IfM Education and Consultancy Services

UNIVERSITY OF CAMBRIDGE

Enabling economic growth: effective support for smaller manufacturing businesses

Insights from research and industrial engagements

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Contents

1. Executive summary

The current political and economic debate in the UK is focused on the need for substantial cuts in government spending. To avoid a painful and prolonged recession it is vital that economic activity in the private sector increases to offset the decline in the public sector, and to deliver growth in employment, exports, profits and tax revenues.

This report proposes that – with the right kind of support – small and medium sized enterprises (SMEs) have the potential to make a significant contribution to growth and employment. Research indicates that it is important to focus scarce resources on providing intensive help for those firms with the potential for significant growth. Targeting public support for SMEs in this way will achieve the maximum return on investment.

Who should we support and how?

Key questions are: how do we know which SMEs have growth potential and what form should this support take? It is widely agreed that identifying SMEs with significant potential for growth is extremely difficult. There is strong evidence, however, that, in order to grow, SMEs must be willing and able to develop new capabilities. Since only some SMEs display this propensity, the report suggests that a willingness to develop new capabilities could be used to identify those firms which should be targeted for support.

What kind of support should be provided to help these high-potential firms to develop the capabilities they need to grow? Research suggests that each SME is different, with its own special needs and priorities, and that they require very different approaches to those of larger firms. Support must be carefully tailored to focus on developing the particular capabilities required for an SME to achieve its goals. What is more, focusing on the 'wrong' capability –one that is a low priority for a particular SME at that point in its development – can actually impair its future growth.

Lessons from research and practice

This report draws on both research findings and extensive engagements with SMEs by the Institute for Manufacturing's dissemination arm, IfM Education and Consultancy Services (IfM ECS). It provides insights into effective ways of supporting SME growth so that the maximum return on investment can be achieved. It proposes that SME support programmes should:

- use approaches specifically designed for SMEs, not those for large companies
- be flexible and configured to the specific needs of each SME
- start by assessing the SME's business goals and strategy
- go on to systematically assess:
  - the business performance required to achieve these goals
  - the SME's current performance against these targets
  - the particular capabilities required to address critical performance shortfalls

- offer intensive support to those SMEs willing and able to develop new capabilities

The report provides details of support programmes delivered by IfM ECS, using a structured and balanced process for interventions, facilitated by advisers with broad management experience. The report provides examples of the impact of these interventions.

2. The need to stimulate growth

The private sector needs to grow to compensate for cuts in UK public spending. Small and medium sized enterprises (SMEs), particularly manufacturing companies, offer the potential to deliver growth in employment, exports and tax revenues.

The current political and economic debate in the UK is focused on the need for substantial cuts in government spending. To avoid a painful and prolonged recession it is vital that economic activity in the private sector increases to offset the decline in the public sector and to deliver growth in employment, exports, profits and tax revenues.

It has been strongly suggested that boosting the growth of UK SMEs, in particular manufacturing businesses, is a strategic priority (IfM Education and Consultancy Services, 2010; Department for Business Innovation & Skills, 2010a).

Manufacturing is a critical part of the private sector because:

- manufacturing enables the creation and capture of financial, strategic and social value (Livesey, 2006)
- it enables value to be captured from the UK's distinctive science and technology base
- gross value added per employee (GVA/E) from manufacturing is higher than that for the economy as a whole
- manufacturing can enable social development, and potentially reduce social breakdown, by providing employment to people across a wide range of abilities and skills
- manufacturing generates indirect employment across the value chain, for example: contract research and development; design consultancy; raw materials processing; marketing consultancy; logistics; financial, insurance, legal and management services

The growth of manufacturing companies generates employment across their supply chains; each supply chain may include a number of manufacturers. If UK supply chain partners can be supported in their attempts to add more value this will stimulate export growth, without a corresponding increase in high value imports.

