



An Evaluation of the Economic Impact of Broadband in Lincolnshire

UPDATED FINAL REPORT

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onlincolnshire

making the **broadband** connection

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1. Executive Summary

1.1 Introduction

The Lincolnshire Broadband Initiative, 'onlincolnshire', was launched in 2003 to bring a range of broadband supply and demand stimulation activities to businesses across the county.

The initiative has used £15 million of European funding, together with matched funding from Lincolnshire County Council, to support a series of significant Information and Communication Technology (ICT) interventions to provide support and financial assistance to eligible Lincolnshire businesses.

The 'onlincolnshire' initiative has four long term strategic objectives. By 2010:

- Lincolnshire will be the foremost rural County in the UK, with regards to ICT usage and skills and will have a commercial environment that embraces ICT;
- The main employment sites and premises will have attracted increased and more diverse investment;
- ICT will have made a major contribution to business competitiveness, expansion and diversification of the economy – measured through an increase in ICT related employment and a range of ICT based activities;
- To have engaged individuals and employers in improving ICT skills to increase local competitiveness, raise the standards, participation and achievement in ICT throughout the County.

The support products that have been available include:

- Subsidised connection of at least 1500 small and medium businesses, that did not previously have a broadband connection, to broadband;
- Free ICT diagnostic advice delivered to at least 500 small to medium sized enterprises; worth £2000 for small office/home office and micro businesses and £3000 for small and medium sized businesses;
- Delivery of at least 275 individual ICT projects to small and medium sized enterprises, funded up to £10,000 each at 50% of the total cost.

In 2005, 'onlincolnshire' signed an agreement with British Telecom plc, following a competitive tendering exercise, to deliver advanced broadband services to businesses in Lincolnshire. The product is delivered using wireless technology, and offers a 2Mbit/s symmetrical service, which enables information to be sent and received at the same speed.

The agreement was signed with intention of providing advanced broadband services to around 67% of SMEs and all employment sites of over five acres within the Objective 2 project area by Spring 2006.

1.2 Primary Lessons

The examination of the operation and delivery of the Lincolnshire Broadband Initiative has highlighted that it has been a core programme of publicly funded business support and skills development activity taking place in the sub region. It has demonstrated the value of ERDF support to increase the capacity and use of the digital infrastructure across the County.

The targeted activity in both main and transitional areas, whilst proving difficult in part, has addressed the diversity of the County in terms of its coverage of the geographic area, local environment, population, and business base.

The evidence is of progress in developing new working relationships between providers, intermediaries and users across the sub region. An outcome of this has been a greater interest and understanding between organisations involved which has provided a legacy for the future.

The qualitative evidence is that while some of the clients supported would have acted without the support of 'onlincolnshire', the programme has added value and expanded their operations, whilst others have been introduced to potential ICT related benefits exclusively through access to funding and expertise that was not otherwise available.

The interviews and survey have confirmed the importance of the support received to the businesses themselves at a variety of levels to their overall performance and growth prospects.

Anecdotally, whilst there is evidence that the programme has widened the market, because many of the beneficiary interviewees already had previous contacts with the business support sector or were referrals into the scheme by providers, it is not clear how many participants were reached and engaged for the first time through the programme.

It has added capacity to the organisational developments of a range of sub sectors, and has contributed towards supporting activity for the expansion of various sectors

The programme has enabled an upgrade of infrastructure with evidence that this in turn has supported improved business planning processes within various enterprises.

The diagnostic products for both micros and small & medium sized enterprises provided a successful approach to determining the ICT related needs of a (diverse) range of clients in a number of business clusters. However there is evidence that the recommendations were not always adopted.

Where they were implemented the effect of the programme has been reinforced, with other mainstream support available sub-regionally through the new Business Support structure across the East Midlands.

However, it is evident that it has experienced difficulties in delivering quantified outputs which can be directly attributed to the project, for jobs created despite increased turnover and productivity being evidenced.

1.3 Programme Performance

The examination of the operation and delivery of the Lincolnshire Broadband Initiative has highlighted the significant and positive contribution that 'onlincolnshire' has made to increasing the ICT awareness, adoption and usage throughout Lincolnshire.

