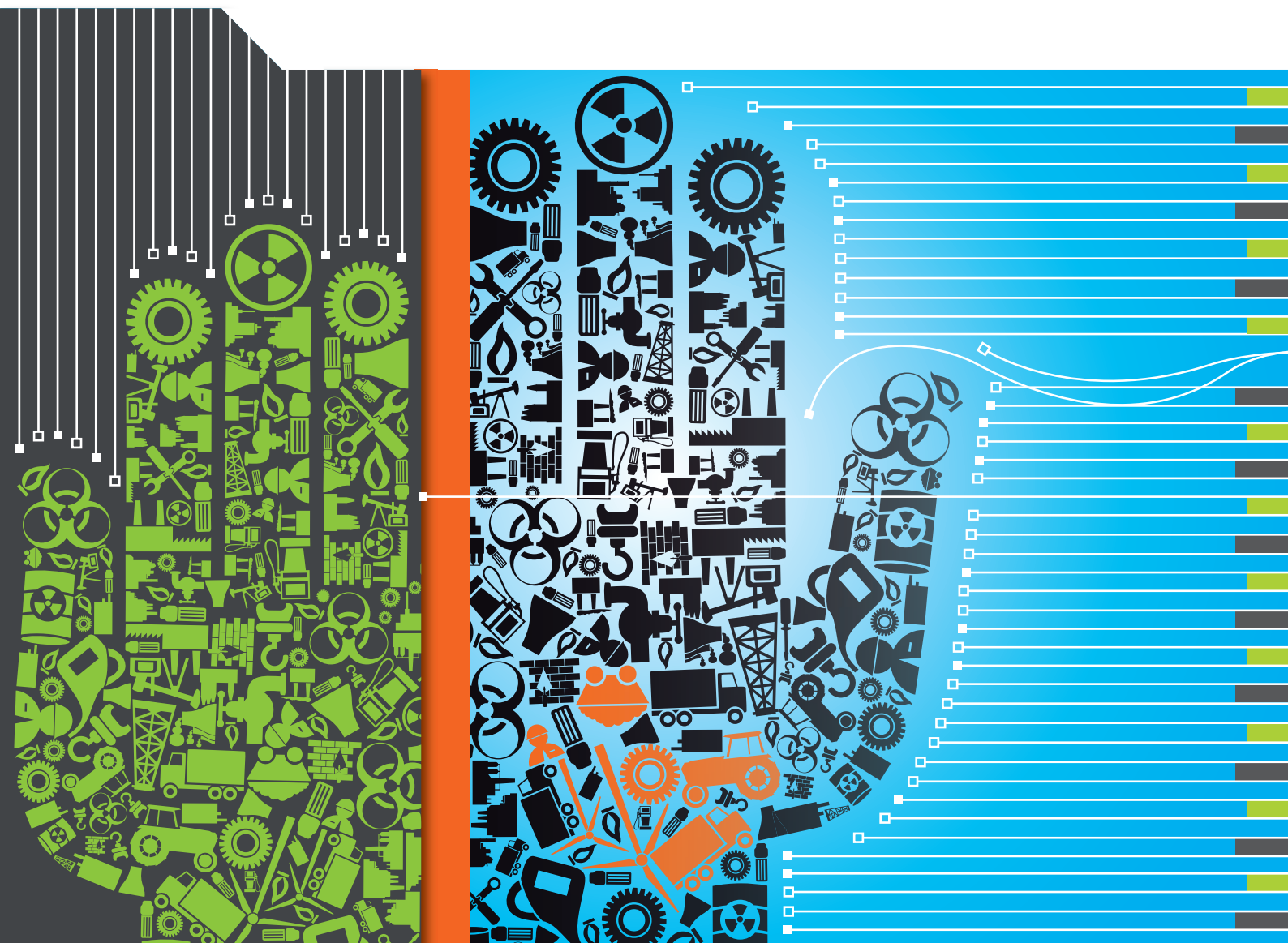




OECD Skills Studies

Skills Development and Training in SMEs



Local Economic and Employment Development (LEED)

Skills Development and Training in SMEs

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Preface

The main assets for any firm, especially small and medium sized enterprises (SMEs) are their human capital. This is even more important in the knowledge-based economy, where intangible factors and services are of growing importance. The rapid obsolescence of knowledge is a key feature of the knowledge economy.

However, we also know that for a small business it is very difficult to engage staff in education and training in order to update and upgrade their skills within the continuous or life-long learning approach. Even in the 21st century there is still a huge difference between large firms and small firms when we talk about workforce development. Small businesses cannot do it alone – they need to engage in partnership with local providers of training and local authorities. It is from within the local labour market's neighbouring areas that the supply and demand of labour should be matched with the skills and training required, but in many countries all too often the provision of training for small businesses is overly centralised and supply driven.

The findings of this report show that skill upgrading mechanisms for SMEs should rather be decentralised and demand-driven. This implies a major structural reform in the way in which the interaction between local authorities of Vocational Education and Training (VET) and the enterprises are structured. We also have to consider that regional universities have a role to play in this context, because the third mission of universities, after teaching and research, consists of supporting the local economies of the area in which they are located. In particular, this involves supporting SMEs in their innovation processes – another way of informal skills upgrading. In the relationship between industry and university, most of the interaction occurs with large firms. It is high time for universities to engage also with SMEs.

The results presented in this report show the emerging direction that skills development and training needs to take in order to stay relevant to SMEs. The report presents novel data from 1 081 SMEs on the training activities of microfirms, a group of firms that all too often cannot be captured adequately via statistical collections. Finally, the report calls for action by policy makers and training providers. The work the OECD Centre for Entrepreneurship, SMEs and Local Development, and the Local Economic and Employment Programme (LEED) have carried out through this study puts its finger on one of the critical factors that needs to be addressed if we want our countries to stay competitive and tap into new sources of growth and job creation.

Sergio Arzeni
Director

OECD Centre for Entrepreneurship, SMEs and Local Development

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Acronyms

CEDEFOP	European Centre for the Development of Vocational Training
CME	Canadian Manufacturers and Exporters Association
CO₂	Carbon dioxide
CPIT	Christchurch Polytechnic Institute of Technology
CTE	Career and technical education
CVET	Continuing Vocational Education and Training
CVTS	Continuing Vocational Training Survey
ESF	European Structural Fund
ESITO	Electricity Supply Industry Training Organisation
EU	European Union
GBM	Group-based mechanism
GDP	Gross domestic product
GFC	Global financial crisis
HR	Human resources
HRD	Human resources development
HRDC	Human Resources and Social Development Canada
ISO	International Organization for Standardization
IT	Information technology
ITO	Industry training organisations
KISA	Knowledge intensive service activities
LEED	Local Economic and Employment Programme
LSC	Learning and Skills Council
ME	Medium-sized enterprises
METU	Middle East Technical University
NESS	National Employer Skills Survey for England
NGO	Non-government organisation
NZD	New Zealand dollars
OECD	Organisation for Economic Co-operation and Development
OHS	Occupational health and safety
OIZ	Organised industrial zone
OSTIM	Middle East Industry and Trade Centre
PIAAC	Programme for the International Assessment of Adult Competencies
R&D	Research and development
RDA	Regional development agency
RSP	Regional Skills Partnership
SE	Small-sized enterprises
SFA	Skills funding agency
SMEs	Small and medium sized enterprises

TSME	Leveraging Training and Skills Development in SMEs Project
VET	Vocational Education and Training
WEM	Workplace Education Manitoba
YPLA	Young People's Learning Agency

Executive summary

The *Leveraging Training and Skills Development in SMEs* (TSME) project examines access to training by SMEs across seven regions in six OECD countries and the policy issues related to low access rates of SMEs to training and skills development. A further related issue is how to recognise the increasing importance of informal training and/or alternative skills development methods, such as knowledge intensive service activities (KISA). The project used surveys and case studies to look at how both formal and alternative ways of training and skills development interact. It identifies impacts at three levels: for the firm and employees; for the industry; and for the local area in which the firm is located. The project contributed to the “OECD Skills Strategy”.

The seven regions participating in the project are: East Flanders (Belgium); the Middle East Industry and Trade Centre (OSTIM) industrial zone in Ankara (Turkey); Canterbury (New Zealand); the Zagłębie sub-region (Poland); the West Midlands region (United Kingdom); and Quebec and Manitoba in Canada.

A number of different factors drive training activities for SMEs: for firms it is the market, the need to remain competitive in what is offered to customers; for employees it is acquiring skills that can lead to better jobs and remuneration; for communities, the driver is to create dynamic industrial and labour markets that survive economic downturns and provide a variety of employment opportunities and increased local development.

Summary of results

Findings from the TSME project highlighted seven important characteristics of training and skills development activities in firms across the regions and countries involved in the study. These characteristics refer to common training implementation variables among SMEs and areas of significant variation in SME training patterns. They show that market forces dominate current and future take-up of opportunities for skills development.

1. SMEs use both formal and informal training

Survey and case study analysis indicates that firms and employees use both formal training and informal knowledge intensive service activities (KISA) as ways of learning in order to acquire the knowledge and skills they need, particularly for their innovation and entrepreneurial processes.

2. Better outcomes reported from informal training

Firms report better skills development outcomes from informal training and skills development activities (particularly through participation in knowledge intensive service

activities) than from formal vocational training. This is particularly the case for highly skilled employees, and highlights a critical area of divergence between high- and low-skilled employees. It is possible that there would be similar positive outcomes for low-skilled employees if they participated more in KISA and other informal skills development within the workplace.

3. Significant variations exist across regions and employee skill levels

Survey results showed varying training and skills development activities across regions and countries, and between high- and low-skilled employees across countries. High- and low-skilled employees, overall, have equal access to training and skills development, but there are significant differences related to participation in alternative training and the type of training undertaken in both employee groups.

4. Training for highly skilled employees focused on productivity-enhancing skills

The main skills development areas for low-skilled employees are generic, routine, occupational health and safety, and information technology (IT) skills, whereas for highly skilled employees, the focus is on productivity and competence-building skills areas (e.g. technical and management skills, entrepreneurship), and, to the extent that they are undertaken at all, green skills. This applies to both manufacturing and service firms. Skill level also differentiates the knowledge-sourcing environment of employees, with high-skilled workers appearing to have more complex knowledge-sourcing environments than low-skilled employees.

5. “Growth potential” SMEs focused on productivity enhancing skills via informal training

Highly innovative and exporting firms were used as proxies for “growth potential” firms. In these firms, although the overall rate of participation in training activities was not vastly different to the survey population as a whole, the skill areas targeted were markedly different. For “growth potential” firms, the concentration was on the productivity competence-building skills sets of business planning, management and also on technical skills. When comparing the results of “growth potential” firms against the survey population as a whole, rates of participation in informal training were twice as high as those of the rest of the firms.

6. Market forces are the primary motivation for SME training activity

Market forces are the main drivers for skills development in firms, particularly informal skills development. They result from in-house demands arising from product development or production needs, or as the result of financial adjustments (e.g. pressure to do more with similar resources), or participation in external private sector activities with clients and suppliers. Regulations and policies and other public incentives supporting training participation and business development are not seen as the dominant drivers for the majority of firms. Regulation and public policies are still important supports for training activities, but for most firms, the motivation for training activities initially stems from their need to respond to market forces.

7. “Growth potential” SMEs are most likely to take up opportunities in the green economy

Analysis shows that highly innovative firms are more likely to participate in innovative activity for the “green” economy, and also have a stronger focus on entrepreneurial skills.

Policy implications

Acknowledge that skills development is a resource intensive activity for SMEs

This study shows that most firms find it difficult to assess their skills needs. This is further compounded by decisions about training variables: formal versus informal; whether or not the training leads to a qualification; if it is for highly skilled or lower skilled employees, or both. SMEs have a finite amount of resources they can dedicate to these activities, so policy interventions need to focus on areas that offer SMEs a way to systematise their training practices. Also, recognising that skills development is a resource intensive activity, attention must be paid to demonstrating the benefits for firms of participating in training activities – in other words, the returns on their training and skills development investments must be sufficient to offset the costs. Public investments in training activities are also finite and should focus on areas where the return on public investment is highest.

Recognise and encourage skills development via informal/alternative training

The central policy implication emerging from the TSME study is that there needs to be recognition of skills developed informally, such as qualifications, in much the same way as there is for formal skills development. This does not mean a shift away from formal training for employees – there are instances where formal training is appropriate, for example, apprenticeships. About 80% of the current workforce will still be in the labour market in ten years’ time; they thus represent a central source of skills. Informal skills development represents a flexible and adaptive route for skills development within this population.

Recognition of informal training through qualifications also offers a pathway for skills development as part of an employee’s life-long learning activities. The results of the present study clearly show that firms use informal skill development more than formal skill development and that they are obtaining better outcomes from informal activities than from formal activities. In order to increase both the stock and quality of skills for SMEs, the qualifications system needs to find a way to recognise and encourage informal skills development.

Allow market forces to inform policy action

The survey results showed that both in-house and external market forces were the main drivers for firms’ training activities within their supply-chain or industry, rather than public sector skill development programmes. However, of itself this does not negate the need for government intervention in the provision of training support. There are many reasons in the areas of both market failure, and public good, where the market provides, and will continue to provide, suboptimal training and skills development, particularly for marginalised groups or individuals.

However, where a public policy intervention has an objective of requiring an action from SMEs, it is important to understand why and when firms are likely to act. Policy interventions need to be directed towards the points at which SMEs are making decisions about skills development and training activities within their firms. These will be different to the decision points at which employees seek skills development. Where possible, public sector activity aimed at increasing SME's participation in skills development activities should target areas where the market fails SMEs (e.g. a lack of information and incentives for training providers to offer customised training for SMEs), rather than public good objectives (e.g. training of employees in SMEs).

Allow for local responses, but demand a uniform focus on productivity skills

The characteristics of skill development vary across local areas and regions, and are strongly influenced by industrial concentrations and existing skill levels. The regional workshops, combined with the survey analysis, revealed the importance of the local context when it comes to collaboration between skills development activities in firms and training organisations.

However, there are some fundamental skills related to productivity, entrepreneurship, and, increasingly, green skills, which should become foundation skills sets for all firms. Local customisation should be encouraged to meet specific local needs, but not at the expense of these foundation and highly transferable skills.

Establish a community of practice

The need for regional/local customisation should be supported by a common platform of knowledge regarding how SMEs use training to develop skills within their workforces and what works, what does not work, and what are best practice activities across different regions or communities.

Overview of training and skills development in SMEs

by

Cristina Martinez-Fernandez and Samantha Sharpe

This report presents the findings from the Leveraging Training and Skills Development in SMEs Project (TSME). The report is the result of a three-year research programme and includes analysis of empirical evidence collected from official statistical sources, surveys and interviews with various businesses, case studies, and workshops.¹

Why study skills development in SMEs?

Small and medium sized enterprises (SMEs) are gaining visibility as both important players in the dynamics of international economies and as significant drivers of innovation and employment generation. Enhancing the environment within which SMEs interact with the economy is also improving, through a focus on human capital policies (skills and training) aimed at stimulating continuous innovation within SMEs as a means of driving growth.

However, while there is evidence that skills and training policies have positive effects on large firms, their impact on SMEs is limited, as is their effectiveness for, and indeed ability to reach, the lower skilled workers. Policies and programmes targeted at SMEs have been in existence for decades, but the gap between large and small firms still exists. Solutions to this situation will require both in-depth understanding of the contexts and issues related to training within SMEs, as well as innovation in the responses to these contexts and issues.

A further issue of interest arising from this research is understanding how skills development contributes to the fundamental competitiveness of businesses, regions and countries and how, recognising that skills development activities have a cost to businesses, employees and regions assess the returns they receive for their efforts in skills development.

The size of the firm appears to be an important determinant in the development of the workforce, specifically in terms of labour force participation in upgrading their skills. Data across OECD countries show that SMEs participate in 50% fewer training activities than large firms. There is also a systematic access gap: younger, better-educated workers in high-skilled occupations (such as managers, professionals and technicians) have greater access to training opportunities than the other workers.

The benefits of training and workforce development to both firms and employees are well established. However, despite these benefits, OECD research since 2003 has consistently demonstrated that small and medium enterprises are less likely to participate in training programmes than are employees in large enterprises. For less educated and older workers there is even less take-up of skills development.

Policy analysis confirms that formal training policies and measures targeting workers do not reach SMEs very well. Other policies targeting skills development via more informal competence building measures also seem unable to reach SME workers with low levels of skills and education.

Some evidence has shown that informal mechanisms are able to offer employers the flexible training delivery that suits the operation of SMEs, but are limited in scope for employees as informal training usually carries no formal recognition or qualifications. The policy challenge is to match the flexible and “needs-based” delivery mechanism of informal training that employers require, with a system of skills recognition that enables employees to receive qualifications for their knowledge.

Skills provide workers with one of their main sources of competitiveness and potential for improvement of living standards. In our knowledge-based integrated economies, the

quality of the labour force plays a powerful role in determining where capital goes and the strength of endogenous development activities. Accordingly, the OECD devotes significant efforts to understanding how best to stimulate skills development and vocational training, which has resulted in the recently launched “OECD Skills Strategy”.

The drivers of training and skills development activities in SMEs are multi-faceted. For firms, the drivers of training are market-based; designed to increase the competitiveness of their firm. For employees, OECD studies since 1999 have shown that participation in continuous education and training has a positive impact on workers’ performance. According to these studies, training raises a worker’s probability of being employed and improves re-employment chances when a worker has been laid off. There is also evidence that more skilled employees achieve higher wages and faster wage growth than equivalent employees with less training participation.

For local actors, including policymakers acting at the regional level, what drives support for training activities in SMEs is a combination of both company and employee motivators. Competitive firms and highly skilled, well-paid employees add to regional dynamism. This dynamism can protect regions from the worst impacts of economic downturns, and provide stimulus to a wide range of unrelated industries and employment, such as service industries.

Wage growth and wage-enhancement seem to be constant, regardless of educational attainment and type of training. OECD studies from 1999 have revealed that these incentives are also strong enough to protect workers from possible wage losses arising from job change. Enhancing the environment in which SMEs are embedded and within which they interact is also improving, through the policy focus on human capital policies (skills and training) aimed at stimulating continuous innovation in SMEs (Lal and Dunnewijk, 2008).

The knowledge gap in SME’s skills development

Although there is recognition that low levels of training participation by staff within SMEs impact the employees’ productivity and labour-force mobility, as well as the company’s productivity and adaptability to what is an increasingly knowledge intensive business environment, questions about the dynamics of these impacts remain. These questions include:

- What is the impact of skills development on knowledge intensive or productivity enhancing activities in SMEs? What is the impact of these activities on employability of the labour force, particularly the lower qualified?
- How can SMEs increase the participation of low-skilled and low-qualified employees, particularly informal skills development such as KISA (knowledge intensive service activities)? What incentives and mechanisms can be provided to employers to increase this participation?
- How can the skills developed through informal activities be recognised with formal qualifications?
- How can the different networking elements across the supply chain of SMEs and local innovation systems contribute to a greater participation of the labour force in training and skills development activities? What examples of best practices are available in OECD countries? What are the lessons both for productivity enhancement and workforce development?

Approach and methodology

The TSME project approached SME skills development from two perspectives: the company level and the local/network level. At the company level, the project examined how informal activities influence labour force development and skills upgrading of different groups of employees (knowledge and so-called routine workers). At the local/network level the study analysed the different elements influencing local training and skills upgrading and the level of training by SMEs in the area.

The project included case studies in six countries: Belgium, Canada, New Zealand, Poland, Turkey and the United Kingdom. SMEs were selected from various low-medium technology industry sectors such as forestry, manufacturing, tourism, insurance, and from various high technology sectors.

There were three sources of empirical data collection within each of the country case studies: an electronic survey of the firm; a skill ecosystem workshop; and case studies of the selected firm. The in-country data collection was complemented by various cross-country analyses, including a background official statistical report, which compared available statistical evidence on SME training and skills development activities across OECD member countries; a preliminary cross-country survey report, which compared preliminary survey results between the case study countries; and this final integration report, which presents analysis and conclusions from across all of the TSME study activities and draws policy conclusions for SME skills and training development in OECD member countries.

Conclusions and policy implications

Findings from the TSME project have highlighted four important characteristics of informal training and skills development activities in firms across the regions and countries involved in the study:

- Firms are using both formal and informal training for skills development.
- Some firms get better results from alternative rather than formal training.
- There are areas of significant variation across countries, skills areas, and training types.
- Market forces drive training activities.

Firms use both formal training and KISA for skills development

Survey and case study analysis indicates that firms and employees use both formal vocational training and alternative, knowledge intensive service activities (KISA) ways of learning to acquire the knowledge and skills they need, and specifically the skills needed for their innovation and entrepreneurial processes.

Formal training programmes within firms, such as learning circles, and job rotation, exchanges or secondments have limited participation by SMEs (probably due to their lack of critical mass), which suggests that these firms could benefit from a network approach to this type of learning, such as that more commonly utilised by large firms. For example, several SMEs could join together to organise learning circles or exchanges of personnel within an industry cluster or value-chain.

Recruitment is the main form of bringing in new, and updating old, skills in the firm. This is a major barrier to company innovation and competitiveness if the sector in which the firm operates evolves rapidly and needs to adjust its knowledge base. A recent report, by the European Centre for the Development of Vocational Training (Cedefop, 2010), noted that employment growth over the next 10-15 years will be predominantly in knowledge and skills

intensive occupations, and that the labour market for these employees will be strong. SMEs will be less able in the future to recruit new employees to fulfil their skills needs, and therefore plans for improving the skills of their workforce need to be part of SMEs' business operations.

SMEs in most countries do not use external training centres for their workforce development, but some notable examples in countries such as Denmark and Italy indicate that the culture and tradition of training to a large extent influences organisational strategies for participation in training.

The use of external training advisory services presents a similar pattern for SMEs as for large enterprises, which indicate that policy instruments facilitating the use of external providers for training and skills development are well in line with SMEs' use of these instruments, and could be further developed and promoted as a strategic approach to workforce development in SMEs.

Some firms obtain better results from KISA

A significant proportion of firms report better skills development outcomes from informal training and skills development activities (particularly through participation in knowledge intensive service activities) than via formal vocational training. This is particularly the case for highly skilled employees, and highlights another area of divergence between high- and low-skilled employees. It is possible that similar positive outcomes would result for low-skilled employees if they participated more in KISA and other informal skills development activities in the workplace.

Areas of significant variation in SMEs' training patterns

Variations across regions and employee skill levels

Survey results show differing training and skills development activities across regions and countries, and between high- and low-skilled employees across countries. Analysis of survey results show that overall access to training and skills development is relatively equal between high- and low-skilled employees, but there are significant differences in participation rates for alternative training and the type of training undertaken by both employee groups.

Skill development for highly skilled employees focused on productivity enhancing skills

The main skill development areas for low-skilled employees are: generic; routine; occupational health and safety; and IT skills; whereas for highly skilled employees they are focused on productivity and competency building skills areas such as: technical; management; entrepreneurship; and, to the extent that they are undertaken, green skills. This holds true across both manufacturing and service firms. Skill level also characterises the knowledge-sourcing environment of employees, with higher skilled workers appearing to have more complex knowledge-sourcing environments than lower skilled employees.

"Growth potential" SMEs focused on productivity enhancing skills via informal training

Highly innovative and exporting firms were used as proxies for high growth potential firms in this research. Whilst realising that the dimensions of productivity in SMEs was not an overarching objective of this research, as with all applied business research, concerns for productivity and how it can be enhanced need to be top of mind.

In "growth potential" firms, the overall rate of participation in training, both formal and informal, was not vastly different to the whole survey population – however, the skill

areas in which these activities were focused was markedly different. For knowledge intensive firms, training activities were concentrated in the productivity competency building skills sets of business planning, management and technical skills. When comparing the results of knowledge intensive firms against the survey population, rates of participation in informal training were twice as high in the knowledge intensive firms.

This research shows that innovative and exporting firms are accessing more skills development in productivity enhancing areas such as business planning and management skills. The data show an association between these types of activities and the exporting and innovation also being carried out within these firms. Market forces dominate current and future take-up of skills opportunities.

Market forces are the primary motivation for SME training activity

The main drivers for skill development in firms, particularly informal skills development, are market forces. These result from in-house demand due to new product development, production needs, as the result of financial adjustments (pressure to do more with similar resources), or from participation in external private sector activities with clients and suppliers. Regulations and policies and other public incentives supporting training participation and business development are not seen as being the dominant drivers for the majority of firms. This does not mean regulation and public policies are not important supports for training activities, it is just that, for most firms, the drivers to carry out training activities in the first place arise from their need to respond to market forces.

Disadvantaged groups can lag behind

SMEs have lower levels of targeted training for disadvantaged groups, but for the training they do have, the highest frequency is directed towards employees without formal qualifications. The highest targeted training both by SMEs and large firms is for employees without formal qualifications and employees on fixed-term contracts. SMEs offer less training to employees at risk of losing their job when compared with large firms, and both small and large enterprises offer little training to handicapped employees. More attention also needs to be paid to disadvantaged groups' skills development in SMEs.

Policy implications

Skills development is a resource intensive activity for SMEs

This study shows that for most companies, assessment of skill needs is difficult, and is further compounded by decisions about training variables: formal versus informal; whether or not it leads to a qualification; if it is for higher or lower skilled employees or both. SMEs have a finite amount of resources they can dedicate to these activities, therefore, policy interventions need to focus on areas that offer SMEs a way to systematise their training practices. Recognising that skills development is a resource intensive activity also means that attention must be paid to demonstrating the benefits that firms will accrue by participating in training activities – in other words, the returns on their training and skills development investments. Public investments in training activities are also finite and should focus on areas where the return on public investment is highest.

Specific actions include:

- Co-ordinating public policy across local, regional and national levels in order to avoid the confusion experienced by SMEs in identifying their training needs and assessing the best options for their businesses.

- Including evidence gathered from previous programme evaluations and/or pilot studies of the costs and benefits of training activities, as part of advice and activities provided to SMEs.
- Encouraging co-investments by the businesses receiving publicly funded training advice and activities. These co-investments include both financial and in-kind activities (these could include providing advisory services, evaluating publicly funded activities in which they have participated). Incorporating some private cost components, either financial or in-kind, into the provision of training advice and activities encourages firms to apply investment decision-making to their training activities. This in turn will provide market pressure to the provision of training advice and activities because, if SMEs are assessing training activities on this basis, they will only use activities that deliver returns on their investment.

Accessing the potential for skills development via informal training

The central policy implication emerging from the TSME study is that there needs to be a pathway for informal skills development to be recognised through qualifications, in a similar manner to that of formal skills development. This does not mean a shift away from the provision of formal training for employees; there are instances where formal training is appropriate, such as in the case of apprenticeships. About 80% of the current workforce will still be in the labour market in ten years time; they represent a central source for skills development.² Informal skills development represents a flexible and adaptive route for skills development in this population.

The recognition of informal training via qualifications provides a means of achieving skills development in an employee's lifelong learning activities. The results of the study show clearly that firms are using informal skills development more than formal skills development and that they are getting better outcomes from informal activities than from formal activities. Therefore, in order to both increase the stock and quality of skills development for SMEs, the qualifications system needs to find a pathway enabling recognition and encouragement of informal skills development, and also for informal skills development to be analysed as part of the Programme for the International Assessment of Adult Competencies (PIAAC).

Encouraging firms to understand the value of “learning while doing” for both employees and the company's capability, and to build it more deliberately into their business plans and related purchasing and training decisions, is one mechanism by which to structure this type of skills development.

A re-orientation of skills development provides another mechanism. Skills development can be understood as a spectrum of activities, and firms need to be able to select the activities that provide the best fit for their circumstances.

Many of the barriers that confront SMEs when participating in formal training can be alleviated through informal mechanisms of skills development. Barriers such as identifying the right training providers, the right venue, and aligning training and business needs are not as prevalent in informal training activities; and this is even with the lower levels of available public resources that are invested in these types of training. Analysis of informal training activities, such as KISA, is also in its infancy; official statistics rarely collect information on informal training activities.

Specific areas of action include:

- *Incentives need to be provided to encourage formal training organisations and providers to develop pathways for recognising informal skills development with qualifications.* Training for SMEs is very supply-side driven, SMEs do not have the resources or volume to demand changes

to the training providers' activities. Training providers need to become more responsive to SME demand, but also need to be given the resources to achieve this. Training providers face a competitive marketplace; if we look at this on a fee-per-student basis, a profit margin is easier to achieve from servicing larger firms than smaller firms. Incentives need to be provided to re-balance this dynamic.

- *Recognising informal skills development through qualifications will demand a greater role from industry and employee organisations.* One of the most often mentioned barriers stopping SMEs from participating in training (of both types) is lack of time. Although firms can demand more flexible training provision, they will again be time-constrained in their ability to participate in the development of frameworks that will see the translation of informal skills development into qualifications. However, training providers will need to receive this input from SMEs in order to encourage them to develop such qualifications; industry associations and employee organisations are in an ideal position to bridge this gap.
- *Further resources need to be invested in researching and understanding the dynamics of informal skills development.* Informal skills development should be a theme for the follow-up studies of the "OECD Skills Strategy",³ in order to provide further evidence and exploration of sector-based and national variations.

Allowing market forces to inform policy action

The survey results showed that the main driver for companies' training activities was a response to market forces, both in-house and external, within their supply chain or industry, rather than in response to the presence of public sector skill development programmes. This of itself does not negate the need for government intervention in the provision of training support; there are many reasons around both market failure and public good where the market does and will continue to provide suboptimal training and skills development, particularly for marginalised groups or individuals.

However, where a public policy intervention has the objective of requiring an action from SMEs, understanding why and when firms are likely to act is important. Policy needs to be able to intervene at the points where SMEs are making decisions about skills development and training activities within their firms. These points will be different to the decision points for employees seeking skills development. Where possible, public sector activity that is aimed at increasing SMEs' participation in skills development activities should target market failure areas for SMEs (i.e. lack of information and incentives for training providers to offer customised training for SMEs) rather than public good objectives (i.e. training of employees in SMEs).

In all cases, policy interventions should be accompanied by rigorous evaluations that can show the impact of policy interventions against objectives and provide important evidence to SMEs of the value of their training investments. The purpose of evaluation is not to ensure positive results, but to ensure lessons are learned and these are communicated. Policy innovation will be required to develop adequate responses to the challenges of this field; as with any innovation, failure is part of the process, however, as long as learning outcomes are recorded, no innovation is a failure.

Specific actions include:

- The development of a framework for acknowledgement of informal skills development through qualifications is the most desired intervention from SMEs participating in this research. Co-ordinated action in this direction is required from policy makers.

- Policy interventions should be accompanied by rigorous evaluations that can show the impact of policy interventions against objectives, and provide important evidence to SMEs of the value of their training investments.
- Evaluations should be designed to encourage policy innovation, not prevent it through risk averseness. The purpose of evaluation is not to ensure positive results, but to ensure lessons are learned and these are communicated.

Allow for a local response, but demand a uniform focus on productivity enhancing skills

The characteristics of skill development are different across local areas and regions and are strongly influenced by industrial concentrations and existing skill levels. The regional workshops, combined with the survey analysis, revealed the importance of the local context in collaborations between skills development activities in firms and training organisations.

However, there are some fundamental skill competencies around productivity, entrepreneurship and, increasingly, green skills, that should be foundation skill sets for all firms. Local customisation should be encouraged to meet specific local needs, but not at the expense of these foundation and highly transferrable skills.

Specific actions include:

- The design and dissemination of skills audits and other assessment tools to enable systematic and continuous advice to SMEs. Increasing participation in productivity enhancing skills should be a focus.
- Allow customisation of the above tools by members of regional skill ecosystems (including local networks, value-chain partners, business organisations, trade unions and other public agency intermediaries) to provide a varied local response.
- Local skill ecosystems – partnerships between training providers, local authorities, industry representations, trade unions and other labour market providers – have the ability to combine a diverse range of policy instruments that come from regional, national and supra-national sources and make them fit-for-purpose in their local community. This role is not widely recognised or resourced within the wider policy community and progress (including the below “community of practice” recommendation) should be made to improve this.

Establishing a community of practice

The need for regional customisation should be supported by a common platform of knowledge of how SMEs use training to develop skills within their workforces and what works, does not work and is best practice activity across different regions. Understanding both variation and best practice is an important task for policy makers, as it will allow them to select a mix of activities to encourage skills development in their particular circumstances and understand how and why these activities may encourage skills development in SMEs.

The establishment of a community of practice of regional skills development for knowledge sharing between regions will allow for the transmission and interpretation of best practice evidence.

Specific actions include:

- Establish a web-based community of practice platform, to enable information and knowledge sharing between regions and countries
- Use the forthcoming “OECD Skills Strategy” as a vehicle to disseminate information, latest research and best practice among members of the community of practice.

Outline of the rest of the report

The report is divided into two parts. Part I presents the results of the cross-country analysis of the case studies including:

- Chapter 1, country comparisons using official statistical sources for SME training activities.
- Chapter 2, country comparisons of SME participation in formal and informal training and skills development from the TSME survey.
- Chapter 3, participation in SME training according to other business characteristics such as sector, innovation and export orientation.
- Chapter 4, best practice in SME training and skills development from the TSME case studies.
- Chapter 5, cross-country analysis of SME training and skills development ecosystems, including identification of key elements at the local level.

Part II of the report presents key highlights from the country case studies in chapters six through to eleven.

Notes

1. This document and any map included herein are without prejudice to the status of or sovereignty over any territory, to the delimitation of international frontiers and boundaries and to the name of any territory, city or area.
2. OECD Skills Strategy (OECD, 2011).
3. Recognising the complexity of skills policies on the one hand and the potential for peer learning given the diversity of approaches to skills policies on the other, the OECD has developed a global Skills Strategy, aiming to integrate the data and knowledge about skills from different work areas across the Organisation and to support countries in identifying the strengths and weaknesses of their national skills policies and developing better skills policies for economic growth and social inclusion.

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PART I

**Cross-country analysis of skills
development approaches
in SMEs**

PART I
Chapter 1

Formal training and skills development: The state of play

by
Cristina Martinez-Fernandez and Samantha Sharpe

This chapter analyses formal training activities within small and medium sized enterprises (SMEs). It is anticipated that across Europe, most new jobs will be within knowledge and other skills intensive jobs. Results of the Continuing Vocational Training Surveys over the last few years are analysed, to determine levels of participation by small, medium and large firms in training and skills development activities, and the potential effects these training programmes will have on the future competitiveness of the SMEs. Areas investigated include: initial Vocational Education and Training (VET), specifically apprenticeships; and continuing VET (primarily that financed by the workplace).

From these results, policy implications are suggested, which are designed to enable SMEs to utilise the findings to develop or improve their current training regimes, and to draw the attention of government agencies to how best to positively influence these companies.

Company size and training activities

Company size is an important determinant of the level of participation in workforce development, specifically of labour force training and skills upgrading activities. Consistently, data across OECD countries show that SMEs participate 50% less in training activities than large firms. Drivers for these lower levels of participation include a lack of critical mass within the firm enabling them to afford (both financial costs and the cost of employees' time) and access formal training opportunities. Instead, SMEs are more inclined to participate in knowledge intensive activities as a way of learning new techniques or new ways to operate. This includes learning by interacting with consultants, suppliers or clients; or attending conferences, meetings or internal activities such as quality control activities. These activities, however, do not carry formal qualifications or standard training certificates and tend to benefit managers, business owners and the higher educated staff members.

This chapter analyses *formal* training activities within SMEs, drawing on official statistics, as part of the Leveraging Training and Skills Development in SMEs (TSME) project.¹ As formal training activities, particularly those activities leading to recognised qualifications, are more easily captured through official statistical collections, this chapter focuses more closely on these. Chapters two and three provide detailed results from a specially designed SME training survey conducted in six OECD countries; Belgium, the United Kingdom, Turkey, New Zealand, Poland and Canada. This survey focuses more closely on informal/alternative training activities and the outcomes for which firms are looking and have achieved from their training activities.

Box 1.1. Defining formal and informal training

Formal training refers to learning that occurs in an organised and structured environment (e.g. in an education or training institute or on the job) and is explicitly designated as learning (in terms of objectives, time or resources). Formal learning is intentional from the learner's point of view. It typically leads to validation and certification.

Informal training refers to learning resulting from daily activities related to work, family or leisure. It is not organised or structured in terms of objectives, time or learning support. Informal learning is, in most cases, unintentional from the learner's perspective.

Source: Cedefop (European Centre for the Development of Vocational Training) (2010), *Jobs in Europe to become more knowledge and skills-intensive*, Cedefop Briefing Note, February 2010, Cedefop, Thessaloniki (Pylea).

According to a recent report by Cedefop (European Centre for the Development of Vocational Training), Europe will generate around seven million jobs net (job creation minus job losses) by 2020. Most of these new jobs (8.5 million plus) will be in knowledge and skills intensive occupations, meaning that the demand and need for skills (including formal training and qualifications) will continue to rise (Cedefop, 2010). The recognition of the growing importance of more and more skills is in contrast to the fact that enterprises

with less than 50 employees provide significantly less employee training than larger firms (OECD, 2008, 2010). This remains true even for countries known for their strong training cultures, such as Denmark, the Netherlands, Norway and Sweden (OECD, 2010).

Box 1.2. Defining vocational education and training

Vocational education and training (VET) includes education and training programmes designed for, and typically leading to, a particular job or type of job. It normally involves practical training as well as the learning of relevant theory. It is distinct from academic education – for example mathematics, which is relevant to a very wide range of jobs. In the United States the usual term for vocational education and training is career and technical education (CTE). Education and training for some high level professions such as medicine and law meets the definition of VET but are not normally described as VET.

Initial VET includes programmes mainly designed for and used by young people (aged 30 and under) at the beginning of their careers and commonly before entering the labour market. It includes many upper secondary and tertiary programmes. *Continuing VET* are all other types of VET, including enterprise training of employees and training provided specifically for those who have lost their jobs.

These definitions and distinctions inevitably leave some blurred edges, since programmes can meet some of the relevant criteria but not all of them (for example, programmes designed for direct labour market entry but which rarely result in that outcome).

Source: OECD (2009), *Learning for Jobs, Initial Report*, OECD, Paris.

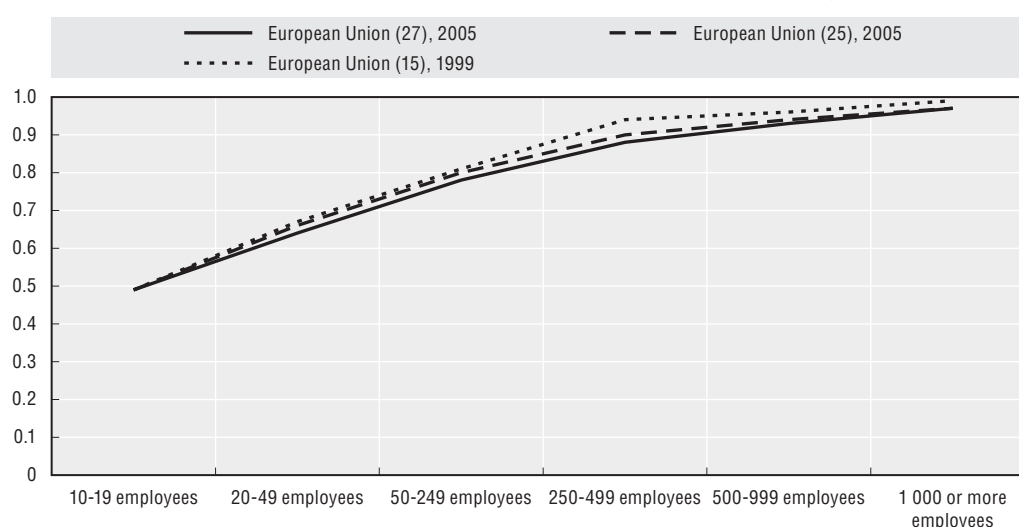
Continuing VET (CVET) can be further refined into categories on the basis of how the training is funded (by individuals, by public authorities, or by enterprises). This study is interested in training that is provided in the context of the work environment, therefore, the focus of this report is on this third category of Continuing VET – in which the training is in part or wholly financed by the company, and/or conducted by employees as part of their paid employment. Apprenticeships, which fall into the Initial VET category, are however, an important source of employee funded and conducted training, especially for SMEs. Therefore, discussion of this form of initial training is also presented.

One of the principal sources of data on Continuing VET within enterprises, including SMEs in Europe, is the “Continuing Vocational Training Survey”, CVTS for short. The CVTS is conducted every five years, previous survey years are 1995 and 2000. The following analysis is taken from the 2005 survey, CVTS3.² CVTS collected data on Initial VET for the first time in 2005. Data collected on the activities of SMEs are rare, making these data valuable forms of analysis into the training activity behaviour of SMEs.

Other OECD countries collect data on the training activities of firms within their country. While these data sources are not directly comparable, they provide evidence of the effect the size of the firm has on the likelihood that firms will participate in, and provide vocational training to, their staff. This report presents data collected through CVTS and other OECD sources.

