

INNOVATION, SMEs AND RURAL ECONOMIC DEVELOPMENT: SOME POLICY ISSUES

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Abstract

This paper is concerned with innovation in rural SMEs in England, their support needs, and the types of policies required to encourage and support innovation. Based on a national study of innovation and the use of new technology in rural SMEs, undertaken in 1997, the paper uses empirical evidence from a survey of 330 firms. The research is based on a broad view of innovation that includes products, processes, marketing and market development. The paper examines the influence of some of the distinctive characteristics of the rural environment on the nature and extent of innovation in small rural firms, together with the implications for policy. Support needs identified in the research relate to marketing; the use of the Internet; process innovation; and access to specialized training. The final part of the paper outlines an agenda for future policy support for innovation in rural areas that includes a discussion of targeting and segmentation issues and a recognition of the so-called rural premium

1. Introduction

This paper is concerned with innovation in rural SMEs, their support needs, and the types of policies required to encourage and support innovation. The paper draws on a national study of innovation and the use of new technology in rural SMEs for the Rural Development Commission (RDC), undertaken at the Centre for Enterprise and Economic Development Research (CEEDR) (North et al, 1997).

Another important part of the context for the paper is the key role that is currently ascribed to SMEs in rural economic development in the UK. With the continuing decline of employment in agriculture and other traditional rural industries, the identification and encouragement of new sources of jobs for those living in rural communities has become a key priority in rural development, becoming more urgent as a result of population growth in many rural areas. Indeed, it is increasingly thought that the bulk of new jobs in rural areas are going to come from new and existing small firms, not just in service sectors, such as tourism and other business services, but also in some lighter manufacturing industries (Tarling et al, 1993).

Although previous studies have shown that SMEs in rural areas in the UK (particularly remote rural areas) have outperformed their urban counterparts in terms of employment growth (e.g. Keeble et al, 1992; Smallbone et al, 1993a), they have also pointed to a number of potential weaknesses in the competitiveness of rural firms that are associated with aspects of the operating environment in rural areas and firms responses to them. In this respect, it can be argued that the external environment in the more remote rural areas particularly, presents challenges for SMEs, which they need to adapt to if they are to survive and grow (Vaessen and Keeble, 1995). These include the limited scale and scope of local market opportunities which make it necessary for firms to be particularly active in developing non-local markets if they are to grow. This means that even if rural firms are successful in developing innovative products, effective marketing can be even more important than for similar urban-based firms if the innovation is to be fully exploited. Another aspect of the external environment in these remote rural areas is the rural labour market, in which relatively low wage levels in comparison with urban areas combined with qualitative characteristics of the rural labour force (e.g. loyalty to the firm) reduce the incentive for firms to invest in labour saving process innovations, particularly in the more craft-based sectors.

A further characteristic of the remote rural business environment is the lack of a local industrial and service milieu which means that there are fewer opportunities for firms to subcontract out locally than in an urban context. From the point of view of innovation specifically, the low density of the business population results in a small number of potential collaborating firms locally, as well as more sparsely distributed research and development, educational institutions and business support providers compared with some other types of location. This raises questions about the extent to which the characteristics of remote rural environments constrain innovative activity in SMEs; another issue concerns the implications of these features for the type of policy response that is likely to be effective.

2. The Nature and Extent of Innovation in Rural SMEs

Conceptualising Innovation

Innovation is an elusive concept which is difficult to define. One aspect concerns the extent to which the use of the term is confined to technological innovation. Another distinction is between those who define innovation at the level of the firm but in terms of what is new within the industry, and those who define it in terms of what is new to the firm itself, irrespective of how it compares with what other firms in the same industry or market segment are doing.

In this context, the approach used to defining innovation in this paper recognises 4 main principles: the need to view innovation in terms of changes which are part of the process of maintaining and improving a firm's competitiveness; the need to recognise different degrees of innovation, which involves being able to position firms in relation to appropriate indicators of innovation; the need to recognise the importance of the sectoral context as a framework for assessing the role of innovation as a factor influencing competitiveness; and the need to include various types of innovation, namely product or service innovation, production process innovation, and marketing innovations.

Database and Methodology

The empirical evidence presented in the paper is drawn from a survey of 330 firms located in rural districts, split equally between three regions of England (the North, South West, and East Anglia). 'Rural' districts were defined as those local authority areas in which at least 50% of the population live in settlements of less than 10,000 inhabitants. The aim was to select SMEs from both manufacturing and service sectors which are representative of the sectoral composition of SMEs in remote rural areas, not only throughout the 3 study regions, but throughout England as a whole.