All of the products offered by the programme were delivered across both Objective 2 Main and Transitional wards of the Programme Area. The profile of the clients and characteristics of the programme delivery area:

- The programme participants' size profile, from the user survey, is consistent with the programme area profile. More than three quarters (79%) of the sample employed fewer than 10 people and 66% employed fewer than 5.
- The employment size and turnover of companies that have received assistance through the range of 'onlincolnshire' initiative services is shown in the following table. The mean employment size of companies in the survey was 19.7 with a median of 4. The mean turnover was £324,990 with a median of £101,000.

Survey Sample Characteristics - Employment and Turnover Profiles:

	Total	Diag & Grants (%)	Basic (%)	Adv (%)
Mean Size	19.7	20.38	4.94	33.71
Median Size	4	4	2	6
Mean T/over	324,990	416,000	129,813	407,041
Median Turnover	101,000	151,000	51,000	251,000

- The age profile reflects a core of early stage businesses engaged, with businesses operating for less than 2 years accounting for just half of the client base.
- The programme includes businesses from all sectors, with the largest proportion of businesses from general business categories.
- Basic broadband take-up shows a fairly even distribution throughout the main and transitional areas, with rural and urban areas clearly represented.
- Take-up of ICT diagnostics and grants appears to be more sparsely distributed and focused much more around Lincoln and the market towns.
- Take-up of advanced broadband services has been greatest around Lincoln, Gainsborough, Louth, Skegness and Boston, with apparent gaps in take-up in the area between Lincoln and Horncastle, and Horncastle and Louth.

A total of **3008** applications have been processed through the programme, with 1372 companies assisted through 1964 successfully completed interventions the Programme area characterised into the following measures:

- Measure 1.1: Diagnostic advice
- Measure 1.2: Receiving Financial Support – Project grants
- Measure 2.1: Basic & Advanced Broadband Connections

Overall Programme Performance – 1964 Projects

	ICT Diag.	ICT Diag.	ICT Grants	ICT Grants.	Basic B/bnd	Basic B/bnd	Adv B/Bnd	Adv B/Bnd
Approved	Main	Trans	Main	Trans	Main	Trans	Main	Trans
Applications	485	73	290	37	782	117	156	24

Source: 'onlincolnshire' project management office GAS report, July 2008

1.4 Economic Impact

The primary measures of economic impact are taken as employment (jobs created and safeguarded) and increased turnover. Two sequential surveys have been undertaken to gather data and feedback on the performance and outcomes of these and other measures in order to construct an analytical model. Respondents were asked to indicate whether there had been changes to each of these measures, the amount of change and how much of this change was attributable to support from the 'onlincolnshire' initiative.

A Coefficient of Impact has been calculated for each of the measures that can be attributed to assistance received through the programme.

1.4.1 Jobs Created

During the programme period, the 'onlincolnshire' programme can be demonstrated to have *contributed to* a total increase in employment of 1,075 jobs for all users:

	No. of Interventions	% interventions reporting Growth	Average increase		Total Group Job Increase
Total Programme	1964	29.33	1.867		1,075

Analysis of the increase in employment that the respondents attributed to the 'onlincolnshire' programme shows a *net employment impact* of the programme of 717 jobs as follows. The coefficients for diagnostic/grant interventions are shown as two figures. The coefficient shown with an asterisk (*) excludes the result for company INN455, which experienced a 47% increase in employment during the period from 190 to 280. This can be seen in Table 4.4c in Section 4.

	No. of Interventions	% interventions reporting Growth	Average increase	% Inc due to Programme	Programme Job Creation
Diag. & Grants	885	44.00 *42.00	7.64 *3.71	21.78 *23.06	647 *318
Basic	899	6.00	3.33	6.67	12
Advanced	180	38.00	5.63	15.00	58
	1964			Totals	717 *388

*Figures calculated without the outlier INN455

1.4.2 Jobs Safeguarded

In terms of jobs safeguarded, the analysis of the survey sample established that 17% of the interventions resulted in jobs being safeguarded through the intervention, with an average of 1 jobs safeguarded in each of these positive interventions. As this is directly attributable by the recipients to the programme the coefficient of jobs safeguarded is derived as 0.1733 jobs per intervention.