SME participation in vocational training³

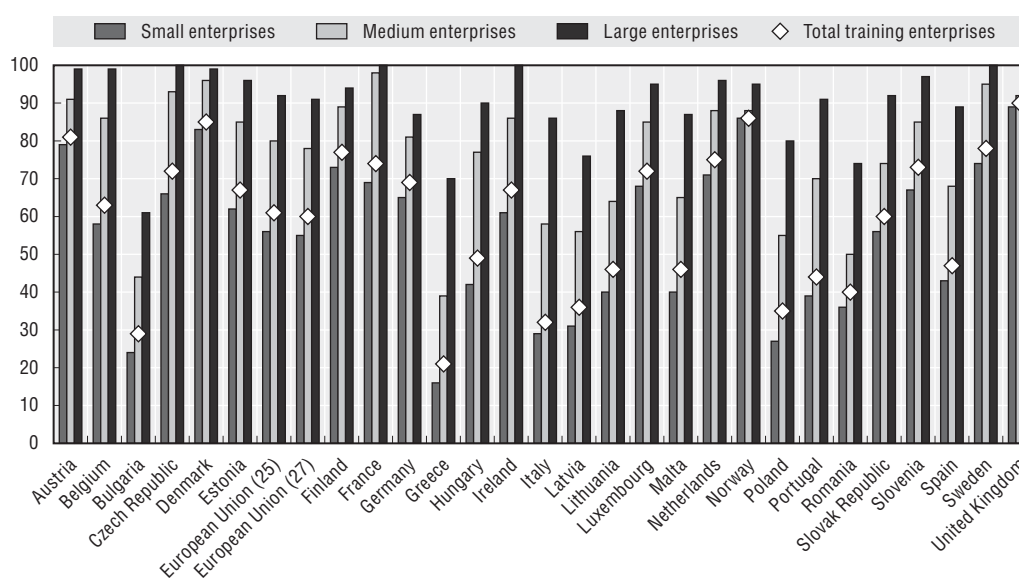
Figure 1.1 shows the CVET participation rate for both the 1999 and 2005 CVTS. There is little change in the overall rate of participation in the EU region for SMEs between the two

Figure 1.1. **Participation rates of enterprises by size in Europe (1999 and 2005)**

Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005 and EU Continuing Vocational Education and Training Survey 2004 *Survey year 1999.

surveys. The figures do show a small percentage decrease in CVET participation within large firms with 250-500 employees and the later two categories of large firms. The next CVTS survey in 2011 will indicate how this trend evolved and the financial crisis' impact on participation rates.⁴

Figure 1.2 shows the percentage rate of firms participating in CVET by size of firm in Europe.⁵ Small firms (defined as firms with 10 to 49 employees) have the lowest participation rates in CVET across all of the countries. Large firms (defined as firms with more than 250 employees) have the largest rates of participation in CVET. There is, however, significant difference between countries in the CVET participation rates of firms depending on the size of the firm.

Figure 1.2. **Participation in vocational training by size of firm in Europe (2005)**

Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005.

From analysis of the CVTS3 data (shown in Figure 1.2), in the small firm category, Greece had the lowest level of CVET participation, with only 16% of small firms engaging in CVET. Other countries with low levels of CVET undertaken by small firms include Bulgaria (24%), Poland (27%), Italy (29%) and Latvia (31%). At the other end of the scale, the United Kingdom had the highest level of CVET participation by small firms – with 89% of small firms listed as undertaking CVET enterprises. Norway (86%), Denmark (83%), Finland (73%) and Sweden (74%) also had high levels of participation.

For medium sized firms, the rate of participation in CVET increases. Greece again has the lowest rate of participation with only 39% of medium sized firms in the CVTS nominating that they participated in CVET. All other survey countries had rates above 40% and in most cases above 50% (with the exception of Bulgaria with 44%). The United Kingdom medium-sized firms also display high levels of participation (92%), but France has the highest level of participation (98%) and several other countries had participation rates above 90%, including the Czech Republic (93%), Denmark (96%) and Sweden (95%).

These results suggest two main findings. Firstly, that the rate of CVET participation in small firms is influenced strongly by country specific variables, potentially policy mechanisms. Secondly, that the participation rate of medium sized firms highlights the impact of increasing organisation size on CVET as well as country specific variables, i.e. that once firms become a certain size (more than 50 employees), this triggers increased participation in CVET.

The CVTS did not survey microfirms, or firms with less than ten employees. This means that for the majority of firms in OECD countries, no standardised source of data is available to assess microfirms' participation in training. The latest National Employer Skills Survey for England (NESS) in 2009 surveyed 79 000 employers on their training activities. This survey includes microfirms (firms employing two or more employees) as part of their sample.

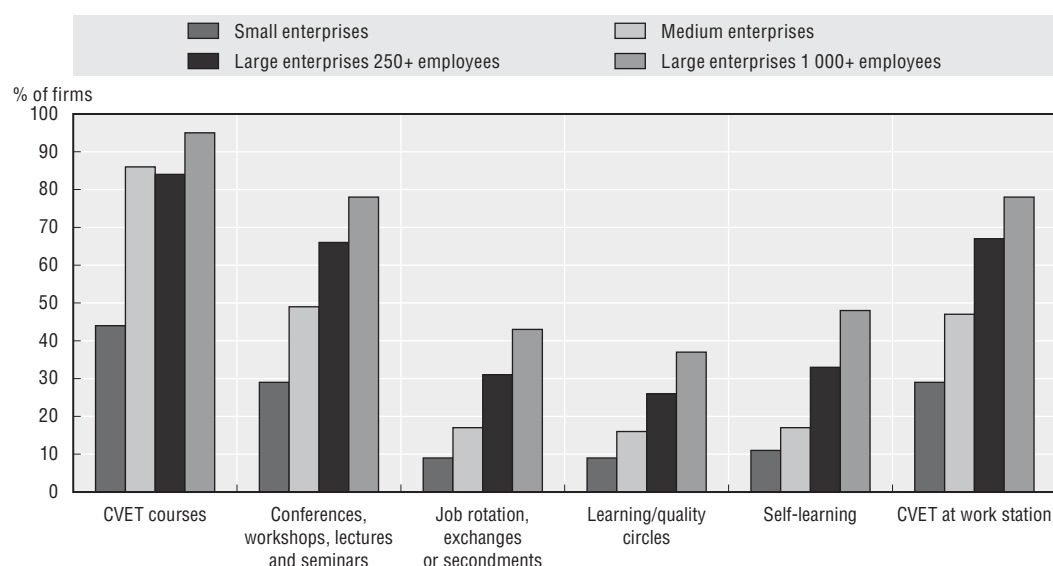
The NESS survey does not use the same categories of business size, and collects information on training based on the place of training (i.e. on-the-job training or off-the-job training), but the results for the smallest firms, microfirms, are clear. Almost half of firms with two to four employees (45%) participated in no training during 2009, with a further 16% only conducting on-the-job training (NESS, 2009). Importantly, the results also show that these smallest firms also have the highest levels of off-the-job training across all the company size categories.

Types of vocational training provided

The CVTS asked companies questions about the type of CVET training they provided or participated in during the reference year (2005). CVET includes training in the form of courses, but also activities such as: attending conferences, workshops, lectures and seminars;⁶ job rotations and secondments;⁷ learning and quality circles;⁸ self learning;⁹ and training at workstations.

Figure 1.3 shows that continuing vocational training courses were the most popular type of CVET used by firms of all sizes. More than 50% of large firms also used conferences, workshops, lectures and seminars, and training at workstations to provide CVET to employees. SME firms also favoured these methods, although at lower usage levels.

More internally focused and organised CVET such as job rotations, learning and quality circles, and self-learning were used extensively in larger firms, but not often used in SMEs (less than 20%). This implies that with these forms of CVET there may be a need for a certain critical mass of employees in order to make it viable.

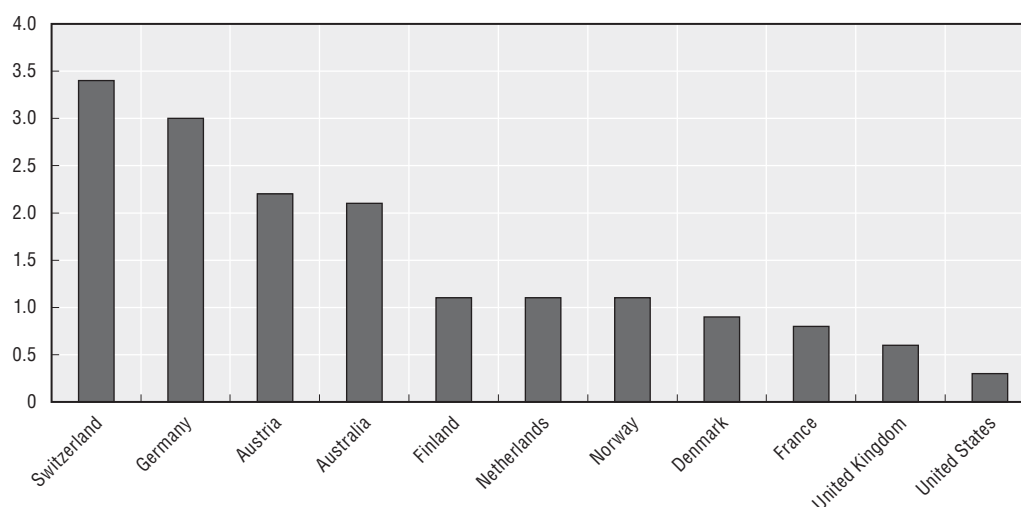
Figure 1.3. **Types of vocational training by size of firm in Europe (2005)**

Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005.

Participation in initial VET

Apprenticeships are one of the oldest and most established forms of initial vocational education, typically involving a contract for a period of two to four years leading to a formal qualification. During this period the apprentice receives formal training as well as on-the-job training and experience (OECD, 2009).

Figure 1.4 shows apprentices as a percentage of the labour force. The figure demonstrates that there are national differences in the number of apprentices. This can be traced back to very different institutional arrangements for apprentices. For example, in Switzerland, the size of the firm can affect the conditions of the training provision; in smaller firms an apprentice and master training relationship predominates, whereas in larger enterprises, apprentices spend up to 40% of their time in special workshops and training centres.

Figure 1.4. **Apprentices as a percentage of the labour force**

Source: NCVER (2005) using US Department of Labour and Cedefop data.

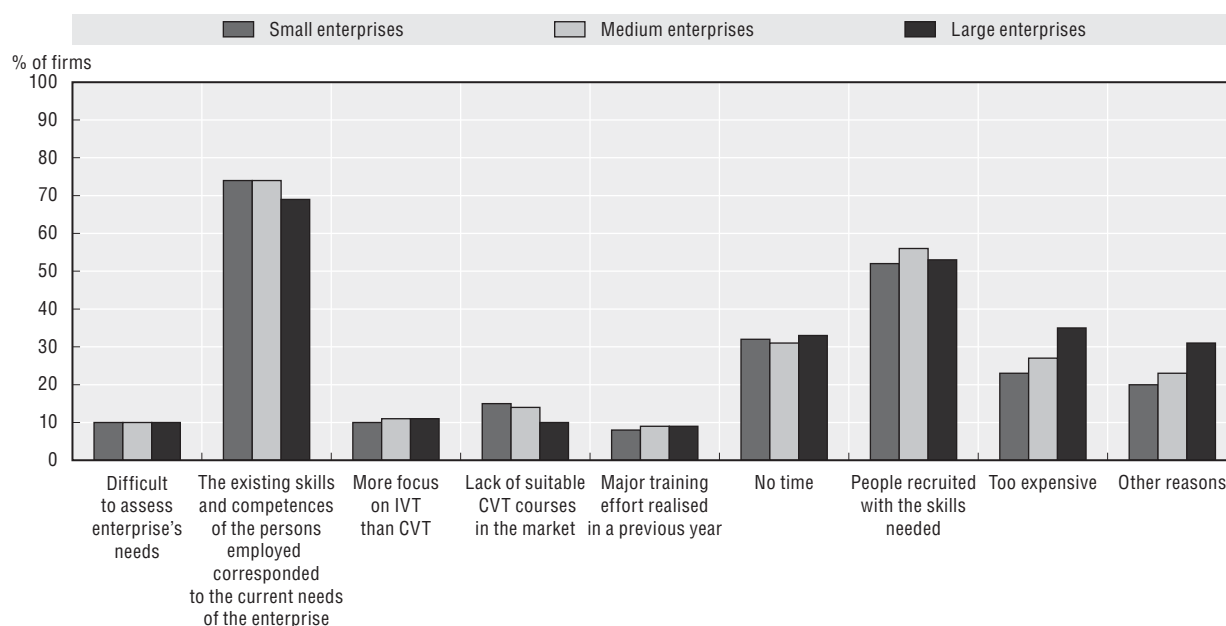
In Australia, there is also evidence that the number of apprentices increases with the size of the firm, with larger firms having a higher frequency of apprenticeships. More than 90% of microfirms (five or less employees) and more than 86% of firms with 10-19 employees do not have any apprentices, whereas 48% of larger firms (100+ employees) have apprentices in their enterprise.

Reasons firms may not provide training

When companies that did not participate in training were asked the reasons why they did not, responses were similar across companies of all sizes, as shown in Figure 1.5. The main reasons given for not participating in CVET were:

- The existing skills and competence of the persons employed corresponded to the current needs of the enterprise.
- People were recruited with the skills needed. This suggests that for non-training enterprises, recruitment rather than training provides the skills set for the firm. This strategy may prove adequate for industries with stable knowledge bases, but would not be appropriate for industries with rapidly evolving or changing knowledge bases.

Figure 1.5. **Reasons for not providing training (Europe, 2005)**



Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005.

The next two reasons given for not participating in CVET were, “no time” and “too expensive”. Surprisingly, the cost of training was more an issue for large firms than small firms, however, it is possible that this is more a reflection that there are only a small number of large firms that are non-training enterprises.

Other reasons given for non-training include: the difficulty in assessing the enterprise's needs and hence the training needs; the firm having more focus on Initial VET (apprenticeships) than CVET; or that the firm had conducted a major training effort in the year prior to the survey reference period. In most cases, these reasons attracted less than 10% of responses.

From this chart, a number of conclusions can be drawn. Clearly, all firms that do not participate in continuing vocational education do so because they believe they either already have or can recruit the skills their firm requires. Although the percentage response rates across the three categories of company (small, medium and large) are much the same, we know from analysis presented earlier (Figure 1.4) that many more large firms engage in CVET compared with SME firms. Thus, while the response rates outlining reasons for not providing training may be similar, for large firms, they only reflect the results of a much smaller number of firms; there are many more SMEs that rely on recruitment to procure skills than there are large firms doing this. When this analysis is examined in the context of figures discussed earlier regarding the future projected job growth areas (knowledge and skills intensive occupations), and the skills shortages that will occur in these areas, SMEs are going to be less able to rely on recruiting staff with required skills in the future, because there will be more competition for these skilled people in the labour market.

The response, “difficult to assess enterprise’s need” attracted less than 10% of responses. This could suggest two alternatives: either firms (particularly SMEs as we are referring to a larger sample) have no difficulties assessing their future skills needs; or, SMEs who are not providing CVET and are instead relying on recruiting skilled staff have not had to properly assess their skills needs in regard to training. With a competitive labour market for knowledge and skills intensive employees this scenario may change in the future. Skills needs assessments and the provision of CVET within a business are not activities that firms can pick up overnight. Firms need to develop skills and dedicate resources to CVET over a period of time in order to capture the benefits of CVET activities.

Processes of training provision in firms

This section looks in greater detail at the processes of training provision in firms that did provide CVET. These processes include: the use of tools; both internal and external providers of training; and the degree to which training is formalised within the firm. The CVTS asked companies questions regarding their use of training plans, training centres, and the types of resources provided within the firm (training budgets and dedicated personnel) for CVET.

There are clear differences in firms’ use of a training plan based on company size, with 28% of small firms, 47% of medium firms and 70% of large firms using training plans to guide their provision of training to their employees. Policy instruments that facilitate the development of this role in SMEs could offset the lack of dedicated resources to training management.

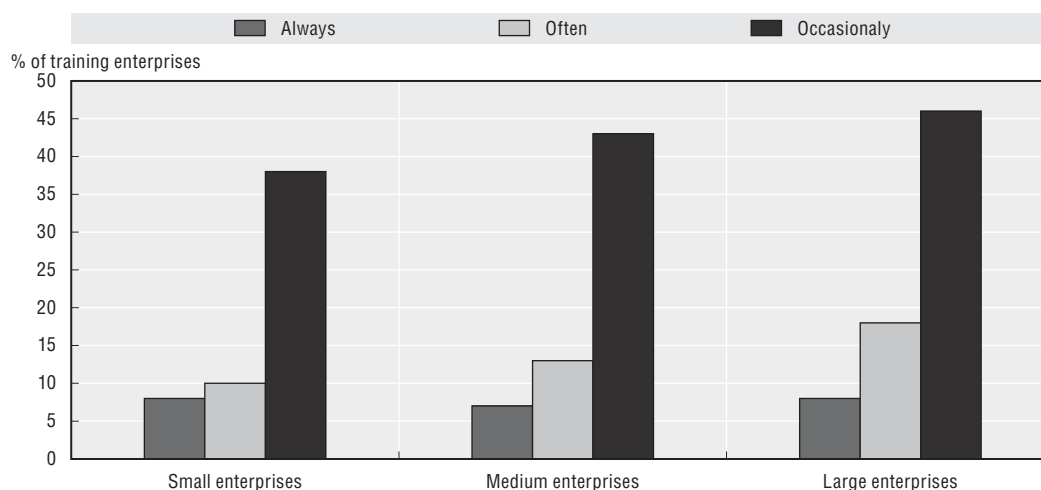
These differences are also reflected in the firms that had dedicated human resources responsible for organising and/or delivering training within the firm. Across the EU27 region, 36% of small firms, 52% of medium firms and 73% of large firms had dedicated people within their organisation to manage CVET. Across the EU27 region there was also significant variation between countries in the use of specific human resources (HR) training resources. Firms in Italy, Luxembourg, Portugal and the United Kingdom showed higher levels of dedicated HR for training activities than other countries. However, in the case of Italy and Portugal, this should be viewed within the context of low SME training rates reported earlier.

There is also evidence from Australia confirming this variation in quality of training according to the size characteristics of the firm. Research suggests that small firms are unlikely to have dedicated training staff (Hawke, 1998) and training offered tends to be unplanned (Vallence, 1997), informal and company specific (Seagraves and Osborne, 1997). While workplace training needs to yield benefits to employers in order to encourage them to offer sufficient training places, it should not be so organisationally specific that it inhibits future professional mobility (OECD, 2009).

When looking at the external resources of which firms make use for the provision of CVET, such as external training centres for the provision of all or part of CVET, or the use of external advisory services to provide training, the same characteristics related to size of firm exist, but not to the same extent. In the use of external resources, it might be expected that SMEs would seek to use external resources to overcome the critical mass/size liabilities that may limit their ability to offer training to their staff. However, this did not prove to be the case. Of all the enterprises that provided CVET, only 13% of small firms and 18% of medium firms made use of an external training centre for part or full provision of this training, compared with 24% of large firms. There were some notable differences: in Denmark, 56% of small and 78% of medium firms used external training centres; and in Italy the usage figures were also high, with 29% of small firms and 39% of medium firms utilising external training centres.

The results of the use of *external advisory services* were more even, as shown in Figure 1.6. Indeed, 38% of small firms used external advisory services occasionally to meet their CVET needs, with a further 18% using them on a more frequent basis (often or always). 43% of medium sized firms used these services occasionally, with a further 20% using them more often. When compared with large firms (46% occasionally and 26% more frequently), there is not the same large degree of difference seen in other CVET data. This suggests that external training resources are viable tools for SMEs in providing CVET.

Figure 1.6. **European training enterprises using external advisory services (2005)**

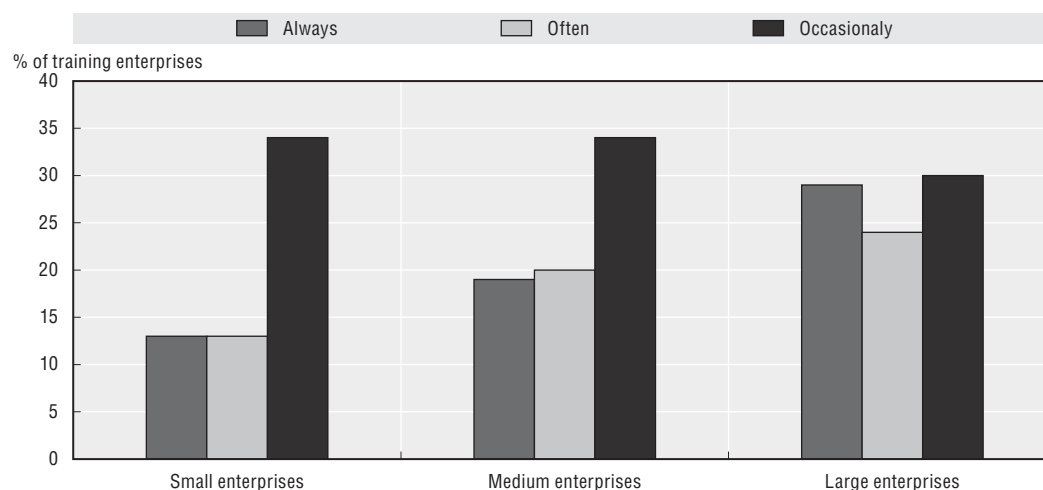


Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005.

Assessing skills requirements and undertaking training planning

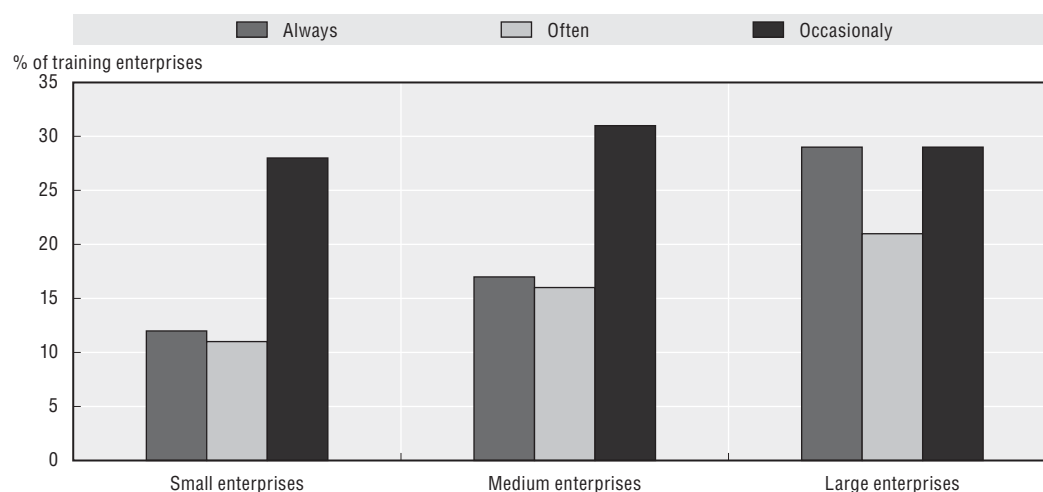
This section presents data regarding how firms assess their training needs, and plan for training and skills development in the future. Figures 1.7 and 1.8 show the percentages of

Figure 1.7. **Percentage of European enterprises assessing staff training needs (2005)**



Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005 (Eurostat 2009).

Figure 1.8. **Percentage of European enterprises assessing future skills needs (2005)**



Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005 (Eurostat 2009).

firms that assess the current training needs of their staff and the future skills requirements of the firm, and the frequency of this assessment. Company size characteristics again appear to be an influential force on current and future training and skills assessments.

Almost two-thirds of small firms (60%), 72% of medium sized firms and 82% of large firms in the EU27 region undertake assessments of the current training needs of their staff. Similarly, just over half (51%) of small firms, 65% of medium sized firms and 79% of large firms assess the future skills needs of their firm. Although these statistics point to the fact that a majority of firms of all sizes assess their current and future skills needs, what is telling about the differences between the company size categories, is the frequencies with which these assessments are being made. In SME firms, these assessments are more likely to be occasional, whereas in large firms these assessments are routine and happen with regular frequency. The assessment of both current and future skills needs shows the level

of preparedness that firms have to deal with industrial evolution and changing patterns of knowledge. *Ad hoc* or incidental skills assessments put SMEs in a weakened position for dealing with such changes.

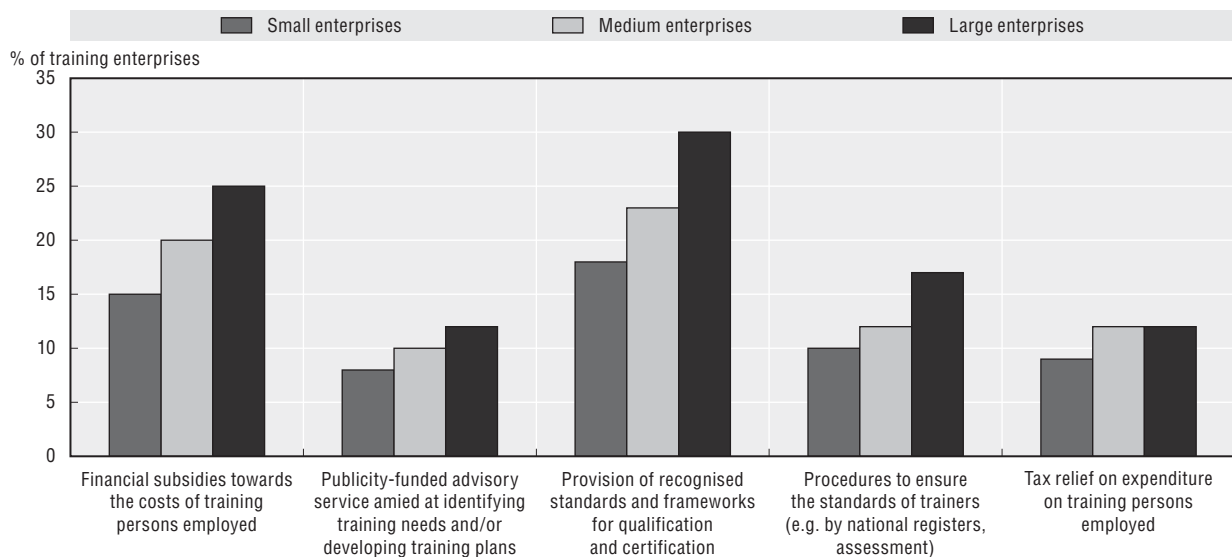
However, when the reasons influencing the scope of firms' CVET activities are analysed, the lowest stated influence factor for SMEs is difficulties in assessing the skills needs of the firm. It also appears that size of the firm has little influence on the factors stated by firms as influencing the scope of their training activities. The twin factors of "no time" and "no need" rated the highest in each of the different company size categories, followed by "too expensive" (with more larger than smaller firms giving this response), while "lack of suitable training" was listed by more than 20% of firms in each of the size categories.

Effect of public policy measures

This section looks at the influence of public policy measures on firms' training activities. In the CVTS, participating firms were asked about the positive impact of certain public policy measures on their training activities. Figure 1.9 shows the results for the three company size categories.

For SMEs across the EU27 region, the most powerful public policy actions that impacted (positively) on their training activities were: the provision of recognised standards and frameworks for qualifications and certificates; and financial subsidies in covering the costs of training. These were also the most influential factors for large businesses, but at much higher percentage levels (provision of recognised standards and frameworks was listed as having a positive impact on training activities in 32% of large firms compared with 18% of small firms and 23% of medium sized firms).

Figure 1.9. **Public measures' impacts on training for European enterprises (2005)**



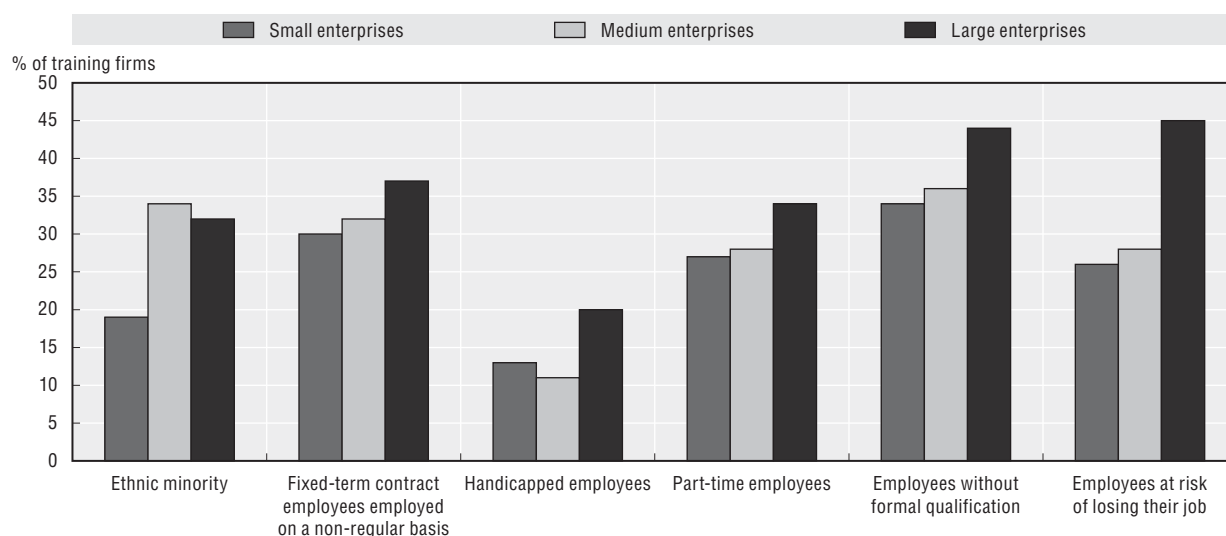
Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005 (Eurostat 2009).

The least influential factor in all company size categories was "Publicly funded advisory services aimed at identifying training needs and/or developing training plans". Only 12% of large firms, 10% of medium sized firms and 8% of small firms listed this as an important factor influencing the scope of their training activities. Re-examination of previous data seems to indicate that the reasons for this small level of impact may, however, be different

across the company size categories. Because most large firms had training plans, and regularly and formally assessed their training needs, the low rating in this instance could suggest a lack of need for the public measure. Whereas in the case of the SMEs, which in previous charts demonstrated lower levels of usage of training plans, and more *ad hoc* and occasional skills assessments, the low level of influence of this public measure could be a result of lack of knowledge about the measure, or lack of accessibility of the measure.

Public policy makers are also interested in targeting policy towards specific groups of people that may be disadvantaged in the labour market. Figure 1.10 examines the targeting of CVET by companies to specific employee groups, such as ethnic minorities, handicapped employees, and employees on fixed term contracts or at risk of losing their job with the EU27 region. As would be expected, large firms show higher levels of provision of specifically targeted CVET in all but one case – medium size firms have higher levels of training targeted at ethnic minorities than do large firms (34% compared with 32% respectively).

Figure 1.10. **EU27 enterprises providing focused training for specific employees (2005)**



Source: EU Continuing Vocational Education and Training Survey 2009 *Survey year 2005 (Eurostat 2009).

Over 40% of large firms provide specifically targeted CVET to employees without formal qualification and employees that are at risk of losing their jobs, with a third of large firms also providing targeted training to part-time, fixed term and ethnic minority employees. SMEs had lower levels of targeted training, with the areas of highest activity being directed towards employees with no formal qualifications, and employees on fixed term contracts. National differences also exist and suggest different regulatory requirements are placed on firms of different sizes in regards to such targeted training.

It is also interesting to note that the highest level of specific training provided by SMEs was in regard to employees without formal qualifications, suggesting that targeted training may be provided by employers in order to give employees formal qualifications. Referring back to the first section and overall impetus for this research – the assumption that SMEs were less likely to participate in CVET and, where they did participate in training, that it was more likely to favour managers and higher skilled employees with formal qualifications – these data provide a positive counter indication regarding the levels of training provision for lower skilled workers to gain formal qualifications.

Conclusions and policy implications

There is clear evidence that workforce size is an important determinant of a company's behaviour in relation to its participation in training and skills development. The 2005 *Continuous Vocational Training Survey 3* (Eurostat, 2005) conducted by the European Commission, showed that only 50% of small firms participated in formal CVET compared with 90% of large firms. These figures are unchanged from the previous survey in 1999. While there are significant national differences in CVET participation across the EU (Greek small firms had the lowest levels of participation at 16% compared with the United Kingdom small firms that had the highest, with 90%), in all countries, SMEs had lower levels of CVET activity than larger firms. These results are also reflected in data from Australia and New Zealand.

This chapter outlined some of the factors that SMEs take into account when making decisions on staff training, specifically:

- Internal training programmes such as learning circles, and job rotation, exchanges or secondments have limited participation by SMEs (probably due to their lack of critical mass) and it is therefore suggested that these firms could benefit from a network approach, utilising members of their skill ecosystem to generate similar economies of scale for training activities available to larger firms. For example, several SMEs could join forces to organise learning circles or exchanges of personnel within an industry cluster or value-chain.
- Recruitment is the main process for introducing and updating skills in the firm. This is an important barrier to innovation and competitiveness within firms if the sector in which the firm operates evolves rapidly and needs to adjust its knowledge base. The Cedefop (2010) report quoted in the introduction noted that employment growth over the next 10-15 years will predominantly be in knowledge and skills intensive occupations, and that the labour market for these employees will be strong. SMEs will be less able in the future to recruit employees to fulfil their skills needs, and therefore plans for the development of their workforce's skills need to be part of SME's business operations.
- Assessment of both current and future skills needs appear to be more casual in SMEs than in large firms where these assessments are routine and happen with regular frequency. This is especially critical for SMEs because, by failing to undertake skills needs consistently and systematically, they are risking lost competitiveness in the face of industry evolution and changing patterns of knowledge. As a consequence, SMEs might face new market challenges in a weak position and with increasing vulnerability. The evidence shows the critical need to assess the means and approaches for SMEs today towards their skills development, as this may differ from traditional measures of formal training participation.

Notes

1. The report OECD (2010), *SME Participation in Formal Vocational Education and Training (VET) in Selected OECD Countries* provides greater detail of the statistical analysis.
2. CVTS3 was conducted in 2006 for the reference period of 2005. The design of CVTS3 does not necessarily correspond with earlier versions of the survey, therefore longitudinal analysis is difficult.
3. CVTS data does not include firms of 10 or less employees within the survey sample.

4. At the time of preparing this report, data from the 2010 CVTS, for which data is collected across 2011-12, was not available. However, data presented here is still a valid source of trends in SMEs' participation in training.
5. The charts presented in this report primarily relate to the EU27 region unless otherwise stated.
6. Attendance at conferences, workshops, lectures and seminars are only counted as vocational training actions if the primary purpose of an employee attending is training/learning (Eurostat, 1999).
7. Job rotation and exchanges with other enterprises are only CVET if these measures are planned in advance with the specific purpose of developing or improving the skills of employees involved (Eurostat, 1999).
8. Learning circles are groups of employees who come together on a regular basis with the primary aim of learning about the requirements of workplace organisation, work performance and the workplace itself. It is a form of individual learning within groups.
Quality circles are working groups with the aim of discussing and solving problems regarding production and the workplace. Participants have to be integrated within the planning and controlling procedures of the enterprise (Eurostat, 1999).
9. Self learning through open and distance learning courses, video/audio tapes, correspondence courses, computer-based methods (including the Internet) or the use of a Learning Resources Centre is only continuing vocational training if it is the trainee/learner who manages the training time and the place at which the learning takes place (CVTS2, 1999).

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PART I
Chapter 2

Skills development on the ground: Formal and alternative approaches by firms

by
Cristina Martinez-Fernandez and Samantha Sharpe

This chapter investigates forms of knowledge sourcing for skills development other than formal approaches, including knowledge intensive service activities (KISA). A web-based survey questionnaire was supplied to firms in the participating countries. Analysis of the data obtained includes: skill levels of the employees (low, medium, high); age bracket; country; preferred training methodology (vocational education and training versus KISA); types of skills; outcomes from training by employee, company and local region effects; effects of the financial crisis on training activities; and motivations for skills development. Finally, policy implications resulting from this analysis are outlined, including noting that the types of skills development appear to be linked to the existing skill levels of employees, which is of importance because of its potential impact upon low-skilled workers' future employability.

In-depth analysis of access to formal and alternative training activities

The Leveraging Training and Skills Development in SMEs (TSME) survey¹ investigates the training activities of firms in more detail. The survey also examines other forms of knowledge sourcing in which firms participate in order to develop the skills profile of their staff, such as participation in knowledge intensive service activities (KISA). In both cases, the survey identifies the partners with which firms collaborate in these activities, and the outcomes of the training and skills development activities.

The research provides new empirical data on the behaviour of small and medium sized enterprises (SMEs) in training and skills development activities within their business. In the case of microfirms (small firms of 10 or less employees), this survey also represents one of the few data gathering opportunities for information on these firms. The majority of national statistical collections do not count these firms among their sample populations even though they make up a large proportion of the company population.²

The survey was guided by three research questions:

- What are the characteristics of training activities carried out in firms, including the distinction between formal and informal training and skills development activities?
- What are the characteristics of the employees that received this training?
- Is there variation between firms and employees in the training and skills development activities they undertook, and if so, what are characteristics of the firm, employee and training type that account for this variation?

This chapter is divided into four sections. The next section provides an overview of the survey methodology and respondents. The sections following address the results of the survey in relation to the first two research questions listed above. The following chapter examines the survey results in response to the third research question.

Survey methodology

The survey questionnaire was designed in consultation with panel members and steering committees from the participating countries (Belgium, Canada, New Zealand, Poland, Turkey and the United Kingdom). Many of the questions regarding training and knowledge intensive service activities have been used in numerous previous surveys (OECD, 2006, Martinez-Fernandez and Martinez-Solano, 2006; Sharpe, 2008; Martinez-Fernandez and Potts, 2008). This means the questions have been tested in prior survey settings and have a body of data against which the current data can be interpreted.

The survey was disseminated electronically via a website link to a dedicated survey platform hosted by the OECD, except in the case of Poland where the survey was disseminated via face-to-face interviews as this has been the most effective method in terms of number of responses to date. Participating countries collected the sample population from various sources, including industry databases and organisations such as business associations, chambers of commerce, or university business databases. There were a total of 1 037 responses to the survey.

A limitation of using web-based surveys is self-selection, as it is difficult to determine the representativeness of the sample compared with that of the total population of firms due to the ability for uncontrolled circulation of the survey to occur (Batinic and Bosnjak, 2000).

To counter-balance this potential bias, the research methodology involves multiple methods of data collection, including:

- analysis of previous studies of official training statistics (detailed in the previous chapter)
- in-country case studies
- training ecosystem workshops with training providers, training users and policy makers.

Analysis methodology

As noted in an earlier section, many questions in the survey have been previously tested in other company-focused surveys. As a result, there is an established methodology for interpreting responses, particularly for the KISA questions, which strengthens the analysis. The main method of analysis for this report is comparison across countries on tabulation of key variables, although comparisons are also made across industries and business size for selected variables.

Definitions of types of skills

Survey results presented in the next few chapters will refer to different forms of skill types. Definitions of these skill types³ are:

Generic skills – includes general information technology (IT) user skills, oral communication, written communication, numeracy and literacy, office administration skills.

Routine skills – includes repetitive, more basic, low knowledge-intensive skills.

Technical/Advanced skills – skills required for problem solving; design, operation, rethinking and maintenance of machinery or technological structures; IT professional skills.

Management skills – skills related to business planning; complying with regulations and quality control; human resources planning (recruitment, training and skills development); and allocation of resources.

Social skills – includes a motivation to develop, and appreciation of people's characteristics in relation to individual and team work; customer handling; appreciation of networks and value-chain partners.

Language and cultural skills – ability to communicate in more than one language, and appreciation of cultural characteristics of different ethnic groups.