Two types of interviews were conducted: telephone interviews (275) in order to give the necessary breadth of coverage; and face-to-face interviews (55) to give the required depth of analysis. All the interviews were conducted between July and October 1996. The data collected from each firm involved assessing the extent to which rural SMEs has been innovative and active in adopting new technology over a five year period (1991-96). Based on the application of the principles outlined in section 2 of the paper, four dimensions of innovation are considered¹: product and service innovation; new market development; and new process innovation, the results of which are presented below.

Product and Service Innovation

Managers were asked whether they considered any of their products or services to be innovative in any way. However, in order to provide a degree of control, we also undertook a more systematic assessment of the extent to which a particular firm's products or services could be considered innovative based on 'benchmark data'. These were gathered from sectoral information sources, including interviews with representatives of sector organisations, supplemented in the more scientific and technological sectors by the receipt of a SMART award ('Small Firms Merit Award for Research and Technology') or SPUR award ('Support for Products under Research'). On the basis of this sectoral information, each firm was assigned to one or 3 categories: (i) possessing 'highly innovative' products/services; (ii) possessing 'fairly innovative' products/services; and (iii) possessing no innovative products/services.

Just under half (44%) of the 330 rural firms had introduced products or services during the 1991-96 period which could be considered to be innovative in some way (based on our systematic assessment). The proportion was higher in manufacturing (49%) than in services (36%) (Table 1), reflecting the difficulties of achieving a high level of innovation in terms of the nature of the service offered in many service sectors². When firms were classified according to different degrees of innovation, 18% of firms were considered to have 'highly innovative' products and services, although this varied from 24% of manufacturing firms to 9% of those in the service sectors.

Table 1: Sectoral Variations in Innovative Products and in changes in the Product Range 1991-96

<i>Sector</i>	<i>Innovatory prods</i>	<i>Changes in Product Range*</i>			<i>Innovatory prods or new prods</i>	<i>N</i>
	<i>Inn (highly)</i>	<i>None</i>	<i>Mods</i>	<i>New</i>		
Mechanical Engineering	50% (36%)	36%	36%	27%	59%	22
Electrical Engineering	78% (44%)	26%	39%	26%	91%	23
Instrument Engineering	67% (44%)	28%	39%	33%	78%	18
Food, Drink & Tobacco	73% (26%)	22%	44%	33%	78%	27
Leather & Clothing	39% (13%)	35%	35%	26%	65%	23
Furniture	26% (13%)	35%	17%	48%	57%	23
Printing	23% (0)	41%	36%	23%	41%	22
Other Manufacturing	50% (23%)	32%	36%	27%	59%	22
All manuf. sectors	49% (24%)	32%	36%	25%	66%	180
Wholesale	10% (0)	70%	10%	20%	30%	20
Transport	18% (5%)	68%	9%	23%	36%	22

Auxiliary Transport	50% (14%)	43% 21% 29%	64%	14
Post & Telecommunications	7% (0)	67% - 27%	27%	15
Computer Services	53% (16%)	47% 5% 42%	68%	19
Research & Development	88% (29%)	53% 18% 29%	88%	17
Business Services	37% (12%)	46% 17% 38%	63%	24
Tourism and Leisure	37% (0)	58% 5% 32%	58%	19
All service sectors	37% (9%)	57% 11% 30%	58%	150
Notes:* none = neither new products nor modifications to existing products mod = modification to existing products new = one or more new products				

The sectoral variations in the degree to which the surveyed rural SMEs possessed innovative products and services were reflected in the extent to which they actively managed their product portfolio, which points to the differences in the way in which smaller firms seek competitive advantage in different sectors.

An important finding is that the firms with innovative products and services tended to be those which were most active in terms of developing new products and/or modifying existing products over the 1991-96 period. Thus 71% of the firms with 'highly innovative products' had made other types of product change compared with just 48% of the firms which did not have innovative products. Moreover, the innovative firms were also those which were most likely to be seriously investigating developing new products and services at the time of the 1996 survey. This suggests that future product or service innovations are most likely to come from businesses that are already innovative and actively managing their 'product' portfolio rather than from businesses which only engage in new product/service development from time to time.