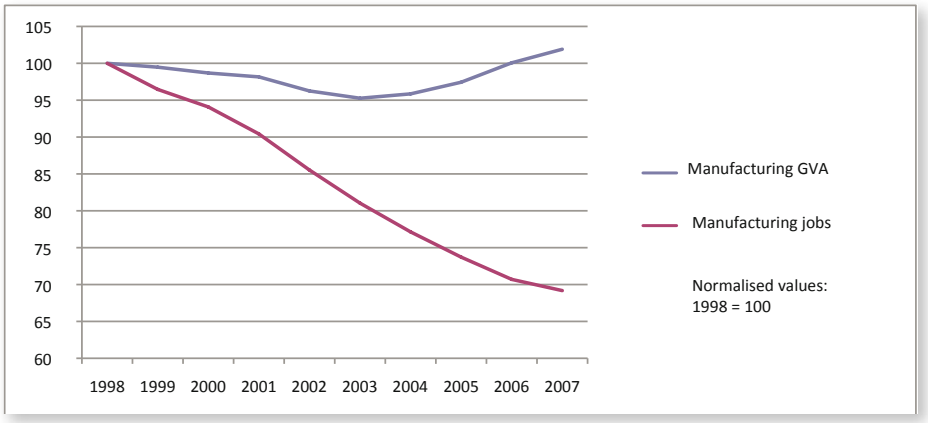

Figure 1: Manufacturing employment plotted against manufacturing gross value added
Source: Mellows-Facer 2009

Past efforts to improve performance in the manufacturing sector have focused on boosting productivity. This has resulted in modest increases in total manufacturing output; however, it has also been accompanied by significant reductions in employment. Increased productivity, without output growth, delivers increased competitiveness, but fewer jobs (Figure 1). The focus should now be on exploiting productivity gains and achieving growth by developing critical business capabilities such as innovation in products and processes.

The Department for Business Innovation & Skills (Department for Business Innovation & Skills, 2010a) describes the Governments policy goals: "As part of this, a central element of the Government's growth plan is to make it as easy as possible to start, run and grow a business..... This is not just about fostering new start-ups, but also encouraging existing businesses to grow to achieve their full potential. In addition to addressing specific market failures, we need to focus on encouraging SMEs to develop their internal capability to use knowledge and resources effectively in order to successfully navigate the path to growth."

This paper draws on both research findings and extensive engagements with SMEs to provide insights into effective ways of supporting SME growth.

3. Public support for SMEs: insights from the past

An understanding of how previous governments have approached support for small and medium-sized companies can provide lessons for today's policy makers. Policies need to have clearly defined objectives if their impact is to be evaluated.

Researchers at Warwick Business School have analysed the evolution of public support policy over several decades (Greene, Mole & Storey, 2007). They identify four eras:

1930s - 70s: picking (big) winners: Between the 1930s and 1970s the Government focus was firmly on large corporations and identifying industrial sectors which should be supported. The UK's poor industrial performance was attributed to low productivity. Government interventions often took the form of subsidies and some suggest this enabled businesses to invest in capital equipment rather than labour, thus driving up unemployment. SMEs were largely left to their own devices.

Towards the end of this first era the UK experienced a major decline in employment. Picking winners from amongst big corporations had not achieved the promised results and attention began to shift to SMEs.

1980s: increasing the quantity of small enterprises: In the 1980s the government's focus was on increasing the number of small enterprises. The number of SMEs did indeed grow from 2.4 million in 1980, to 3.6 million by 1989. It is not possible to attribute this growth solely to the effect of government policy, however. With widespread unemployment many individuals chose to go into self-employment, while larger businesses cut costs and reduced risk by outsourcing services and functions. Meanwhile there was also significant growth of the service sector, boosting the number of small companies.

1990s: increasing the quality of small enterprises: In the 1990s the emphasis changed from quantity to quality. With no firm evidence that the creation of more SMEs had led to increased employment, government support shifted instead to improving quality and productivity. There was also a redirection of support "from start-ups and micro-businesses towards established businesses with the potential to grow." (Greene, Mole & Storey, 2007, quoting Trade and Industry Select Committee Report 1996).

2000s: competitive markets: In the last decade (2000 to present) the government's objectives for SME support shifted away from individual firms to encouraging competitive markets. Efficient markets, it was argued, would improve SME productivity and thus would create the right conditions for employment growth.

Implications for today's policy makers

What evidence is there that public policy to date has resulted in performance improvement or growth in employment? A comprehensive survey of research in this area concluded: "The overall impression from the studies which have assessed the impact of 'indirect' assistance to small firms, designed generally to improve their internal efficiency, is that, whilst the assistance is generally appreciated by the small firm, it is more difficult to link it to improvements in performance." (Storey, 1994).

This inability to demonstrate policy effectiveness has been attributed to several factors:

- The policy lacked clearly defined objectives, or had multiple objectives

- It was impossible to compare performance following a support programme, to the performance that would have been achieved without support
- It was difficult to establish the 'net' effect of a policy; for example growth in SME employment could be at the expense of job losses in the large company sector

Without clearly stated, measurable, objectives all that can be achieved is monitoring and not evaluation (Storey, 1998). The first step in developing new public policy for SME support must be to define clear objectives. Only then can we ensure that its impact can be evaluated.