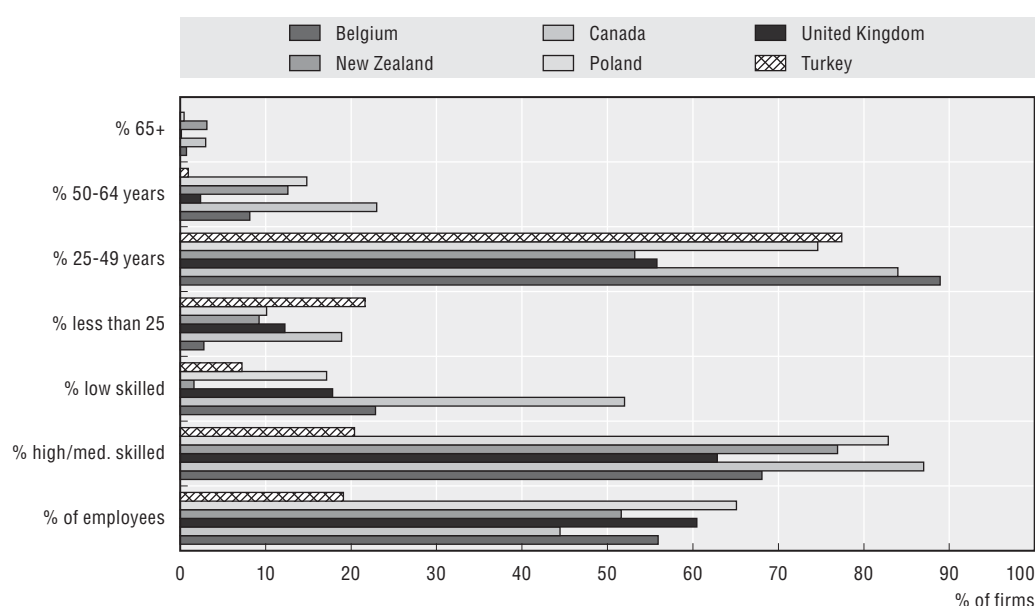
Entrepreneurial skills – specific skills for start-up companies, such as risk acceptance/management, strategic thinking, self-confidence, the ability to make the best of personal networks, and the ability to deal with challenges and requirements of differing natures.

Characteristics of training and skills development in SMEs

Formal training and skills development

Participation

The survey results show areas of differentiation and commonality across the TSME survey countries. The two groups of employees that appear to have the highest levels of participation in formal training are high-skilled employees and employees aged 25-49 years old (see Figure 2.1).

Figure 2.1. **Formal training participation by various employee groups**

Source: TSME survey, 2011-12.

Conversely, low-skilled employees, and the older (50+) and younger employees (aged under-25) appear to access much less training. The exceptions of young employees in Turkey and low-skilled employees in Canada should both be noted. Young employees in Turkey access the second highest amount of training within the groups in Turkey (second only to employees 25-49 years old). Over half (54%) of Canadian low-skilled employees participated in formal training activities; compared with 2-23% in the other countries.

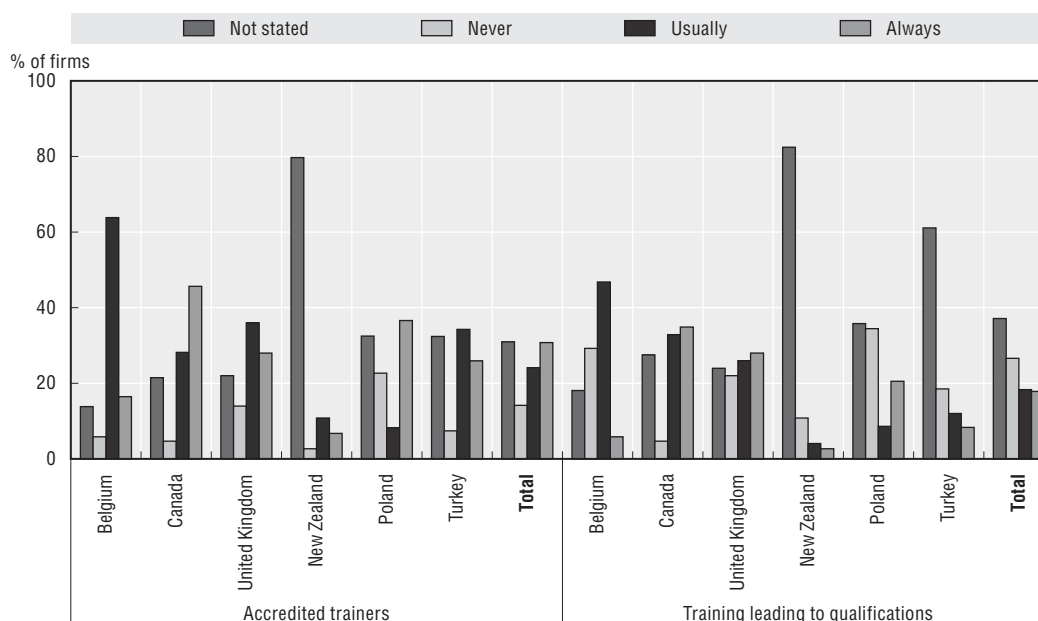
The implications inherent in these results are a widening of the skills and qualifications gap between higher skilled and prime age employees compared to younger and/or less skilled employees. This will have consequences for future knowledge levels within the workforce (i.e. as older workers retire) and the opportunities arise for lower skilled worker to reposition themselves in the workforce, in line with projections centred around the increasing knowledge intensity of developed country workforces (Cedefop, 2010).

Accredited training is the main source of formal training for employees

The quality of training can be assessed by the use of accredited trainers and whether or not the training results in a formal qualification. The assumed association between formal qualifications and quality product needs to be accepted with caution, however, as the survey has also established that many training activities are undertaken on a one-off basis, and formal qualifications are more likely to be awarded as a result of regular and repeated training activities.

The majority of firms in all countries, always or usually used accredited trainers for their training activities. Less than a quarter of firms reported that they never used accredited trainers, 23% in Poland, 14% in the United Kingdom and 6% in Belgium.

In contrast, the picture around training resulting in a formal qualification is more complex. In Belgium (53%), Canada (68%) and the United Kingdom (54%), more than half of surveyed firms said that formal training for their employees resulted in a recognised qualification. In Poland, companies' responses suggest that formal training was less likely

Figure 2.2. **Use of accredited trainers and formal qualifications by country**

Source: TSME survey, 2011-12.

to result in a qualification, with 34% of firms stating formal training never leads to a qualification, and 29% saying it did. In Turkey, only about 40% of firms responded to this question and the results were mixed: 20% of firms stating formal training resulted in qualifications for their employees; but 19% of firms stating training never resulted in qualifications.

Formal training outcomes according to employee's skill levels

The purpose of the TSME survey was to gather data on the amounts and types of training activities being carried out by SMEs. The survey also gathered data on the returns of these training activities for the firms, the employees involved in the training (from the perspective of the firm), and the returns more broadly for the local area and industry.

Firms generally nominated increased technical and management skills for employees as being the most important returns from training activity. This training activity is centred on higher skilled employees. Table 2.1 outlines the results across the two skill level categories. The table shows that where firms nominated outcomes from their training activities, management skills were almost exclusively for higher skilled workers.

This high- and low-skills split was also seen in the technical skills outcomes, although not to the same extreme extent across all countries. For example, in Canada, New Zealand and Poland, double the percentage of high-skilled employees were gaining development in technical skills compared with low-skilled employees. This was not the case in Turkey, where in fact 38% of low-skilled employees had technical skills outcomes, as opposed to only 27% of high-skilled employees.

Skills areas in which lower skilled employees had higher outcome levels were in the areas of routine and generic skills, although the percentages of firms noting outcomes in these areas varied across the countries. In the United Kingdom and Turkey, over 30% of firms noted generic and routine skills outcomes from training, while for Poland and New Zealand these accounted for less than 20%.

Table 2.1. **Outcomes of formal training in skills areas by country**

	%											
	Belgium		Canada		United Kingdom		New Zealand		Poland		Turkey	
	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low
Routine	23	13	19	17	20	48	4	3	17	6	16	29
Generic	29	12	15	11	18	52	1	15	14	4	8	12
Technical	32	19	47	14	60	14	14	0	25	5	27	38
Management	26	1	32	4	20	2	15	1	18	2	39	6
Social	20	7	20	2	16	40	11	5	20	5	23	11
Language	11	3	12	5	2	6	3	1	15	5	8	5

These areas of skills outcomes are not surprising given the basic association of skills level with higher functions within an organisation. Technical skills and social and language skills are productivity-enhancing skills and are the hallmarks of modern competitive firms.

Other outcomes for employees include employment progression and mobility. Higher skilled employees listed more outcomes in the three categories covered in the survey: employment progress, higher wages, and changing jobs. For example, in Canada 46% of high-skilled versus 26% of low-skilled employees had outcomes for employment progress as a result of their formal training activities. The United Kingdom is a notable exception; low-skilled employees showed higher levels of outcomes in terms of employment progress (20% versus 10%) and higher wages (52% and 10%) than high/medium-skilled employees.

Overall, there were fewer outcomes for both groups of employees related to changing jobs than the other two categories.

Firms were also asked about other outcomes from skills development including productivity, innovation and competitiveness, and whether outcomes impacted just the company, or whether they spilled over into wider outcomes for the industry and local area in which the firm was situated. In total, firms cited outcomes predominantly in increased productivity, and to a lesser extent market positioning and competitiveness.

By and large, the company realised the outcomes, but the survey highlights that spill-over outcomes were evident in each of these categories for the local region as well. In Belgium, 45% of firms, and 38% of Turkish firms cited outcomes in productivity to the local area from formal skills development activities. 20% of firms in the United Kingdom highlighted outcomes for the local region in market positioning, and 46% for climate change mitigation.

Importantly, it is clear that firms felt spill-overs went to the local region, rather than being industry specific. This means that skills development activities can positively benefit all industries in a local area, rather than being contained within an industry, which may or may not be present in large enough numbers within a local region to provide benefits.

Training access – informal/alternative activities

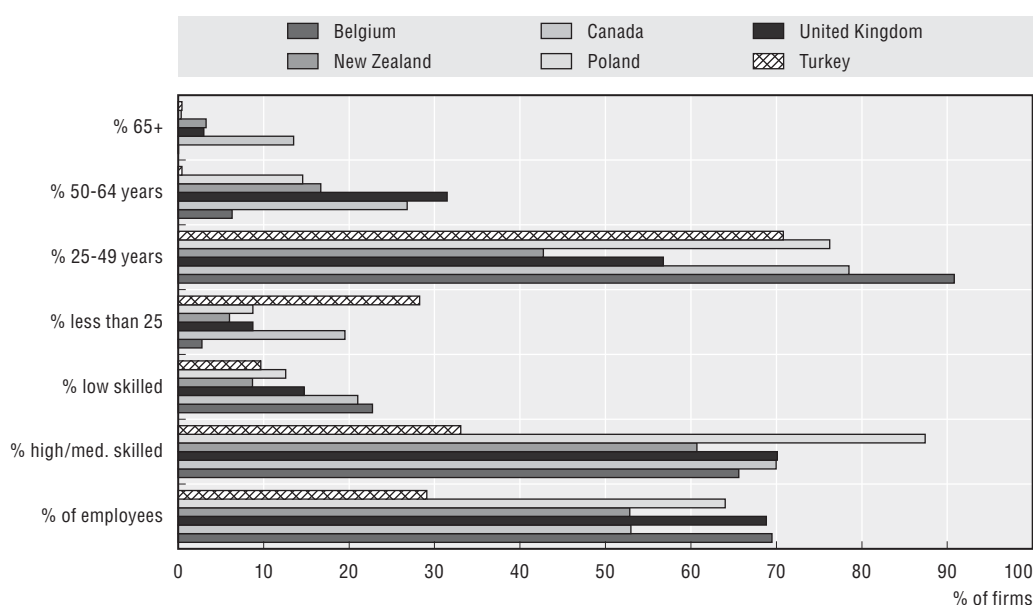
Formal training activities within firms do not constitute all the activities that firms engage in to increase the skills, knowledge and competencies of their staff. This next section investigates alternative ways of training, which includes activities such as: interactions with co-workers, suppliers, clients and consultants; and internal work projects to improve company processes such as quality assurance processes. In all of these

situations, skills and competencies are not gained through formal training programmes, but rather through a range of interactive activities called knowledge intensive service activities or “KISA”. KISA can explain the dynamics of training and skills development beyond formal programmes and are associated with innovation processes in both manufacturing and service firms (OECD, 2006; Martinez-Fernandez et al., 2011).

Participation

Participation in these activities is concentrated on high-skilled employees within the age group of 25-49 years (see Figure 2.3). In total, between 91% (Belgium) and 43% (New Zealand) of firms stated employees aged 25-49 years, and between 87% (Poland) and 37% (Turkey) of high-skilled employees have participated in these activities.

Figure 2.3. **Informal/alternative training participation by employee group**

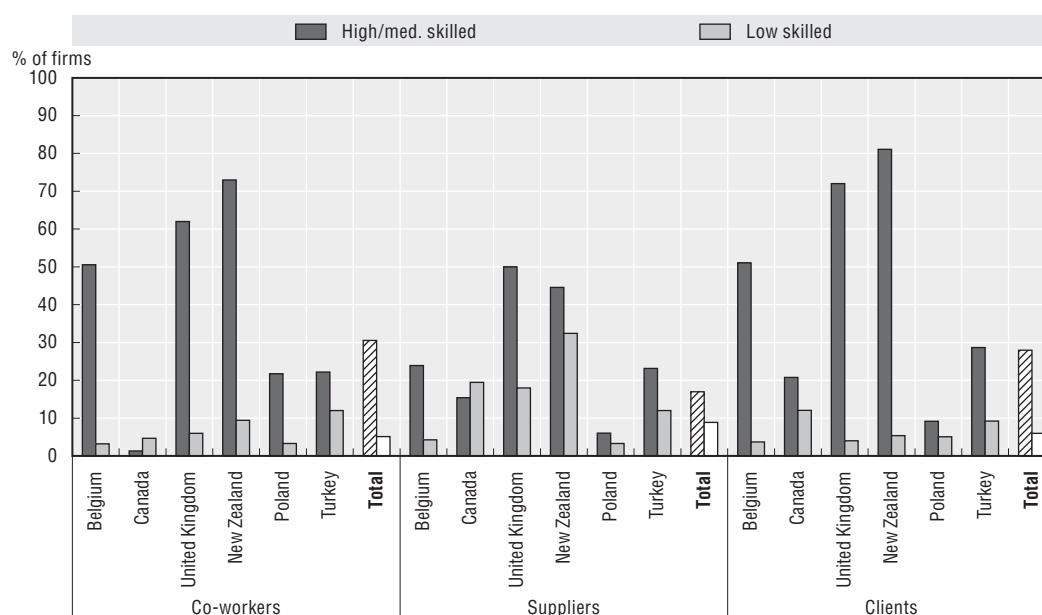


Source: TSME survey, 2011-12.

Informal/alternative training activities are sourced from a range of places, however, actors within a firm's supply chain are most likely to be the main, and most frequently accessed source of KISA. In New Zealand and the United Kingdom, the role of the supply chain in KISA provision is clear, with over 50% of firms sourcing KISA from co-workers, clients and suppliers. Figure 2.4 shows the variation in sourcing of KISA from the supply chain within the case study areas. Firms also used other external sources of KISA, such as consultants, other firms within the same industry or geographical cluster, and government departments and universities. These sources were accessed in lower amounts than the supply chain sources.

Outcomes of informal training

Outcomes for these other knowledge sourcing activities are assessed in the same way as formal training activities: by skill outcomes; by employee outcomes; and then by company, industry and local area outcomes. Outcomes by skills types report very similar trends to those seen in the formal training outcomes (see Table 2.2).

Figure 2.4. **Main sources of KISA by country and skill level of employees**

Source: TSME survey, 2011-12.

The main outcomes are again in management and technical skills. However, whilst the split of outcomes between high- and low-skilled employees is still evident, it is less pronounced than in the formal training outcomes. This suggests that KISA are perhaps used as informal/alternative methods of skilling employees at both levels without the formal structure and costs associated with training activities. Cross-country differences are also evident. Lower levels of activity are reported in Poland and Turkey in comparison to New Zealand, the United Kingdom and Belgium. The areas of lowest KISA for Turkey were generic and language skills, while the remaining areas were fairly evenly distributed. In Poland, technical, management and social skills have the highest outcomes for high-skilled employees. For lower-skilled employees, KISA outcomes were minimal.

Table 2.2. **KISA outcomes by type and skill level of employees**

	%											
	Belgium		Canada		United Kingdom		New Zealand		Poland		Turkey	
	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low
Routine	24	16	14	19	20	24	34	23	11	3	20	19
Generic	23	13	12	13	14	20	23	11	10	3	9	15
Technical	30	20	40	14	54	10	59	18	15	4	27	16
Management	20	1	28	3	56	2	72	9	13	0	27	7
Social	26	12	10	2	28	16	59	24	13	3	25	17
Language	5	4	4	2	14	4	15	7	5	1	15	7

Source: TSME survey, 2011-12.

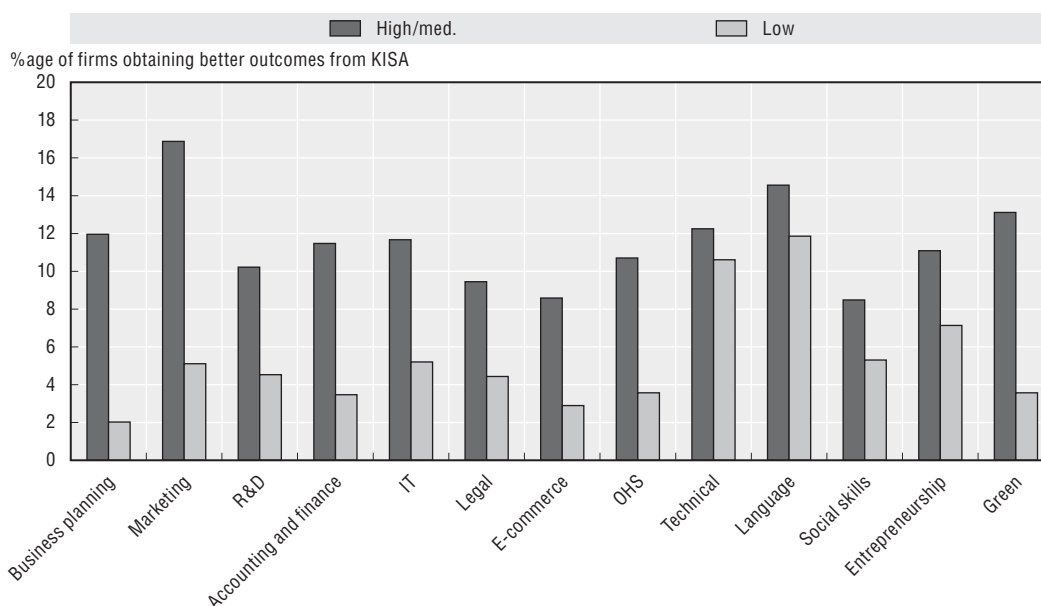
There is a low level of awareness or focus among the respondent firms about whether outcomes of training can impact their industry, and even less regarding the local area (20 km radius). This result indicates that much work needs to be done at the level of system strategies for the ecosystem in which the firm is embedded.

In the vast majority of cases, outcomes of training activities accrue to the firm. The main outcomes for the firm are: increases in productivity; upgraded skills; and increases in innovative activities. New Zealand, the United Kingdom and Belgium experience these outcomes at higher levels than Poland and Turkey; in the former, usually 50% of firms report these outcomes, whereas in the latter it is around 20-30% of firms.

Formal VET versus informal KISA skills development sources

Firms completing the survey were asked to compare both formal and informal training activities and comment upon whether or not informal KISA were better for skills development than formal activities (see Figure 2.5). Across all firms in all countries, KISA were perceived as a better source of skills and competencies for 20-40% of firms surveyed. There are differences across countries and between high- and low-skilled employees.

Figure 2.5. **KISA compared to VET for skill development by knowledge area**



Source: TSME survey, 2011-12.

In activities such as business planning, marketing, research and development and IT, companies reported better outcomes from KISA rather than VET for high-skilled workers than low-skilled workers. In areas such as occupational health and safety (OHS), technical, languages, and social and cultural skills, the better outcomes from KISA are more evenly distributed among high- and low-skilled workers.

These results could suggest that it is more the type of skill that benefits more from development through KISA rather than the type of employee. Therefore, the skills areas that are likely to be the domain of more skilled workers such as research and development, marketing and business planning show higher responses for high-skilled workers, whereas skills areas that are the focus of a wider range of employees, including low-skilled employees, are more evenly matched. How the skills development from KISA is better than that achieved through VET is worth further exploration via the case studies.

The results of KISA and VET have shown similar patterns of importance for both high- and low-skilled workers, so establishing exactly how KISA better impact skills development in these areas is essential for understanding how best to support KISA. In terms of cross-country differences, the same patterns of higher usage of KISA in Belgium, New Zealand and the United Kingdom compared with Turkey and Poland are again replicated in firms' perceptions of KISA as a better method of skills development.

Belgium has the highest percentage of firms reporting better training outcomes from KISA than VET in social and cultural, languages, occupational health and safety (OHS), legal, human resources (HR) and accounting skills. The United Kingdom has the highest percentage of firms reporting better outcomes in technical, e-commerce, IT, research and development, marketing and business planning. There could be sector-based differences underlying these results given the different composition of sectors in the Belgium and the United Kingdom samples. The final report will explore the effect of sector on the KISA/VET relationship in greater detail.

Turkey shows lower levels of overall benefits from KISA versus VET, but where KISA is seen as more beneficial, these results are evenly split between high- and low-skilled employees. For example, Turkish firms reported better outcomes from KISA for social and cultural skills (14% for high-skilled and 12% for low-skilled), in language skills, firms reported better outcomes from KISA for high- and low-skilled workers – 14% and 10% respectively. For technical skills, the percentage of firms reporting better outcomes from KISA compared to VET was equal at 18% for both low- and high-skilled workers.

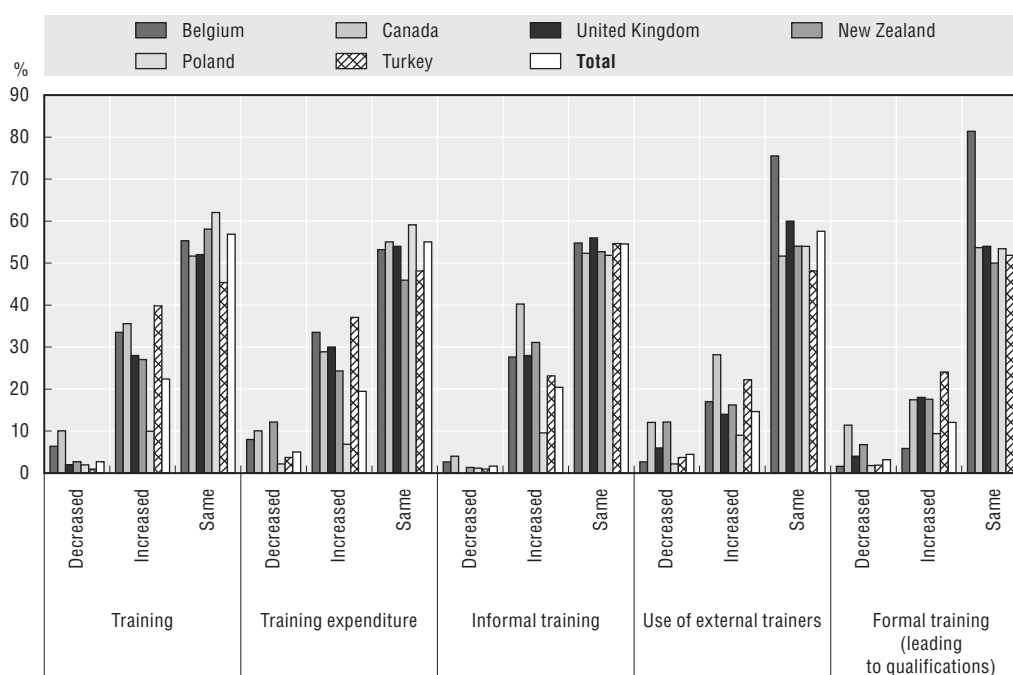
The lowest levels of firms reporting better outcomes from KISA than VET were found in Poland. In each category except OHS and technical skills, fewer than 10% of firms reported better outcomes. It is difficult to know from this survey if these results are because firms actually do receive better outcomes from VET than KISA, or if the environment for KISA's skills transmission is less developed.

Effects of the financial crisis on firms' recruitment and training activities

A number of questions were asked in the survey about the effect of the recent financial crisis and associated economic downturn on firms. There was a mixed picture of training activities in the aftermath of the global financial crisis (GFC).

For a large percentage of firms (between 50-70%), the GFC has not resulted in any significant changes to either their recruitment or training levels. Polish and Turkish firms in particular recorded high levels (65% and 59% respectively) of stability, reporting that the crisis had not affected recruitment activities (including recruitment of young people and apprentices) or affected firms' expenditure on training activities. In particular, only 15% of Polish firms reported increased recruitment activity, but as the previous results note, Polish firms reported "same" for their levels of recruitment and training activities over the previous twelve months as the year before. However, Belgian firms reported an increase in recruitment activity (50% of firms), including increases in employment of young people (25 years or under) of 26% and apprentices by 14%. All other countries also had a 20% or greater number of firms increasing their recruitment activity over the past twelve months. Results are shown in Figure 2.6.

This is not to say that firms were unaffected by the GFC; the economic impact of the crisis was felt quickly among firms, especially manufacturing and retail service firms. We are approaching two years since the first onset of the GFC, and these results show that a

Figure 2.6. **Impact of GFC on training activities**

Source: TSME survey, 2011-12.

plateau of recruitment and training activities has been reached among SME companies. Things may not have returned to pre-GFC levels, but recruitment and training have not declined significantly over the past year.

Skills identification in firms

For the purpose of the survey, skills needs were categorised into the same eight skills groups as used in previous studies (OECD, 2010b, 2010c).

Future skills need identification

Future skills needs varied across country and skills type, however, management skills were the most identified need by firms in all countries [Belgium (42%), Turkey (33%), the United Kingdom (18%), New Zealand (14%) and Poland (7%)]. Other highly needed skills included technical/advanced, social, and generic skills. Polish and Turkish firms reported lower overall levels of skills needs across all categories compared to the other countries, with the exception of technical/advanced skills in Turkey.

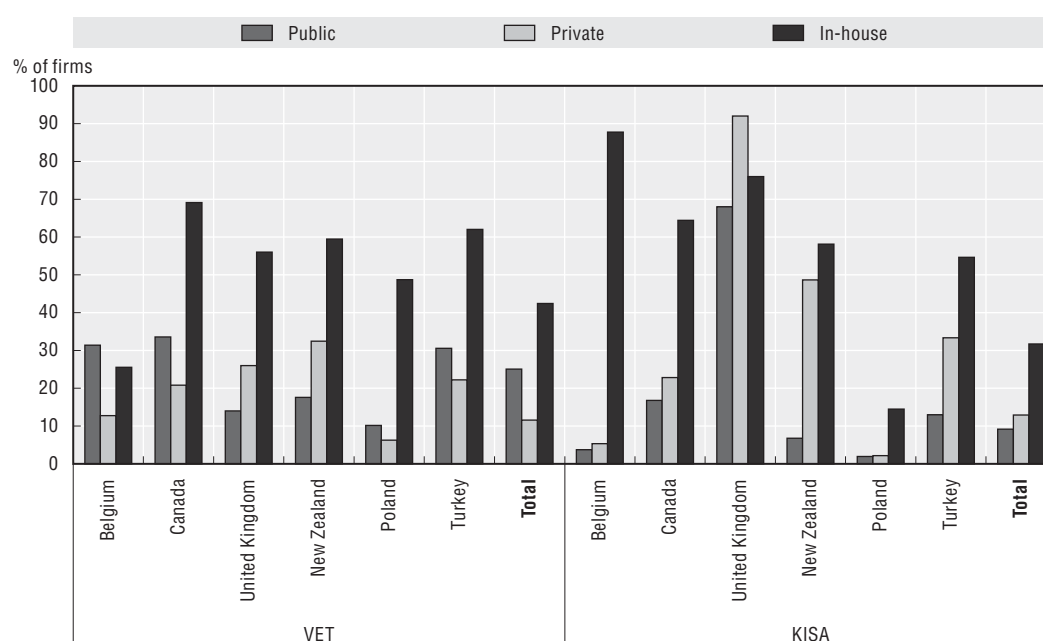
There is also a variety in the “degree of need” firms attached to the different skills groups. Companies were asked to report their skills needs as “some need” or “high need”. High skills needs included technical/advanced skills and management skills in Belgium and Turkey, and social and generic skills in Belgium. Routine skills were, overall, the least needed skills, although nearly 50% of Belgium firms indicated the need for these skills.

The responses on skills needs must be interpreted together with companies’ responses regarding barriers to training activities, because the ability to assess skills and training needs was also identified as a barrier to training activities. This means that if firms are having difficulty in assessing their skills and training needs, then this section of the survey may not fully capture the breadth of skills needs within the responding organisations.

Motivation and collaboration for training

This section examines the motivations and incentives for organisational training activities, either formal VET activities or informal KISA. Three categories of incentives are examined: public incentives (such as government programmes); and two sets of market forces: variables – private incentives (such as collective agreements with trade unions, or industry association activities); and in-house incentives (such as the usual business drivers of productivity, services requirements, new product development, financial and employment constraints). Figure 2.7 shows the incentives to which firms were responding in their skills development activities.

Figure 2.7. Incentives for skill development



Source: TSME survey, 2011-12.

Unsurprisingly, market forces were the dominant motivator for SME activity, particularly in-house incentives, which drive the majority of skills development activities in firms for both VET and KISA based activities. In New Zealand, Turkey, Belgium and Canada, private incentives also outweigh public incentives for KISA activities. Public drivers for training activities in all countries were more evident for VET activities than KISA activities, except for firms in the United Kingdom, where 68% of firms' KISA activities were in response to public policy drivers.

Table 2.3 further examines the in-house motivations for skills development activities. The main reasons reported by firms regarding skills development centre on the product offering of the firm or the skill levels of employees.

In Poland, firms were mostly motivated to undertake skills development for in-house reasons, particularly the need to increase employees' skills levels, and reorganise the operations of the firm, with 61% and 59% of Polish firms citing these reasons, respectively.

In Turkey, in-house reasons came specifically from product requirements (65%) and the need to increase employee skills levels (73%). Employee skills levels (79%) and position

Table 2.3. **In-house motivations for skills development activities**
%

	Belgium		Canada		United Kingdom		New Zealand		Poland		Turkey	
	VET	KISA	VET	KISA	VET	KISA	VET	KISA	VET	KISA	VET	KISA
Production needs	18	7	62	64	8	76	24	53	17	5	62	29
Service requirements	26	36	62	19	40	0	59	19	44	12	24	36
New product development	12	66	33	51	32	0	55	23	27	8	28	31
Financial adjustments	4	86	25	17	26	4	36	38	14	5	12	51
Climate Change impacts	2	88	15	13	42	8	4	18	4	1	9	55
Job adjustments	14	62	34	44	56	16	16	49	46	12	10	53

Source: TSME survey, 2011-12.

reorganisation (71%) within the firm were also the top motivators behind Belgium firms' skills development activities. In addition to employee skills needs, product and service requirements were the main drivers of skills development in the United Kingdom; with 70% of the United Kingdom firms listing new product development as a motivation, 68% listing service requirements, and 60% citing production needs. New Zealand displayed a similar pattern to the United Kingdom.

It is important, at this stage, to remember the context for this survey – one of the worst and most prolonged economic downturns in recent history. SMEs have been battling for survival in the past few years, and as the earlier results on the impact of the crisis showed, by and large they are surviving. However, there can be no doubt that all business expenditure is being evaluated in terms of its contribution to organisational productivity and growth in the current climate.

Understanding the impact of public motivations for skills development in firms is naturally important for policy makers. Many KISA's skills development activities are motivated by public incentives. This patently shows that public institutions have a clear role to play in fostering KISA based skills development in firms. The survey also shows that it is at the national level, i.e. from country-specific programmes, that firms draw the most motivation for KISA skills development; this is particularly the case in Belgium, where 58% of firms reported national level incentives for their KISA activities.

The regional and local level companies are more likely to incentivise VET activities than KISA, although in some cases VET and KISA are equal, such as at the regional level in the United Kingdom and the local level in New Zealand.

At the supranational level, the results are mixed across the countries. In Turkey, supranational programmes are seen as motivating KISA activities in 24% of firms, but in Poland it is only 1%. Also, in Belgium 18% of firms report that supranational policies and programmes motivate VET activities; in the United Kingdom it is 12%; and in New Zealand it is 3%. Obviously the European Union has a much bigger impact on activities in European firms than Asia-Pacific organisations do on New Zealand firms, thus the level of supranational organisational structure is not equal in the two regions.

Conclusions and policy implications

The results presented in this chapter provide further evidence of the training implementation processes of SMEs. They show that access to training across skill levels within firms appears to be generally equal; however, it is in the type of training accessed

that real differences between low- and high-skilled employees emerge. These differences exist over both VET and KISA skill development activities for low-skilled employees within the main areas of training, but appear overall to be more pronounced in VET.

The main areas of skill development for low-skilled employees are in generic and routine skills, OHS and IT skills. The main skill development areas for high-skilled employees are technical skills, and management skills.

In many respects, these areas of skill development match the job functions of employees, such as management skills for high-skilled employees, as these would be the usual employees fulfilling this job function within firms. Where there is room for concern is when skills development in areas that are or have the potential to be widely demanded in the future is mismatched between high- and low-skill employees, as this has the potential to negatively affect low-skilled workers and their future employment potential.

High-skilled workers appear to have more complex knowledge sourcing and skill development activities than low-skilled workers, and the training activities that they complete provide more immediate inputs into the productivity of the firm. This is even more evident when examining informal training activities, where skills development is focused on technical, management, entrepreneurship and green skills (discussed further in the next chapter). Here again the areas that add most to firms' productivity are also the areas where higher skilled workers are accessing the most training and providing the outcomes of that training to their employers; areas such as business planning, marketing, research and development, entrepreneurship and green skill development.

For low-skilled employees, similar numbers of firms noted better outcomes in productivity enhancing skills sets such as technical skills from KISA than VET. The other areas where skill outcomes from KISA were noted as better than VET are OHS, languages, and social and cultural skills. The results for both VET and KISA low-skilled worker participation levels show concentrations in these same areas across both VET and KISA. These results show that skills development in productivity-based skills areas for lower skilled employees can be achieved from KISA.

The case study analysis in Chapter Six unpacks further the relationships between KISA and VET, examining how skills development between the two differs. In light of this knowledge, it will be possible to better understand why it is that firms at times report KISA as producing better outcomes than VET.

KISA access becomes an issue when it affects the capacity of low-skilled workers to move to high-skilled employment. If low-skilled employees are not exposed to the same range of skill development methods to which high-skilled employees have access, this can affect labour mobility through skill occupations.

Notes

1. More detailed analysis of the TSME survey is provided in the associated document OECD (2010).
2. For example the Cedefop survey that was the subject of the previous chapter does not include microfirms within their survey sample.
3. More information on the skills classification is found in OECD (2011).

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PART I
Chapter 3

**Innovators, exporters
and new skills development**

by
Cristina Martinez-Fernandez and Samantha Sharpe

This chapter analyses participation in training and skills development activities on the basis of other characteristics within the firm such as innovative activity, sector and export orientation. In this chapter we use these characteristics as a proxy for “growth potential” firms. There is extensive literature on the relationships between innovative activity in firms, and revenue and employment growth over the longer term. Exporting firms are also more likely to develop new markets and therefore present similar growth prospects. This allows some conclusions about the association of training activities and the characteristics of these firms to be drawn. The chapter also examines the performance of organisations in skills development within emerging skills areas such as entrepreneurship and green skills.

Skills development in innovative firms

Innovation is a key driver of economic activity (OECD, 2010). Organisation level innovative activities are an essential component when seeking to understand dynamism and competitiveness. Innovation by its nature is about doing new things, therefore, innovative activity is a critical contextual element for understanding how firms learn new things through skills development and training activities.

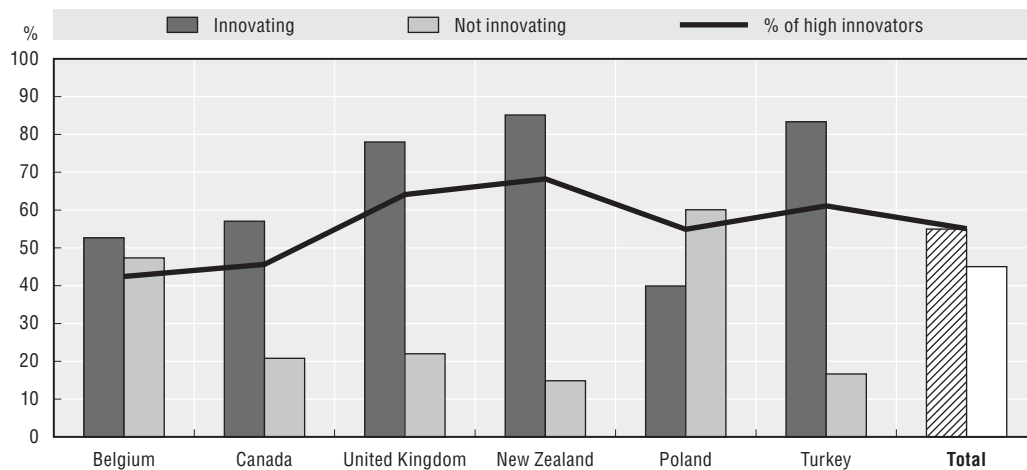
In the survey, five types of innovative activity were investigated:

- *Product and service innovation* – a new or substantially improved product or service.
- *Operational innovation* – a new or substantially improved method of production.
- *Organisational innovation* – a new or substantial improvement method of organising the business.
- *Technical innovation* – the creation of substantial customisation of new technology or equipment.
- *Green innovation* – a new product, service, or operation that has resulted from climate change adaptation. A green innovation could also fall into one of the four previous categories, however, this last category aims to separate it into an additional metric.

Innovation can also have degrees of novelty. Radical innovation is defined as a one time, big and significant change, whereas incremental innovation occurs over a longer period of time and is the culmination of a series of gradual or small changes and improvements (OECD, 2005).

The levels of innovative activity in Belgium, Canada, the United Kingdom and New Zealand (see Figure 3.1) are consistent with results of business innovative activity in OECD countries for other small and medium sized enterprises (SMEs) (OECD, 2010c). The Polish results are surprising (60% of surveyed firms are not innovating) and whilst a lower level of innovative activity may be expected as Poland continues to become an increasingly sophisticated economy within Europe, these results may point to specific characteristics in the sample. Turkish firms showed strong levels of innovative activity (83% of firms innovating), which could be due to the fact that they are embedded in an industrial district and therefore receive resulting benefits from customised training and skills development programmes as well as cluster strategies. However, this result is from a relatively small number of survey respondents, and must therefore be interpreted with caution.

Both New Zealand and the United Kingdom also display high levels of innovative activity; New Zealand has the highest levels of innovative activity (85% of surveyed firms) and the highest proportion of highly innovative firms (68% of the innovative firms were defined as highly innovative). The United Kingdom has 78% of firms innovating, with 64% of the innovators defined as highly innovative. The other surprising result is Belgium; only 53% of surveyed firms were innovative, with 47% stating no innovative activities in the past three years. Over half of the innovative firms were defined as highly innovative. This result could be a sector-based issue; the Belgian sample had a large proportion of service firms

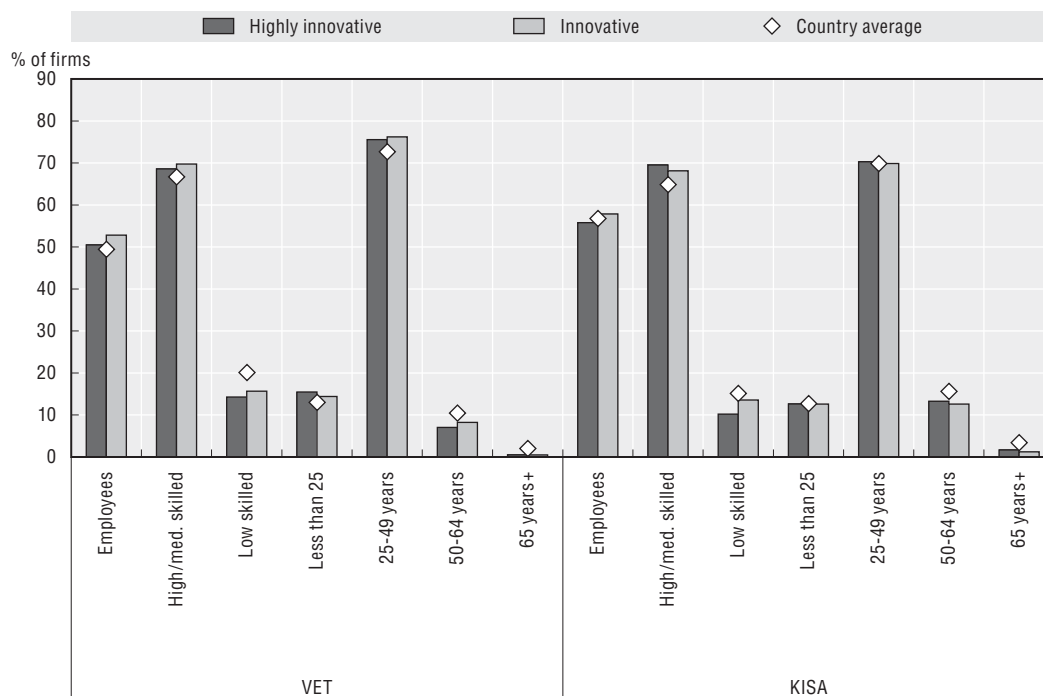
Figure 3.1. **Innovative activities in TSME survey firms**

Source: Leveraging Training and Skills Development in SMEs Project (TSME) survey, 2011-12.

within the sample (see next section for further detail). It may be that service-based firms are not actually less innovative, but can identify less with traditional product innovations, and therefore seem less innovative in such surveys.