Innovation and New Market Development

SME managers were also asked whether they had developed new market segments over the 1991-96 period and/or new non-local markets, including export markets. Their answers demonstrated a clear link between product and service innovation and new market development since the firms with innovative products were more likely (significant at the 0.01 level) to have developed new markets (new segments and/or new geographical markets) than those without innovative products (80% compared with 65%). The difference is particularly pronounced with respect to the development of new geographic markets (i.e. outside the firm's home region): 71% of firms with 'highly innovative' products compared with 41% of those without innovative products. It should also be noted that the possession of an innovative product appeared to significantly increase a firm's export potential: 52% of firms with 'highly innovative' products had developed new export markets between 1991-96 compared with 20% of those without innovative products. These findings therefore demonstrate that innovative firms are making an important contribution to economic development in these rural areas through generating income from non-local sales, particularly in terms of overseas markets.

The Introduction of New Marketing Methods

Managers were also asked if any new marketing methods (i.e. information about new markets, promotion, pricing and distribution) had been introduced since 1991 that were new to the firm. However, in order to discriminate between firms that had been introducing fairly standard marketing methods for the first time from firms which were introducing more advanced and innovative methods, managers were specifically asked about the use of the Internet for marketing purposes.

The results show that rural SMEs appear to have been less innovative in terms of introducing new marketing methods during the 1991-96 period than in other respects, reflecting one of the recurrent management weaknesses in small firms. Although about two thirds of surveyed rural SMEs had introduced some marketing method which was new to the firm during the 1991-96 period (particularly sources of market information and/or promotional methods), in only a minority of cases can the methods be described as highly innovative. For example, only 9% of firms had started using the Internet for marketing purposes during this period and these tended to be concentrated in just a few sectors (notably business services, post and telecommunications, and R & D). Comparative evidence from a similar period suggests that this is an area where rural SMEs are lagging behind SMEs generally since a national survey showed 16% of UK firms with less than 100 employees to be using the Internet (European Information Technology Observatory, 1995).

As well as exposing the low level of marketing innovation in rural SMEs, the study identified a potential weakness in many firms with 'highly innovative' products and services that needs to be addressed if the full benefits of innovation are to be achieved. Whereas 27% of all the surveyed firms had been particularly active in terms of marketing innovations (in that they had either introduced 3 or more new marketing methods between 1991-96 and/or were using the Internet for some aspect of marketing), only 19% of the firms possessing 'highly innovative' products achieved this level of marketing activity. In other words, firms that were the most active in terms of product service innovation were below average in terms of introducing new marketing methods during this period.

Process Innovation

The method used to measure the extent to which firms had been innovative in terms of process technology was undertaken in two stages. The first step was to characterise the technology base of each surveyed firms, taking into account sectoral differences in the importance of technology as an influence on the competitiveness of SMEs. This involved asking managers to identify the technologically most sophisticated equipment used at each stage of the manufacturing process, or in their core service provision in the case of service sector firms. The technology used was then coded into one of five categories: hand tools/methods; operator controlled equipment; automated (but non-computer based) equipment; computer aided equipment; computer controlled equipment. The second step was to assess the extent to which firms had been innovative in terms of introducing process equipment that was new to the firm between 1991-96, defined as that which involved more than straight replacement. By analysing the changes introduced in relation to information on technological developments at the sectoral level, it was possible to distinguish between process 'innovations' that involved relatively standard technology and those involving more advanced, 'state of the art' technology.

The results show that although almost three quarters of manufacturing firms and half of service sector firms had been innovative in terms of making changes (i.e. more than straight replacement) which were new to the firm between 1991-96, a much smaller proportion had been introducing processes which could be considered to be advanced within a given sectoral context. For example, when process innovation was defined in terms of the introduction of new computer equipment (into some stage of the production process in the case of manufacturing,

or into core service provision in the case of services), little more than a third of both manufacturing and service firms appeared to have been innovating during this period.

The analysis of the use of technology and process innovation in rural SMEs underlines the importance of the sectoral dimension when assessing innovation. The survey evidence showed that whereas in certain sectors keeping up to date with technological change is an essential requirement for most firms if they are to survive, in other sectors innovation in terms of process technology was much less common. In manufacturing, it tended to be in printing and the various engineering sectors where firms were most active in introducing computer controlled and assisted equipment during the 1991-96 period. By contrast, in other manufacturing sectors (notably clothing, food and furniture), only a minority of firms introduced advanced technology. In services, although the majority of firms in all 8 service sectors were using computers in some aspect of the provision of their core service, there is little surprise in the fact that firms in business services and computer services had the highest propensity to introduce a new type of computer equipment over the 1991-96 period, and firms in the transport and wholesale sectors the lowest propensity.