4. Which companies should receive support?

In the current economic climate providing support for all companies is not practical. Understanding the characteristics of small and medium-sized companies will help us to identify which ones have the potential to benefit the most from support.

Characterising SMEs

In order to be able to focus support on those companies most likely to benefit and achieve successful growth, it is important to understand more about the characteristics of small and medium sized enterprises (SMEs) and small and medium sized manufacturers (SMMs). The most recent survey of UK's small businesses (Williams & Cowling, 2009) reported that in total there were 4.7 million SMEs. Figure 2 presents a breakdown of this total, showing that only 26% of these had any employees and only 1% had more than 50 employees. Around 5% (194,000 firms) employed between 10 and 249 people.

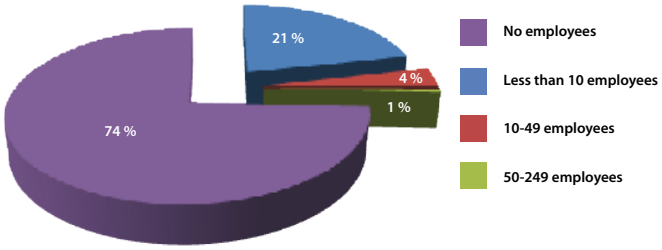

Figure 2: The number of employees in the UK's small and medium-sized enterprises (SMEs) in 2007/08. Nearly three quarters had no employees at all. (Williams & Cowling 2009)

Figure 3 gives 2008 employment data for UK SMMs. This shows that 33% of these manufacturing firms had employees – 7% more than SMEs as a whole. Around 10% employed between 10 and 249 people (about 32,000 firms).

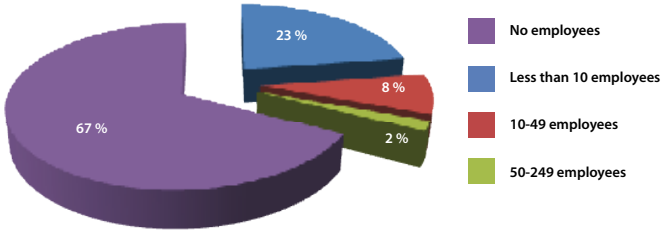

Figure 3: The number of employees in the UK's small and medium-sized manufacturers (SMMs) in 2007/08. (Department for Business Innovation & Skills, 2010b)

In trying to decide which kind of company should be the focus for support it is important to understand the patterns of growth amongst SMEs. A survey of all SMEs (Williams & Cowling, 2009) shows that the larger the company the more likely it is to have experienced employment growth in the previous 12 months (see Figure 4 overleaf).

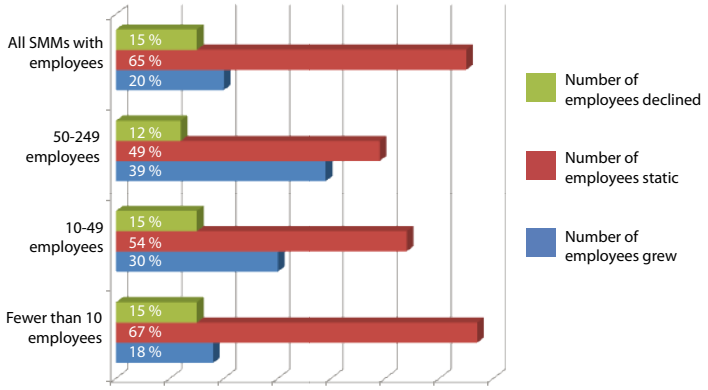

Figure 4: Nearly 40% of companies employing 50-249 people reported an increase in head count in 2008/09. By contrast only 18% of companies with fewer than 10 employees increased their numbers. (Williams & Cowling 2009)

The survey also made a detailed analysis of SME growth trends. This revealed four classes of SMEs, defined by the growth they have already achieved and their aspirations to grow (growth trajectories):

- **Sustained growth** – those with more employees than they had 12 months previously and who also anticipated increasing staff numbers in the next year.
- **Contained growth** – those with more employees than they had 12 months previously but who did not anticipate increasing staff numbers in the next year.
- **New-growth businesses** – those that had not experienced employment growth in the previous 12 months, but who anticipated growth during the next year.
- The remainder of businesses show **no growth**.