Training and skills development characteristics of innovative firms

The training and skills development activities of innovative or highly innovative firms are not that different from each other or the profile of firms generally. Figure 3.2 shows the levels of participation of innovative and highly innovative firms in both formal and knowledge intensive service activities (KISA) skills development activities across different

Figure 3.2. **Participation in skills development activities within innovative firms**

Source: TSME survey, 2011-12.

employee populations. A country average of all firms is also presented for comparison. The results are similar to the evidence presented in the previous chapter; in that it is the high/medium-skilled employees and employees aged 25-49 years that participate in the skills development activities of firms. This holds true across both formal and KISA skills development methods.

The point of variance between innovative and non-innovative firms lies in the type of skills development on which they focus for their employees. Table 3.1 shows the types of skills that firms are developing across the three organisational categories: non-innovators; innovators; and high innovators.

Table 3.1. **Areas of skills development, by development method in innovative firms**

	Formal training and skills development						Informal/Alternative training and skills development (KISA)					
	Non-innovators		Innovators		High innovators		Non-innovators		Innovators		High innovators	
	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low	High/med.	Low
Routine	16	8	21	16	18	16	11	7	23	17	21	14
Generic	15	7	17	12	17	11	8	6	20	13	18	11
Technical	21	8	36	16	32	15	16	7	42	13	35	13
Management	14	2	28	3	28	3	11	1	39	2	33	3
Social	14	6	26	8	24	9	12	4	31	12	27	12
Language	5	3	11	10	11	8	13	1	13	4	10	4
Entrepreneurship	11	2	14	7	13	6	8	1	22	1	18	1
Green	3	2	8	9	7	8	1	0	8	5	7	4

Source: TSME survey, 2011-12.

In the areas of “advanced technical” and “management” skills within innovative firms there is significant variance between innovative and non-innovative firms; innovative firms have double the levels of participation in these activities. Innovative firms also use KISA as a means of skills development in this area.

Social skills development is also another area of clear variance between innovating and non-innovating firms. Green skills development is an emerging area of skill for all firms; the survey results showed that only a small number of firms are considering or already developing their skill capacities in this area. Innovative firms are much more likely to be developing green skills capacity than non-innovative firms. This is probably because innovative firms are better equipped to absorb new technologies and anticipate ways to adapt to new challenges.

Understanding how green skills are developing in the economy is also an emerging issue for policy makers. It is clear that understanding skills development within innovative firms is going to be the key to understanding how green skills will emerge and develop.

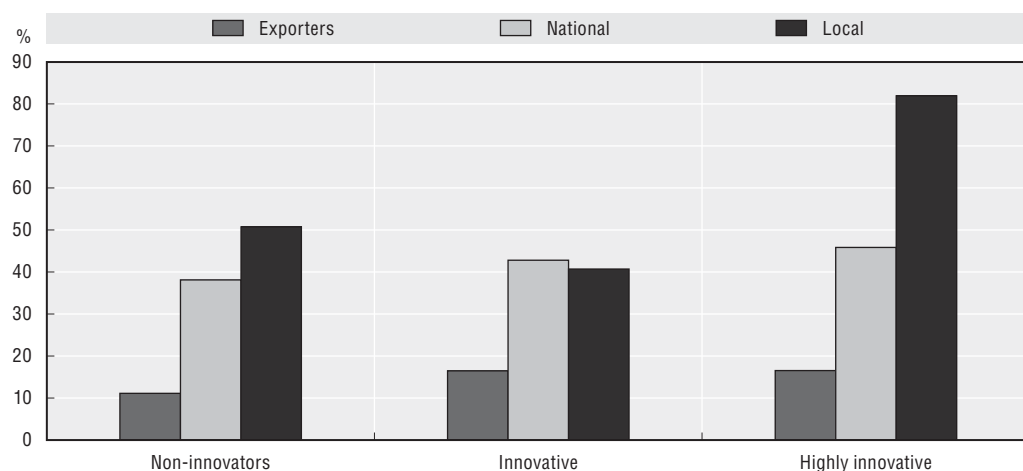
Skills development and the market orientation of firms

For the majority of firms in the survey sample, their markets are at the local and national scale, with only 14% of the total firms sampled engaging in export activity. Export activity was highest for firms in Belgium (with 25% of firms exporting), followed by the United Kingdom (20%) and New Zealand (18%). The Canadian firms were strongly focused on the domestic market, particularly at the national level. Figure 3.3 shows these results in further detail.

Figure 3.3. **Export orientations of surveyed firms by country**

Source: TSME survey, 2011-12.

Export activity is often linked with innovative activity in that innovative firms have products and services that are competitive within global markets. Figure 3.4 shows the market orientation of firms by their innovative activities. A higher percentage of innovative (16.5%) and highly innovative firms (16.6%) undertake exportations in comparison to non-innovating firms (11.1%). This provides some confirmation of a relationship between export orientation and innovative activity.

Figure 3.4. **Market orientations of firms by level of innovative activity**

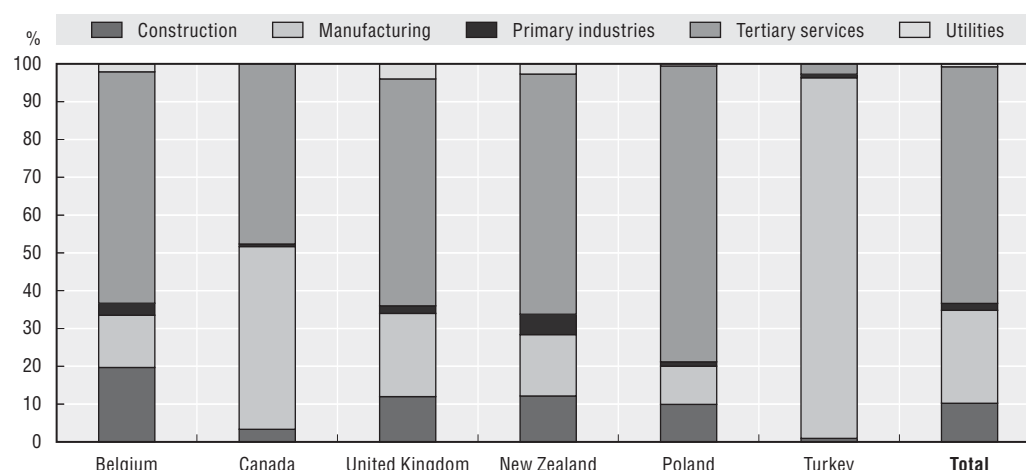
Source: TSME survey, 2011-12.

The surprising finding from this research is the focus on the local market in the highly innovative firms category. 81.9% of highly innovative firms compared to 40.9% of innovative firms and 50.7% of non-innovative firms were operating in their local market. The highly innovative firms have almost double the interaction with local markets compared to the other two categories of firms. This could suggest that cluster dynamics are at work within these highly innovative firms i.e. they are situated in amongst other firms within their value chain, which in turn creates the level of intensity in the local market for these highly innovative firms.

Skills, sectors and clusters

Industry composition varied from country to country (see Figure 3.5). In some countries, one industrial sector dominated the sample. In Turkey, the vast majority of firms were manufacturing firms (95%), whereas in Poland, 79% of firms were in the tertiary services sector. In Belgium, Canada, New Zealand and the United Kingdom, tertiary services made up just over or just under two thirds of the sample in these countries, respectively.

Figure 3.5. **Industrial compositions of firms by country**



Source: TSME survey, 2011-12.

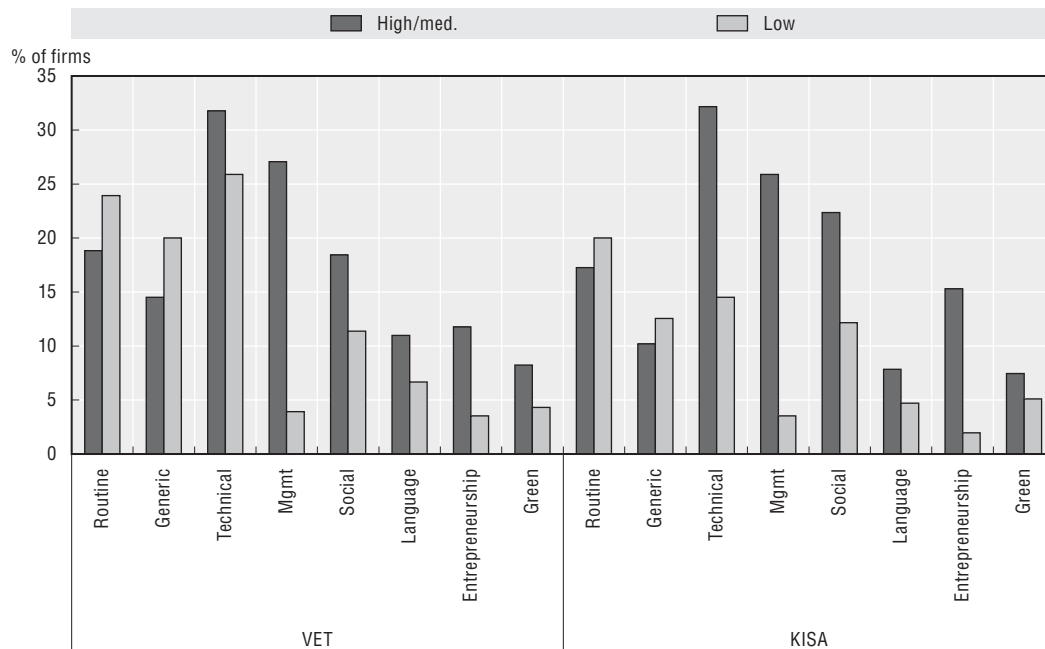
Manufacturing firms have the highest levels of training in each of these two categories (with 49% engaged in entrepreneurial training and 25% in green skills training), however, in both cases the majority of the training is one-off. Across all the industries, training in these two areas is most likely to be a one-off, except in the case of business services and green training.

Manufacturing firms are using both formal (vocational education and training, or “VET”) training and informal skills development across all the skills types. Results are shown in Figure 3.6. For employees with high-skill levels, training activities are focused on the technical management and social skills sets. There was also little difference in whether skills development in these areas occurred via formal or informal methods. This could suggest some partnering of both approaches (either intentional or accidental) in the skills development of these employees.

For lower skilled employees, skills development activities were focused on technical, routine and generic skills areas. In all of these skills types, formal training was the most used method. However, 20% of firms surveyed cited that their lower skilled employees were engaged in KISA based routine skill development, 15% in technical and 12% in generic skills.

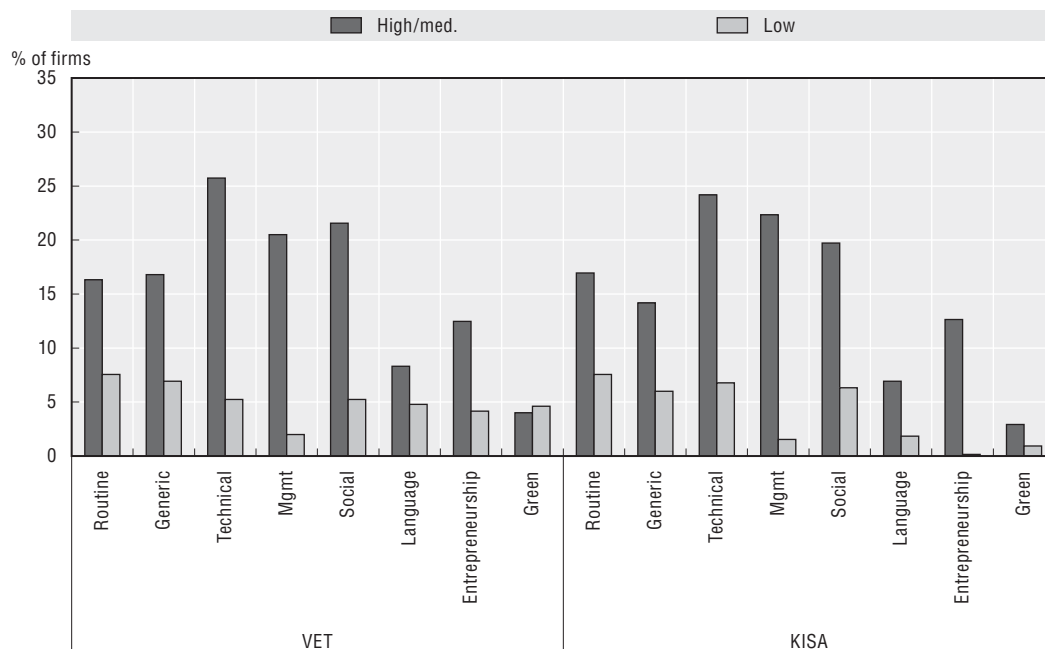
In comparing the skills development activities of manufacturing and service firms (Figure 3.7), it is immediately clear that less skills development, both formal and informal, appears to be happening in service firms. The pattern of variance between the higher skilled employees and lower skilled employees remains, as does the concentration focus of the skills areas, for example, technical, management and social skills development in higher skilled employees, and routine and generic skills with lower skilled employees.

Figure 3.6. **Skills outcomes by skills areas in manufacturing firms (VET versus KISA)**



Source: TSME survey, 2011-12.

Figure 3.7. **Skills outcomes by skills areas in service firms (VET and KISA)**



Source: TSME survey, 2011-12.

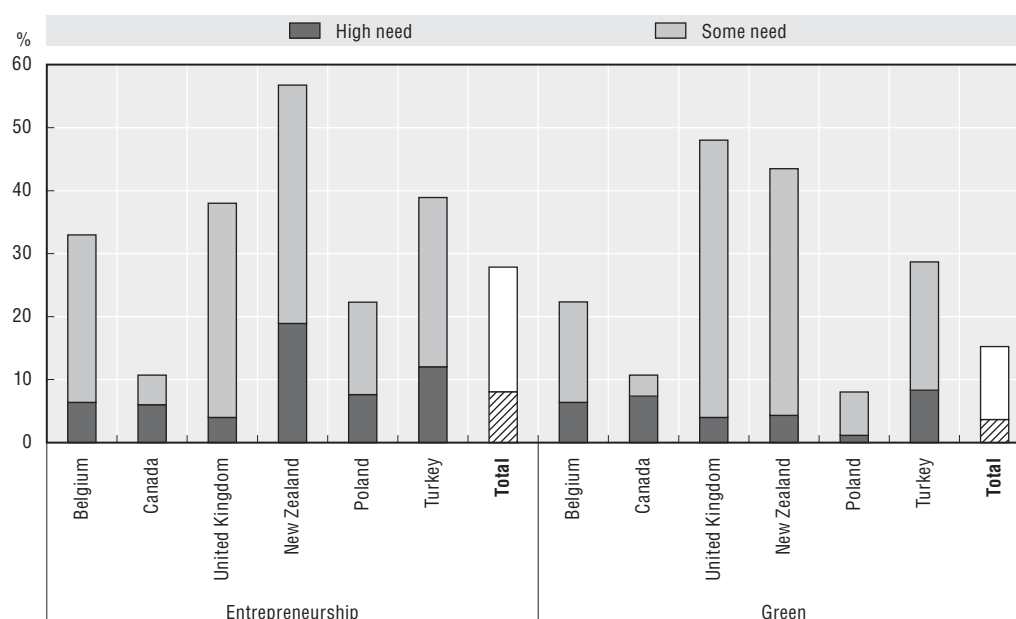
The difference in the levels of skill development activities could be due to the survey sample and/or the understanding of training (both formal and informal) within the tertiary sector.

Development of new skills

Entrepreneurial skills

Entrepreneurial skills are linked to abilities to identify new business opportunities. Entrepreneurial skills are essential for new business creation and economic dynamism within the economy. Firms in each country have identified a need for entrepreneurial skills; with a high need identified in Belgium, New Zealand and Turkey (see Figure 3.8). The low level of entrepreneurial skills in Canada (only 10% citing a skills need) and Poland (23% citing skills need) warrant further investigation to understand these comparatively low levels.

Figure 3.8. **Entrepreneurial and green skills needs by country**



Source: TSME survey, 2011-12.

Green skills are an emerging area of skills development and in most countries the demand for these skills is strongly influenced by the national regulatory environment and environmental policies. Therefore, variance between countries would be expected due to the variance of environmental regulation, for example, the higher levels of identified green skills need in the United Kingdom and New Zealand could be attributed to stronger environmental regulations (energy efficiency and carbon pricing) within these countries.

Green skills

This section specifically examines the demand for green skills within the survey sample. There is much evidence at a national and international level, and within policy dialogue, of the importance of skills that can enable business adaptation to climate change. The decarbonisation of economies will lead to significant shifts in industrial activity and will create many business opportunities as well as threats. The aim of the green skills questions within the survey was to investigate the level of awareness and the level of activity in skilling employees in this area. The questions are also intended to gauge the level of awareness of the need for these skills within regional business communities, and to assess the strategies firms are putting in place to gain these skills.

Transitioning to a greener economy is not a new behaviour for large firms, particularly for firms operating in the resources industries. Indeed, mining, energy and petrochemical corporations (among others) have been working on this transition, prompted by the need for resource efficiency, long before “greening the economy” became a popular catchphrase. However, there are two associated dynamics of the move to a low carbon economy that have received little attention within technological and innovation analysis efforts, both from the private sector and from the public policy arena:

- *Management of the skills and training needs of human capital at the local level.* The challenge of moving towards a cleaner, greener economy requires one to identify policies, measures, and strategies for the future’s planned low carbon growth, where small and medium enterprises can be part of strategic implementation plans at the local level. But the dynamics of green local workforce development are largely unknown. Adapting local labour markets to achieve more jobs, and better quality jobs, whilst also moving towards a low-carbon economy will require activities that strengthen education and training systems, and support skills development at both the industry and public sector levels. This is especially the case for the SME’s sector, as they lack the internal training strength of large firms.
- *Skills and employment implications for small and medium enterprises.* SMEs are more often than not relatively unaware of the technological and operational adaptations required by the low-carbon development. Furthermore, they are usually poorly linked to the often more savvy larger corporations. SMEs also have the additional challenge of a low participation rate in training and skills development programmes and the extent of this participation is usually unknown at the local or regional level. Therefore, reaching and greening SMEs remains a significant challenge for the transformation ahead.

As SMEs account for approximately 99% of all enterprises and two thirds of employment across the OECD area (OECD, 2008, 2010), their transition to sustainable practices – in both manufacturing and services – is key to the large-scale uptake of a green growth model. The transition towards the green growth economy is highly demanding, in particular for manufacturing firms, including SMEs, as they account for a large part of the world’s consumption of resources and generation of waste. Worldwide, the energy consumption of manufacturing industries grew by 61% from 1971 to 2004 and accounts for nearly a third of the global energy usage (OECD, 2010d). Likewise, manufacturing industries are responsible for 36% of global carbon dioxide (CO₂) emissions (IEA, 2009).

Greening the economy and seizing opportunities along the path to a low-carbon system requires transforming jobs, occupational profiles and business operations in ways that are still quite uncertain. New skills are required not just for innovation and competitiveness, but also for adjusting to climate change policies and regulations.

Evidence from a number of countries shows that skills shortages have already developed in certain sectors or occupations, which are not well served by traditional training institutions (Cedefop and ILO, 2010). SMEs generally rely upon on-the-job forms of training and learning-by-doing, which exhibit important limitations at a time of substantial shifts in the skills required for responding to new competitive and institutional settings. In addition, most SMEs have little awareness about the future needs for new green skills and their investments in green training and knowledge-intensive activities are very limited (OECD, 2010b).

The transition towards a low carbon economy demands that workers’ skills be adapted and that new generations are educated to take up appropriate skills to meet the

changing demand. Labour markets and training policies can play a key role in facilitating the structural adjustment required by the transition to green growth, while, at the same time, minimising the associated social costs. Flexibility in the delivery of training and skills development programmes remains crucial to ensure it reaches SMEs (OECD, 2010d).

The survey found low levels of awareness and activity in skilling employees within this area even if the decarbonisation of economies will lead to significant shifts in industrial activity and will create many business opportunities as well as threats (see Figure 3.8). Only in New Zealand did more than 50% of the surveyed firms indicate the need for some green skills.

Outcomes of entrepreneurship and green training

Although entrepreneurial and green skills categories are emerging skills areas and the data available to understanding their development is minimal, these areas are of major policy relevance, particularly the green skills area.* Therefore, although this survey only offers a snapshot of green and entrepreneurial skill developments within the case study regions, the results have wider research relevance because of the lack of data and analysis available.

Outcomes from entrepreneurship training are predominantly focused on highly skilled employees, however, the United Kingdom is a notable exception. In Belgium, the United Kingdom and New Zealand only high-skilled employee outcomes are recorded. In Poland and Turkey, 2% and 6% of firms noted outcomes for low-skilled employees in VET, and 0% and 4% in KISA, respectively. In Poland and Turkey, overall levels of entrepreneurship outcomes are lower than other countries; higher skilled outcomes for both countries are below 10%, compared with Belgium (11%) and the United Kingdom (18%).

The differences between outcomes for high- and low-skilled employees from green KISA activities are narrower than in comparison with the results from formal training activities. Turkish firms lead the way, while 11% of firms from Belgium report outcomes for high-skilled employees and 6% for low-skilled in VET and 12% and 6% in KISA. For New Zealand firms, only 4% of firms reported outcomes for high-skilled employees and 1% for low-skilled in VET and 4% and 3% respectively for KISA. Potentially, the prominence of the green economy in these countries has made it easier to access formal skills and competencies rather than develop them through less formal methods.

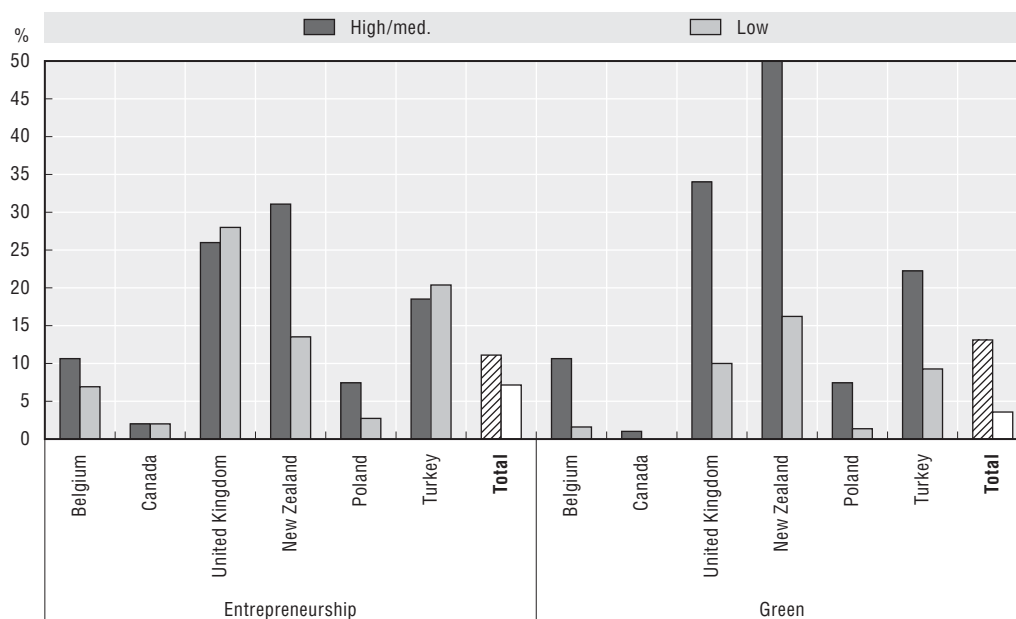
The survey has shown that firms obtain different levels of outcomes for the types and formats of training and skills development they do. The survey also shows that these outcomes accrue differently depending upon whether or not employees are considered higher skilled within the firm, or lower skilled. The survey also asks the firm to assess if, on the whole, they received more positive outcomes from informal or formal training activities. Figure 3.9 records the percentage of firms that cited that they received better outcomes from their informal (KISA based) training activities than from their formal training activities in the two skills areas we are discussing in this section – green skills and entrepreneurship skills. The figure also shows whether or not the outcomes are different for low-skilled or high-skilled employees.

* Arguably, entrepreneurship has been of longstanding interest to policy makers because of the link to business creation and economic and employment development. It is more the sophistication of analysis of entrepreneurship in recent history that is driving continuing policy interest.

Table 3.2. **Outcomes for entrepreneurship and green skills by employee skills level and country**

	VET		KISA	
	High/med.	Low	High/med.	Low
Entrepreneurship				
Belgium	11	1	11	1
Canada	4	0	7	0
United Kingdom	0	17	33	2
New Zealand	8	0	11	0
Poland	14	2	12	0
Turkey	16	6	21	4
Total	12	4	13	1
Green skills				
Belgium	6	4	5	3
Canada	5	1	5	3
United Kingdom	4	18	8	6
New Zealand	5	1	4	3
Poland	4	1	2	1
Turkey	11	6	12	6
Total	5	5	4	2

Source: TSME survey, 2011-12.

Figure 3.9. **Firms with better outcomes from KISA in green and entrepreneurial skills**

Source: TSME survey, 2011-12.

As was to be expected, there is a large degree of country variance; in the United Kingdom, New Zealand and Turkey, 20% or more of firms listed informal training activities as delivering better entrepreneurship outcomes than formal activities. In the United Kingdom, there was little difference in whether these outcomes were for higher or lower skilled employees.

For green skills, over one third of the United Kingdom surveyed firms and half of New Zealand firms thought they got better skills outcomes from informal activities. These results were concentrated in higher skilled employees, but from earlier results we have established that green skills development in total is also focused on higher skilled employees.

The reasons behind these results could possibly be found in the lack of training products in the market or the difficulties for VET firms and trainers to design curricula that are relevant for the firms. Due to the important obstacles faced by SMEs in accessing training, green KISA could offer a more flexible way to access the knowledge required, even if little planning might be involved as per the “one-off” trend for green KISA.

In both cases, very few Canadian firms reported receiving better outcomes from informal skills development activities. This could be because of a lack of skills need on the part of the firms, lack of availability of informal channels of skills development in these areas, or that Canadian firms had stronger connections with formal training for skills development, through their legislative regulations for training within small firms.

Policy implications from these results include reference to how training programmes and strategies are designed. Programmes targeted at SMEs need a different focus and customisation to those targeted at large firms. As these results show, KISA can provide a conducive learning method for SME firms to acquire emerging knowledge and skills that they otherwise may not be able to access from formal sources. Increasing SMEs’ access to KISA can enable these firms to participate more fully in the new opportunities of a low carbon economy.

Conclusions and policy implications

This chapter presents analyses of both highly innovative and exporting firms – proxies that have been used for “growth potential” firms. In “growth potential” firms, although the overall rate of participation in training activities was not vastly different to the rest of the survey population, the skill areas on which these activities were focused was very different.

For innovative firms, training in productivity enhancing skills sets, including business planning, management and technical skills, was much higher – in some cases, twice the levels seen in the rest of the organisational population surveyed. In KISA training, they were the highest.

This did have a negative connotation, however, with the higher usage exacerbating the differential between higher skilled and lower skilled workers over training participation.

The analysis of exporting firms also highlights policy implications. The assumption that export orientated firms would lose focus on the local area is not supported by survey evidence – in fact the opposite is true, with *export orientated firms also appearing to be the most embedded in local markets.*

Outcomes from new skill areas of entrepreneurship and green skills also have implications; there is great variation in the awareness of skills needs in these areas across countries, and where training in these areas is taking place, it is higher skilled workers who are participating. Both these results point to the need for systematic methods for skills assessment of firms in emerging areas, and an overall focus on increasing participation levels of lower skilled employees in these key “future fundamental” skills sets.

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PART I
Chapter 4

Learning by doing – best practices in training and skills development

by
Cristina Martinez-Fernandez and Tamara Weyman

This chapter examines the results of case study interviews conducted with sample small and medium sized enterprises (SMEs) within each country, to better understand what training and skill development activities are undertaken by SMEs, and the impacts of these on the business. The global financial crisis, and climate change, are investigated in terms of their impact upon SMEs' training arenas, particularly marketing, recruitment and job design. Motivators and challenges to training provision and skill development are investigated in depth, including the benefits of having training plans, or the expenses associated with training, not only in paying tuition fees or hiring external trainers, but in lost employee work time. Formal versus informal education and training are investigated, with the importance of in-house training as well as cross-organisational collaborations and exchanges being emphasised. Policy implications resulting from this analysis are explored in detail, including: impacts of the global financial crisis on SMEs in terms of training; the importance of structured training systems and formal training programmes; use of alternative training methods by SMEs; climate change impacts on SMEs, including the dichotomy of benefits accruing to some companies but financial burdens being suffered by others; and informal training systems and the need to involve SMEs in policy development.

Case study interviews

Case studies of firms were the third step in the *Leveraging Training and Skills Development in SMEs* (TSME) project. Each country conducted interviews with sample SMEs within their respective regions in order to gain further insights into the levels of training and skills development in SMEs and a better understanding of regional skill ecosystems. The interviews were conducted with the manager/owner/head of human resources (HR) of each firm, focusing on the following categories:

- Impact of the financial crisis, especially on training and skills development.
- Companies' training and skills development plan/structure.
- Formal industry training/vocational education and training activities – focusing on skills impacts on the firm, employee and the local area.
- Informal knowledge intensive service activities (KISA) skills development activities – focusing on skills impacts on the firm, employee and the local area.
- Motivation and collaboration with other institutions.
- New job profiles and training for climate change and climate change regulations.
- Canadian company case studies in Manitoba and Quebec were conducted in a different format, examining three initiatives: called Consortia and Workplace Education Manitoba and in Montréal, “les mutuelles de formation”. Therefore, these regions were not included in the country-region comparative analysis, but are highlighted throughout as examples of good practice.

Thirty-three firms (SMEs) were interviewed from six countries in various regions (Table 4.1) and representing various economic sectors, mainly within manufacturing and real estate, renting and business activities. It should be noted that 11 firms could be classed as green industry enterprises, that is, involved with renewable and low carbon energy, ecological appliance engineering, waste management, nurseries and landscaping.

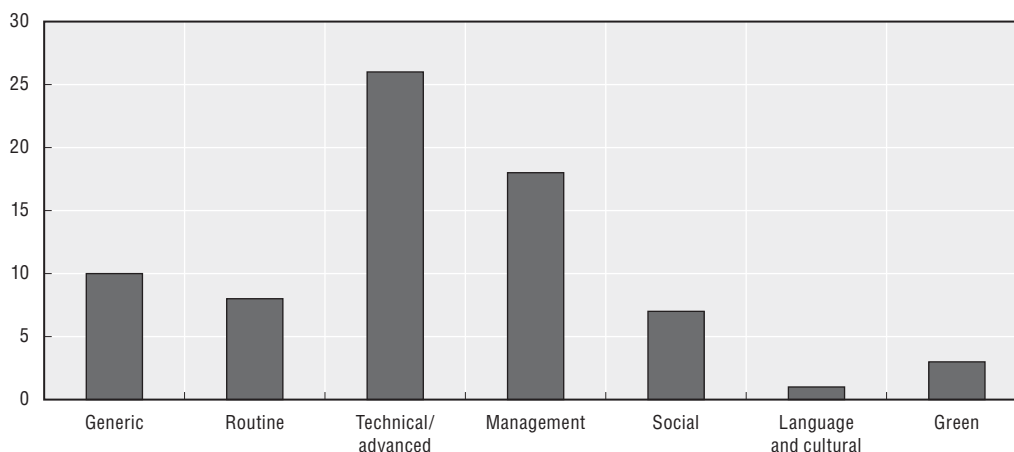
Table 4.1. Number of case studies per participating country

Region (country)	Number of case studies
East Flanders (Belgium)	11
Canterbury (New Zealand)	5
Zaglebie (Poland)	4
West Midlands (United Kingdom)	5
Middle East Industry and Trade Centre (OSTIM) , Ankara (Turkey)	5
Manitoba and Quebec (Canada)	3

The majority of the firms interviewed were small enterprises (10-49 employees) followed by medium enterprises (50-250 employees) and microenterprises (0-9 employees). Mature enterprises (in operation for 10 years or more) made up 70% of the sample firms interviewed. The firms' markets varied between very tight niche markets to regional,

national and international regions. The skills requirements of these sample firms mostly referred to technical/advanced skills followed by management, generic, routine and social skills (Figure 4.1).

Figure 4.1. **Skills required by firms**



All charts in this chapter refer to counts of case study firms across key variables.

The impacts of the financial crisis

Just over half the firms interviewed mentioned the effects of the financial crisis either on their sales or on their training and skills development (16 out of 30). These included SMEs from the West Midlands, East Flanders, the industrial zone OSTIM (5) and one Zaglebie SME. The majority of these SMEs were small, mature enterprises within the manufacturing economic sector. Eight firms noted that they were not affected by the crisis. This was due to a number of factors, including:

- Increase in demand, services and sales.
- Being a small company and therefore not so many employees to train.
- No training budget.
- Training is conducted on-the-job.

Two of these companies noted that they had struggled during 2009-10, but this was not because of the financial crisis, but rather as a result of government manipulation, negative media cover, the market becoming saturated, and one firm noted that they had too many employees and this was creating a bottleneck within the firm.

EcoPuur has perceived a fallback at the beginning of 2010, compared to the previous year. However, this was caused by other factors than the economic crisis, because the government and the media artificially manipulated demand in ecological appliances. Policy changes in subsidy schemes and negative media coverage had a far more negative effect than the economic recession. It is nevertheless true that the market for solar panels is slowly becoming saturated.

EcoPuur (Ecological appliance engineering and installation within Flanders, Belgium)

Eight firms stated that the economic crisis had a negative effect on their enterprise in various ways, such as:

- Decline in sales and investment.

- Reduced training budgets and as a result stopped sending staff to training activities.
- Employee redundancies.
- Less money to develop services.
- Reluctant to recruit people without experience.
- Reduced government budgets.

Four firms identified that due to the financial crisis they had to reduce training budgets, thereby reducing training activities for employees. Consequently, they reported that there had been a decline in employee motivation and work quality, especially within the areas of customer relations and social skills; one firm highlighted a decline in qualifications of skilled employees.

Some firms reacted to the financial crisis by restructuring their company focus, either by diversifying its market, or altering the company structure by introducing a sales department in an effort to increase their client base. One company restructured their training approach by incorporating Lean manufacturing,¹ cost management and Kaisen methodology.²

Only after the new internal sales department was set up the co-operation with new clients was launched. The company does not exclusively depend on its old clients anymore. It can be said that the establishment of the KISA department (Sales Department in this case) helped to mitigate the challenges of the crisis in the automotive industry and helped SEGU to survive and to develop despite the crisis by broadening its client base and diversification of production.

SEGU (manufactures electronic devices – Zagłębie sub-region Poland)

The SMEs that were negatively affected had a decline in sales/investment thereby impacting on the firms' operation, including employee redundancies, a decline in recruitment and reduced training. The reduced training also impacted on employee motivation and work quality, consequently lessening the firms' innovation potential.

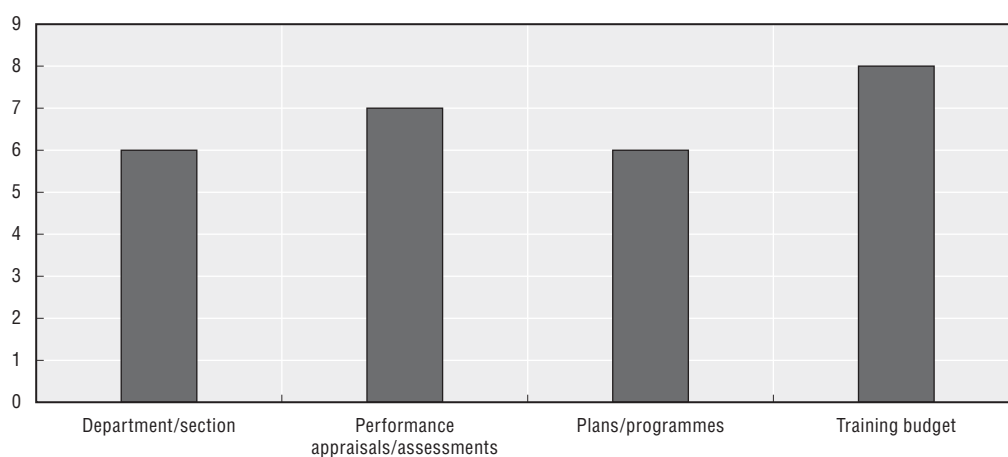
Training and skills development plans/structures of firms

Training and skills development plans/structures were identified by over half (60% or 18 case studies) of the interviewed SMEs, with representation from each participating country. Mostly mature small to medium sized firms had implemented plans and structures for their training and skills development. There were four approaches discussed (illustrated further in Figure 4.3 later in the chapter), incorporating one or a combination of:

- a relevant department/section within the organisation
- performance appraisals/assessments
- a training plan and/or programme
- training budget.

Relevant department/section – in total, six new and mature firms of various sizes from East Flanders and Zagłębie regions discussed their department/section as having an important role in their training and skills development. There were four different departments/sections identified, including:

- HR personnel/section – six firms discussed aspects of their HR section, which was responsible for development and implementation of policy, assessments and plans.

Figure 4.2. **Training and skills development plans/structures/approaches**

Source: TSME survey, 2011-12.

- Quality department – one firm that manufactures rubber and plastics for the automotive industry in East Flanders has a “quality department” due to the changing production/technology requirements of the company. An important responsibility of the department is to train the production managers and workers on ways to implement the new technology.
- Sales department – an important part of the firm, responsible for attracting new clients, this requires innovation in new products and services.
- Research and development department – responsible for the further development of products and processes of production – an essential part of the innovation process.

Performance appraisals/assessments – Seven established and mature enterprises within small and medium sized firms from the Canterbury, West Midlands, and the industrial zone OSTIM noted that they have implemented performance appraisals and/or assessments as part of their training and skills development structure. Generally, the process includes:

- Employee input – concerning specific training needs and giving the employee more responsibility.
- An assessment of competence/skills needed for the company’s positions.
- Training recommendations.
- Training plan.

This process is illustrated further through the following quote:

With the introduction of a formal HR manager, a detailed HR policy was put in place. This includes performance assessments and yearly training development plans for all employees. For every function, a set of skills have been drawn up by the HR manager and the line managers. This leads to a skills matrix that maps all employees versus the required skills for their department. ... The individual skills assessments are the basis for training recommendations. Every year during the performance evaluations, a training plan is designed together with the employee. Combell Group counts on the input of the employee to formulate perceived skills needs as well.

Combelle Group (offers IT infrastructure and hosting solutions, East Flanders, Belgium)

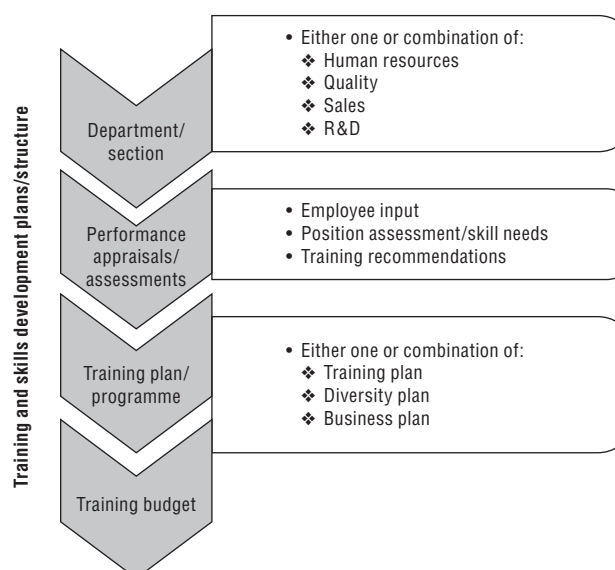
Training plan and/or programme – A total of seven firms from Canterbury, East Flanders and Zaglebie had a training plan, programme and/or procedures for their skills and training development, the majority were mature businesses, however, within various size categories. Three aspects of the training plan/programme/procedures were identified:

- A training plan/programme – in some cases, as a firm grew, it was necessary to develop a training programme or development plan for their new employees. Another reason discussed was the need to meet specific skills standards that were agreed upon in contracts by clients.
- Diversity Action Plan – a nursery in East Flanders, Belgium had difficulties attracting local employees, however, it was easy to attract motivated and skilled East European employees. The language barrier of the foreign staff members made it difficult to explain all the tasks, as a result, and with financial aid from the government, a diversity action plan was designed. The plan consists of 12 points, one of these is a DVD, which shows all the different activities at the nursery throughout the entire year and which served as an instruction tool.
- Part of the company's business plan – a Canterbury (New Zealand) electricity networking company noted that their "... training is an essential part of the firm's business plan, and is considered by its managing director,... as an investment in the firm's future..."