3. Barriers to Innovation and the use of External Assistance

In order to identify the factors which may inhibit SMEs in rural areas from innovating, managers were asked about any barriers the firms faced with respect to each of the main dimensions of innovation investigated. They were also asked about the extent to which they had previously used external assistance in order to help overcome these barriers.

In investigating the process of innovation in rural SMEs, we paid particular attention to the extent to which firms had used external assistance in relation to their own resources. This is because there is considerable evidence to suggest that efficient external communication can be a significant factor contributing to successful (technological) innovation, not least because of the importance to SMEs innovative activities of accessing external technological know-how (Rothwell, 1991). However, our empirical evidence shows that where rural SMEs had been innovative, they had achieved this largely using their own internal resources, although there were some variations between different types of firm and different types of innovation. For the majority of firms, the owner and/or managing director played a central role in the development of new product and service ideas and in many cases were the only people involved.

There is some evidence that SME managers view their rural location as disadvantageous in terms of encouraging and supporting product/service innovation. Of those firms which had been seriously investigating new product or service development and also identified at least one barrier to achieving it, about a third considered that their rural location was a constraining factor. Their location was judged to affect their ability to find skilled staff, to make it more difficult to build sectoral contacts and, because of the long distances involved, more difficult to develop non-local markets. At the same time, it must be emphasised that for the majority of firms, a rural location did not appear to be a serious constraint upon product and service innovation.

However, more detailed examination of our survey evidence suggests that a firm's propensity to make use of external assistance in the process of developing innovative products and services depends upon the sector it is in. Innovative firms in the instrument engineering and printing sectors were three times more likely to make use of external assistance than their counterparts in the mechanical engineering and furniture sectors. This reflects the greater technical sophistication of products in the case of instrument engineering and of process technology advancements in the case of printing compared with the other manufacturing sectors, making it necessary for firms to buy in specialist expertise. The need for specialist technical advice may again help to explain why the use of

external assistance tends to be greater in sectors like R & D and business services than in transport and wholesale distribution.

In terms of process innovation, more than three quarters of surveyed firms recognised the importance of the need to upgrade the firm's technological base and, of these, 85% identified at least one barrier to achieving it. Once again, by far the most commonly reported barrier was finance, both for improving process technology and for upgrading the firm's IT capability. Significantly, relatively few managers identified a lack of staff skills and/or a lack of technological knowledge on the part of managers as barriers to process innovation, although other recent research has shown that skills shortages are one of the most commonly reported constraints on SME development in rural areas more generally (CEEDR, 1998).

However, in contrast to product and process innovation, external assistance was more commonly used by those firms which had introduced some new marketing methods. This may reflect the fact that when asked specifically about their location in relation to marketing, a third of managers considered that their ability to market their product or service was adversely affected by their rural location. Thus whilst it must be stressed that 'remoteness' was not perceived to be a major problem with respect to marketing by the majority of surveyed firms, for a minority it represented an additional cost that needed to be offset by other locational advantages. The nature of the external assistance received with respect to marketing ranged from financial help in the form of grants to the simple provision of useful contacts. Less than a fifth of these firm used external consultants to access advice and expertise about marketing.

The overall conclusion with respect to barriers to innovation is that with the exception of marketing and new market development, the majority of managers did not perceive their rural location to be a major constraint on their ability to innovate. At the same time, it must be recognised that managers answers may be influenced by the relatively high level of self sufficiency with respect to the process of innovation. This may suggest that firms have either adapted to any potential disadvantage with respect to their rural environment or are prepared to balance any disadvantages against advantages in their assessment of their location. Those firms that appear to be at the most disadvantage are those in the more technology based sectors, which may help to explain why these sectors tend to be under-represented in remote rural areas.

4. Support Needs of Rural SMEs with Respect to Innovation

At the micro level, business 'support' typically refers to the external resources that a business needs to be able to draw upon from time to time in order to extend or modify its internal resource base. Any business needs access to resources if it is to develop, including access to adequate and appropriate finance, labour, premises, information, management skills and competencies. Whilst this applies to firms of all sizes, limited internal resources (particularly in terms of management and financial resources) are one of the disadvantages that smaller firms face in comparison with larger companies. As a result, from time to time SMEs might be expected to turn to individuals and organisations outside the firm for assistance with a variety of issues, ranging from specific problems such as information about specific markets, or advice about an appropriate upgrading of production technology, to more strategic issues such as the development of a marketing strategy or helping the firm to obtain external equity.