Figure 5 presents the survey's breakdown of all SMEs in terms of these four growth categories. The proportion of sustained growth increases with employment size, from seven per cent of micro businesses to 15% of small and 23% of medium-sized businesses.

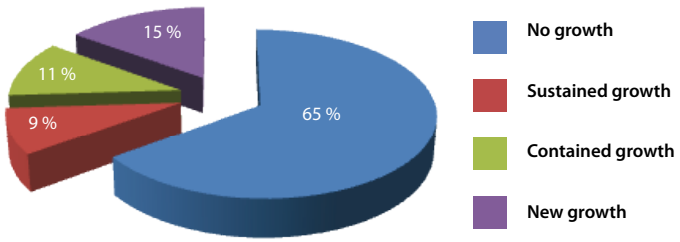

Figure 5: Around 24% of SMEs fell into either the sustained or new growth categories and expected to grow during the following year. (Williams & Cowling 2009)

Implications for SME support

It seems reasonable to assume that employment growth is most likely to come from the relatively small number of SMEs that both employ significant numbers of staff and can show evidence of past growth or significant potential for growth in the future.

If the goal is to support the growth of manufacturing SMEs, we suggest public support should be targeted at those manufacturing SMEs that fall into the sustained or new growth categories. The survey suggests that these will comprise around 25% of the 32,000 SMMs that have employees – a total of 8,000 firms.

Research by the National Endowment for Science, Technology and the Arts (NESTA) suggests that the number of firms likely to benefit from support may be smaller than this. NESTA found that the six per cent of all UK businesses with the highest growth rates generated half of the new jobs created between 2002 and 2008. (NESTA, 2009). If NESTA's guide is appropriate, public support for SMMs should be directed to barely 2,000 firms.

Whether we believe the number of firms with potential for significant growth is 2,000 or 8,000, this is still a small proportion of the 32,000 SMM employers. The problem remains: how can these firms be identified in order to receive help to grow? This challenge is discussed in the next section.

Postscript

The Department for Business Innovation and Skills released an update to SME statistics as this report was in preparation for publication in October 2010. The latest figures show that since 2008 the total number of SMMs employing more than ten people has fallen by 5.4%, and the total number of people they employ has fallen by 5.9% (the Department for Business Innovation Skills, 2010c). The impact of the current recession on SMMs is clear: the need for growth in revenues and employment is urgent.

5. Targetting support: the challenges

Identifying SMEs with the potential for substantial growth is a significant challenge and one which has concerned both policy makers and researchers for many years.

How can we identify those SMEs with the potential for significant growth in order to target support to those firms most likely to benefit? The need to target public support was a defining characteristic of government policy in the 1990s, when government focused its attention on improving productivity in small firms. Research at the time (Storey, 1987 and Storey, 1994) found that firms experiencing rapid growth constituted a tiny proportion of SMEs, but over a ten year period they made a major contribution to job creation. Most SMEs, however, have no desire to grow, even in ideal economic conditions, while those firms experiencing low or negative growth were the ones most likely to fail.

The researchers suggested that in order to target support effectively government should:

- avoid supporting start-ups (but shouldn't impede them)
- select 'businesses with worthwhile growth prospects' for comprehensive assistance
- select on the basis of track record and future prospects
- select businesses with the capacity to penetrate new markets, not just displace local competitors
- provide assistance locally not centrally

Two challenges were identified to policy formation in this area. The first is that it is difficult for politicians to appear to abandon the weak (Storey, 1987). This is an important consideration for policy makers, especially if the selection criteria are unclear or not widely accepted as effective.

Secondly, SMEs with the potential for fast growth look little different to 'no growth' or 'slow growth companies' (Hakim, 1989). This makes it extremely difficult to characterise and pick out SMEs for support. Hakim's study attempted to correlate growth in small firms with a very wide range of factors, but none survived basic tests of significance. Research into how UK companies coped with the recessions of 1980 and 1990 (Geroski & Gregg, 1997) found very few reliable predictors of performance, either in terms of surviving or failing during the recession. However, the researchers did conclude: "It also seems clear that companies that grew fast prior to the recession, particularly those who were very acquisition-active and took on a lot of debt, are more vulnerable to recessionary pressures than slower, more organic growers." This suggests that using an SME's growth track record may not be a perfect guide to provision of public support.