Training budget – A total of eight small and medium sized firms, the majority being mature enterprises, from Canterbury, East Flanders, the industrial zone OSTIM and Zaglebie discussed some sort of training budget allocations. The training budget is usually a result of the training assessment and plan development, training projects, competency standards such as working safely at heights, and skills upgrading. As discussed earlier, training budgets of some firms were reduced as a consequence of the financial crisis.

In summary, mainly mature, small to medium, SMEs had developed training and skills plans and/or structures. As illustrated in Figure 4.3, training and skills development plans usually have a number of definite components, each with different inputs required from people throughout the firm. The structures typically consist of a department or section

Figure 4.3. **SMEs' training and skills development plans/structures**



responsible for the firm's skills development and training; performance appraisals and/or assessments are typically conducted with employee input, the identification of skills needs and then training recommendations. This is generally followed by the development and implementation of the training plan either individually for the employee or for the firm. A training budget can then be finalised.

Formal industry training/vocational education and training activities in firms

Just over half of the SMEs interviewed discussed formal training approaches such as courses, with the majority of these SMEs being mature, small to medium enterprises, requiring technical and management skills. Courses are usually available through:

- Universities/colleges (some SMEs encourage their staff to undertake a Masters Degree).
- Private training firms.
- Industry organisations/institutes.
- Public bodies.
- Chambers of Commerce.
- Regional organisations.

The benefits to the firm for staff undertaking formal training are:

- covers skills needs and gaps within the firm;
- accreditation, meeting standards and updates in regulation;
- provides effective and productive working environment – including organisational growth, improvements in labour productivity, higher turnover and profits;
- develops a common understanding and culture among staff;
- investment in the future, increases quality/quantity of research and development and innovation.

Formal training benefits to the employee include:

- Increased knowledge and skills – technical, managerial, social, communication and teamwork.
- Higher motivation and self-confidence and increased productivity.
- Qualifications and worker advancement.
- Increase in entrepreneurial behaviour.

Only one firm, a medical company from Ankara region, Turkey, noted that formal training benefits the local area through strengthening the image of the industrial zone OSTIM as a region hosting successful businesses.

Eighty per cent of the SMEs interviewed identified a number of formal training issues and/or concerns. These include micro, small, and medium SMEs; the majority were mature businesses, from all participating countries. This suggests that the mature firms, no matter what size, have developed the experience and knowledge over the years to assess the quality and value of formal training approaches that are available to SMEs. These issues and concerns could explain why only half of the SMEs interviewed utilised formal training approaches. The areas of concern are categorised into the following:

- Enterprise/company.
- Public bodies.

- Training providers/programmes.
- Universities/colleges.

Enterprise/company issues and concerns – 87.5% of those SMEs who identified issues and concerns recognised that these relate to their firm in three ways, which were:

- High cost/too expensive to provide training – associated with the costs of hiring external training providers and resources as a result of: universities that do not offer short courses and are more suited to larger companies; courses offered by public institutions are often too broad/basic, teachers lack the industrial experience, and colleges no longer conduct industrial workshops; and production loss due to the financial crisis.
- Impossible to interrupt production time/lack of time – due to company size, employees are constantly needed to maintain production and service, in order to allow an employee time off work to carry out training there is an increase in the pressure and workload of other employees or there is a reduction in product output.
- Too difficult to identify suitable training providers or lack of training providers/programmes – although skills development activities are on offer, it is often difficult for SMEs to assess the quality of the available training programmes or, in some cases, there is a lack of awareness that training opportunities exist. On the other hand, some SMEs are highly specialised and in their cases there are a lack of training programmes available.

Other company issues/concerns identified:

- Staff are recruited with the skills needed.
- Staff not willing to participate in training.
- Fear of company espionage.
- Lack of public funding.
- Risk of poaching after training.

Specific circumstances illustrating these difficulties are provided through the following quotes from firms:

The firm then looks at courses offered by private trainers such as Software Education, an Australasian firm with offices in Brisbane, Sydney and Wellington. Staff have participated in these courses, which has provided new skills, but the firms finds it an expensive option, especially if it is wanting a team of staff members to develop the skills or if the course involves travel to Wellington or Sydney. A three-day course would cost about NZD 2 500 (including travel) plus the opportunity cost of releasing the staff members from work when the business has lots of work to do and deadlines to meet. It is harder for a smaller enterprise to take “time out” even if it would be worth it in the long-run.

Alchemy Group Ltd (Purpose built software systems, Canterbury region, NZ)

The company has not found any highly specialised managerial training that could benefit them at a reasonable price. They believe that training and skills development programmes that they have obtained from public institutions have been too broad and basic for them. For instance, they have received advice on business management from Business Link. However, this advice was quite general without presenting any substantial benefit for the company. Another example is that some employees have decided to stop attending college, because their teachers did not have the expected

industrial experience. Their employees have reported that they learn more in the workplace than they do at the college.

West Midlands, the United Kingdom Company (Fixturing and gauging for the automotive sector, West Midlands, United Kingdom.)

Public bodies – Half of the concerns expressed by SMEs regarding formal training and skills development involve public bodies, institutions, agencies and/or departments. Often these concerns relate to issues with subsidies/funding programmes available, either the support measures are too complicated and fragmented or there is a lack of information available about co-financing schemes. One training SME noted that the support mechanism, such as the SME Portefeuille in East Flanders, requires training firms to be accredited as a recognised training establishment, however, the investment needed to comply is very demanding for a small private training organisation. Another issue raised was that “Public programmes seem to be policy driven” and according to a West Midlands company “do not necessarily add value to SMEs, they appear to be designed for quite low-skilled people who need to get back in to jobs”.

Training providers/programmes – The main issue relating to training providers/programmes discussed by the SMEs is that often the training provided is too broad and generic for their firm’s needs. A nursery company in East Flanders noted that there is “... one critical consideration about the use of training. He is a strong believer in the added value of education, if – and only if – the training is not too general. It should be adapted to every function and to actual needs”. A West Midland’s company also stated that business management support was too general and basic for the company. A training and consultancy firm in East Flanders noted “training is not applicable on the job, too theoretical and not sufficiently adapted to the client. This causes trainees to wonder whether the training had any effect at all”. This training and consultancy company (T and C Services) states that they “... aim to tackle this problem. All training is provided on individual demand, adapted to the objectives and desires of the company”.

Universities/colleges – There were a number of different issues relating to universities/colleges discussed by SMEs during their interviews. Two Canterbury firms noted that the curriculum is designed for the needs of large firms and “covers too much too quickly”. A custom engineering company in Canterbury noted that “... he no longer finds value in formal apprenticeships” due to the need to release staff for a six week block course; staff members after achieving their qualification could resign and go to another firm; staff do not require the whole programme; the curriculum is designed for large firms; and read-write learning at a fast pace is not useful for staff who are more practical. Other concerns include: lack of short courses offered; lack of industry experience; and a lack of practical workshops offered.

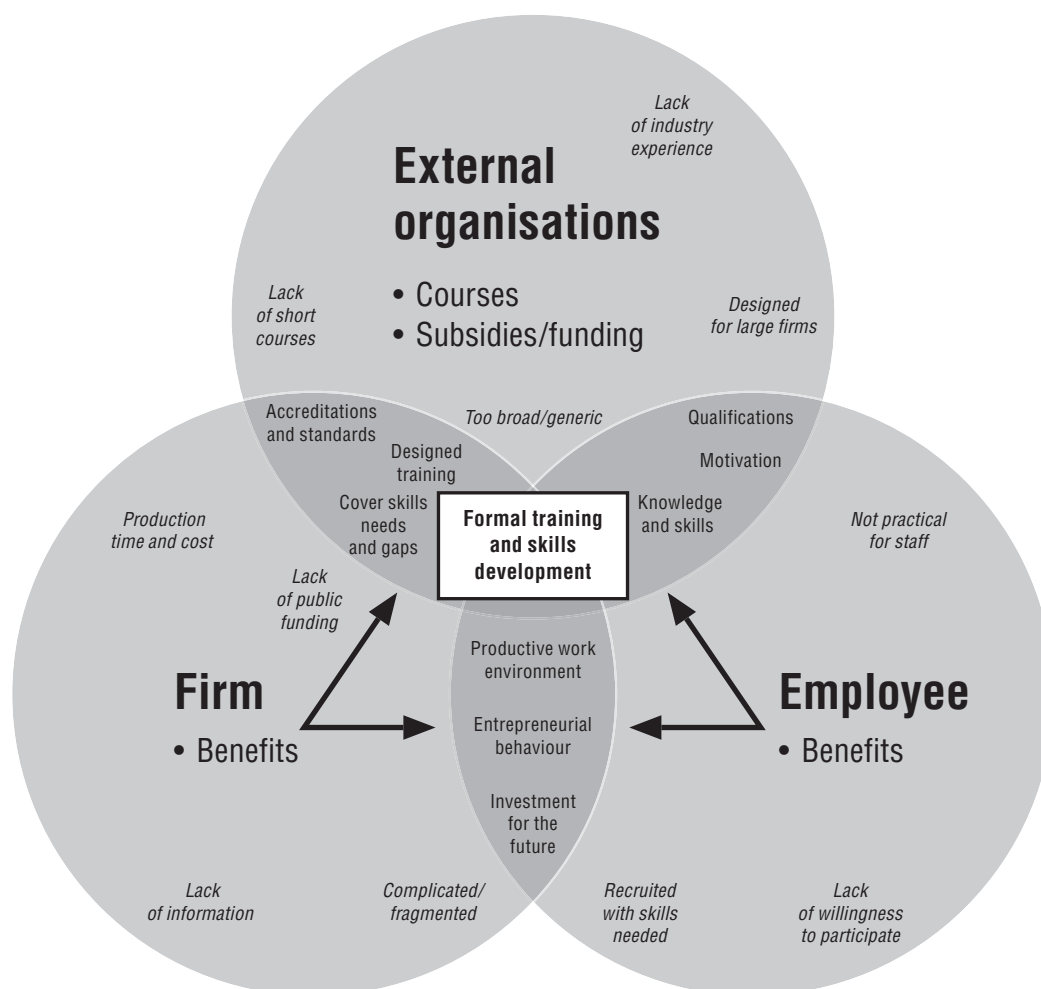
These training and skills development issues and concerns, identified through the SME interviews, contribute to the necessity for SMEs to carry out informal company-based (KISA) approaches to skills development, which are discussed in the following section.

SMEs’ formal training and skills development is a complicated and interrelated set of interactions, with external organisations, employees and the firm. Figure 4.4 tries to illustrate some of the systematic elements of SMEs’ training processes.

External organisations such as universities and private training organisations mainly utilise courses to provide training, and occasionally public organisations provide the subsidies/funding to support SMEs. The benefits (shown in the overlapping circles in Figure 4.4) to the firm include covering skills needs and gaps, accreditation/standards, and

improving a productive work environment leading to company growth and investment for the future. Employee benefits (also shown in the overlapping circles) include an increase in knowledge and skills, motivation and self-confidence, a qualification and, in some cases, an increase in entrepreneurial behaviour, creating a productive work environment. However, the formal training approach is rife with issues and SME concerns (italicised text in Figure 4.4), which relate to the firm, employee, education institutions and public funding bodies.

Figure 4.4. **SMEs' formal training and skills development model**



Italics = challenges.

Informal (KISA) skilled development activities

The majority (90%) of SMEs interviewed for the project were undertaking skills development via informal, or KISA processes. These firms were of various sizes, but tended to be the more mature firms (in existence for nine years or longer). There is a variety of informal methods utilised by SMEs, these include.

On-the-job training – Eleven, mostly mature, small and medium SMEs provide on-the-job training to their employees. All of these SMEs require technical skills entailing hands-on, staff interaction and the building of experience for new and established staff. Due to

the niche market of most SMEs and thus the unique skills needed, on-the-job training becomes an essential training approach, for example:

- **Nijis** – a restoration company notes that: “Technical skills are taught one-on-one and this is possible thanks to the small team structure. Nearly everything happens on-the-job. This is considered as an example of knowledge intensive service activities (KISA). Most learning experiences occur informally.”
- **Lakewood Court Rest Home and Straven House** – accommodation and care facility for elderly patients, the interviewee stated: “Managers and senior staff in both institutions are expected to provide on-the-job training to their colleagues. This is provided in work situations to ensure that policies and procedures are being properly carried out, with particular attention to resident safety and well-being.”
- **West Midland’s Company A** – fixtures and gauging for automotive, mentioned: “... employees have reported that they learn more in the workplace than they do at the college.”

Mentoring – in nine, mostly mature and small SMEs, senior staff mentor new employees as an informal approach to training and skills development within their firm. Mentoring includes a “godfather approach” as described by Burrick, a metal construction company in East Flanders, Belgium; one-on-one teaching, coaching, guidance, advice, and feedback. **EcoPuur** describes their mentoring programme: “... attention is also paid to informal skills development. Newly hired employees are assigned to a mentor. For any question about the job content or the company, the new employee can call on his mentor. This project turned out to be a great success.”

Team/Staff meetings – seven, mostly small, mature SMEs use team/staff meetings as a form of KISA training and skills development. The purpose for these meetings includes: share practical work-specific knowledge; exchange ideas and experiences; discuss new techniques; and weekly reviews. As a result, co-operation and collaboration between the staff and executive is strengthened and provides an innovative environment to improve processes and performance.

Groenidee, a landscaping company in East Flanders, Belgium explains their approach: “... on the informal level, monthly team meetings are held. During that meeting, they exchange experiences, discuss new techniques and think about past incidents. Hassens really emphasises this as a learning moment.”

Nijs, a restoration company in East Flanders, Belgium, whose approach includes: “The team meets for half a day to discuss the plans and execution. Together, they look for similarities with former projects and get a complete view of the project, rather than only orders about individual tasks. This meeting can be at offices or on the construction site itself.”

Interpromex, a waste management company in Zaglebie, Poland, uses “... a system of internal informal training co-ordinated by department managers. Regular briefings are organised between managers and workers of each department. According to [the] HR Director, these briefings are devoted to ‘sharing practical work-specific knowledge as well as to work planning’.”

Other informal approaches include:

- **Company training sessions** (five SMEs) – usually undertaken by an internal expert in an effort to share information, experiences, and updates. The **Work Metals** firm within Manitoba, Canada, provides an innovative example of the benefits of company training

sessions stimulated by inter-firm exchanges on common issues – usually animated by an external resource person – in an effort to share information and experiences, as well as monitor the pursued innovation in the participating organisations.

- Research and development projects (four SMEs) – these are usually supported/financed by government programmes, however, they have had an important impact on the training and skills development of firms. For example, three Turkish SMEs interviewed identified the benefits and impacts of research and development projects. Hydrogen power company, OSTIM from Ankara in Turkey noted: “... the abilities they developed through their research and development projects supported by government programmes had a positive impact on the productivity and product/production quality of the company. They also think that interactions with suppliers have valuable impacts on increased knowledge and expertise. The management of the company is of the opinion that KISA are important for the skills development of staff as they learn through interaction and experiencing.”
- Team work (four SMEs) – for the purposes of problem solving and building skills by internally shifting workers to different team units.
- Other (two SMEs) – information sharing via newsletters, DVDs, intranet Wiki pages, and off-the-job practices such as networking, and keeping up-to-date with reading and home studies.

A company benefits from internal (KISA) training and skills development because it is more cost effective; SMEs do not have to pay for private trainers and institutions, and in-house training has less impact on production/service time. Employee benefits, especially from involvement in research and development projects, include an increase in knowledge about the firm and general experience, more motivation and self-confidence, and employee work quality increases. SMEs did not elaborate on any benefits to the local region, presumably due to the lack of collaboration between companies.

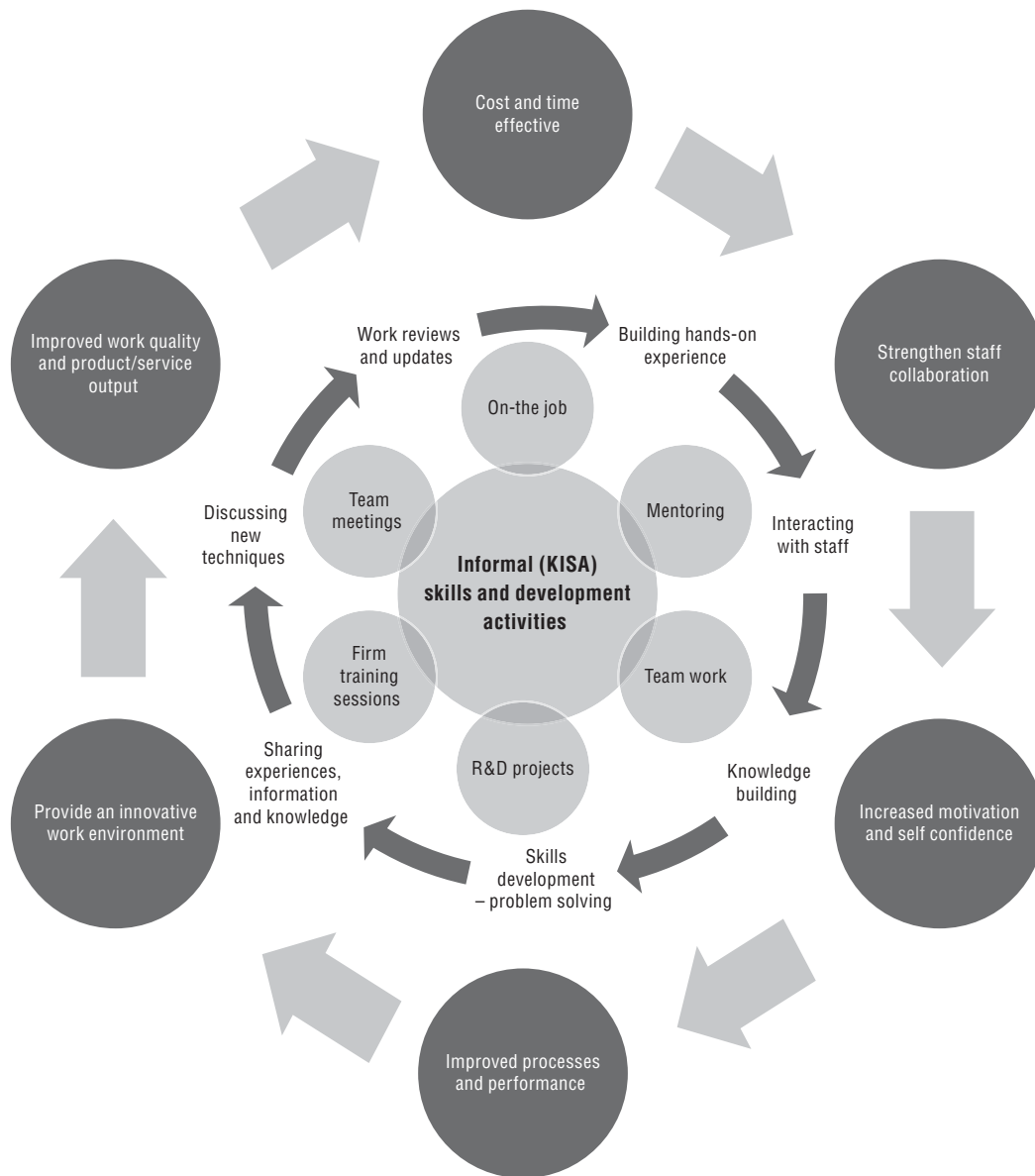
Informal (KISA) skills development provides the most cost/time effective training approach for SMEs. This is because of the in-house company initiatives undertaken, which include: on-the-job training; mentoring; team/staff meetings; research and development projects; company training sessions; and team work. Figure 4.5 illustrates these relationships. KISA build experience, interaction and knowledge for new and already employed staff, increasing their motivation and self-confidence.

The activities also help strengthen collaboration between staff and the company executive, as well as improving processes and performance, and providing an innovative work environment. A more formal acknowledgement of these KISA skills development actions should be fostered and nurtured as an integral ingredient to leveraging training and skills development in SMEs.

Motivation and collaboration with other institutions

Seventy-six per cent of the SMEs interviewed, which were mostly mature, small/medium sized companies, had some sort of interaction with suppliers and customers, other organisations/associations, between companies/firms, and tertiary institutions for the purposes of:

- Collaboration/co-operation.
- Training purposes.

Figure 4.5. **Informal (KISA) training and skills development model**

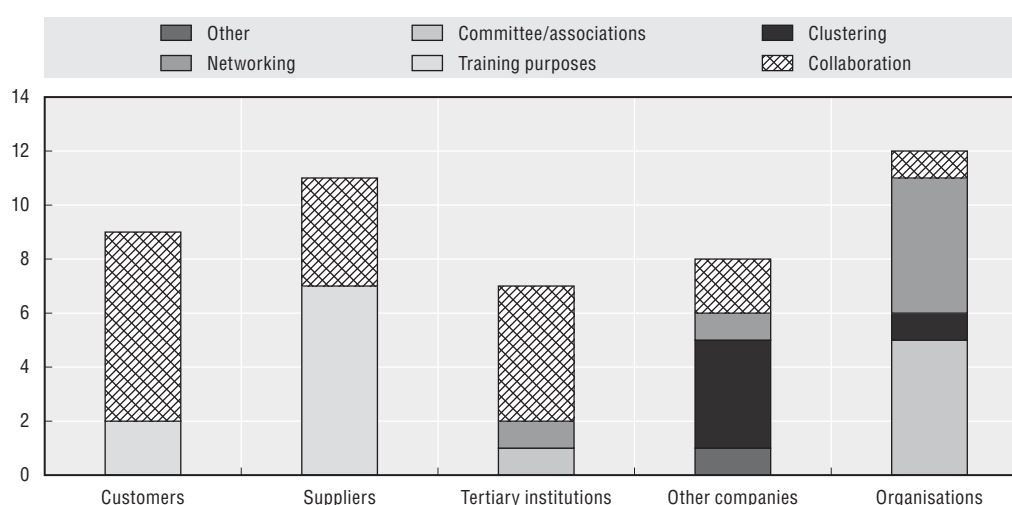
- Networking.
- Clustering.
- Committee/associations.

These results are shown in Figure 4.6.

Collaboration/co-operation – of those identified as interacting with other organisations, 70% approach this interaction through collaboration and co-operation, mostly with:

- Customers – before and during production and service delivery, developing ideas, and exchanging specific knowledge in order to fulfil their clients' needs. Interaction with the customers also occurs to develop a client base and market supplies.

Figure 4.6. Other interactions with stakeholders



Source: TSME survey, 2011-12.

- Tertiary institutions – to conduct research and development or exchange highly specialised research and development skills; to foster a strong partnership designed to inform practical training for the industry; and to share information and learn from their expertise.
- Other companies – to disseminate knowledge in the region. It was noted that when interaction between firms is high, the impact on the local area is positive.
- Organisations – In the past EcoPuur (Belgium) co-operated with:
 - ❖ UNIZO – who informs, advises and represents their interests.
 - ❖ Syntra, which is a network responsible for employment related competencies of entrepreneurs and employees.
 - ❖ CEVORA, which is a sector-training centre.

Three of the SMEs in the industrial zone OSTIM in Turkey, noted that there was a lack of collaboration with local businesses in their area, and that while the “renewable energy company” had tried to interact and collaborate with other businesses, they were not willing to do so.

Training purposes – only 34% of SMEs identified as interacting with other organisations for training purposes. The majority of this interaction occurred within the firm’s value chain, such as their suppliers (e.g. providing training in the use of new machinery, maintenance and new recruits); and with their customers, to acquire specific skills in how to use their customers’ web-based systems. EcoPuur in East Flanders in Belgium, noted that the benefit of supplier training is that it is adapted to the business cycle; and SEGU, Zaglebie, stated that supplier training had a profound impact on the way their production is organised. An innovative example of formal intervention for the firm and the employee is that of Workplace Education Manitoba (WEM), which is focused around the nine essential workplace skills identified by the Canadian federal government’s Human Resources and Social Development Canada (HRDC). Further detail on WEM is presented in the box below.

Box 4.1. Workplace Education Manitoba (WEM)

WEM intervention within a company begins with a needs analysis involving both employer and employees, followed by a flexible assessment scenario that is linked to an available learning response. The training is customised to meet each firm's problem and, in a systemic approach, also involves the immediate supervisors of trainees. The intervention is a short, functional process designed to create a new perspective within the organisation, giving people inside the firm the language and framework to enable them to talk practically about skill development and to assess its feasibility as well as its relevance. The motivations for firms to become involved are the long-term outcomes, such as: decreasing absenteeism; improving health and safety figures; increasing productivity and decreasing error rates, etc. For workers, such an immediate skill improvement creates better integration into their work environment, and strengthens their job security but, above all, increases their capacity for developing initiative in the new technologically intensive context of their work. Paradoxically, such short-term and customised learning events, because of their immediate impact on the production process and the concrete relevance for people in their daily work, often initiates or leads to a continuing process of skill development both within the firm, instigating a new culture attuned to a "learning organisation", and for individuals, where it tends to reinforce their sense of personal efficacy and creates a demand for continuing professional development.

WEM identified how workers, overwhelmed by the essential skills they require, will not seek out training/education or will refuse such offers, thereby hampering their mobility within or outside the company. Beyond their company based interventions, *Workplace Education Manitoba* also provides individuals with counselling and training opportunities that they can afford and organise themselves. In all WEM local training centres, drop-in opportunities exist from 4 to 8 pm, whereby individuals can walk in and seek assistance. Some SMEs maximise utilisation of this service by releasing their employees one hour earlier in order for them to benefit from such services. These centres reach then more than 7 000 people every year.

Networking – only 24% of those SMEs that identified interacting with other organisations use networking for these interactions, and then it is mostly with associations and chambers of commerce. SMEs noted that networking provides a forum within which to exchange ideas and experiences, and to learn from other enterprises and industry peers regarding employee skills development (e.g. the Combell Group, which offers information technology infrastructure and hosting solutions in East Flanders, Belgium). EcoPuur, based in East Flanders, Belgium, was the only company to network with other companies, as they considered it important to meet with other companies under a co-operative statute, because they have the same considerations and approaches.

One of the most remarkable features of EcoPuur is its practice of clustering. Wannes Wylin is a radical proponent of collaboration and knowledge-sharing. The company wants to be a strong regional player, but for projects that reach beyond its frontiers, EcoPuur refers without hesitation to colleagues in that region. Also for large or very specific projects, EcoPuur teams up with other companies. In doing so, the firm has gathered an extensive network of like-minded corporations. For example, he has made arrangements for joint purchasing of solar panels with his direct competitors or rather, colleagues. By joining forces, the small firms obtain some bargaining power. In the future, Wylin would like to formalise these partnerships in a joint organisation.

EcoPuur, Ecological (Appliance engineering and installation, East Flanders, Belgium)

Clustering – only four SMEs mentioned clustering as a form of collaboration with other companies. The purpose of clustering is to share knowledge and advise each other and defend common interests. Examples of clustering include:

- Opel Willy, East Flanders, Belgium: identified that they grouped a large number of SMEs within the industrial zone around the topic of waste recycling, to raise awareness of the environmental cause. The interviewee stated “... together you can achieve things that are not possible by yourself”.
- Groenidee, a landscaping company in East Flanders, Belgium noted that there is an industry cluster through the BFG (an industry employer association) where, according to the BFG website, members consider each other as colleagues, instead of competition. The Groenidee interviewee stated that there were structural issues within the industry that needed to be resolved through a collective organisation. Profit margins in the industry are too low to enable them to compete; landscaping companies are obliged to specialise and thus join forces.

Nijis, also based in East Flanders, Belgium, raised an issue regarding clustering, where they noted that “... co-operative networks are difficult to obtain due to an increasingly competitive atmosphere in the restoration market”.

Associations – only four SMEs stated that they associate with committees, working groups or trade associations. The Alchemy Group, Canterbury, New Zealand, stated that they were on a committee at the Lincoln University to design its computer science curriculum and were members of a major review of its computing programme that led to a new degree. The same company also associates with Canterbury Software Incorporated, which, according to their website, is a voluntary association of software producers and support agencies working together to help innovative software companies in Canterbury to commercialise their products and improve service relationships. The Alchemy Group stated that this association has a strong ethos of supporting the software industry in Canterbury. Other associations include:

- Company A, West Midlands, the United Kingdom – Gauge and Toolmakers Association, who provide advice on the training and skills development programmes required by SMEs.
- Independent Line Services, Canterbury, New Zealand – Electricity Supply Industry Training Organisation (ESITO), where a representative from the ESITO consults with the company at least once a year regarding the organisation’s programmes.
- Lakewood Court Rest Home and Straven House, Canterbury, New Zealand – New Zealand Aged Care Association, which has an annual conference, and offers occasional training and professional development days.

Eight SMEs identified that there is a general lack of networking and/or clustering within their region or industry sector. The main reason identified was competition. Oxalis Consulting and Development, East Flanders, Belgium stated “... to obtain successful networks, they should be void from commercial opportunism”.

Two good examples of formal collaboration are provided by the Canadian Manufacturers and Exporters (CME) Association of Manitoba, and by the *mutuelle de formation Formaplus* in Québec. The CME developed a programme called Consortia (further details presented in the box below), which is aimed at companies who are committed to improvement and have a willingness to share their success stories and the challenges they

Box 4.2. CME Consortia programme

Consortia are formal groups of ten to twelve companies, mainly SMEs, with the goal of achieving step changes in business performance. These groups of enterprises, which are not in competition, come together to create a learning circle, meeting monthly in rotation at each of its members' places of work. There, they review the planned actions taken by the local firm where the meeting is taking place and share views on problems raised. In order to monitor together the progress for the local introduction of the innovation they are pursuing (ex. Lean production), they either undertake a presentation and discussion or, more often, shop floor visits done in sub-groups. The purpose of these meetings is to observe collectively the situation in each firm, discuss the problems encountered, and propose improvements. Many circles can be created around a common theme (e.g. Lean production, sustainable development or operational excellence), which come together and organise shared, *ad hoc* education and training, or expertise activities and services.

This inter-learning process is strongly supported by a non-formal environment that facilitates sharing and “stealing” of innovative practices. Each Consortium is supported by CME Manitoba. Besides forming these small groups of non-competing firms, CME provides them with a facilitator, to ensure continuity and reporting, while also helping to find resources to meet specific short-term needs. In addition, CME Manitoba organises leadership training and other advanced courses. To train mentors on the Lean approach, it offers Kaisen training courses that run for nine days, distributed over a three week period. CME also facilitates cross-consortia exchanges, by networking three to four consortia around a common theme and offering them joint activities, and sometimes, on demand, creating special interest groups (SIGs).

Work Metals joined the Consortia group focusing on *Lean production* in 2009. The manager of the company noted the benefits of Consortia group stating its “... ability to draw from other's experiences. Everybody in the Consortium is at a different stage in their Lean journey ... and we have been able to share experiences and learn things from every company”. The Consortia works on a 14 month cycle, made up of 12 monthly local visits (no meeting in July) and a strategy planning session.

Tick Control System designs and produces specific metal products for other large or smaller firms active in different industrial sectors. The firm joined the Consortium on *sustainable industrial development* in order to better face the challenge of global competition and increased costs, by sharing experiences with non-competing companies facing similar problems. In this way, they aimed to improve productivity and quality of production, and to create an environment conducive to stronger employee involvement.

The monthly meetings “... generated ideas. We pick innovations from the others and share best practices, but we implement them differently”. The consortium also gave direct access to sources of information and expertise. This consortium added joint special activities like group study visits in other provinces and specific, organised training based on a problem-solving approach.

This sharing of “outsides eyes” provides a horizontal inter-learning process matched with a self-managed network of external expertise and training, which is making Consortia a unique innovation. Such group-based exchange mechanisms offer a creative solution to the challenge of ensuring relevant and continuing skill development within small and medium sized enterprises.

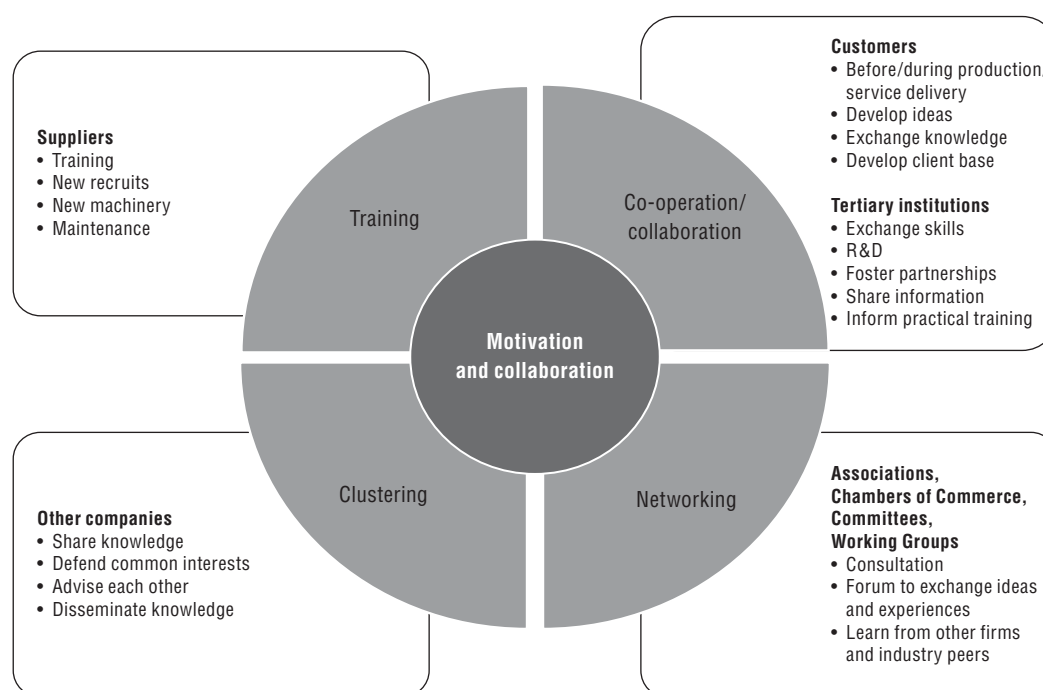
have experienced. The CME also provides support, including training and networking. One of the benefits of joining the Consortia group is learning from other companies' experiences.

The case studies show that collaboration between firms is occurring externally; with firms collaborating to share, exchange, advise, consult and learn from external organisations. A number of approaches were utilised by SMEs, including:

- Co-operation with customers for product development.
- Training by suppliers.
- Networking using the Chamber of Commerce, Associations and with other companies as a forum to exchange experiences and ideas, learn from each other, and consult together.
- Clustering with other companies to share knowledge, advice and defend common interests.

The CME and the WEM, together with the Manitoba and FormaPlus in Québec, Canada, provided innovative examples of collaboration/networking between SMEs, as well as opportunities for training and skills development. However, collaboration does not always occur, often due to competition between firms and a lack of willingness by companies to interact. Figure 4.7 illustrates the dynamics of SMEs' collaborations, and categorises the motivations for these collaborations.

Figure 4.7. **Motivation and collaboration – SME model**



SMEs' responses to climate change

According to Martinez-Fernandez et al. (2010: 4): "The impacts of climate change, and especially subsequent mitigation and adaptation policies, on labour markets are still largely unknown despite the recent demand for knowledge production and diffusion on this topic increasing..." This section hopes to increase the knowledge into the effects

climate has on SMEs in relation to new job profiles and climate change regulations. It should be noted that only 11 of the SMEs interviewed, which were mostly small to medium sized firms, ranging from new to mature, were associated in some way with the “green industry”. These SMEs were mostly from the manufacturing, business and agricultural economic sectors. However, just over half of the SMEs interviewed (16 SMEs) identified a number of reasons for being engaged in organisational modifications due to climate change. These reasons are in relation to:

- Marketing.
- Requirements of the firm.
- Initiatives within the firm.
- Education and clustering.

Marketing – the interviews revealed a variety of climate change marketing approaches, which include:

- As part of the firm’s mission statement – Sylva nurseries, in East Flanders, Belgium states that they “... want to grow forests and hedging plants in a socially responsible way, for a green environment in Europe”.
- Achieving awards – Sylva nurseries also has a commitment “... to a socially responsible entrepreneurship [which] has even [been] praised internationally. In 2009, Sylva was granted the title of ‘International grower of the year’. Next to [its] commitment for employees, it received this award for its efforts in the domain of environmentally friendly production.”
- Projects – Burrick, a metal construction company in East Flanders, Belgium, stated “... ecological awareness is slowly but steadily getting integrated in Burrick’s corporate strategy. They have hopped on the ecological bandwagon with projects on solar panels and windmills, because they felt there was an increasing demand in this market.”
- Using green energy – The Combell Group, information technology (IT) infrastructure and hosting solutions, East Flanders, Belgium noted, “... the environment is an important item at Combell Group as they use 100% green energy”.
- Using more environmental friendly devices – Groenidee, a landscaping company in East Flanders, Belgium stated that they “... make an effort to use more environmentally friendly devices, reduce waste and make responsible use of insecticides. ... there is no need to pretend we are saints, it also happens to be a trendy marketing tool”.
- New products – Opel Willy, new and used cars, repairs and rental, East Flanders, Belgium, stated: “... the company is considering joining the new trend on green economy, by introducing electric car rental.”
- Raising awareness – solar energy company, OSTIM in Ankara, Turkey, noted that their “... technical staff should be able to explain the benefits of renewables and convince the customers to invest in renewable energy. Technical staff also have a mission to raise awareness on the importance of renewables...”. As a result of this, the solar energy company requires their technicians to develop social skills, so they can “... speak a language which can be understood by an ordinary person who does not have information about renewable energy”.

Requirements of the firm – This relates to compliance with environmental regulations, accreditation, and skills needs such as:

- Burrick, a metal construction company in East Flanders, Belgium – needs to make “... explicit efforts to meet legal requirements, in order to obtain some useful ISO certificates”.
- Company E, which manufactures automatic and manual transmissions in the West Midlands, the United Kingdom, noted that the “... company’s main customers [such as Ford and Chrysler] expect them to be accredited with ISO 1401 [Environmental Management Systems international standard] and the TS16 949 [international standards on quality management systems for automotive-related products]. The company needs to comply with EEC regulations. They were ISO 1401 accredited in 2003.”
- Independent Line Services Ltd, an electricity network contracting company, Canterbury, New Zealand – notes that they are “... required to use sustainable practices, but this isn’t having a strong effect at present. There is a push to put lines underground, and [they] are preparing for that to continue.”
- Company A, fixturing and gauging, West Midlands, the United Kingdom, stated: “The company complies with the required environmental regulations... these are mainly concerning waste disposal... However, they have found the process to obtain a certification for their environmentally friendly activities is quite complicated. For that reason, they have not conducted that process, and thus, these activities are not formally recognised.”
- A medical company in the industrial zone of OSTIM, Turkey, noted, “... they received ISO 4000 quality certificate and took precautions for recycling”.
- The renewable energy company in OSTIM, Ankara, Turkey, identified that climate change is: “... related to their core business and therefore they need a labour force skilled on the subject. As the level of technical knowledge they need increases with the advancement of technology in the field, they require technical staff with new qualifications. However, it is not always possible to find such people.”

Initiatives within the firm – a number of the SMEs interviewed are taking the initiative to be more environmentally aware/conscious, such as: incorporating a vision into their company’s mission statement (e.g. Sylva nurseries); moving their headquarters to a more environmentally friendly building (EcoPuur); lobbying for the business centre to become a “green zone”, which would require all SMEs to take ecological measures (EcoPuur); introducing new machinery that filters all the water that the company puts down their drains (EFI Engineering Ltd); adopting new manufacturing principles so workers on the factory floor are involved in identifying ways to eliminate waste and organising their workstations more efficiently (Windflow Technology Ltd); and energy saving measures such as the medical company in OSTIM, Ankara in Turkey, who have achieved a 70% reduction in electrical energy usage and a 60% saving on water usage. The company “... aim to increase savings to 90% and they need to hire a new engineer for this purpose”.

Education and clustering – The West Midlands, the United Kingdom Company B, which undertakes research and promotion of organic gardening, farming and food, is directly involved in conducting and fostering good practices for a sustainable environment, which was supported by environmental regulations. Opel Willy, new and used cars repairs and rentals in East Flanders, Belgium, whose owner was able to rally together companies in the industrial

zone around the topic of waste recycling. “He took measures to reduce and carefully sort waste by arranging a waste container for all the companies in the neighbourhood.”