In seeking to identify the 'support needs' of SMEs, one approach is to simply ask managers what they consider the needs of their business to be. Whilst this may produce a list of 'wants', which a market orientated approach to business support must be sensitive to, in itself such an approach is not sufficient to define 'support needs', since the latter also implies some consideration of what the business is lacking in order to fulfil more of its potential, both for its owners and for the local (in this case the rural) economy. In this particular project, data generated from

interviews with SME owners/managers were analysed and assessed from the point of view of barriers to the firm raising its level of innovative activity and thereby increasing its contribution to rural economic development.

The study identified a number of instances where there are reasons for concern about relatively low levels of innovation, which require attention if SMEs are to remain competitive and achieve their potential contribution to the innovative performance of rural economies. Some of these relate to particular types of SME which are showing weaknesses with respect to innovation and new technology and would benefit from external assistance. Others relate more generally to the technological capability of rural economies, including the level of skills and competencies which exist within the rural labour market. This involves the introduction of policies aimed at overcoming the barriers to innovation which have been identified in the study. The specific areas of support need with respect to innovation identified were:

Marketing

Marketing is one of the types of assistance that is frequently required by firms that have been active in developing innovative products or services but which have been much less active in other respects, of which market development and the adoption of proactive marketing methods are among the most important. The marketing of innovative products and services frequently involves developing new geographical markets, including foreign markets. However, if this is to be achieved, small firms are likely to require specialist advice to help them identify and profitably exploit foreign market opportunities and, in many cases, direct practical assistance in doing so (e.g. in exhibiting products at trade shows in other countries).

Use of the Internet

Assistance in the use of the Internet, particularly for marketing purposes, is an area where rural SMEs would benefit from targeted policy support. Whilst the study has shown how the majority of rural SMEs were active in terms of introducing marketing methods which were new to the firm, most of these methods were fairly standard and very few firms introduced methods that could be considered to be innovative in any way. Very few firms had started using the Internet for marketing purposes.

The level of Internet use was especially low amongst manufacturing firms, and, in the case of service firms, it was found that it was significantly lower amongst SMEs in remote rural areas compared with those in accessible rural areas. Although more recent research has shown that the proportion of rural SMEs with Internet access is increasing (e.g. 24% in a survey of 150 SMEs in the East Yorkshire and North Lincolnshire RDA in 1998), only a small proportion were actually making effective use of information technology for marketing purposes (CEEDR, 1998). As more businesses make use of the Internet, there is a danger that rural SMEs may be disadvantaged by their slowness to exploit the technology now available to them. As others have noted (e.g. Ilbery and Clark, 1995; Ove Arup, 1996), the Internet promises to extend the market reach of firms in remote rural areas in various ways, including being able to exploit the potential of product and customer databases, advertising goods and services using websites, making it possible for goods to be ordered and paid for electronically, and providing better customer support through remote diagnostics. It would be ironic if the effect of the Internet was to make remote rural firms more rather than less marginal, given its alleged distance shrinking benefits.

Process Innovation

A concern arising from the study is the low level of process innovation and adoption of new technology in remote rural firms. There are 2 particular aspects which require attention, both of which apply to manufacturing rather than service firms:

- i. A key finding is that the level of process technology within manufacturing firms in remote rural areas is below that of firms in accessible rural areas, especially with regards to the use of computer technology in the main production process. Moreover, where remote rural firms use computer technology, they appear to use it less intensively than accessible rural firms. We have explained this in terms of the preference of remote rural firms for more labour intensive forms of development, encouraged by the relative cheapness of labour in these locations (North and Smallbone 1995, 1996). Whilst not threatening the survival of these firms, at least in the short term, this labour-intensive form of development may have an adverse effect on their ability to extent their market base and compete in non-local markets in the longer term.
- ii. The second indication of a lower level of process innovation within remote rural firms relates specifically to those sectors in which firms had a below average propensity to have introduced computer assisted or computer controlled equipment (i.e. food processing, clothing and furniture). In terms of changes over the 1991-96 period, firms in these sectors were lagging behind their accessible rural counterparts in terms of investment in more advanced machinery and equipment. Although firms in these sectors were typically involved in making changes in production equipment, these generally comprised less sophisticated, non-computer based methods. Moreover, it was also found that they were investing significantly less per employee than their counterparts in accessible rural areas. This invariably means a reliance on craft-based production in sectors such as furniture, and producing fairly low value added products for local markets in sectors such as food. The growth potential of these firms may be impeded, therefore, by their failure to invest in more advanced methods, partly because of labour market conditions in remote rural areas.