Finding a way forward

The question 'How can the relatively small number of SMEs and SMMs with potential for significant growth be identified and what is the best way to help them succeed and grow?' is clearly one that both academics and policy makers have found difficult to answer. The final sections of this report draws on both research and extensive experience of working with small companies to suggest a possible way forward to meet these challenges.

6. Designing effective SME support programmes

SMEs vary and each requires support tailored to their specific needs. Developing the firm's capabilities is generally agreed to be a priority. Deciding where to focus effort, however, is not easy and getting it wrong can actually do more harm than good.

SME support needs

The Department of Trade and Industry (DTI) sponsored a review of academic studies of SME support (Bessant, Phelps, & Adams, 2005). The objective was to assess what was known about the stages of growth experienced by SMEs, and how external support might assist their growth and development. The authors reached a number of important conclusions:

- SMEs vary greatly and it is not helpful to assume that typical life cycles exist
- Critical events can be identified in the life cycle of an SME, although such events do not have a predictable pattern
- The critical events are related to commercial rather than technology issues
- An organisation's ability to successfully navigate a critical event, and thus achieve growth will depend on their ability and willingness to develop new capabilities
- Interventions to stimulate growth should therefore be:
  - tailored to each firm, not formulaic packages
  - raise awareness in the company of critical events
  - provide the knowledge required to successfully navigate critical events
  - build the capacity of the firm, and not simply inject short-term resources

The observation that SME development is defined by critical events, rather than following predictable stages, is a particularly important development in the understanding of SME growth. The critical events, termed 'tipping points', are situations when the firm could either continue to grow or could sink into decline.

These conclusions have important implications for the design of SME support programmes. They indicate that, to be effective, programmes need to configure support to the needs of each firm. They also need to identify the critical tipping points that each firm might face and to determine the specific developments required to respond to these.

Capability development

There is a strong consensus amongst researchers that a prime goal of support should be to assist the SME in developing capabilities (Bessant, Phelps, & Adams, 2005). A recent paper from the Department for Business Innovation & Skills examined the need for SME support and concluded: "we need to focus on encouraging SMEs to develop their internal capability to use knowledge and resources effectively in order to successfully navigate the path to growth." (Department for Business Innovation & Skills, 2010a).

Small businesses are faced by constant challenges across many business functions. There are therefore likely to be numerous areas in which performance could be improved. However, as SMEs have very limited time and resources, it is important that business-wide assessment is carried out to determine the most critical issues. (IfM Education and Consultancy Services, 2010). Determining which area of capability development needs to be addressed first is critical.

"The question remains how do advisers decide what part of a complex system such as a small business requires the most attention?" (Mole, 2007).

Research stresses the importance of understanding the individual context of each SME, its history and the challenges that it currently faces (Bessant, Phelps, & Adams, 2005). The need to ensure that capability development is consistent with the business aims has also been stressed (Mole, 2007; Leinwand & Mainardi, 2010). In his empirical study Mole establishes a basic process for effective diagnosis. He suggests that the adviser should ask three key questions:

- What does the manager want to do with the business?
- Are the firm's activities consistent with the objectives?
- What systems or information are there to measure whether the firm's activities are successful?

From this it is clear that SME support should be customised to the particular needs of each company, that the SME's objectives need to be understood and its current performance assessed against these objectives.

It is less clear that these three steps are sufficient to achieve an effective prioritisation of the development needs.

Getting it wrong can do more harm than good

The case for ensuring that limited resources are directed to achieve the best effect is compelling. However research suggests that there may be additional costs if the wrong priorities are chosen. "The .... message which emerges from these data is the critical importance of adopting a balanced approach in the management of all aspects of the organization. If external advisers persuade the firm to place excessive emphasis on upgrading a single dimension of capability, then there is a significant risk that internal capabilities will become unbalanced. In the most extreme situation, transformation initiatives which focus on one specific variable could actually have the undesirable outcome of impairing the future performance of the firm." (Chaston & Mangles, 1997).

An example of an unbalanced approach illustrates Chaston & Mangles concerns. A typical SME intervention would aim to develop 'lean manufacturing' capabilities; clearly the elimination of waste is an important goal for any organisation. If the intervention is applied indiscriminately a scenario is possible where 'lean capability' development is supported in an SME with other more pressing priorities, for example the need to develop capabilities in the management of demand for their products and services. A premature focus on lean, which risks inhibiting flexibility, could have an adverse long-term effect on the SME's ability to establish a sustained competitive advantage through the development of innovative products.