Some issues associated with the green economy and the impacts of climate change on SMEs as discussed by the firms are associated with: accreditation and requirements – the process to obtain certification is long and complicated; cost – disposing of waste in a proper way is expensive; green skills – the difficulty is finding qualified technical staff; and regulations. Four SMEs identified issues with environmental regulations and policies:

- EcoPuur (ecological appliance engineering and installation, East Flanders, Belgium), stated that: “... ecological appliances are artificially manipulated by the government... Policy changes in subsidy schemes... had a more negative effect than the economic recession.”
- Company B (research and promotion of organic gardening, farming and food, West Midlands, the United Kingdom), has been deeply affected by changes in policy directions and cuts in funding.
- Company C (services related to low carbon energy technology, West Midlands, the United Kingdom), states: “... the environmental market in the United Kingdom is too regulated. Policies on environmental compliance do not necessarily increase demand for highly-skilled environmental technologists. Fees are kept artificially low, without any incentive for excellence.”
- Company D (produces liquid bio-methane, West Midlands, the United Kingdom), noted that there “... is a large range of different opportunities available to reduce carbon dioxide (CO₂) emissions”. Nevertheless, the interviewee did not know why the central government has chosen to support limited solutions (such as electrical vehicles), which will not be enough to achieve CO₂ reduction targets.
- Solar Energy (Ankara, Turkey), expressed: “... that they would like to apply for the support schemes the Ministry of Environment and Forestry provided for decreasing carbon emissions, and therefore need training on how to apply for this support programme.”

Climate change has had an impact on SMEs in four main ways:

- Used as a **marketing** tool, such as part of a mission statement, receiving awards, undertaking projects in renewable energy, utilising green energy, implementing environmentally friendly devices, introducing new products, and raising awareness of potential customers.
- Organisational **requirements**, to achieve environmental accreditations, meet legal requirements and regulations, achieve sustainable practices, or part of the core business of the company.

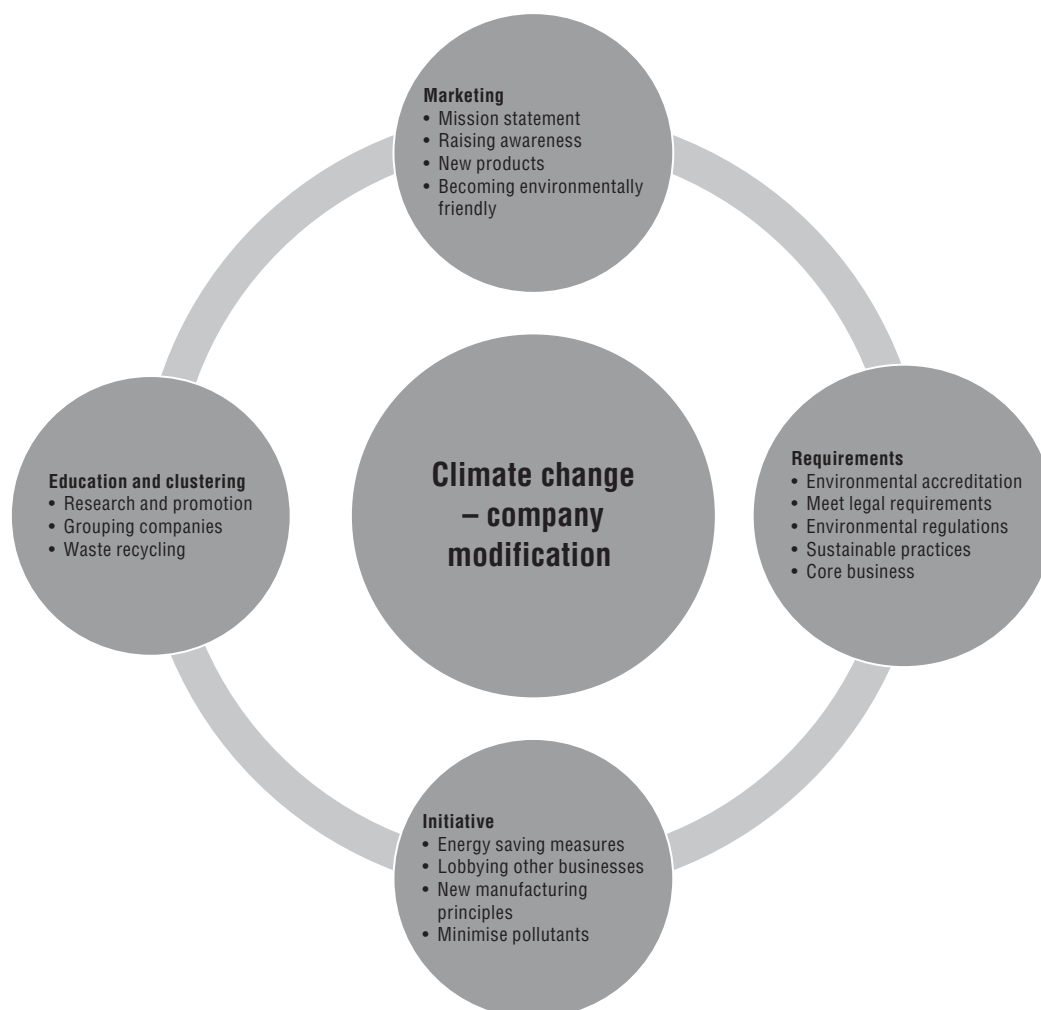
It should be noted, however, that there were a number of issues associated with climate change requirements, especially related to environmental regulations, such as policy being in a constant state of change, or the environmental market being too regulated and the regulations also manipulating the market too much. Additionally, some SMEs stated that there is not enough policy support. There were a few accreditation issues raised, such as the process being long and complicated, and even some cases where SMEs need to undertake training to apply for such schemes, which makes it costly.

- Company **initiative**, such as applying energy saving measures and lobbying.
- **Education and clustering**.

Although the SMEs did not go into detail concerning the impacts of these modifications on job profiles and training and skills development, these changes would have created new jobs and/or altered established ones to bring about these modifications. In which case, staff would have needed some sort of training or skills development, either in knowledge or in technical capabilities, to fulfil the requirements of their position. More research into this area is required to analyse the full impact of climate change on SMEs.

These four impacts are summarised in Figure 4.8.

Figure 4.8. **Climate change – company modifications**



Conclusion and policy implications

The participating countries' case studies provided a rich picture of the processes involved in training and skills development within SMEs of various sizes, maturity and economic sectors.

Impacts of the global financial crisis

The financial crisis has generally had a negative impact on SMEs, with a decline in sales and reduced government budgets, which results in staff redundancies, a decline in

recruitment, and reduced training budgets. The nuances of these decreases were not picked up in the cross-country survey. These declines have impacted employee motivation and work quality, and ultimately led to a decline in innovation.

However, some SMEs were not affected by the financial crisis because they were small and had fewer overheads, such as on-the-job training, which does not require training budgets, and in some cases, firms experienced an increase in demand. While some firms chose to ride out the financial crisis, others reacted by restructuring their company focus, and/or by implementing a sales department to increase clientele and thus diversify their market and training innovation.

Structured training systems and formal training programmes

The more mature and larger SMEs tend to have a developed training and skills structure. These firms usually have a department or section devoted to this within their human resources, quality, sales or research and development areas. Performance appraisals and/or assessments are commonly performed with employee input, position skill requirements are judged, and training recommendations proposed. A company and/or employee training plan or programme is developed based on the training recommendations, however, the training plan is in turn affected by the allocated budget.

Formal training results from a company's training plans and is usually conducted as external courses through universities or colleges, private training firms, the local Chamber of Commerce, regional organisations, or industry institutions. However, there are a number of issues associated with formal training courses, including that the associated curriculum is often too broad, is designed for large companies, and/or is not practical for staff. These issues negatively impact on both the willingness of the staff members to participate in training, and the company's involvement due to cost. In such a case some SMEs, due to their niche market and thus skills requirements, resort to hiring private training firms, which in many cases prove very expensive.

Firms are also restricted by staff absences, which impact on product processes, and often there is a lack of short courses available to accommodate these needs. Although in many countries there are public subsidies and/or funding available for SMEs to participate in formal training, there is a lack of information available, and the process to obtain these benefits is often too complicated and fragmented. Nevertheless, formal training when undertaken, benefits the firm by covering skill needs or gaps, providing accreditation and standards, and assisting with a productive work environment and thus company growth. Employees also benefit by gaining skills and knowledge, qualifications, self-confidence and motivation, and sometimes entrepreneurial behaviour.

Formal training is an investment in the firm's future, however, overcoming the restrictions and issues that SMEs face is one of the main challenges for training and skills development.

The importance of alternative training methods for SMEs

Informal (KISA) skills are the most common employee competency development approaches utilised by SMEs, this is due to the minimal cost outlay, time efficiency and numerous other beneficial outcomes. KISA skills development is often completed on-the-job where the staff member can build up their hands-on experience and interactions with other staff. Mentoring is an especially important technique for new employees, which

assists with knowledge building, understanding of job content, develops company focus, and provides assistance when required.

Team/staff meetings also benefit staff through discussions on techniques, ideas, knowledge and work reviews. These meetings also strengthen collaboration between the staff and company executive, improve processes and performance, and provide an innovative work environment. Some firms provide company training sessions run by an internal expert, while others implement research and development projects with the assistance of government funding. Teamwork introduces staff to problem solving skills and team building experiences. Although informal/alternative training does not gain a qualification (accreditation), it is the most appropriate form of skill development for SMEs and should be recognised more highly when designing policy instruments.

SME motivation and collaboration with other organisations/companies also offers opportunities to share information, exchange knowledge, provide advice, develop ideas and learn from each other's experiences. There are four techniques utilised by SMEs, including: collaboration/co-operation (especially with customers); before and during production/service delivery; and, to a lesser extent, tertiary institutes; and other companies.

Networking through associations, the Chamber of Commerce, and with other companies is not often utilised by SMEs, but does offer a forum in which to exchange ideas and experiences. Similarly, clustering with other companies is not often utilised, but provides associations with working groups, committees and trade associations. The collaboration between companies and organisations within the region provides opportunities for all involved, which not only promotes competency development but also provides a framework for innovation.

Climate change impacts on SMEs

Climate change is a recent phenomenon that is impacting upon the SME sector. Although currently these effects are only minor, the potential for future impacts, both positive and negative, is a real possibility. Currently, some firms are using climate change as a marketing opportunity to gain clientele and create new markets. Achieving environmental accreditation and complying with environmental regulations is frequently a burden to SMEs, as it is often slow, complicated and costly. However, although climate change can be seen as a burden, it will create opportunities for SMEs to innovate and create new market niches. Government support can assist SMEs to work through these changes, regulatory requirements and accreditations, to ensure the future of this important economic sector.

Informal training systems and the need to involve SMEs in policy development

Nevertheless, it can be stated that the SMEs' skills and training development is an untapped niche for private training operators. Prospective opportunities exist as the Internet becomes an increasingly important tool for providing specialised services and "made to order" training advice and courses, which can be delivered onsite at a time suitable to business needs. This marketing opportunity has the potential to overcome the skills and training development challenges that SMEs encounter and thereby promote innovation, not only in the skills and training market, but also within the SMEs' future business operations.

The SME case study interviews highlight the fact that skills development is a resource intensive activity, and the majority of SMEs rely on informal (KISA) training methods to tailor their skills needs. These skills needs are in response to market forces both in-house

and externally within their supply chain or industry, rather than as a consequence of public sector skill development programmes. There is a need for formal training organisations and providers to understand the importance of informal training for SMEs and the potential that exists to develop a pathway for informal skills development to be recognised by qualifications. This process will require a greater role to be played by both industry and employee organisations in order to transmit and integrate SMEs' views. It is essential that when policies are developed, SMEs' views are taken into consideration and are not swallowed up, due to their size, and thus stopped from participating in this process.

The path towards obtaining informal training qualifications should also be supplemented by evaluating the impact of skills development and policy interventions, which can provide important evidence to SMEs of the value of their training investments and the tangible return on investment. Again, co-ordinated efforts from policy makers and both industry and employee organisations are essential, as these evaluations should encourage policy innovation by learning from SMEs' experiences and knowledge, and being able to communicate these effectively.

Notes

1. Holistic approach to enable businesses to improve their profitability and competitiveness through identification and elimination of wasteful practices – by focusing organisations on “value adding” activities, non “value adding” activities are minimised.
2. Practices that focus upon continuous improvement in manufacturing, engineering and management; activities that continually improve all functions and involve all employees to eliminate waste; applies to processes, such as purchasing and logistics, that cross organisational boundaries into the supply chain.

PART I
Chapter 5

Skills and training ecosystems

by
Cristina Martinez-Fernandez and Tamara Weyman

The focus of this chapter is the results of workshops and study visits to the case study areas, intended to determine the skills needs, issues around developing training and competencies, the role of networks in skills development, and the outcomes of skills and training development activities. Combined with the survey results, a skill ecosystem (clusters or networks between firms and skill development institutions) is mapped for each of the case study regions, illustrating the levels of interaction between small and medium sized enterprises (SMEs) and the organisations in their area considered by them to be important for their skills and training development.

A synthesis analysis was then undertaken, comparing and contrasting the similarities and differences across the different regions. Of particular note was the finding that skills and training development policies need to be individually focused for their local area. Policy implications, based on the results of the research data, note that a key challenge for policy makers is how to combine a diverse range of policy instruments across a wide range of portfolios in order to manage an assorted bundle of ecosystems. The importance of regional networks and locally appropriate policies are emphasised.

The skill ecosystem concept

This section provides an introduction to the skill ecosystem concept and analysis from the skill ecosystems workshops carried out in each of the participating countries: Belgium, Canada, the United Kingdom, New Zealand, Turkey and Poland. A key feature of the methodology for this project was a workshop and study visit to the case study area by the OECD Secretariat and a delegation of international experts in the subject matter relevant to the research project. This allows for an exchange of ideas, and discussion between local stakeholders and international experts. In the Leveraging Training and Skills Development in SMEs (TSME) project, the subject of the workshops was an analysis of the skill ecosystem, and interaction between skill providers and skill and training receivers (businesses). The workshops had four themes:

- Skill needs.
- Training and competency building in SMEs.
- The role of networks in skill development.
- Outcomes of skill and training development.

After each of the workshops, a local ecosystem map for each region was drawn up, this summarises and visualises the predominant actors and interactions in each of the seven case study areas. The maps are presented throughout this chapter.

Understanding skill ecosystems

Recent literature argues that there is much to be gained from a workforce development approach and an understanding of skills formation as it occurs in the context of the skill ecosystem. Hall and Lansbury (2006) state that there is a need to move beyond narrow ways of thinking about training for particular jobs or firms and adopt the broader notions of “skills and ecosystems” and workforce development. The concept of a skill ecosystem is that it “... directs attention to the interdependency of multiple actors and policies in creating and sustaining the conditions under which appropriate skills can be developed and deployed in clusters of firms in particular regions” (Hall and Lansbury, 2006).

Effective skill formation policy also demands an appreciation of workforce development as an alternative to traditional approaches centred on the provision of training in discrete competencies. The concept of workforce development is consistent with the skill ecosystem idea because it captures the importance of the broader context in which skills are utilised, it recognises that there are a range of parties who affect and are affected by skill formation and it reaches beyond the narrow confines of formal training institutions (Hall and Lansbury, 2006).

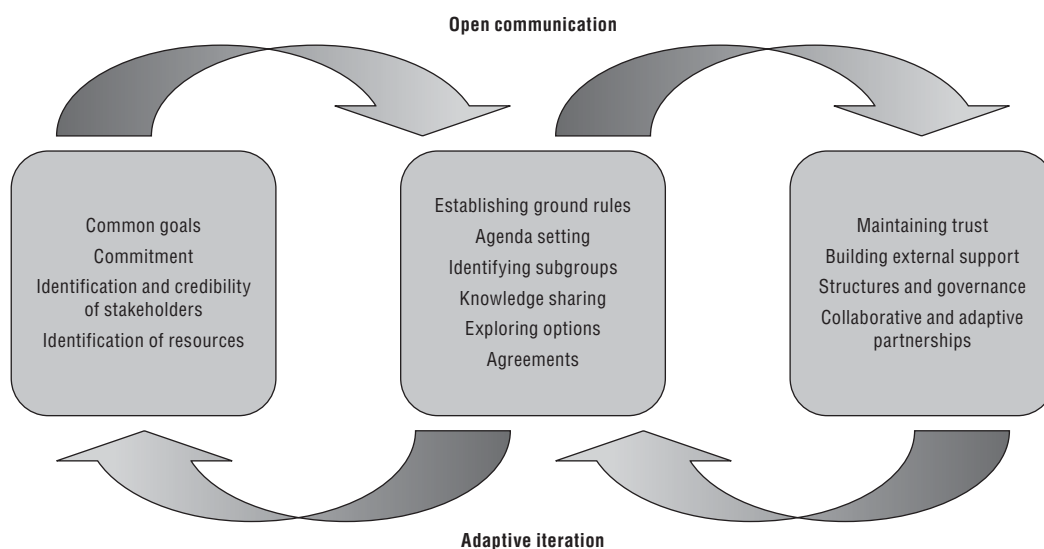
The definitions for skill ecosystems vary according to context, including the understanding of “place” as a city, region or area of socio-activity:

- Buchanan et al. (2001: 21) – “... clusters of high, intermediate or low-level competencies in a particular region or industry shaped by interlocking networks of firms, markets and institutions”.
- Loble (2005: 6) – “... clusters of inter-related skills and knowledge within regions and/or industries, driven by factors like technology choices, competitive influences, culture, structure, regulation and organisation of work”.
- Smith (2006b) – “... communities of interrelated and interacting organisations working as a coherent entity to increase opportunities for sustainability, innovation and growth”.
- The NSW Department of Education and Training (2008: 5) – “... a self-sustaining network of workforce skills and knowledge in an industry or region”.

However, a unifying feature of all the definitions of skill ecosystems is that they relate to the clusters and/or networks between firms and skills and training institutions, ideally, as Smith (2006b) states, to support sustainability, innovation and growth.

Important elements in the skill ecosystem are the establishment and cultivation of *regionally based networks and partnerships* organised around the principle of workforce development. According to Hall and Lansbury (2006), there is merit in encouraging the development of regional and industry specific networks, which bring together public and private training providers (colleges, universities, other training providers), employers, industry representatives, unions, labour market and training intermediaries (temporary work agencies and group training companies), local and regional government agencies and community representatives. As Hall and Lansbury (2006) state, the *government plays a critical role in acting as a catalyst providing an appropriate policy context and support* in terms of resources infrastructure and an institutional framework for the establishment and operation of the networks. Smith (2006) illustrates the skill ecosystem dynamics of open communication and adaptive iteration in Figure 5.1.

Figure 5.1. **Skill ecosystem dynamics**



Source: Smith (2006).

The following sections outline the case study regions' skill ecosystems. For each case study, a regional map was developed illustrating the level of interaction between SMEs and skills and training development organisations. These figures were developed from results obtained from the company based survey.* In the survey, firms were asked about their levels of interaction with a number of different types of organisations, including universities, vocational training institutions, industry associations, trade unions, government departments and so on. Space was also provided for firms to nominate other organisations that they considered to be important for the skills and training activities within their firms, but that were not mentioned in the survey. The results from the survey were then illustrated in these ecosystem maps. The size of the text is proportional to the importance of an organisation within the skill ecosystem of an area, while the map in total shows all the organisations that were listed by the firms.

West Midlands skill ecosystem (United Kingdom)

The United Kingdom's West Midlands' skill ecosystem diagram can be seen in Figure 5.2. The West Midlands' ecosystem is dominated by industry training organisations, private training providers and universities, which provide formal training and specialised knowledge. The illustration shows a broad range of SME collaborations occurring within the West Midlands region, which may be a good starting base from which to promote the SME skill ecosystem within this region.

Figure 5.2. **West Midland's skill ecosystem**



* The company survey is the subject of Chapters 2 and 3.

The workshop noted trade associations and industry organisations as key players within the West Midlands' skill ecosystem, as they are directly relevant or answerable to their members, have a clear understanding of the sector-based issues and are responsive to industry needs. Other important key players are the charitable organisations, as they are flexible to SME needs, however, are under constant strain because of public funding cutbacks. The public sector was seen as being slow to react, subject to political demands, and with a complex structure, thus making it difficult for SMEs to interact with them. Trade unions were seen as potential key players, however, SMEs have a very low unionisation rate, which mitigates the benefits. If large companies within the region had an obligation to train their employees, this would then trickle down to the SMEs, however, the large companies no longer consider this as an obligation.

Labour market intermediaries have an important role to play in bringing together the demand and supply side of the labour market by improving information, job brokering, and the promotion of effective recruitment actions, and enhancing the ways that agencies work together with employers and individuals to stimulate demand. The regional development agency (RDA) in each English region has the responsibility for sustainable economic development.

The Advantage West Midlands RDA developed the West Midlands Economic Strategy and Action Plan 2004-10, they also worked in partnership with other organisations through the Regional Skills Partnership (RSP). The RSP offered a forum for employers, learning and skills providers and other public bodies to collectively influence how the delivery of skills, workforce development, business support and labour market service can provide the best support for regional businesses and deliver the Regional Economic Strategy.

According to the workshop, there is great complexity within public agencies and business organisations, the emphasis being not so much on the "functioning" of the system, but rather the assortment of agencies from the strategic through to the local created complexity, which contributed to a lack of functionality.

West Midlands skills needs/deficits include management, social, technical, entrepreneurial, green and industry specific skills. Workshop suggestions to achieve these skill developments for the region were: speed up training outputs/outcomes; enhance responsiveness (shifting skills emphasis); system streamlining; address cultural issues within firms and by individuals; and re-orientate the type of training provided.

Other issues that affect training and competency building in SMEs include: industry sector restructuring; company issues (cost and time – practical feasibility); fear of staff poaching; actual skills of owners/managers; complexity and inflexibility of the system of training (availability and subsidies); training tends to focus on highly skilled staff; an under-utilisation of graduate skills; training projects do not match the SME reality; disadvantaged groups remain disadvantaged; and the region employs migrant workers, thereby overlooking the local region. Workshop suggestions to remedy these issues include: enhance the cost effectiveness of training, thus blending training formats; measure the impacts of training, which will help demonstrate the training and skills development benefits to SMEs; a definite focus shift is needed to allow SMEs to advise training providers of what they need, rather than the providers telling the SMEs what they have to offer; and development of the West Midlands Graduate Internship Scheme.

The institutional landscape of skills in England was reshaped in the two months prior to the workshop, with "streamlining" and "simplification" at the forefront of the changes. Two

new agencies were developed to replace the Learning and Skills Council (LSC), which were the Young People's Learning Agency (YPLA) and the Skills Funding Agency (SFA). The Machinery of Government changes and developments in skills governances, coupled with post General Election 2010 policy changes, meant that this is a period of transition for the region.

East Flanders skill ecosystem (Belgium)

The Ghent region ecosystem diagram (see Figure 5.3) is dominated by Institutes of Technology, business organisations, and industry training organisations. East Flanders SMEs have a heavy reliance on internal knowledge intensive service activities (KISA) skills and training development activities.

Figure 5.3. **East Flanders skill ecosystem**



The East Flanders skill needs/deficits include social, generic, technical and industry specific skills. The primary workshop suggestion was for the education system to focus on the skills to learn, and also to create an attitude for learning.

The East Flanders training and competence development issues include: cost and time (SMEs' practical feasibility); the fact that growth and development is spontaneous; the background and skills of the owners/managers of SMEs; a lack of willingness by employees; the landscape of training is complex and inflexible (availability and subsidies); and the disadvantaged remain disadvantaged.

Policy response suggestions developed from the workshop include: examining the types of learning, for example, low-skilled workers are more open to informal learning such as mentoring; making training more flexible with shorter courses; authorities raising awareness of the added value of training to SMEs; training should be linked to a broader

framework within SMEs; promote the fact that industry funded organisations are able to organise training quickly; create a general website or organisation that offers a clear overview of training possibilities; and use intermediaries or consultants who can guide SMEs.

East Flanders has a variety of network/stakeholder opportunities including: trade associations/industry organisations for specific sectors, which can provide expertise, advice, training, and a network in which to exchange experiences; the public sector for accredited training (although very basic and broad) and government support such as education cheques, SME Portefeuille, and grants for educational leave; private training firms for coaching, teaching and consulting, however, non-subsided firms are expensive; the European Commission's European Structural Fund (ESF) project grants; employment services and agencies such as the VDAB website "become what you want"; network of enterprises such as the Godfather project implemented by VOKA; other companies sharing newsletters and the Belgium Positive Entrepreneurs; and tertiary institutions for apprenticeships and courses, which, however, are often considered inflexible for SMEs' needs.

SMEs in the East Flanders region generally find it hard to locate workers for specific jobs, as a result of which, staff have to be brought in from outside the region. To mitigate this trend, Flanders needs to develop a good image of training and investment in people for the region. The recent financial crisis had a negative impact on training and skills development within the SMEs in East Flanders, but no detail was given. To lessen the impact of the financial crisis, it was important for SMEs to distinguish, within a strong network, flexibility and a good training programme. It was pointed out that some SMEs use climate change as a marketing strategy to attract more clients, as was discussed in the previous chapter.

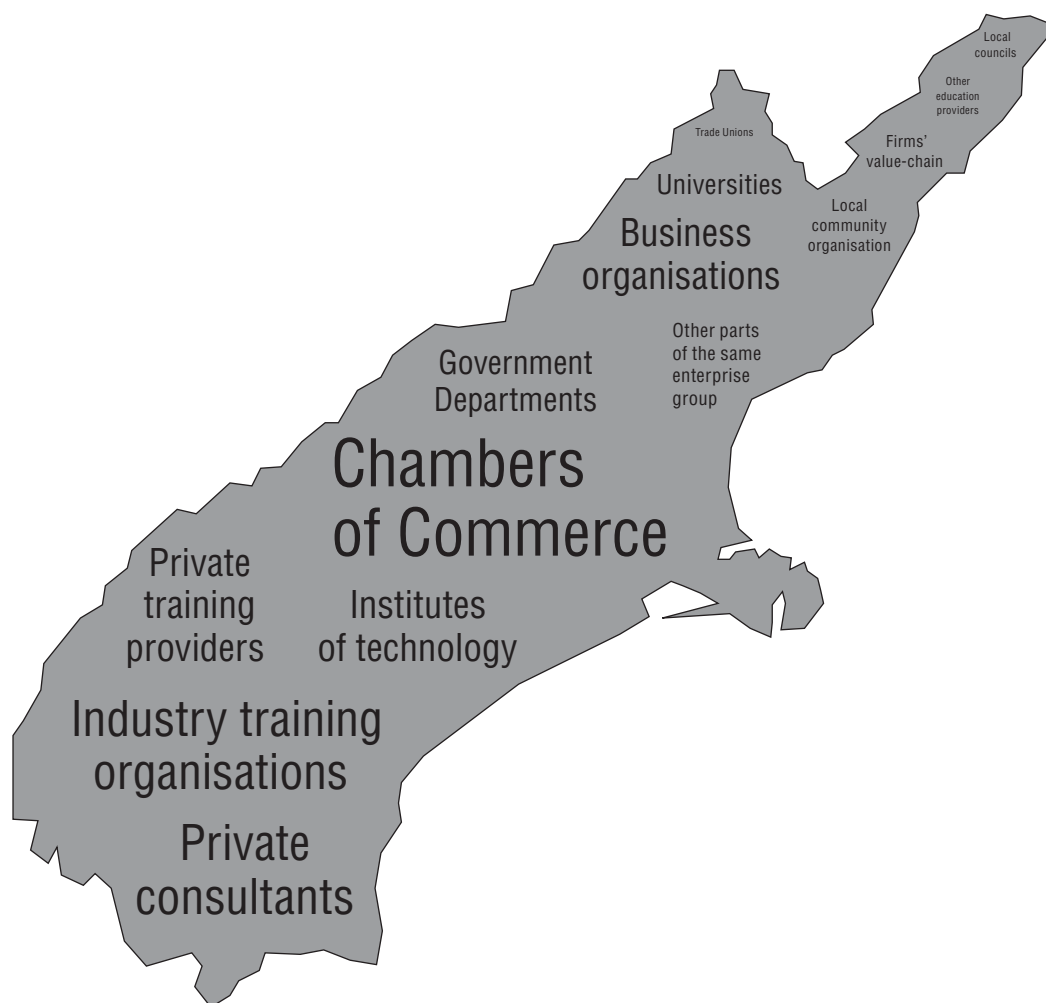
Canterbury skill ecosystem (New Zealand)

The New Zealand (NZ) workshop focused on four themes: skill needs; training and competency building; the role of training networks; and the outcomes of training and skills development. Each theme began with a presentation based on survey results followed by small discussion groups.

The main actors in the New Zealand Canterbury region's skill ecosystem (see Figure 5.4) are the Chamber of Commerce, industry training organisations, private training providers, private consultants, and institutes of technology. Again, an important element of skills and training development within Canterbury SMEs is internal (KISA), company specific training. Christchurch Polytechnic Institute of Technology convened a steering group, which has organised education and training provider forums to identify regional training needs, gaps and priorities as part of the Tertiary Education Commission programme. The forums proved to be successful, nevertheless, with the change in government, the programme is being phased out.

The Canterbury region's skill needs/deficits include management, social, generic, technical and industry specific. To alleviate these skills deficits, the workshop offered the following solutions: promote available training options to SMEs; SMEs to form partnerships with private training enterprises; and greater involvement between industry and career education in schools.

Canterbury's training and competency development issues include: SME generic issues (cost and time) and practical feasibility; the background and skills of SME's owners/managers; company's productivity/competitiveness objectives; networking issues (fragmentation); and

Figure 5.4. **Canterbury's skill ecosystem**

young persons. Policy response suggestions: policy needs to cater for young people who drop out of school but would like to re-engage via training options; SMEs need to develop a positive training culture; and a need for greater co-ordination and communication.

Current networks within the Canterbury region include: trade associations/industry organisations who, at a national level, have a legal responsibility to work with their industries to create strategic plans and then inform the provision of training; tertiary networks such as the Canterbury Training Providers Association and Canterbury Tertiary Alliance (for students); informal networks as the result of the regional facilitation programme; and industry partnerships such as the Trades Innovation Institute at the Christchurch Polytechnic Institute of Technology (CPIT). Further detail on New Zealand's regional facilitation programme is presented in the next section.

New Zealand's regional facilitation programme

The programme was implemented by the Tertiary Education Commission to encourage regional training networks, facilitated by the local institute of technology or polytechnic (ITP). The Christchurch Polytechnic Institute of Technology convened a steering group that had organised education and training provider forums to identify

regional training needs, gaps, and priorities. As a result of this, a Regional Statement of Tertiary Education Needs, Gaps and Priority in Canterbury, 2008-10 was developed and then fed into the development of a Canterbury regional labour market strategy. However, the regional facilitation programme is being phased out after a change in government policy, but had shown that a “network of networks” could produce positive outcomes for learners, trainers and employers.

Outcomes of training and skills development for local firms within the Canterbury region include: specialist clusters, but only within Christchurch City; in regional areas, the primary sector is having difficulties attracting staff; and SMEs that rely solely on in-house informal skills activities may miss out on adopting new technologies. Networking with other firms or participating in training events could mitigate this concern.

Zaglebie skill ecosystem (Poland)

In the opinion of the workshop participants, the Zaglebie sub-region is characterised by the poor development of business environment institutions. This is despite the fact that there are numerous business support organisations located in the region, which have thus been criticised by the companies participating in the workshop for not being active. As a result, Poland’s Zaglebie region’s skill ecosystem is dominated by private training enterprises either providing tailor made training or unrealistic European Structural Fund (ESF) project opportunities, followed by industry training organisations and other education providers (Figure 5.5). The workshop highlighted the lack of co-operation between SMEs and local universities.

Zaglebie skill needs/deficits relate to: management, social, technical, cultural, entrepreneurial and industry specific areas. Policy response suggestions: adjusting education to the needs of employers; strengthening business support; and professional support for business planning.

Figure 5.5. **Zaglebie’s skill ecosystem**



The Zagłębie region's training and competency development has three main issues:

- The landscape of training is complex and inflexible (availability and subsidies).
- VET lacks the practical business skills and approaches.
- Training companies' ESF projects are not related to SME's needs.

A number of policy responses were suggested:

- A need for institutions to combine, through their services, the role of integrating businesses and representing their interests, and their role of training and coaching.
- Universities should be more practically orientated and facilitate the acquisition by graduates of relevant business skills.
- Basic economic knowledge should be treated as a key competency throughout the education system.
- Organise non-degree post graduate university courses based on the needs of local SMEs.
- Training companies should build their ESF project offer based on the real needs of firms, and on market research.
- Assessors for the ESF projects should become familiar with the reality of conducting business activities and with the real needs of SMEs.
- There is a need to create tailor-made training packages for SMEs aimed at basic training on finance and accounting skills, and strategic advice dedicated to future developments.

The Zagłębie workshop discussed the practicalities of co-financing mechanisms for SMEs. SMEs generally do not participate in co-financing opportunities due to:

- Institutional vacuum.
- Over formalised procedures.
- Predetermined indicators.
- Length of assessment time
- Changes in procedures and rules.
- Confusing requirements.
- Lack of eligibility for support.

Recommendations include:

- Rules should reflect business needs.
- Simplify procedures.
- Inform businesses about possibilities.
- Stronger intermediary institutions.
- Aims and objectives should be based on regional strategies.
- Training should be conducive to the needs of businesses.
- Prioritise communication and co-operation.
- Faster decision making.

The industrial zone of OSTIM, Ankara skill ecosystem (Turkey)

The industrial zone of Middle East Industry and Trade Centre (OSTIM), Ankara workshop focused on four themes: skills needs; training and skills development in SMEs; the role of training networks; and outcomes of training and skills development.

The industrial zone of OSTIM in the Ankara region's skill ecosystem diagram can be seen in Figure 5.6. The ecosystem is dominated by private consultants, paid advisors and private training providers, who provide specialised training and skill services, followed by universities (VET), business organisations, and government departments who promote and finance training activities. The organisations that SMEs work with include KOSGEB (affiliated with the Ministry of Science, Industry and Technology) and ODEM (consultancy and training company of OSTIM), followed by the Ankara Commerce of Industry, Gazi University and OSTIM Management (organised industrial zone management company).

Figure 5.6. **OSTIM skill ecosystem**



In the industrial zone of OSTIM, Ankara, training should be focused on the effective management and organisation of SMEs, however, a major issue within Turkey is the low levels of quality and quantity of intermediate staff and the lack of delegation of authority by SME owners to those who have the skills.

The industrial zone of OSTIM, Ankara's training and competency development challenges include: SMEs do not consider training and skills development important, as a result of a lack

of awareness of its potential benefits to their firm; SME owners fear that trained staff would leave the company; lack of capacity (time constraints); insufficient quality of vocational schools; and lack of participation in training or not enough interest from the private sector. SMEs primarily need on-the-job training on specific topics, however, the only training that seems to gain SME interest is compulsory training and information, and KISA.

OSTIM benefits from a large number of organisations engaged in training and skills development, due to its proximity to the capital city and national bodies such as KOSGEB. There are key organisations that provide co-ordination, training and finances to SMEs in the industrial zone of OSTIM at the national, regional and local levels. However, it is apparent that there is a need to enhance the governance system, providing an oversight body that could co-ordinate the major players.

The lack of qualified managers in SMEs and the difficulty employing highly skilled employees impact the SMEs' ability to increase their market share and find new customers. Not helping the situation is the lack of resources allocated by SMEs for hiring staff and developing such skills within their enterprises. Creating awareness and educating SME managers and owners in the benefits of training and skills development that can enhance the innovation capabilities of firms is critically required. Co-operation between organisations within the skill ecosystem is needed and new entrepreneurs require training and mentoring.

Manitoba and Quebec (Canada)

The Canadian regional survey results were interesting, as they reflect the variations in SMEs' levels of interaction with skills and training organisations (Figure 5.7 and Figure 5.8). Private training providers, followed by the company's value-chain, dominate Quebec SMEs' collaboration. Manitoba SMEs collaborate with a number of organisations, more commonly with industry training organisations and private training providers, followed by private consultants and the company's value chain. These differences most likely demonstrate variances in economic sectors, social infrastructure, and regional policy between the regions, and thereby emphasise the *importance of regional/local policy response to SMEs' skill and training development*.

Workshops were conducted in each province and were structured around three themes: the need and demand for skills development in SMEs; the ways in which practices and actors from the training ecosystem do (or do not) match SMEs' needs; and proposals leading towards the improvement of training and skills development in SMEs. Both workshops concluded that there is an increasing demand for training and skills development in SMEs, however, the following challenges were identified:

- The lack of concerted efforts.
- The importance of customised approaches better suited to the actual requirements of the businesses.
- The need for more information and communication.
- The structural constraints and limitation SMEs are facing regarding their size, etc.

Both workshops noted the importance of in-service skill development as an investment (in innovation, productivity and quality of life at the workplace) rather than an expense. The benefits of training and learning are identified as: develops employees' internal flexibility; provides more equal opportunities; improves self-esteem (conducive to taking initiatives); increases employability; encourages a sense of loyalty; and improves the quality of life at the workplace. Both workshops emphasised that public and private

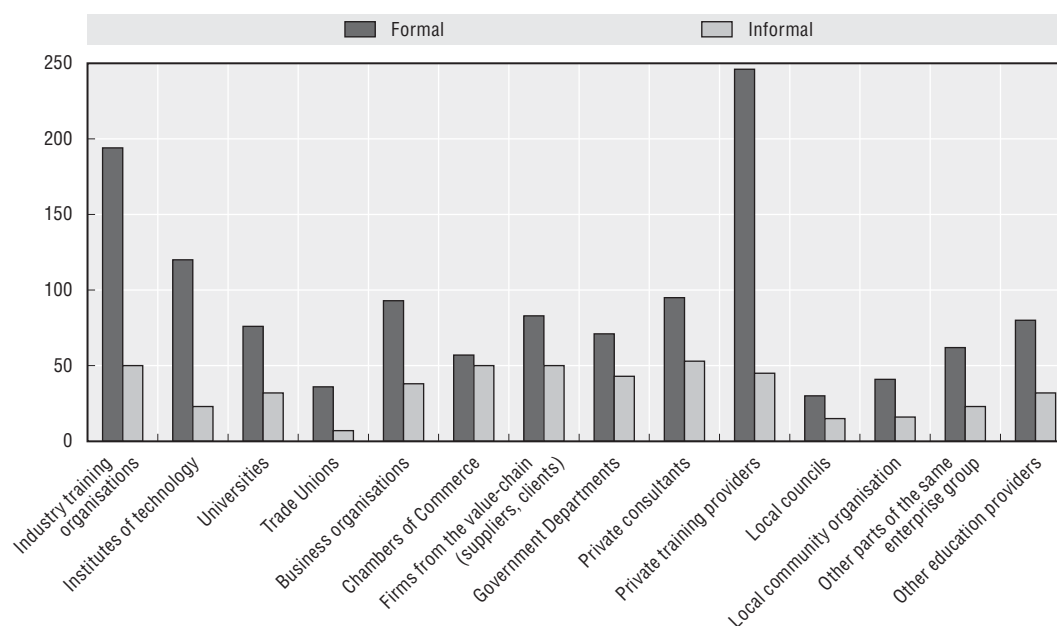
Figure 5.7. **Quebec's skill ecosystem**Figure 5.8. **Manitoba's skill ecosystem**

investments in skills and training development should be increased and group-based initiatives and mechanisms used as an approach or strategy to facilitate training and skills development in SMEs because of their need for proximity of services.

Synthesis analysis – trends and conclusions across all the case studies

Combining the different countries' regional survey results reveals significant variances between SMEs collaborating with other organisations for the purpose of skills and training development and therefore gaps within the overall ecosystem (Figure 5.9). It can be seen from the illustration that, for those SMEs who collaborate with external organisations, this occurs mostly within a formal basis and generally interaction is with private training providers and industry training organisations. Other moderate levels of interaction occur with institutes of technology, private consultants, business organisation, and the company's value chain. The least interaction occurs with trade unions, local councils and local community groups. However, these interactions can vary significantly within the regional context.

Figure 5.9. **SMEs' overall levels of interaction with training organisations**



Source: TSME survey, 2011-12.