Improving Access to Specialised Training

Whilst evidence from the survey does not indicate a serious skills shortage problem, it should be remembered that the small size and occupational composition of rural labour markets is likely to prove a constraint on rapidly growing SMEs. Furthermore, an over-dependence upon 'in house' training is likely to have the effect of reinforcing the skill limitations which already exist within the firm. An increase in training that involves an external input will be necessary if rural SMEs are to upgrade their technological base and adapt successfully to using more advanced, computer-based equipment. Given the small size of the rural labour market, any policy intervention that is designed to deal with this aspect would need to be closely targeted at the needs of individual businesses. This might involve some form of subsidised training for new recruits (including a transport subsidy where necessary), or for the upskilling of existing staff.

5. A Future Policy Agenda

Innovation and Employment Growth

One of the key findings from the study from a policy standpoint is the relationship between the level of innovation demonstrated by firms and their performance, both in terms of sales and employment. Firms that demonstrated the highest level of innovative behaviour were growing in terms of sales and also generating employment, although it is important to stress that the relationship between innovation and growth is an interdependent and mutually reinforcing one rather than a simple cause and effect relationship. Nevertheless, the finding provides empirical support for a policy focused on support for innovation (broadly defined) in SMEs in rural areas and is an important message to be communicated back to the firms themselves. The firms which possessed 'highly innovative' products or services were significantly faster growing businesses than those with 'fairly innovative' or 'non innovative' ones, achieving an 80% increase in sales turnover in real terms over the 1990-91 to 1994-95 period compared with a 20% and 29% increase respectively. Moreover, they increased their employment by 50% between 1991 and 1996 compared with 27% and 22% increases for the other firms. The average (based on the median value) firm with 'highly innovative' products or services went from having 13 employees in 1991 to 20 by 1996.

Targeting and Segmentation Issues

Targeting those resources that are available for supporting small firms can be justified on a number of grounds. These include: the economic development benefits of prioritising firms that have the potential to generate sustainable employment; seeking to maximise efficiency and effectiveness in the allocation of scarce resources; and the potential added value arising as a result of the intervention (Smallbone, 1995).

In terms of the potential added value from targeted support, a major priority is firms that are showing an ability to develop innovative products or services but are finding it difficult to support this with effective innovative effort in other aspects of the business. The result is that the full potential of the innovative aspects is not realised because of weaknesses elsewhere. It is paramount, therefore, that policy-makers view innovation in terms of the business as a whole and not just singular aspects of it. In this context, there are two sub-groups of firms that warrant particular attention:

- iii. *Firms with innovative products/services but which find it difficult to support this with the development of other new products or by developing non-local markets.* The results from this study show that these are typically firms employing less than 20 employees. They are often firms where the owner-manager is required to play a multi-functional role, but where his/her skills and experience are chiefly confined to one area of the business, invariably to technical aspects (e.g. engineering design, software writing) rather than other areas such as marketing or the effective use of management information systems.
- iv. *Firms in sectors (such as electronic engineering, instruments engineering and R & D) where product innovation is crucial to business survival.* The importance of ongoing product or service innovation to the survival and growth of small businesses in these sectors justifies a targeted policy response in an attempt to ensure that the firms' innovative efforts bring the maximum benefits, both to the firms and to the rural economy.

Delivery Issues

It is important that those responsible for the delivery of support are sensitive to the sector specific requirements of small firms with respect to some support needs and the way in which they are delivered. Our findings show how the nature of innovative activity varies between sectors. More generally, there are areas where sector specific advice is desirable and others where it is essential, although the point to stress is that gaining the confidence of small business owners often requires sectoral knowledge. In view of the fact that a number of businesses referred to the difficulty of networking with firms in the same sector, an initiative that is designed to share the best practice experience of demonstrator innovators within sectors may be worth examining.

Although flexible delivery is essential in the provision of all types of external support for small firms where time spent away from productive activity (both for managers and workers) is always a potential barrier to the use of external assistance, this particularly applies in rural areas where long travel distances may be involved.

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1. The not included in this particular paper.
2. When managers were asked whether they considered their products and services to be innovative in some way, 58% did so, which is similar to the 56% of rural firms which took part in the University of Cambridge

national SME survey and considered that they introduced products and service innovations over the 1992-95 period (University of Cambridge, 1996).