A blanket approach to assist SMEs in general to adopt good practice in one area may divert managers from more pressing needs, and may have perverse consequences for the development of some firms.

Intensive versus other forms of support

Programmes which provide intensive support have been compared with other methods of support (Mole, Hart, Roper, & Saal, 2009). Intensive approaches were the only form of support found to correlate with employment growth. Intensive assistance involved the development of a relationship between the firm and an adviser, the adviser providing support in the form of diagnosis, brokerage and referral. Mole et al found positive and significant employment growth effects from intensive assistance and concluded that "intensive assistance should perhaps be available to no more than seven to ten percent of client firms and where additional resources are

available these should be used to deepen the assistance provided rather than extend intensive assistance to a wider group of firms."

Web-based support has the potential to reach a large number of firms and is valuable for disseminating information. Intensive programmes aimed at facilitating change and supporting growth, however, require the personal support of an experienced adviser.

These findings reinforce the need to target support for SMEs, not just because only a few firms will repay the necessary investment but also because 'deeper' interventions are more effective than 'broad' ones.

7. Implications for future SME support

The lessons learned from research and practice provide some guidance on the most effective way to approach future policy towards SME support

Summary of research conclusions

Based on the research findings summarised in this report we can conclude that SME support programmes should meet the following criteria:

- use approaches specifically designed for SMEs, not those for large companies
- be flexible and customised to the specific needs of each SME
- start by assessing the SME's business goals and strategy
- go on to systematically assess:
  - the business performance required to achieve these goals
  - the SME's current performance against these targets
  - the particular capabilities required to address critical performance shortfalls
- offer intensive support

In addition, public support programmes for SMEs should have clearly stated, measurable objectives and any interventions should be directed to those SMEs with potential to grow. This will ensure the maximum return from public investment.

The ability to characterise SMEs with significant growth potential is a prerequisite if public policy is to target SME support effectively.

Targetting support – a possible way forward

Determining and prioritising goals for capability development are necessary, but not sufficient, stages in providing support for SMEs. It is clearly important that the SME is aware of its development needs, and has the ability to develop appropriate capabilities to meet these needs. To do this requires the ability to learn from external sources and also to apply that learning to achieve business objectives.

An additional, but no less important, third requirement is that the SME must be *willing* to develop the necessary capabilities (Bessant, Phelps, & Adams, 2005).

The ability of organisations to learn has been a topic of research in a number of academic fields (organisational learning, innovation studies etc). It has been found to have particular relevance to the understanding of SME growth (Liao, Welsch, & Stoica, 2003). The term 'absorptive capacity' is used to describe an organisation's knowledge and awareness and its ability and willingness to develop capabilities.

We suggest that the absorptive capacity of an SME is an important, self-selecting characteristic which can be used to target resources in SME intervention programmes. SMEs engaged in the support process will proceed to intensive interventions if they possess a willingness and ability to develop new capabilities. Those less willing or able will not proceed as far with the intervention, so that self selection directs investment from both the publicly-funded programme and by the SME itself.

This proposal is based on the assumption that those SMEs with the highest absorptive capacity are most likely to have potential for substantial growth. There is a need to test this assumption empirically; it is proposed that this will be done by studying the outcomes from the Manufacturing Transformation Programme (MTP), an SME support programme developed by IfM Education and Consultancy Services (IfM ECS), the dissemination arm of the Institute for Manufacturing.

Lessons from IfM ECS industrial engagements

IfM ECS has worked with over 500 manufacturing SMEs since 2002. These have covered a broad range of sectors and range from firms with less than 10 employees to those with up to 250. Projects have been undertaken all over the UK including West Midlands, Wales and the North East.

Most recently, the IfM ECS has developed the Manufacturing Transformation Programme (MTP), focused on firms in the Eastern Region and funded by the government's Economic Challenge Investment Fund (ECIF). MTP has been developed to help manufacturing SMEs counter the impact of the economic downturn and to develop and grow their businesses.

By October 2010 a total of 155 SMEs had undertaken the initial assessment and prioritisation stage of MTP, with 113 progressing to further stages of the process and various forms of capability development. The programme's approach follows the research-based criteria for SME support programmes outlined at the start of this section. A detailed analysis of the MTP's characteristics in relation to these criteria is provided in Appendix 1. The impact of a sample of MTP interventions is summarised in Appendix 2.