In comparing the different regions, it can be noted that the industrial zone of OSTIM, Turkey and the West Midlands, the United Kingdom are more likely to fit the definition of undertaking clustering and networks, as illustrated in Figure 5.10, having numerous key SME skills and training development organisational linkages, yet without one organisation dominating the interaction. The illustration on the next page brings together the current skill ecosystems of the participating countries' regions and emphasises the different levels of collaboration between SMEs and skills and training development organisations across these regions. This is especially emphasised for the two regions in Canada (Quebec and Manitoba):

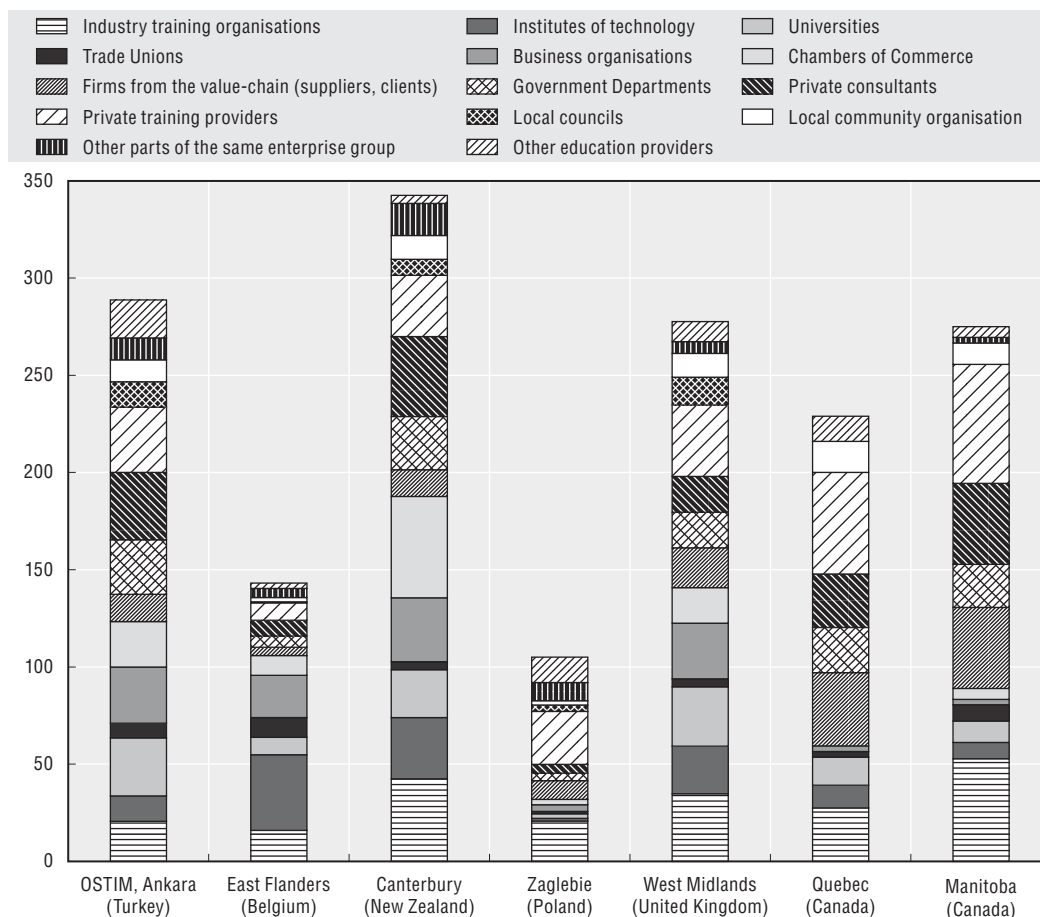
- Ankara region (Turkey) – SMEs collaborate with multiple organisations such as private consultants, private training providers, business organisations and universities.

- West Midlands (United Kingdom) – SMEs also interact with a number of organisations such as private training providers, industry training organisations, universities, and business organisations.
- Canterbury region (New Zealand) – has a high dependence on the Chamber of Commerce followed by industry training organisations, private consultants, private training providers, and institutes of technology.
- East Flanders (Belgium) – there is a high dependence on institutes of technology followed by business organisations.
- Zagłębie region (Belgium) – SMEs collaborate with private training providers, and industry training organisations.

Canadian regions:

- Quebec – high levels of collaboration with private training providers, followed by the company's value chain, and private consultants.
- Manitoba – significant interaction with industry training organisations and private training providers, followed by private consultants and the company's value chain.

Figure 5.10. **Regional SMEs' levels of interaction with training organisations**



Source: TSME survey, 2011-12.

Figure 5.10 highlights the significant variations between the different regions regarding SMEs' interactions with external organisations, notably the lack of interactions that are occurring in East Flanders' SMEs, which is an area dominated by institutes of technology, and also with the Zaglebie regions. Of note, is the lack of interactions with trade unions across all regions, potentially due to the fact that SMEs are small businesses and employees are not members of a specific union. There are also wide variances of interactions with SMEs' value chains, specifically, there is more interaction within the Canadian regional SMEs compared to other case study regions.

These variations underline the regional context of where the SMEs are located, and the need for individually focused skills and training development policies, reflective of their local area. The illustration also shows the lack of SME collaboration with government departments and the need for more policy dialogue, not only for investigating SMEs' skills needs, but also for the development of the policy response.

What seems to be evident within these participating country regions, (apart from the industrial zone of OSTIM in Turkey, where they do have a level of clustering and networks between organisations, and the West Midlands, where there is a variety of interactions), is that the other case study regions appear to have one organisation that dominates SME collaboration, followed by another two organisations/institutions with whom they interact significantly. It can be noted that these regions do not have a sufficiently stable skill ecosystem, and *require further horizontal and vertical collaboration, co-operation and policy dialogue to achieve such an outcome.*

Table 5.1. **Regional SMEs' levels of interaction with training organisations**

	Collaboration/ partnerships	Information, awareness and advice	Government policies/ programmes	SMEs' internal proposals	VET/Training providers	Other
Canterbury						
West Midlands						
Zaglebie						
East Flanders						
OSTIM						
Quebec						
Manitoba						

The workshop participants identified a number of suggestions, each referring to the specific needs of their region, for improving SMEs' skills and training. These suggestions mostly relate to: collaboration/partnerships; providing information, awareness and advice; government policies/programmes; SMEs' internal proposals; customise VET/training providers' programmes; and other more individual suggestions.

- *Collaboration/partnerships*: the Canterbury region recognised the importance of SME and training provider partnerships; greater involvement of industry with career education in schools; and implementation of regional facilitation and networks/forums. At one stage, the New Zealand government had a regional facilitation programme, however, not all the stakeholders were involved in the forum. Nevertheless, the programme provides a potential basis for future collaboration/partnerships.

- *Information, awareness and advice:* all the workshops identified the importance of raising awareness of the benefits of skills and training as a long term benefit for SMEs. West Midlands' workshop noted the need to measure the impact of training, thereby assisting in raising skills and training development awareness to SMEs, with the emphasis on skills utilisation. The workshop also noted the need for new business start-up information. The United Kingdom has a Business Link programme, which is an online resource for business portals whereby skills information is provided and then addressed at local advice centres. However, the workshop highlighted that the advice given was not always up-to-date with the current economic and training situations within their region. It should be noted that Business Link was phased out by November 2011.
- *Government policies/programmes:* OSTIM highlighted the need for a supervisory body to provide leadership; recommended that SMEs should co-finance training funding with public organisations; and suggested lowering the employee number threshold for compulsory inclusion of a company training department.
- *SMEs' internal proposals:* Canterbury, West Midlands and East Flanders highlighted the importance of promoting a training culture within SMEs, and thus the need to train middle management and link training to the broader internal organisational framework. The industrial zone of OSTIM also noted the need for SME owners to increase delegation of authority, thereby utilising newly developed skills by employees.
- *VET/training providers:* the majority of workshops highlighted the need for training providers to customise their training programmes to meet the needs of SMEs. Training should be more responsive, provide short-term courses, and be more informal and practical. West Midlands suggested that there is an opportunity to blend learning environments, such as combining face-to-face with computer-mediated instruction.

Conclusions and policy implications

The regional workshops highlighted the individual dynamics of their respective SMEs' skills and training development environment, focusing on: skills needs; training and competency building in SMEs; the role of networks; and outcomes of skills and training development. Importantly, the workshop, combined with the results of the survey, reveals a portrait of the local/regional context in which the collaboration with skills and training organisations occurs.

Buchanan (2001) emphasises the importance of high-skill ecosystems as engines of economic growth and development, and policy developers also need to keep in mind that these ecosystems are important for the social value of their work as well as potential generators of employment. Policy is a crucial component in the dynamics that structure the emergence and character of ecosystems, and vocational education, training policy and skills formation need to be located within a broader matrix of influences and policy domains.

Therefore, a key challenge for policy makers is how to combine a diverse range of policy instruments across a wide range of portfolios in order to manage an assorted bundle of ecosystems. Payne (2008) states that: "... a skill ecosystem approach confronts policy-makers who are dealing with education and training issues within a level of complexity to which they are not normally accustomed. It challenges crude policy assumptions about any simple or direct relationship between national skills stocks and economic performance, highlighting instead the complexity of such linkages and emphasising the essential point that skills can only make a difference if they are put into productive use."

Policy response/recommendations:

- Policy makers need to be aware of the local/regional SME context and the need for individually focused skills and training development policy reflective of their area.
- There is a need for more policy dialogue, not only in relation to SMEs' skills needs, but also, in the actual development and implementation of the policy response.
- Regions with insufficient diversity of interactions require further horizontal and vertical collaboration, co-operation and policy dialogue with public, private and industry organisations to achieve sustainable workforce development and skills formation.
- Incorporation of the value of skill ecosystems to regional/local governance systems as a tool for better matching of skills supply and demand.
- The establishment of regionally based networks and partnerships organised around the principal of workforce development is vitally important for creating a skill ecosystem environment. *Governments play a critical role in acting as a catalyst, providing an appropriate policy context and support* in terms of resources infrastructure and institutional framework for the establishment and operation of these networks.

PART II

Key highlights from case studies

PART II
Chapter 6

**Training in SMEs
in the Canterbury region,
New Zealand**

by
Paul Dalziel

The focus of this chapter is the case study undertaken in the Canterbury region of New Zealand. Initially looking at the political policy directions put in place by the government to improve the country's economic growth, analysis is then undertaken of the current training participation rates within small and medium sized enterprises (SMEs) in the region and current issues that may be holding SMEs back from either undertaking or further developing their training programmes. The chapter concludes with a discussion of the potential implications for future policy developments resulting from the research findings.

Background to the New Zealand case study

New Zealand's post-war economic development in the twentieth century was largely based on exportation of agricultural commodities (especially meat from sheep, wool and dairy products) to the United Kingdom while an extensive system of import licensing was used to maintain foreign exchange reserves and protect domestic light manufacturing. This was no longer sustainable after the United Kingdom entered the European Economic Community in 1973, despite initial efforts to protect producers through the introduction of greater government controls. The need to modify this approach was recognised after a change in government in July 1984.

Reforms introduced over the following decade reduced the role of the public sector in the economy and opened up domestic markets to greater local and international competition. Government policy since then has aimed at promoting economic development through market-oriented innovation and a more productive labour force.

The goals of lifting productivity growth and education standards are established priorities in public policy (Barker, 2007). Key elements include:

- The New Zealand Treasury has a substantial work programme on productivity growth, beginning with its influential report, *Putting Productivity First*, published in April 2008. That report identified five key drivers of productivity growth: enterprise; innovation; skills; investment; and natural resources. This framework has been accepted by other lead organisations.
- Business New Zealand then used this to create a 50 point productivity action plan in their publication *Setting New Zealand Apart – Getting More Productive and Competitive – A Plan for Action*.
- The government's draft Tertiary Education Strategy 2010-15, released in October 2009, targeted four of its six priorities at increasing the number of people achieving higher level qualifications as well as assisting adult learners to gain literacy, language and numeracy skills that in turn lead to higher level studies or skilled employment.

A key element in recent policy initiatives aims to increase skills levels in the existing labour force, on the basis that 80% of those currently employed will still be in the workforce in 2020 (New Zealand government, 2008). Effective policies to support training and skills development in the workforce must take into account that New Zealand businesses are predominantly small and medium-sized enterprises, or SMEs (Long et al., 2000; Coetzer, 2002; Vaughan, 2002; Fraser, 2005; TEC, 2005; Coetzer, 2007; Coetzer et al., 2007; Massey and Ingley, 2007).

Two-thirds of New Zealand enterprises have zero employees, and almost two-thirds of businesses that do employ staff have no more than five employees (MED, 2009). This feature of the New Zealand economy, which is shared by other economies, is significant because there is considerable evidence that small and medium-sized enterprises generally face significant barriers to engagement with formal training programmes (see Coetzer, 2002).

The TSME project in New Zealand has involved gathering and analysing new data on SMEs' labour force participation in formal and informal training, analysing the impact of training and skills development activities in firms, and examining local approaches to learn how incentives can be provided to employers and employees for training activities that generate results for all employees (OECD, 2008).

Training results in SMEs

The results from the web-based survey reveal that the level of staff training is an issue for Canterbury SMEs. Evidence for this observation includes:

- 50% of the respondents reported they had “desired training not carried out” in the previous twelve months.
- 50% of the respondents identified that their business needed training in at least five different areas (out of seven).
- 53% of the respondents reported that they have no formal training plan.
- 63% of the respondents reported an annual training budget, but only 24% said this was greater than NZD 5 000.
- 68% of the respondents reported that their firm has no apprentices or trainees.
- 69% of the respondents reported “some need” for management training, and 19% reported, “high need” for entrepreneurial training.

The survey suggested that two or three areas dominate formal training and informal capability building. With respect to formal training, 72.2% of the respondents reported their staff were involved in job-specific technical training, and 66.7% reported involvement in business planning. These two areas were also among the top three for informal capability building activities (61.1% and 69.4% respectively).

The importance of informal knowledge intensive service activities (KISA) training

Respondents to the survey reported that informal training is important for their businesses. Thirty-nine per cent stated that all of their staff are involved in informal training, and just over one-half stated that 80% or more of staff were involved. Only 7% reported that less than one-fifth of their workforce participated in informal training. Furthermore, there was some evidence that firms had put more emphasis on informal training as a response to the recession that had emerged in the previous twelve months.

Generally, this recorded an increase in training over that period, but it also recorded that 22 firms had increased their emphasis on informal learning instead of formal learning (compared to 1 firm that had reduced this emphasis).

The most important sources of informal training were clients and co-workers, followed by informal networks, suppliers and industry associations. The informal training was reported as leading to improved skills and other employee benefits. The companies emphasised improved management and technical skills for medium- to high-skilled staff, and improved routine skills for low-skilled staff. Both groups of staff benefited from improved social skills as a result of informal training. Other employee benefits were reported as being largely captured by the medium- to high-skilled staff, with half the firms saying that this group advanced their careers through informal training.

There are some interesting differences in the motivations for participation in informal training compared to formal training. In both cases, raising employee skills was cited as one of the top two reasons, but industry association was offered as the first motivating factor for formal training in contrast to its thirteenth position on the list for informal training. This is likely to reflect the key and appreciated role of industry training organisations (ITOs) in managing formal training. Similarly, training regulations featured prominently among the motivations for formal training, but not at all in informal training. Again, this is likely to reflect the role of ITOs, but is also likely to reflect the role of formal health and safety regulations in some industries or occupations.

There were considerably more responses explaining motivations for participation in informal training than for formal training, and the top four categories were all business related: service needs; employee skills; new product; and production needs. Each of these categories was indicated by more than half of the survey's respondents. This suggests that informal training is more directed towards the company's business needs, rather than being framed by industry or regulatory requirements.

More firms reported participation in formal training for job-specific technical skills (52 firms) than in informal training (44 firms). There were six categories where a noticeably larger number of firms reported participation in informal training than participation in formal training: marketing and promotion; research and development, legal advice; e-commerce; language coaching; and entrepreneurship. The gap between the two training types in relation to the last category was particularly large. Only 12 firms reported that their staff had engaged in formal training activities for entrepreneurship, but 39 firms reported engagement in informal training activities.

Specific issues for Canterbury

The research identified some other issues related to the main themes discussed in the three sections above. These are recorded in this final section for further consideration.

Participants in the survey were much clearer about company benefits than industry or regional benefits for both formal and informal training. It is not possible without further research to determine whether this indicates that skills development genuinely has little benefit at an industry or regional level, or whether this indicates that firms focus their attention only on the benefits to their own business (and so they are unable to comment on any wider benefits). The feedback from the case studies is that the five firms were willing to invest in skills training (formally or informally learned) that directly benefited their business.

Related to this question is the observation that in the survey sample, the highly innovative firms were more likely to be ten years or older, and to have 10-19 employees. It must be emphasised that this was a small sample in a single region of New Zealand, nevertheless, these data suggest a hypothesis, which is that: in order to grow successfully through this range, small firms have to introduce at least one radical innovation or a range of incremental innovations across a number of their business and production systems. There was evidence in support of this hypothesis in the case studies.

If this hypothesis is indeed valid, then the growing small firm may find it has some important skills gaps that need to be filled urgently. This might be done by recruitment, by releasing a staff member for formal education, or by engaging in informal training in-house or externally. In all cases, the motivation is provided by the pressing business need,

and it is not difficult to imagine that training in creating or using knowledge intensive service activities could be a priority for such a growing enterprise. It would be valuable for more research to be undertaken in New Zealand on this issue.

More generally, the research suggests that firms can adopt distinct strategies for expanding and maintaining their skills capabilities. Some firms appear to focus on recruiting the right skills (including – and perhaps especially – the “soft skills” such as ability to work in teams), while others appear to focus on training to achieve these. For some companies, the fostering of a learning culture within the workplace, supported by strategic opportunities for formal education or informal training, is regarded as an explicit source of competitive advantage. It can be a way of reducing staff turnover and of building a team of employees who are capable of exercising initiative and solving business-related problems. For a small firm, close contact with the firm’s skilled and experienced founder can be an important attraction for employees wanting to develop their own skills and experience.

The training ecosystem workshop included a debate about the number of qualifications on New Zealand’s Register of Quality Assured Qualifications. Different points of view were expressed about the balance between “diverse provision” and “fragmented policies”. This issue is the subject of current policy review in New Zealand, and so has not been considered further in this report.

Finally, a research issue being explored in the wider OECD research programme concerns the impact of environmental issues on the business practices of SMEs. Questions related to this issue were added to the survey after the first set of participation invitations was sent to New Zealand firms. This means there is no quantitative data on this issue, but the five case studies suggested that environmental concerns are recognised by firms as part of acknowledged good practice, but without any sense that environment-based regulations are having a major impact on their operations. It is, however, not possible to put too much weight on this result, given the very small number of firms interviewed.

Implications for policy development

The findings in this report suggest some possible implications for further policy development in New Zealand.

Entrepreneurial skills

The Tertiary Education Commission could be encouraged to review current training that focuses on skills related to entrepreneurship, to investigate whether the mismatch between a reported high need for training in entrepreneurial skills and a low level of formal training in this area (compared to informal training) is due to a shortage in supply or mismatch in the nature of demand and supply.

Knowledge intensive service activities

The government could consider refining and better linking training assistance to SMEs through programmes administered by New Zealand Trade and Enterprise, the Department of Labour, and the Tertiary Education Commission, with the following objectives:

- Facilitating a more closely connected assistance package, aimed at reducing companies’ search and decision costs when trying to meet staff training and development needs.
- Facilitating access to a flexible suite of training alternatives that meet companies’ needs – not limited to full qualification-bearing courses.

- Encouraging firms to understand the value of “learning while doing” to improve both employee and company capabilities. Also, building this more deliberately into their business plans as well as their purchasing and training decisions, in the interests of boosting companies’ capability and productivity levels.

Barriers and incentives to training

The Tertiary Education Commission could continue to work on ways to reduce the extent to which costs and time availability are barriers to formal training of medium to high-skilled staff in SMEs.

In addition, the findings have raised questions for further research, including:

- Young people and informal training: research could be undertaken into the extent to which young people in the workplace participate in informal training activities; whether or not there are any patterns relating to levels of pre-existing skills or qualifications; and the nature of enterprise-level factors influencing any differences between their levels of participation and those in other age cohorts.
- Innovation and training: research into the nature of the relationship between pre-existing levels of innovation in a firm, and levels of investment in both formal and informal training. A particular focus of this research could examine the links between innovation and training for small firms in New Zealand, which are growing through the range from 10 to 20 employees.

The national skills training ecosystem

An important part of this project was the workshop on the regional skills training ecosystem in Canterbury. Further research could be done to explore the nature of New Zealand’s national skills training ecosystem and if there are opportunities for policy frameworks in secondary education, tertiary education, industry training and life-long learning to be better integrated in order to strengthen interaction between employers, employees, students and education or training providers.

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PART II
Chapter 7

**Training in SMEs
in the West Midlands region,
the United Kingdom**

by
Anne Green and Laura Martinez-Solano

This chapter provides a detailed look at the research undertaken in the West Midlands region of England. Following an introduction that includes a summary outline of current training-related policy direction in the United Kingdom, there is a discussion of the results obtained from the TSME survey, with a particular focus on barriers to training, and areas in which companies feel they need to most focus their training efforts. Investigation of small and medium sized enterprises' (SMEs) participation in knowledge intensive service activities (KISA) and other informal training activities is next, as well as a study of the primary sources of informal training for SMEs. Finally, implications for policy development are outlined, including: the importance of contextualising training; encouraging companies to seek growth via training; utilise alternative frameworks to build and strengthen capacity and capabilities; and the SMEs' discussion of their need for government-based funding to support training activities.

Background to the United Kingdom case study

The United Kingdom research focused on the West Midlands region of England. As context for the research, a review of trends and challenges in training and skills development in the United Kingdom was undertaken, along with analyses of data relating to small and medium sized enterprises (SMEs) from a major employer survey conducted in England. The results of these contextual analyses are presented, along with the findings from a bespoke OECD survey of SMEs in the West Midlands, case studies of five SMEs and a workshop on the local training ecosystem.

Traditionally, policy centred on skills development in the United Kingdom has emphasised the need to improve the supply of skills, but more recently, the focus has shifted to raising the demand for skills. As a result, increased emphasis has been placed on enhancing the utilisation of skills, up-skilling and encouraging movement up the value chain. Previous research indicates that within the SME population there is considerable variety of experience regarding investment in training and skills development.

Following a long period of economic growth and a deep recession, the United Kingdom needs “... to build a system to match the high-skill, people-driven economy of the future – a system that responds well to business need while opening opportunity for all people” (United Kingdom Commission for Employment and Skills, 2010: 6).

Employment and productivity are seen as being central to the United Kingdom’s future prosperity, and well-developed skills are crucial to both. Hence, the underpinning rationale for skills-related policies in the United Kingdom has been to raise skills levels as a means of achieving higher levels of employment, productivity and prosperity. Although enhancing skills in order to transform the United Kingdom into a high-skill economy has held a central place in government policy, despite significant improvements in the United Kingdom’s skills profile, the challenge still remains significant.

While the United Kingdom has an ambition to achieve a “top eight” position by 2020 in international skills rankings (as measured by qualifications), in 2010 it was ranked seventeenth on low level skills, eighteenth on intermediate level skills and twelfth on high level skills. Training is unevenly distributed, with those with low-skills, managers and employees in small firms receiving less training than the average (United Kingdom Commission for Employment and Skills, 2010).

Skills focused policy in the United Kingdom is devolved, and there are variations in aspects of the focus, priorities and delivery mechanisms across the United Kingdom.¹ However, the overarching aims of skills based policies are broadly similar across the four nations of the United Kingdom. These are: to build a more internationally competitive skills base, with a workforce equipped to compete in the labour market and drive sustainable economic growth. Moreover, the acquisition of skills is seen as a pivotal means of improving social inclusion and social mobility.

Until recently, a primary focus of skills related policy has been on initial skills acquisition, rather than on the demand for, and utilisation of, those skills. As noted in an earlier section, this emphasis is now changing. This has involved placing greater emphasis on understanding the means by which to encourage more businesses to secure and utilise higher skills as part of their business improvement, as well as encouraging ongoing skills development and upgrading in the workplace. A new Skills Strategy published in November 2010 has placed particular emphasis on management and leadership, growth and innovation, with a strong focus on SMEs (Department for Business, Innovation and Skills, 2010).

The West Midlands region in central England has been harder hit in the 2008/9 recession than most other parts of the United Kingdom. Large employers are the most likely to report reductions in staffing levels during recession, with the manufacturing and construction sectors being particularly affected. The regional development agency for the West Midlands identified the region's relatively poor skills record, alongside low rates of innovation, as factors underlying the region's weak performance.

Training results in SMEs

There were 50 respondents to the Leveraging Training and Skills Development in SMEs (TSME) survey, who answered most of the questions included in the survey. If the number of respondents changed in any question, this is indicated within the following sections. All of the participating small and medium enterprises (SMEs) consider themselves British-owned. Most of the SMEs have less than 50 employees (92%); of which 44% are micro-enterprises with less than 10 workers and 47% are small firms with 10 to 49 employees. Interestingly, the majority of these companies (66%) have existed for more than nine years in their market. All the firms with more than 50 members (8%) have been in the market for more than 10 years. However, 20% were recently created (less than five years old).

The majority of respondents indicated that the main barriers to training high/medium-skilled employees were finance related, such as "high costs/too expensive" (81%), and "lack of public money" (57%). A smaller percentage also chose "impossible to interrupt production/no time" (43%) (this is strongly linked to the first two in its relationship to lack of resources) and, to a lesser extent, "too difficult to access training" (33%), and "too difficult to identify suitable provider" (24%).

The main barriers to training low-skilled workers for almost a quarter of these firms (24%) were "high cost/too expensive" and for (19%) "lack of public money", "impossible to interrupt production/no time" and/or "too difficult to access training".

A larger number of firms indicated that in-house incentives rather than other private or public incentives are the main reasons for their business to undertake training: "need to increase employees' skills level" (34%); "service requirements" (30%); "production needs" (28%) and "new product/service development" (24%). Of the public incentives identified in the survey, only one, "country regulations" is considered significant for some (28%) firms.

Fifty-two per cent of companies indicated that they need some training in "generic skills: general IT user skills; oral communication; written communication; numerical and literacy skills; and office administration skills". Meanwhile, 50% also pointed out some need for "management skills" and (44%) "technical/advanced skills: required for problem solving; design, operation, rethinking and maintenance of machinery or technological structures; IT professional skills". An area of skills development identified as particularly

“high need” was “management skills”, with 18% of respondents selecting this option. The other options were chosen by a smaller number of companies.

The importance of informal (KISA) development

Only a small number of respondents considered that some of the 15 listed activities in the questionnaire were conducted regularly by their organisations and have “significantly increased” the skills, competencies or knowledge of their employees in the previous 12 months (early 2009-early 2010). For instance, activities such as “research” (28% of the 50 SMEs), “job-specific technical activities” (28%), “business planning” (26%), “marketing and promotion services” (22%) and “information and technology services” (20%). The rest of the options were chosen by a lower number of participants.

A larger number (but still no more than one-third) of companies said that they had “significantly increased” their skills, competencies or knowledge by conducting “one-off” activities related to areas such as “organisational health and safety advice” (33%), “information and technology services” (32%), “business planning” (28%), “research” (26%) and “job-specific technical activities” (24%).

However, the majority indicated that they did not conduct some of the 15 presented activities, such as “language or communication coaching” (80%), “legal advice and services” (72%), “social skills development” (72%), “green skills development” (70%), “entrepreneurship related activities” (62%), “e-commerce” (62%), “accounting and finance services” (60%), “human resources services” (60%) and “marketing and promotion services” (52%). The remainder of the 15 nominated activities were also selected as coming under this category by more than two fifths but less than half of the firms.

For high/medium-skilled employees, more than two-fifths of 40 SME respondents indicated that the following activities are better sources of learning than formal training: “business planning” (57%), “research” (52%), “marketing and promotion services” (47%), “accounting and finance services” (45%), “information and technology services” (45%), “e-commerce” (45%) and “entrepreneurship related activities” (43%). For low-skilled workers, a much lower number of the firms thought that the following activities are better sources of learning than training: “job specific technical activities” (37%); “social skills development” (35%); “organisational health and safety advice” (30%); “green skills development” (20%); “information and technology” (20%), and the list continues in decreasing order.

Implications for policy development

The findings of the research project support the view that *context* plays an influential role on the amount and nature of training and skills development that is undertaken and desired. Overwhelmingly, a recurring theme from SMEs was that training needed to be tailored to their context and responsive to their company requirements. The product/service market position, or the niche that a company occupies within the economy, and the market/s within which the company competes (or which they are looking to enter) are pivotal to determining skills needs.

This underlines the importance of *raising employer ambition* to seek growth via a route involving high-skill levels, innovation and quality. Professional and quality standards provide one means of “kite marking” quality.² Procurement is another route that has been used to foster skills development – through introduction of clauses related to training (for local people), provision of apprenticeships, etc. Although some workshop attendees referred

to the historical role of levies, statutory training levies have not been – and are unlikely to be – a prevalent feature in the United Kingdom (outside the construction sector).

This research project has demonstrated that there is an appetite for new frameworks and systems to promote business development through *building and enhancing capacity and capability*,³ which encompasses training and skills development. But the main issue, which is how this will be achieved, is somewhat less clear. Some SMEs could benefit through participation in employer networks, where they might be able to achieve economies of scale by coming together to develop and fund training that they might otherwise be unable to afford. Such networks might also play a role in sharing good practices. The findings of the research project suggest that sector-based networks might be particularly attractive, although some SMEs would need to overcome fears of “poaching”. Professional associations and charitable organisations may have a particularly valuable role to play in providing information, advice and guidance, in brokering training and skills development that is responsive to the needs of SMEs, and in helping foster a culture of high performance work. Likewise, Sector Skills Councils and the new Local Enterprise Partnerships (being established at the time of writing) may also have a contribution to make here.

The thrust of United Kingdom policy is *market-based*. There is a clear emphasis on *voluntarism*. Although enterprise, and SMEs in particular, are high on the Coalition Government’s agenda, publicly funded support for training is limited – particularly at a time of austerity.

However, for the most part, the emphasis of the new government’s policy is not on “entitlements” to government support, but rather rests on the principle that since employers and workers benefit from training and skills development, they should bear the cost – albeit with some up-front support through loans for some companies. This is counter to the views expressed by some interviewees and workshop attendees, which is that there is need for much more support through public funding. Rebalancing national, regional and local economies – sector-based and spatially – is emerging as a dominant economic theme in the United Kingdom, but this is intended to be achieved largely through creating an environment conducive to enterprise – particularly for SMEs – in which employers and workers invest in their own skills development.

Notes

1. The United Kingdom is made up of four nations: England, Wales, Scotland and Northern Ireland. England is easily the largest of the four nations and since the case study area – the West Midlands – is in England, the material presented relating to the West Midlands refers to the English context.
2. The *Skills White Paper* published in November 2010 sets out plans to initiate a demand-led growth and innovation fund of up to GBP 50 million of government investment per year to support employment initiatives within sectors, such as new professional standards, and to promote leadership and management in SMEs.
3. The terms “capacity” and “capability” are used here to highlight the fact that while training and skills are important, business development is about more than increasing training and skills; applying and utilising those skills to move up the value chain is also important.

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PART II
Chapter 8

**Training in SMEs
in the East Flanders region,
Belgium**

by
Ans De Vos and Ine Willemse

This chapter begins by providing a snapshot of the current position and place of small and medium sized enterprises (SMEs) within Belgium's workforce. Investigation of the difficulties surrounding encouragement and pursuit of training activities follows, which highlights areas such as cost, lack of specialist training suppliers, and absence of formal training plans and associated budgets. Recognition of the importance of knowledge intensive service activities is noted, but the difficulties inherent in measuring these activities are also acknowledged. The chapter concludes with recommendations regarding policy implications for policy developers, including the need to: recognise the high percentage of SMEs in Belgium; affirm the strategic importance of improving employee's skills; contribute, even in small ways, to a green economy; and to undertake more networking between companies and training institutions.

Background to the Belgian case study

For the study in Flanders, the province of East-Flanders was chosen as a case study region on account of its high amount of SMEs, which have a wide diversity of activities and sectors, and due to the existence of knowledge clusters (e.g. Flanders Biotech Valley).

In Belgium, firms employing less than 50 employees are considered to be an SME. Taking this definition into account, the total number of SMEs in the Flemish region rises up to 513 829 which, in relative numbers, equals 99.4% of organisations. Given the high presence of SMEs in Belgium, it is obvious that SMEs play a substantial role in the Belgian economy. Currently, SMEs contribute to more than 50% of Belgian's prosperity and their contribution to the country's total economic activity and employment keeps rising year after year (Tijd Rapport KMO, 2010).

In Belgian SMEs, in 2008, less than one out of ten employees had participated in formal education (Nationale Bank van België, 2010). For medium-sized organisations (employing 50 to 250 employees) this number increases to one out of three, while for large organisations (employing more than 250 employees), more than half of the employees have followed a formal educational course.

These results are not surprising, since small organisations are less able to replace employees when they are away for training. As it is more difficult for SMEs to counterbalance the drop in production that results when an employee is away for formal training, it is challenging for them to let their employees participate in such training activities. Furthermore, the financial barrier for investment in formal training is relatively higher for small as compared to large organisations (Nationale Bank van België, 2010).

Therefore, according to several Canadian studies, SMEs would prefer informal training courses for their employees, since the costs for informal training are lower than those for formal training. However, this does not seem to be the case for Belgian SMEs, with 8.3% of employees participating in formal education and only 4.3% participating in informal education. When considering the total amount of hours that employees devote to their personal development, it was found that 60% of these hours are spent in formal education, while informal education represents approximately 27% (Nationale Bank van België, 2010).

When looking at the probability of an organisation performing educational activities, the size of the organisations appears to be the most important determining factor. While nine out of ten large organisations support educational activities, this number drops down to one out of ten for small enterprises (Nationale Bank van België, 2010). Other factors that determine whether or not an organisation performs educational activities are: the sector to which the organisation belongs; the number of higher educated employees; and the number of permanent staff.

For the Flemish government, lifelong learning and employee development stand high on the priority list. The acknowledgement and development of competencies is stressed as being a crucial instrument in clearing the way for sustainable and innovative economic

growth and for promoting the employability of individuals. In their 2009 policy statement, the government explicitly acknowledges the strong need to stimulate investments in training and development. Furthermore, the government realises that, especially in small enterprises, investments in employee development are rather low.

To facilitate employee training and development in SMEs, several tools and financial measures have been put in place. One of these measures is the so-called SME-portfolio. Annually, an SME can obtain reimbursement of up to 50% of the investments made in the area of training and costs pertaining to entrepreneurial advice, or advice concerning innovations and internationalisation. The aim of this measure is to decrease the existing financial barrier stopping SMEs from investing in the development of their employees.

The survey results for East-Flanders confirm figures regarding training in SMEs to be found in other databases. The opinion of the SMEs' owner about the importance of training for business success is a critical factor in how relevant and important training and skills development is perceived to be within an SME. The study also demonstrates that SMEs in East-Flanders know about many spontaneous, informal but well-targeted initiatives. There are signs of "eco-systems", initiated by the entrepreneurs themselves, but not in a systematic way. This indicates the often hidden potential that already exists at the level of SMEs.

This study uncovers challenges at two levels. A first and necessary step for further coaching and support in organising training and development in SMEs is by increasing awareness of the importance of training and development for business success among SMEs that are currently not scoring highly on this topic. Secondly, SMEs already concerned with training and development must be further supported and encouraged.

Training results in SMEs

In general, one can state that small and medium-sized enterprises are aware of the merits of training and skills development. Clear benefits are recognised for the firm, such as improvement of skills and education level. Companies are often not aware of the impact of their efforts in skills development on the industry and the region. The extent to which SMEs are active in terms of training, largely depends on the business manager. If employee development is embedded in the company spirit, generally all employees participate in training activities.

The results from the survey nonetheless reveal that workforce development encounters difficulties in some SMEs in East-Flanders. Evidence for this observation includes:

- 39% of the respondents reported they had "desired training not carried out" in the previous year.
- 57% of the respondents reported that they have no formal training plan.
- 32% of the participants include an annual training budget.
- 79% of the SMEs do not have apprentices or trainees.

Note that these results may underestimate the training issues, since managers with a greater interest in training are more likely to respond to a survey of this type. Remarkably, the results showed no major reductions on training in SMEs due to the financial crisis.

SMEs sometimes refrained from training because of the difficulty of interrupting production and the high costs. Additionally, although there is a broad offering of training

in East-Flanders, companies – and especially small ones – struggle to find the specific training for which they are looking. This is caused by a lack of structure in the overall training offered. Companies have no clear view on what the different training possibilities are in the region.

Only 3% of responding SMEs stated climate change regulations drove company innovation. However, one fifth of the sample (21%) recognised some need or a high need for additional training in the coming year concerning green-specific skills. As such, although the awareness of firms regarding green skills and training needs appears to be limited, some need of skills upgrading is foreseen. The consciousness of the importance of a green economy is growing, but there are presently a limited number of actions being undertaken on this topic.

The results of the workshop show that we cannot speak of a single skills and training ecosystem in East-Flanders. Managers of SMEs make an effort to participate in different networks, but there are still opportunities for more. Furthermore, the current networks are scattered across the region and the different industries, and there is limited networking regarding the levels of training. Small companies are really searching for likeminded firms with which to exchange knowledge and from whom to learn.

The importance of informal (KISA) training

When questioned about informal knowledge intensive service activities' (KISA) training, respondents reported that clients, co-workers and suppliers were the most important sources of informal training. SMEs make abundant use of knowledge intensive service activities, such as mentorships and godfather projects. Companies believe that these activities lead to improved skills and other employee benefits. Unfortunately, it is both difficult for researchers to enquire about the use of informal learning, and hard for employers to be aware of the practices, because informal training always remains immeasurable.

Analysing the data obtained from the survey information, one can say that informal training is really important in small and medium-sized companies. Informal learning is the best way to educate all groups of workers, but is of especial use to the low-skilled workers. SMEs make good use of KISA such as mentorships and godfather projects, which are extremely popular among SMEs.

Specific issues for East Flanders

Analysing the survey results, the case studies and the results from the workshop, one can say that climate change adaptations and regulations have a limited impact on the businesses. The consciousness about the importance of a green economy is growing, but until now, there have been limited actions on this topic. In general, there are incremental changes, but not yet radical changes towards greening the economy. Attention nevertheless grows with the subsidies from the government and the increasing media attention.

Implications for policy development

Based on the research results, the following main recommendations can be made:

- The Flemish government should continue to recognise that businesses in East-Flanders are predominantly SMEs and that these companies face particular challenges when

accessing training for their employees. Therefore, there is a need for a clear overview of the training activities in the different regions.

- There must be more communication about the added value and importance of training in companies. The Flemish government should continue to affirm the strategic importance of developing the labour force's skills as a contribution to its commitment to lift the region's productivity and growth.
- Companies must continue to attach importance to informal learning, and handle the topic more consciously. Training providers as well as authorities should pay more explicit attention to informal learning and further stimulate its use. Informal learning is as important as formal learning. Particularly for SMEs, informal learning is a time and cost effective way to develop their workforce's skills.
- Even more communication about the necessity of green skills is required. Companies need to understand that this can start with small things, such as separating waste and carpooling with colleagues to work. For SMEs, it is important to know that contributing to a green economy does not need to involve enormous investments, but can be achieved through daily practices.
- There is a need for more networking between companies and training organisations. For example, more platforms can be installed to bring companies together. SMEs should also be able to direct specific questions to the academic world. Academic institutes could be more closely connected with the practical reality of companies and their issues.

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PART II
Chapter 9

**Training in SMEs
in the Zagłębie sub-region,
Poland**

by
Michał Kubisz

This chapter begins with the provision of a background portrait of the Zagłębie sub-region of Poland, outlining why this area was chosen for study. Difficulties encountered by small and medium sized enterprises (SMEs) when attempting to provide or undertake training are then discussed, including the high costs associated with training, a lack of comprehension regarding the benefits of undertaking training, and an inability to properly assess workers' training needs. The informal learning sector was then investigated, with results showing very low levels of recognition of the importance of and benefits to be realised by communication and interaction with external institutions. Internal training via informal channels is then noted as being a recurring practice among the more successful medium-sized companies, highlighting the usefulness of encouraging regular internal communication and a flexible organisational structure. The chapter concludes with a look at policy development implications arising from the research, particularly noting the importance of government focus on encouraging inter-communication and informal training networks within and among SMEs.

Background to the Polish case study

The OECD project on leveraging training and skills development activities for Poland was focused on the region of the “Zaglebie Dabrowskie” – a part (sub-region) of the Silesian voivodship of Poland.

SMEs in Poland often lack the resources or willingness to invest in new technology. Innovation expenditures, especially on research and development, are low. SMEs are disadvantaged in terms of capital relative to European Union (EU) counterparts and are more likely to report difficulties due to: lack of skilled labour; a bureaucratic regulatory and procedural environment; poor infrastructure; and high labour costs.

The area was selected amongst other NUTS III* areas of Poland for the following three reasons:

- It consists of two distinct economic zones and this division can be seen as representative in terms of the patterns prevailing across Poland: western Poland is highly urbanised and industrialised (with the main cities belonging to the large, densely populated conurbation known as the Upper Silesian Industrial Area); whereas eastern Poland is predominately rural and underdeveloped.
- The Zaglebie Dabrowskie sub-region is an area of industrial restructuring. The main part of the region belongs to the Upper Silesian Industrial Area, which traditionally has been dominated by heavy industries (coal mining and steel production), but which has been undergoing restructuring since the early 1990s.
- The figures for the voivodship of Silesia, compared to the levels of absorption of the European Social Funds (ESF) that are devoted to SME training, represent levels close to the national average (the figures related to the programming period of 2004-06 have been taken into account). This suggests that the region is a good representation of the entire country in terms of skills development and training policies of SMEs.