The Manufacturing Transformation Programme

MTP comprises a series of modules, each facilitated by an experienced adviser, following a structured process (see Figure 6). MTP aims to quickly determine each company's highest priorities for capability development.

Each intervention provides:

- in-depth assessment of the business to identify significant issues
- prioritisation to focus efforts on the most critical areas
- an action plan to bring about sustainable improvements
- structured approaches to re-formulating business strategy and developing key capabilities, such as product innovation, supply management, quality and delivery performance.

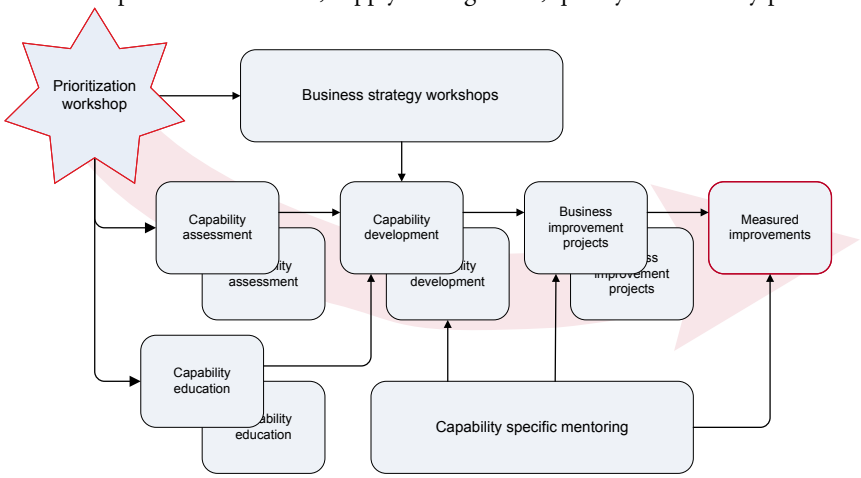

Figure 6: The structure of the Manufacturing Transformation Programme

Some SMEs will not be able to articulate a coherent set of business objectives. In this case the second stage of intervention will be to develop a business strategy and deliver a clear statement of business objectives which are agreed amongst the SME's senior management team. This intervention is completed by identifying the highest priorities for capability development.

Having determined priorities the next stage of the intervention is to work with the SME team to develop capabilities which will enable the organisation to achieve its business objectives. At every stage the intervention aims to help the SME management team to create action plans, identifying clear steps that must be taken to deliver order-winning performance and overcome any existing constraints within the business.

By this stage the SME will have established a pattern of business improvement, and started to make progress in building capabilities for competitive advantage. For those SMEs able to demonstrate progress and willing to further invest in capability development, continuing and increasingly intensive support is available. This could include: development of the management team's leadership skills and functional expertise, mentoring, or developing capabilities in product and process innovation.

At all stages the adviser managing the intervention follows a structured process to ensure that both diagnosis and capability development are comprehensive in probing and resolving specific business needs.

Although structured, the process needs to be flexible and the role of the adviser is critical to the success of the programme. This is particularly true when supporting prioritisation and business strategy development. To be effective at these stages advisers need management experience at a very senior level and an understanding of all business functions and their inter-relationships. Capability development, by contrast, can be successfully facilitated by advisers with knowledge and experience of the relevant business area.

SMMs rely heavily on their supply chain partners. The MTP enables firms to assess the performance of their supply chains and to develop more effective supply chain strategies. It is not uncommon for MTP interventions to lead to growth in both revenue and employment in an SMM's suppliers.

It is important to stress that the process is client driven, and not imposed by the adviser. This ensures that the pace of diagnosis and capability development is within the capacity of the SME management team, and that the action planning for performance improvement is owned by the team and not imposed on them. This increases the likelihood of successful implementation and lasting improvements.

Appendix 1: How the Manufacturing Transformation Programme relates to recommended practice

SME support: recommendations based on research findings	IfM ECS Manufacturing Transformation Programme (MTP)
Use approaches specifically designed for SMEs, not those for large companies	The MTP has been developed specifically for SMEs. It is a structured approach designed for, and accessible to, SMEs. It minimises the input required from the SME management team, it is easy to use and avoids unfamiliar terminology. Each stage of the intervention is designed to engage the SME management team and assist them to develop actions plans.
Be flexible and customised to the specific needs of each SME	The MTP comprises a series of structured workshops, taking from between half-a-day to two days (generally in half-day sessions). The specific design of the intervention is configurable to meet the needs of the SME. At every stage the decision to proceed will depend on the ability of the SME management team to implement the action plans they have developed as well as their potential to continue to develop capabilities for growth.
Start by assessing the SME's business goals and strategy.	Stage one of the MTP comprises a business-wide prioritisation diagnostic. This identifies the most important issues for the management team to focus on. A critical goal for the prioritisation workshop is to establish if there is a clear consensus amongst the SME management team concerning the firm's strategy. Specifically is there an understanding of how they will win orders in their chosen markets? If not, the intervention can proceed with a four session strategy development workshop. This will help the team develop a business strategy and identify capability development needs.
Go on to systematically assess: • the business performance required to achieve these goals • the SME's current performance against these targets • the particular capabilities required to address critical performance shortfalls	The Prioritisation workshop initiates an assessment of the SME's current business performance. This is compared to the targets required for the firm's strategy to succeed (as defined at the start of the Prioritisation workshop). Priorities for capability development are defined by assessing performance of a number of key product/service criteria against the importance of these criteria in the light of the SME's business strategy. For example, if the SME has a strategy to compete on unique value and innovation but the SME managers assess that they currently under perform in this area (compared to their competitors) then this will indicate a high priority to develop innovation capabilities.
Offer intensive support to those SMEs willing and able to develop new capabilities	Subsequent stages of MTP comprise a number of workshops designed to enable SME teams to address capability development priorities, such as product innovation, demand generation, supply chain management etc. The workshops are action-centred and are focused on education, assessment, and development. Each SME can select a development path comprising workshops appropriate to its needs. Each intervention will continue until the SME development needs are fulfilled or until the SME decides it is unable (or unwilling) to continue with capability development.

Appendix 2: Evidence of the impact of a sample of Manufacturing Transformation Programme interventions

Type of firm	Interventions performed	Revenues at start of interventions	Revenues at end of interventions	Impact of interventions
Semi-conductor production equipment manufacturer	• Prioritisation • Strategy development • Product innovation capability development	£12 million (2002)	£27 million (2004)	Reconfiguration of the firm's value chain to focus on design and system configuration and test, subcontracting production to local suppliers, leading directly to an increase in jobs. Lead times were reduced from 8.5 months to 5 months and on-time delivery increased from 80% to 90%. Contribution per employee (i.e. revenue less direct costs per employee) rose from £150k to £350k between 2002 and 2004. In 2009/10 the firm turned over more than €100 million with a contribution per employee of over €1 million.
Instrumentation manufacturer	• Prioritisation and action planning (performed 4 times between 2006-2009) • Prioritisation supported by mentoring	£1.4 million (2006)	£2.8 million (2009)	The interventions have resulted in improved productivity and output. Developing the firm's product innovation capability enabled the firm to design and manufacture a new range of products. In 2009 the firm launched 9 new products.
Agricultural equipment manufacturer	• Prioritisation • Strategy development • Product innovation capability development	£5 million (2006)	£12 million (2010)	Prioritisation and strategy development enabled the firm to exploit its brand strength and to enter new markets. The company is currently changing its route to market to enable it to enter global markets. Developing the firm's product innovation capability enabled the firm to design and manufacture a new range of products.

Type of firm	Interventions performed	Revenues at start of interventions	Revenues at end of interventions	Impact of interventions
Classic car refurbishment	• Prioritisation • Strategy development	£1.4 million (2007)	£2.3 million (2010)	Both quality and productivity improved following the interventions. Staff increased from 40 to 50 between 2007 and 2010. The firm is reviewing its business model and considering a more web-based approach in order to increase market share.
Precision engineers	• Prioritisation • Capability development • Strategy development	£6 million turnover: £800,000 loss (2008)	£5.5 million turnover: £100,000 profit (2010)	The business was turned around in two years, following the introduction of process improvements and by helping the firm to understand where they could better add value. The company has recently acquired another business to provide additional capabilities.
Events equipment	• Prioritisation • Strategy development • Quality capability development • Delivery performance capability development	£350,000 (2009)	£800,000 (Forecast 2010)	The interventions helped the management team align its priorities and focus on some critical areas that were underperforming. The company strengthened its internal processes to ensure that quality standards were met every time, without compromising delivery performance. The company also invested in better training for its staff. The firm structured and co-ordinated its sales activities to ensure faster quotation time, correct pricing and targeted marketing for different market segments. The company is currently looking to expand further and will continue to collaborate with IfM ECS.

Appendix 3: References

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