Training results for SMEs

Survey evidence indicates that lack of critical mass is often reflected in a lack of operational sophistication and too little attention to strategy development, record-keeping, marketing and innovation. A majority of SMEs have problems with management quality and two-thirds are focused on survival and maintaining their current position, rather than on development or growth.

In relation to participation in training, 30% of the enterprises did not participate in any type of training during the last 12 months. 41.7% of companies that did participate in any training took part in vocational training (specific occupational training). This could be

* Nomenclature of Units for Territorial Statistics, Eurostat, http://epp.eurostat.ec.europa.eu/portal/page/portal/nuts_nomenclature/introduction.

linked with the specific characteristics of the regional economy, which is dominated by the production sector (mechanic and electro-mechanic production).

The companies involved in innovation tend to participate in vocational training more often, and medium sized enterprises participate in training much more often than smaller companies. Participation rates in courses related to management, accounting, finance, and information technology were very low.

The needs in the area of entrepreneurship and social skills are relatively high. However, companies participate in courses developing these skills very rarely. Perceptions of the outcomes of training are also rather negative. Most of the enterprises when asked about the barriers to training indicated the difficulties in assessing workers' needs as a major problem.

The expensive costs also ranked very highly (chiefly for high-skilled employees), which was a surprising result considering the large amounts of public funds that were made available under the EU-programmes to reduce the costs of training.

Training companies were listed as being the most important players in the local learning ecosystem. Business organisations, non-government organisations and institutions of higher education were listed as the least important, also in the case of informal learning.

The importance of informal knowledge intensive service activities (KISA) training

The lack of appreciation regarding the learning value of communication and interaction with external institutions (other companies, competitors, local development agencies, government institutions, etc.), or within the companies, is widespread. Fifty-nine per cent of enterprises did not indicate that they saw any of the interactions listed in the questionnaire as being important for learning. This may indicate the existence of a wider problem with communication and co-operation and may suggest that the level of social capital (ability to co-operate, trust, communicate and learn) in the Zagłębie region is rather low and may impede its economic development.

However, the learning value of interactions with other companies (customers, clients and even competitors) was validated as being the most beneficial amongst all other types of interactions. The least appreciated interactions appeared to be in relation to business organisations and associations, educational institutions and development agencies. Learning – both based on formal training and informal interactions was motivated by internal business needs (new products or services).

The interviews conducted with the successful medium-sized companies show that the informal learning facilitated by appropriate management systems can be very important for companies. As stated before, regular internal communication (based on stable procedures) by the company managers is a key factor underlying the success of these companies. The case studies also show that a flexible organisational structure under which workers may openly communicate and collaborate on a project (tasks) basis rather than on a closed unit basis is very important for the companies' effectiveness in the market.

Implications for policy development

The ESF measures for promoting training in SMEs could play an important role in improving SMEs' access to relevant training, thereby boosting their competitiveness and facilitating further development of the local learning ecosystem.

The findings of the research show that the role of the ESF is more than marginal. The impact of the implemented ESF schemes regarding training behaviour and/or encouraging co-operative networks is not apparent. The marginal role of public authorities' support (and the ESF as a primary public financial tool) in the local ecosystem was among the most striking result of the survey. The results of all parts of the research suggest that the way in which government support for training is functioning could be improved in order to better facilitate SMEs' learning and promote better co-operation in the sub-region.

The following primary recommendations are suggested:

- There is a need for a more active approach to be taken by business environment institutions operating in the sub-region. Such institutions should perform an intermediary role between public authorities, which implement regional and national programmes, and SMEs.
- The way in which publicly administered support for training is functioning could be improved, namely: diagnosis of skills needs should be treated as the most important area under all co-funded projects; the ESF should facilitate access to training for enterprises that are willing to invest in their human resources and should make it possible to deliver the training "just on time"; and information on ESF measures implemented in the region should be made more business (SME)-friendly.
- More pro-active policy in the area of SME training is needed. The policy should be better linked with the economic development and innovation strategy of the voivodship and sensitive to specific sectors' needs. Prioritisation and concentration on particular sectors, specific economic problems or themes should be considered.
- There is a need to better co-ordinate the national and regional public interventions in the area of human resources development (HRD) and SME development, taking into account the local perspective. The existing support system is confusing and not conducive for producing the required outcomes. Local business support organisations tend to operate within the silos of various fragmented sector-based policies and institutional requirements and as such, are not able to properly respond to the needs of local enterprises.
- Enterprises in sub-regions should be encouraged to assess and communicate their training needs. This would require forming and facilitating the development of appropriate working groups and the fora for co-operation. As the results of the regional workshop in Dabrowa Górnicza show, open discussion may help to articulate the skills needs, help develop local training strategies, and facilitate co-operation. Taking into account the results of the research (for example, poor co-operation levels, lack of social skills, etc.), in the case of the Zagłębie sub-region, projects promoting networking and platforms for co-operation should be encouraged.

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PART II
Chapter 10

**Training in SMEs
in the industrial zone of OSTIM,
Ankara, Turkey**

by
Sirin Elci

This chapter begins with an explanation of the set up and purpose of organised industrial zones in Turkey, and details the background of the Middle East Industry and Trade Centre (OSTIM) industrial zone and the functioning of its associated consultancy and training company of ODEM. Training and development of skills within the zone are then investigated, and an overall lack of focus on training and low recognition of the benefits accruing from improving employees' skills are discussed. Interactions between companies are also minimal, making it difficult to assess the levels of knowledge intensive service activities (KISA), although details of the positive results obtained by some small and medium sized enterprises (SMEs) are outlined. Implications for policy development are then detailed, focusing on two key areas: investing in training and skills development in SMEs; and improving the skill ecosystem.

Background to the Turkish case study

Established in 1967 in Ankara, Turkey, the Middle East Industry and Trade Centre (OSTIM) were granted the status of organised industrial zone by the Ministry of Industry and Trade in 1997. An organised industrial zone (OIZ) is an area with a necessary infrastructure dedicated to the manufacturing industry. These zones aim to ensure that industrial activities are carried out in appropriate places, enabling the manufacturing sector to locate and develop according to a pre-defined plan, while preventing environmental problems.

The zones are governed under Law Number 4 562 of 12 April 2000, and the Ministry of Industry and Trade undertake the regulatory oversight. The managing companies of the zones are in charge of the provision of the following services: permanent and secure supply of electricity, water and gas; construction and maintenance of roads; security; access to Internet and web-hosting; fire brigade, fire training, first aid and fully equipped ambulance services; establishment of environmental administration, follow up to environmental permissions, waste management, etc.; provision of information on permission for construction and development, maps and controls, permissions, licenses for new buildings, expansions, renovations; sale of food for employees, catering and conference rooms.

As of 2010, there are 120 OIZs in Turkey hosting 37 000 firms, which employ 820 000 people. OSTIM is one of the leading zones in the country. It is located over 500 hectares and hosts around 5 000 companies (mainly manufacturing SMEs), which generate approximately 50 000 jobs. The main sectors in the region are machine construction, metal processing, machine and machine parts, plastics and rubber, electric and electronics, medical equipment, automotive and defence. Twenty per cent of firms in OSTIM are exporters and a majority of them are suppliers to the big manufacturers in Turkey.

The management company of OSTIM is very active in terms of providing a broad range of services and facilities to the firms operating in the zone: it operates a number of subsidiaries, from an employment office, to a trade fair organisation firm, and from an energy company to a television and radio station.

One of the key subsidiaries of the industrial zone OSTIM in the area of training and skills development is its consultancy and training company called ODEM. ODEM conducts training and needs assessments, matches SMEs with consultants in its database, organises low cost training courses, and assists with technology transfer and networking. One of the strengths of ODEM is that its experts carry out continuous company level assessments and monitoring in order to keep up-to-date with the changing needs of individual SMEs and provide them with the required training and consultancies. It also acts as an intermediary between SMEs and those providing training, and 15 public support areas for training and consultancy. Another activity of ODEM is to train and educate human resources staff to be employed by local SMEs as intermediate workers through the employment office of OSTIM.

In addition to ODEM, OSTIM hosts a number of training and education facilities: an apprenticeship school, a vocational training centre, vocational high schools of two regional

universities (Fatih and Hacettepe), a technical and industrial education school, and a vocational training and technology centre.

KOSGEB has a local branch (the so-called KOSGEB Ankara OSTIM Service Centre) located in the zone to provide SMEs with necessary supports for growth and competitiveness. Other important infrastructures in the industrial zone of OSTIM include an extension of the techno-park of the Middle East Technical University (METU), hosting 60 research and development intensive companies and a joint research centre established with the same university.

Training results for SMEs

The survey findings indicated that the majority of SMEs do not attach importance to training and skills development (only 28% of SMEs declared that they received vocational education and training (VET) and 25% stated that they participated in KISA over the last 12 months). Regarding the main fields of training, companies primarily focus on organisational health and safety, and job-specific technical training, while green skills receive the least attention from SMEs.

The majority of firms neither have a department nor a staff member responsible for human resources. It also found that training (both VET and KISA) opportunities are not equally distributed among staff at firms. They are mainly offered to high/medium-skilled employees rather than low-skilled staff. Another finding is that the majority of SMEs cannot provide an assessment on the outcomes of training (both VET and KISA) for business, local area and industry sectors, which, in turn, may have a negative effect on the level of interest in training activities.

While SMEs state that the costs involved in training as well as the lack of public finance are the main reasons for not carrying out training, a relatively large number of low-cost VET and KISA providers and public finance providers are accessible and active in the zone (perhaps more than any other organised industrial zone in Turkey).

The correlation analysis confirmed the benefit of investments in training and skills development on innovation activities of SMEs: the existence of a formal training plan and training budget positively affects the innovation activities of SMEs. Investment in green skills development (particularly through KISA) has a positive impact on green innovations. Furthermore, KISA regarding entrepreneurship positively affect management innovations and operational innovations (which are not observed in the case of VET).

Since the clusters in the industrial zone of OSTIM are still in the embryonic stage of development, positive outcomes and the impacts of clusters on company behaviour, including those on training and skills development, are not yet observed. For example, a relatively large number of SMEs state that they do not need to develop social skills of their employees. In general, the results of cluster level analysis revealed that clusters in OSTIM show varying levels of innovation performance, and training and skills development investments. Similar to all other SMEs that responded to the questionnaire, cluster firms also attach greater importance to organisational health and safety, and job-specific technical training than any other training topics.

The in-depth interviews showed that SMEs, in general, attach importance to technical training, and for this purpose they usually consider masters degree programmes for high-skilled workers and free-of-charge training organised by local and regional non-profit organisations for low-tech staff. SMEs consider government research and development

support programmes as the key sources of KISA that help them develop their staff, giving them the skills and competencies required for product development and production improvements. The interviews also highlighted low levels of collaboration and interaction between organisations in the industrial zone of OSTIM.

The training and skill ecosystem workshop verified the results of the field research and provided explanations for the key findings: for example, the workshop participants explained that the majority of the SMEs are family-owned enterprises which, in general, are not institutionalised.

It depends on the vision and/or willingness of the owner of the company to invest in training. Most of the time, SME owners think that an investment in training equals a waste of money, but at the same time, never consider the cost of continuing to employ staff without proper training/skills. There is the fear that trained personnel will leave the company when their skills levels increase after training. The workshop revealed the need for collaboration and communication between the public organisations and non-government organisations (NGOs) responsible for training/skills development in SMEs, as well as the need for enhancing the governance system at local, regional and national level in order to eliminate overlaps and fill the gaps in the system.

The importance of informal (KISA) training

The skills development of staff as they learn through interaction and experiencing was difficult to ascertain. For the local area, since the level of interaction between companies is not at a desired level, it is not possible to judge the impact of KISA on the region, according to the interviewees.

For example, a solar energy company thinks that the high level of interaction they have with their customers abroad has helped them to develop better skills and capabilities in production and product development. The product and production quality has also improved.

The research and development projects they implement through government finance helped enhance project management and product development skills. All of these interactions and learning by doing has helped the staff to develop valuable skills. Their self-confidence and motivation has also increased. With improved skills and broader vision, the company has become aware of its capabilities.

As a result, they increased research and development activities, with local input in the research and development process, leading to a positive impact on the value chain. The material/process quality of local companies that supply input to the products developed by the firm increased, which led to an increase in sales and profitability of suppliers.

According to another firm, a medical company, KISA helps them to continuously develop their skills and knowledge. Employees become better motivated and their work quality increases. The management of the firm regularly assesses the knowledge of staff by testing to see if they implement what they have learned. The interviewees think that companies with improved skills and knowledge are good for the image of the local area. However, they do not know if there are any positive impacts on the skill ecosystem in the industrial zone OSTIM.

Implications for policy development

In light of the research results, the following recommendations are suggested under two main categories:

1. Investing in training and skills development in SMEs

- Raise awareness among SMEs of the need for training and skills development through various means, for example, by giving the right messages on wrong perceptions, such as the idea that training has little impact on job mobility, despite employer fears about trained staff being poached by rivals and so “losing their investment”, and realising it is much more expensive not to train the people.
- Identify and disseminate success stories of SMEs from different sectors who continuously invest in training and skills development.
- Particularly target cultural change among SME owners/managers.
- Design and implement policy measures to stimulate training and skills development for low-skilled workers.
- Specific to micro-enterprises’ needs for training and skills development; to encourage institutionalisation of SMEs.
- Provide on-the-job coaching/mentoring to micro and small enterprises; to stimulate development of green skills, and innovation, entrepreneurship and social skills in SMEs.
- Encourage inter-company collaboration, and collaboration between SMEs and other actors in the system for training and skills development (also through effective cluster development programmes).
- Pay attention to developing a balanced policy mix of training and skills development. For this purpose, focus on segmentation of target groups to successfully address their needs in the area.

2. Improving the skill ecosystem:

- Improve governance by assigning an oversight body for SME training and skill development, which carefully orchestrates co-operation among major players at national/regional/sector levels – KOSGEB can play this role effectively.
- Develop a balanced, effective and complementary set of training and skill development programmes by evaluating existing measures (in terms of their complementarities, effectiveness, efficiency, impact, relevance, coherence and sustainability), and by eliminating overlaps and multiplicities.
- Make sure that the main stakeholders in the system communicate and interact regularly and effectively (through meetings/workshops, etc.). Regional level co-ordination can be achieved by the regional development agencies.
- Develop and implement tools to monitor and measure the impact of training and skills development at different levels.
- Modernise VET education and develop mechanisms to ensure that vocational schools and universities collaborate with SMEs to keep their curricula relevant and current to the changing needs of companies.
- Conduct a skills gap analysis to identify critical workforce skills, analyse shortfalls, and develop strategies resolving these shortfalls.

- Provide regular training to the staff of the organisations providing SME services, including the public bodies implementing SME support programmes.
- Develop an accreditation system for the organisations providing training to SMEs. Also help them to continuously upgrade their services and improve their skills and capabilities through training-the-trainers schemes.

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PART II
Chapter 11

**Training in SMEs in the Montréal
and Winnipeg urban regions,
Canada**

by
Paul Belanger and Sylvie-Ann Hart

This chapter looks at a study carried out among 80 small and medium sized enterprises (SMEs) in two Canadian cities, Montréal and Winnipeg, based on a survey and case studies, which show the importance of innovation among Canadian SMEs. These innovations in turn create new demands for skill development, both through formal training and in informal activities. The outcomes of the study show two significant trends. First, an uneven development of learning activities among SMEs is related not only to the size of firms, but also to their orientation towards innovation and shared productivity measures. Second, because they do not have enough internal resources and flexibility to drive productivity growth through learning and training by themselves, SMEs need some form of group based mechanisms to solve this structural problem. However, it is noted that participation of unskilled employees in both formal and informal learning remains an important challenge for the great majority of SMEs.

Background to the Canadian case study

Over the past two decades, in Canada, as in other advanced industrial countries, the economic structure has undergone significant transformation. Under the expanding level of economic globalisation, we have seen a huge shift in location of manufacturing activities. As a result, over the last three or four decades, the shares of manufacturing in the gross domestic product (GDP) and in employment have seen a significant decline.

It has therefore become important to document how the manufacturing and other sectors, and in particular SMEs, are responding to these shocks. For these economic players, increased productivity, especially from an international perspective, represents an important economic challenge. The issue is to document how Canadian enterprises, especially SMEs, respond to the rising demand for intensive skill development activities at the workplace; a demand driven by innovation necessities both in techniques and in mode of production of goods and services. International data tend to show that overall “training intensity” within industries in Canada are at levels below those observed in many other advanced industrial countries.

Small and medium sized enterprises (SMEs) play an important role in the Canadian economy. In employment terms, they account for 64% of all private sector employment and between 82% and 90% of total employment in health, construction, forestry, tourism and hospitality sectors. Although resilient in the face of economic adversity, the high proportion of SMEs raises some challenges for maintaining a productive and competitive workforce, since smaller firms tend to have fewer resources available for training and skills development, either formal or informal.

Against this background, Canadian studies have been carried out in two regions – the metropolitan Montreal area in Québec, and the Winnipeg urban area in Manitoba – thus providing comparable empirical field studies within two environments offering training and learning opportunities for SMEs. In order to observe how SMEs deal with the demand for workplace skills development for their personnel in these two contexts, a survey was carried out among 80 SMEs in each region and a series of case studies were conducted on local group based mechanisms created to support SMEs (*Consortia* in Winnipeg, and *Mutuelles* in Montreal). At the end of the process, two regional workshops were held in order to discuss the data and highlight the main challenges with which the SMEs are confronted.

Training results for SMEs

There are numerous factors that affect training and skills development at the workplace. Undoubtedly, the most universal of these is size, even though attempts are still being made to elucidate the *modus operandi* of its effect. The activity sector also exerts a certain level of influence. In order to monitor these factors, we have established a stratified sample based on size and the activity sector.

The SMEs were asked to specify those areas in which they had offered or supported training within the 12 months prior to the study. The most frequently mentioned areas were:

- Occupational health and safety.
- Employment-related vocational or technical training.
- Accounting and finance.
- Information technology.
- Human resources management.

This diversity of training areas provides an indicator of the variety and intensity of training offered. Further diversity was also evident across the regions, with Winnipeg firms offering or supporting more training activities than the Montréal firms. The variable of company size, however, remained consistent, with the larger SMEs (50+ employees) in both regions providing or supporting more training than the smaller SMEs.

The firms were asked to indicate the percentage of employees considered “highly and moderately qualified” or “poorly qualified” who had participated in training activities in the 12 months prior to the study. The results showed that the “highly and moderately qualified” employees were at a clear advantage, when compared with the less-qualified employees.

The chief finding of this study is most certainly the importance of innovation among Canadian SMEs. A majority of SMEs reported changes in the last 12 months relating either to new or renewed products or services, methods of production, technologies or equipment, or management approaches. These changes create a subsequent demand for skill development via both formal training and informal activities.

In two SMEs out of five, in both regions, participation in systematic training has now become a regular activity, and this trend is even stronger among those that have introduced significant changes. We also observe an even larger proportion of firms involved in knowledge intensive service activities (KISA). These informal change-driven learning opportunities are the result of production of new goods or services, introduction of new technologies or equipment, or improvement of work processes and procedures. Additionally, as is the case for structured training, the study showed that both highly and moderately qualified employees tend to be at a clear advantage when compared with less-qualified employees. Thus, participation of unskilled employees in both formal and informal learning remains an important challenge for the great majority of SMEs.

In the Montreal region, learning and training activities in SMEs tend to be less numerous and intensive than in the Winnipeg region. However, due to the requirements stipulated by the Quebec Skills Development Act, such activities in this province tend to be more institutionalised and thus more visible within the organisation, its budget and its decision-making structure. This is probably a result of the Quebec Skills Development Act, a legislation that requires companies to invest the equivalent of 1% of their payroll in training. Since firms have to monitor their learning activities more closely, this would tend to give such activities more visibility and accountability.

This study illuminates three important features regarding skills development in SMEs. Firstly, the uneven development of learning and innovation activities is related not only to the size of the firms, but also to their orientation towards innovation changes and shared productivity measures. Secondly, SMEs, because they do not have the internal resources and flexibility to drive productivity growth through learning and training, need some form

of group based mechanism to solve this structural problem. Finally, the study illustrates the importance, for efficient and relevant skills development, of contextualised local approaches proceeding through the proper evaluation of local needs and contexts, in line with firms' prospective action plans.

The importance of informal (KISA) training

The most common KISA undertaken by firms were business development activities (brainstorming on the production of new goods or services, opening of new markets, etc.); activities relating to the introduction of new technologies or equipment; and activities for the ongoing improvement of work processes and procedures, etc. Other activities frequently mentioned included production, sales, engineering and technical services; management of the business, health and safety, accounting and finances, etc.

Tracking KISA provided an indicator of the variety and intensity of change-related learning or inter-learning activities. The survey shows that firms in the Winnipeg region used KISA for skills development of their staff more than Montréal firms. This shows that KISA skills development does not need to be linked with large urban regions for success. KISA skills development is also important among smaller firms, a development that may reflect their parallel greater levels of innovation and exportation of their production.

The survey results showed that, as was the case for formal training activities, KISA skills development was concentrated on the higher skilled employees within the firm, with "highly and moderately qualified" employees tending to be at a clear advantage when compared with the less-qualified employees. This gap, however, is less prominent in smaller firms where the gap is less pronounced, and less-qualified employees have a greater level of access to KISA than to structured training.

Presence of regional learning and training ecosystem

A second contextual issue for the development of KISA is the uneven awareness and active recognition by local actors of their regional learning and training ecosystem in order to find training and learning resources that meet their firm's skill development needs.

Montréal and Winnipeg are major cities offering a good concentration of players, who can support firms in all fields, including training and skills development. It is also in these regions that there are the most highly diversified and rich supplies of training in each province, in both the public and private networks.

However, it is important to acknowledge the level of awareness among SMEs in these two regions regarding these external resources, and the support they provide in order to meet the internal demand for learning. Firms were asked to indicate the players that they deal with in the areas of training and skills development for their employees. The results for the two regions are very similar, with half of the SMEs having links with three and more external actors in the field.

Implications for policy development

The first policy issue for increasing skills development in SMEs is to look at the internal requirements of the firms to help them maintain their position in the market. This inter-provincial study of skill development in Canadian SMEs, conducted in Montreal and Winnipeg, unearthed new information regarding the general situation of these enterprises, which increasingly require change and innovation in order to increase their productivity,

and therefore to reposition themselves towards new competitors. In both regions, seven SMEs out of ten undertook at least one change within the previous year; according to OECD's indicators, four out of ten could be considered highly innovative firms. However, without external support and mechanisms for sharing expertise, small businesses (1 to 49 employees) in particular will have serious difficulties meeting such challenges.

The recommendation here is to *develop alternative ways of skills development by fostering public-private partnerships to design and support knowledge sharing mechanisms where small and medium enterprises can discuss their innovations and the way they approach challenges and operations for their products and services*. Knowledge sharing is an interactive activity, which itself constitutes an alternative and novel way to increase the capability of the firm, as well as providing problem-solving and other related skills to employees involved in these activities.

Second, *involvement of employees in the training process* (from assessment of needs to communication and implementation of activities, followed by their evaluation), accompanied by relevant skills development via informal activities, has been observed as being an efficient implementation mode for innovations, enabling businesses to meet their productivity requirements. This study found that participation in formal training, as well as in KISA, is surprisingly high in such contexts. Similarly, case studies demonstrated a high degree of interest from SMEs towards participation in co-operative groups that can help them successfully implement and expand their innovations.

Third, *enterprises should invest in employees at all levels in order to meet organisational challenges*. In the context of introducing new techniques and modes of production throughout the organisation, the prevalent trend is to limit training activities to upper layers of qualified staff, even though innovation challenges result in much wider training needs. Less qualified employees, compared to highly qualified employees, need greater opportunities to acquire required skills and thus fulfil their role in these ongoing changes.

Fourth, *group based mechanisms should be encouraged* for training and skills development in SMEs, to ensure a continuing skills development process within organisations. Due to their size, SMEs do not have the requisite internal resources to undertake skills development alone. The study shows that small businesses behave differently than medium or large firms in terms of training and skills development. Not surprisingly (since the existing literature shows that there is a link between the size of businesses and their training provisions), human resources management indicators clearly distinguish medium-sized businesses (ME) from smaller ones (SE) in both regions. Even though SMEs are surrounded by a training ecosystem that is filled with available resources, particularly in the case of SEs, they need external support to assess their own local needs, to tap these regional resources, and to integrate the training initiatives within their internal context and requirements. The seminars organised in both regions confirmed that there is a structural need for long-term support to smaller businesses, such as training brokers, evaluation of needs, inter-learning innovation driven opportunities and exchanges between businesses. Case studies show that more concretely, two initiatives can serve as models in fulfilling these needs: Mutuelles de formation in Quebec and Consortia in Manitoba.

Fifth, *encourage innovation and exporting activities as a strategy for skills development*. Analysis of the impact of levy legislation shows how, in the Montreal urban region, learning and training activities in SMEs tend to be less intensive than in the Winnipeg urban region.

The question raised is whether or not this could be related to the different policies involved. The Province of Quebec's Skills Development Act requires all companies having a payroll over a certain level to invest the equivalent of 1% of their payroll on training, while, in Manitoba, the priority is focused instead on innovative and exporting SMEs. Firms in Quebec tend to monitor their learning activities more closely, and hence become more accountable, but training activities in Manitoba's SMEs remain more numerous. An interesting discovery coming out of this study, and one which highlights the need for public support in this area, is the observation of a significant link between the implementation of innovations, and businesses exporting products outside Canada. Private investment in skills development seems to be triggered by innovation and exporting activities being part of firms' business strategies.

Sixth, *skill development activities need to be grounded in prior local needs assessments*. The survey, the case studies and the workshops pinpoint that too often, general support is limited to direct training activities, making it difficult to ground such activities in the local context and thus ensure better return on investment. There is a growing consensus around the operating principle that, in order to generate the expected outcomes, investments in skills development and training activities must proceed through a proper evaluation of needs and of local contexts. Investments in training are "worth it" if, and only if, an evaluation of the needs is carried out beforehand – through shared, collaborative processes leading to actions. In this way, training can be planned more consistently, in line with businesses' strategies at a more general level.

Finally, *governments should facilitate SMEs' awareness of available training support*. SMEs are not always aware of the range of training programmes and initiatives that are available to them. Facilitating ways for SMEs to access the information they need for workforce development can foster their participation in existing initiatives.

Models for co-operative skills development

The study highlights the need for SMEs to join group-based mechanisms (GBMs) for training and skills development, even though they may already have a resource-rich training environment. Seminars conducted in the two regions confirmed this structural need, while the case studies carried out in the two regions revealed two types of concrete GBM models – the Mutuelles de formation in Quebec and the Consortia in Manitoba.

In Montréal, FormaPlus is a voluntary regional grouping of SMEs that share management and skill development services. A board made up of members' representatives governs the group. This Mutuelle de formation offers its members (more than 100) many customised activities to support their business strategy: needs assessment regarding skill development; brokerage services to select the most appropriate resources within the regional ecosystem; training follow-up; evaluation and optimisation of interventions; plus specific training sessions required by its membership on problem-solving, conflict management, accountancy issues, and time-management.

FormaPlus supports its members by offering services that they cannot afford on their own, including expertise and knowledge transfer required to cope with technological development and transformation of economic context, advice for recruitment of personnel, supporting a culture of continuing professional development, contact and networking in the regional training ecosystem.

In addition, member firms are organised in sub-groups of 25-30 firms, so that a professional of FormaPlus, attached to a group, could provide each company with the ongoing consultant service of a familiar expert adviser in management and development of competencies. To become a member, a firm has to pay a membership fee equivalent to 0.1% of its payroll. This gives each firm a minimum number of hours of free services.

In Winnipeg, the Canadian Manufacturers and Exporters Association of Manitoba has developed and hosts a related programme called Consortia. Aimed at companies committed to improvement and willing to share successes as well as challenges, Consortia are formal groups of ten to twelve companies (mainly SMEs) with the goal of achieving step changes in business performance. These groups of enterprises, which are not in competition, are created around a theme of common concern (i.e. lean production, sustainable development or operational excellence); they come together every month in rotation at each member's site. The purpose of these meetings is to collectively observe the situation of each company, discuss the problems encountered by those firms and indicate potential improvement.

A non-formal environment facilitating sharing and "stealing" of innovative practices facilitates this KISA oriented inter-learning process. Each Consortium is supported by the organisation CME Manitoba, and besides forming these small groups of non-competing firms, CME provides them with a facilitator, to ensure continuity and reporting, while helping find resources to meet specific short term needs. CME Manitoba also organises leadership training and other advanced courses. To train mentors on the Lean approach, it offers Kaisen training courses of nine days duration, distributed over a three week period. CME also facilitates cross-consortia exchanges by networking consortia around a common theme and offering joint activities.

These two models of co-operative knowledge building are a major area of policy intervention in local skills development in the two case study regions. Both the Mutuelles de Formation and the Consortia, are sustained and financed not only by the participating enterprises but also by public funds. These public funds aim to support innovation and improve productivity, a requirement that, in the present economic context, is cutting across all Canadian enterprises, large or small.

These group-based mechanisms are becoming essential as participatory HR support services, providing SMEs with opportunities and resources similar to the ones available in larger firms. Moreover, they put SMEs in interactive communication exchanges in order to share expertise and benefit from their respective experience both in innovation and learning strategies. The participating SMEs then become active actors in their respective ecosystem.

Reference

Belanger, P. and S. Hart (2012), "Leveraging Training: Skills Development in SMEs: An analysis of two Canadian urban regions: Montreal and Winnipeg", *LEED Working Paper Series*, OECD Publishing, Paris, <http://dx.doi.org/10.1787/20794797>.

ANNEX A

Contributors' biographies

Professor Paul Belanger, University Québec à Montréal

Professor at UQAM University in Montréal, Paul Bélanger is Director of the Interdisciplinary Research Centre on Lifelong Learning (CIRDEP) and, since 2009, Director of the Observatory on Skill and Work, related to vocational adult learning policies. He was the Director of the UNESCO Institute for Lifelong Learning in Hamburg (1989-2000). His contributions include: *Shifting Patterns in Adult Education Participation* (Pergamon, 1997); *Transitions toward LLL: social indicators* (Tokyo, 1998); *Unlocking Peoples' Creative Forces, A Transnational Analysis of Adult Learning Policies* (UNESCO, 2000); *Learning Cities, Concept and Issues* in Duke, (ed.) *Making Knowledge Work*, NIACE; *Portrait of Work-related Learning in Quebec*, Ottawa 2008: CCL/WLKC; Bélanger, P. et al. (2010) *La formation de base dans les PME*: CIRDEP-UQAM; (2010), *Theories of Adult Learning and Education* (Opladen, Germany: B. Budrich Publishers).

Professor Paul Dalziel, Lincoln University

Professor Paul Dalziel is Professor of Economics and Director of the Regional Development research programme at the AERU Research Centre, Lincoln University, New Zealand. Professor Dalziel's research focuses on New Zealand economic and social policy. He is currently the President of the Australia and New Zealand Regional Science Association International (ANZRSAI).

Dr Ans De Vos, Vlerick Business School

Dr Ans De Vos is currently Associate Professor at the Competence Centre People and Organisation of Vlerick Business School. Her research interests include psychological contracts, career management, career development and competency management. Dr De Vos is co-promoter of the *Steunpunt Werk en Sociale Economie*, a policy research centre on work and social economy funded by the Flemish government (Department of Work and Social Economy) and the European Social Fund (ESF), where she is responsible for the research on competency development.

Ms Sirin Elci, Technopolis Group Turkey

Sirin Elci is the founder and Director of Technopolis Group Turkey. She has a professional experience of 20 years, around 16 in Science and Technology and innovation policies, enterprise, entrepreneurship, and innovation development actions. She is also teaching Innovation Policy to the MS and PhD students at the S and T Policy Studies

Programme of the Middle East Technical University in Ankara. During her career, she has provided advice and support to many international organisations (EC, World Bank, OECD, UNESCO, UNDP, etc.), and a variety of government departments, regional authorities and organisations in Turkey and abroad. She also participates in a number of international and national associations and networks on entrepreneurship and innovation, provides mentoring to youngsters and entrepreneurs all over the world, and sits on the board of several SMEs and NGOs.

Professor Anne Green, Warwick University

Anne Green is a Professorial Fellow at the Institute for Employment Research at the University of Warwick, the United Kingdom. Her research interests span local and regional labour markets; spatial aspects of economic, social and demographic change; trends in employment and unemployment; policies to address worklessness; demand for and supply of skills; labour market information and other local indicators; migration and commuting; urban, rural and regional development; and evaluation studies – including welfare-to-work and area regeneration initiatives. She currently leads the national evaluation of the City Strategy initiative in the United Kingdom and is undertaking research projects on labour market trends and policies.

Ms Sylvie Ann Hart

Sociologist, Sylvie Ann Hart, underwent her doctoral studies at *l'Institut d'Études Politiques de Paris*. Since 1988, she has been involved in applied research on skill development and labour market policies within different professional and industrial networks in Québec, Canada. In 2009, she became Senior Researcher at the *Observatoire compétences-emplois* at UQAM, Montréal and Co-ordinator of the centre. Her scientific contributions include: *L'évolution du PAMT et ses impacts sur les employés et les entreprises*, Montréal : CSMOIPFMAC (2010); (with Boulet, B. and Legault, I.) *Guide d'apprentissage pour obtenir la certification en martelage*, Québec : Gouvernement du Québec (2010); *Enquête 2006 sur les effectifs et les salaires dans l'industrie de la tôlerie de précision*, Montréal : CSMOFMI, (2008); (with Gamache, M. and Lejeune, M.) *Les entreprises manufacturières et l'environnement de formation*, Montréal : INRS-Urbanisation Culture et Société (2005); (with Lesemann, F. and Lejeune, M.) *Inventaire international et documentation des dispositifs nationaux de qualification professionnelle dans sept pays*, Montréal : INRS-Urbanisation Culture et Société (2005); *Les entreprises et la main-d'œuvre dans les industries de la fabrication métallique et électrique d'usage industriel : une étude qualitative*, Montréal : CSMOFMI (2000).

Mr Michael Kubisz

Michael Kubisz is a Polish expert on employment policies, human resources development and regional policy. Michael Kubisz is a graduate of Warsaw University and the University of Cambridge (United Kingdom). In the years 1998-2006 as a Director in the Ministry of Labour and Social Policy, and the Polish Agency for Enterprise Development, he was involved in the preparation and implementation of national programmes for human capital development, financed by the pre-accession funds and European Social Fund (ESF). He was also responsible for developing and launching ESF activities in the field of enterprise human resources development in Poland in 2004. In 2006, he participated in the development of the Human Capital Operational Programme for 2007-13. He currently works as an evaluator of programmes and projects in Poland and in south-eastern Europe.

Dr Cristina Martinez-Fernandez

Dr Cristina Martinez-Fernandez is a Senior Policy Analyst on Employment and Skills, Green Growth and Southeast Asia at the Organisation for Economic Co-operation and Development (OECD), Local Economic and Employment Development (LEED) programme. She works on issues related to the challenges of skills and training systems for SMEs, entrepreneurial and innovation activities; industrial policy, climate change and the transformation of labour markets into the low-carbon economy; the challenges of demographic change and an ageing society for skills and employment development. Cristina also manages the OECD/LEED Initiative on Employment and Skills Strategies in Southeast Asia (ESSSA). Before joining the OECD she was an A/Professor at the Urban Research Centre, University of Western Sydney in Australia where she led the Urban and Regional Dynamics programme which analyses industry change, urban performance and socio-economic development within the frameworks of innovation, globalisation and the knowledge economy.

Dr Laura E. Martinez-Solano, Warwick University

Laura is an RCUK senior research fellow at the WMG, University of Warwick. She is interested in analysing innovation and product/service development processes. As part of PARD, Laura developed a framework to work with and supported companies to effectively manage their innovation processes. The companies reported a value-add of around £7 m from this project. Before this, she participated as an Irish research team leader in a 3-year OECD project on Knowledge Intensive Service Activities in Innovation (Software, ICT, Tourism and HC). Outcomes from this study have provided material for several publications. Her PhD focused on technology transfer through FDI. In addition, she was an Economic Advisor at the National Assembly for Wales. She was also a research assistant at the Engineering Research Institute (II-UNAM) (1991-95), using 3-D simulation programmes in thermodynamics for Petroleum and Electricity firms.

Dr Samantha Sharpe, Centre for Business Research, University of Cambridge

Dr Samantha Sharpe is a research associate at the Centre for Business Research, Judge Business School at Cambridge University, the United Kingdom. Samantha has held academic posts, most recently the NESTA (National Endowment for Science Technology and the Arts) Innovation and Policy Research Fellow at Cambridge University, senior policy positions in economic development and environmental management in government and worked as a contracted expert for the OECD. Samantha's research focuses on territorial industrial development and the spatial analysis of innovative activities, particularly understanding how the qualities of "place" interact with economic activity in an urban environment. Outcomes of this research are policy and industry advice around the support of innovative activity in places, the incubation of new technology, and the role public policy can play in generation and re-generation of sustainable economic activity.

Dr Tamara Weyman

Dr Tamara Weyman works as a contracted expert for the OECD, working on various projects involving employment and skills, SMEs development, Southeast Asia, territorial development policy, and demographic change and sustainability. Tamara worked as a Research Associate at the Urban Research Centre, University of Western Sydney (UWS) and completed her PhD on spatial information sharing for better regional decision making in

2007 at UWS. Since 2009, Tamara has been involved in the COST Action TU 0803 “Cities Regrowing Smaller”.

Ms Ine Willemse, Vlerick Business School

Ine Willemse is currently Research Associate at the Competence Centre People and Organisation of Vlerick Business School. Her research interests include career management and competency development. She is currently a researcher for a study on competency development within organisations, a project that is part of the *Steunpunt Werk en Sociale Economie*.

ANNEX B

Survey participant characteristics

Table B.1. Survey populations and sources

Country	Survey response	Notes about the sample
Belgium	188	<i>University Business School Database and Social Partner Database.</i>
New Zealand	74	Populations sourced from databases of the Canterbury Employers Chamber of Commerce, the Ashburton Business Association, Enterprise Ashburton, the South Canterbury Chamber of Commerce, the Canterbury Development Corporation and the Apparel and Textile Industry Training Organisation. Green questions asked only of 2nd survey population.
Poland	511	Poland used a different methodology to obtain responses from the TSME questionnaire. A stratified sample of firms from the region was identified, which equals 0.7% of the population. The sample was created on the basis of the National Office for Statistics data. Representative samples of all branches, including proportional representation of micro, small and medium firms (to reflect the actual distribution of micro, small and medium), and representative samples of enterprises from urban and rural areas. The actual firms (on the basis of the sample described above) were taken from the national register of companies (with addresses and other co-ordinates). The survey was then administered via face-to-face interviews and continued until the target sample was reached.
Turkey	108	An email request was sent to the company databases of OSTIM Organised Industrial Zone Administration and KOSGEB Service Centre in OSTIM District. Also, within the clusters, some SMEs completed the survey via face-to-face interviews. Approx. 50% of the surveys were completed via telephone interview, with the rest completed online or face-to-face.
United Kingdom	50	Online questionnaire. Sample drawn from SMEs in the West Midlands region who had responded to the NESS09 survey and had indicated that they could be approached again.
Canada	149	Firms sampled from the regions of Quebec and Manitoba.
Total	1 080	

Survey respondents by country

Number of respondents by country	
Belgium	188
United Kingdom	50
New Zealand	74
Poland	511
Turkey	108
Canada	150
Total	1 081

Survey respondents by business size

Business size	Large	Medium	Micro	Small	Total
Belgium	2	12	88	86	188
Canada	1	49	23	76	150
United Kingdom	1	3	22	24	50
New Zealand	2	6	37	29	74
Poland	0	80	337	94	511
Turkey	0	14	25	69	108
Total	5	159	524	349	1 081

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Skills Development and Training in SMEs

Overview of training and skills development in SMEs

PART I. Cross-country analysis of skills development approaches in SMEs

Chapter 1. Formal training and skills development: The state of play

Chapter 2. Skills development on the ground: Formal and alternative approaches by firms

Chapter 3. Innovators, exporters and new skills development

Chapter 4. Learning by doing – Best practices in training and skills development

Chapter 5. Skills and training ecosystems

PART II. Key highlights from case studies

Chapter 6. Training in SMEs in the Canterbury region, New Zealand

Chapter 7. Training in SMEs in the West Midlands region, United Kingdom

Chapter 8. Training in SMEs in the East Flanders region, Belgium

Chapter 9. Training in SMEs in the Zagłębie sub-region, Poland

Chapter 10. Training in SMEs in the industrial zone of Ostim, Ankara, Turkey

Chapter 11. Training in SMEs in the Montréal and Winnipeg urban regions, Canada

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