When this is extrapolated to the 1079 interventions in Programme Measure 2.1, (connections) it produces a total of 187 jobs safeguarded overall which are directly attributable to the programme, with 156 attributed to impact of basic broadband and 31 to advanced.

Turnover impact

During the three year programme period, the 'onlincolnshire' programme can be demonstrated to have *contributed to* a total group turnover increase of the order of £38m.

	No. of Interventions	% interventions reporting Growth	Average increase		Total Group T/O increase.
Total Programme	1964	58.00	£33,023.58		£37,617,820

Analysis of the increase in turnover that respondents attributed to the 'onlincolnshire' programme shows that the *net turnover impact* of the programme is of the order of £11.7 million, as shown in the following table:

	Total Interventions	% Interventions reporting Growth in t/o	Average increase	% Inc. due to B/band.	Programme Impact on t/o
Diag. & Grants	885	58.00	£45,152	31.85	£7,381,785
Basic	899	44.00	£19,583	25.25	£1,953,788
Advanced	180	72.00	£78,241	23.06	£2,338,380
	1964			Totals	£11,676,389

The Coefficients of Impact

The following table shows co-efficients of impact that have been calculated for each measure (job increases, jobs safeguarded and turnover increase) per 'onlincolnshire' intervention. The coefficients have been calculated using this formula:

% interventions reporting growth * average increase/growth project * % increase due to programme

	Jobs Increase /Intervention	Jobs Safeguarded /Intervention	Turnover Increase /Intervention
Diagnostics and Grants	0.7322	n/a	£8,341
Basic Connection	0.0132	0.173333	£2,176
Advanced Connection	0.3209	0.173333	£12,991

These coefficients have been applied to the overall programme activity to extrapolate the estimated impact for all businesses that have received support through the programme.

ECONOMIC IMPACT MODEL OF PROGRAMME PERFORMANCE

Interventions			*	Coefficients			=	Programme Performance			
Diag.& Grants Projects	Basic Projects	Advanced Projects		Jobs Increase /Intervention	Jobs Safeguarded/ Intervention	Turnover Increase /Intervention			Jobs Created	Jobs S/Grded	Turnover Increase
885	899	180		0.7322		£8,341		Diag.& Grants. Projects	647 *318		£7,381,785
				0.0132	0.173333	£2,175		Basic Projects	12	156	£1,956,224
				0.3209	0.173333	£12,991		Advanced projects	58	31	£2,338,380
								Totals	717 *388	187	£11,535,735

The commentary on the characteristics and performance of each type of service user is as follows:

Basic Users are

- Smaller enterprises in size and turnover which, over the period of the programme, have grown on average at lower rates of turnover (£6,921) and employment growth (0.16 jobs) than other user groups. A high proportion (44%) of users reported an increase in turnover, while a very low proportion reported an increase in employment (6%).
- The attribution of these increases to the broadband intervention is relatively high for turnover but low for employment impacts (25.3% and 6.7% respectively).
- The overall impact of this large group of users (898 interventions) adopting basic broadband is demonstrated as less significant than other user groups in terms of turnover, directly attributing to £1.956m turnover increase. The impact on employment growth is also shown to be significantly less than for other groups, at 12 new jobs across the programme area.

Advanced Users are

- Larger companies in size and turnover which have, over the duration of the programme, grown by relatively high rates of turnover and employment. The average rate of turnover growth, at £78,241, is higher than that experienced by other user groups. Employment growth among advanced users is also relatively high, at 5.6 jobs.
- The attribution of these increases to the broadband intervention is fairly high for turnover (23%) and employment (15%). However, this indicates that the economic impact experienced by users is driven primarily by other factors than the advanced broadband connection.
- The number of successful users (180) of advanced connections has been less than the take up of other services for a number of reasons including the lag in its deployment, incomplete coverage of the programme area, and the availability of other support services (such as diagnostics and grants) being out of phase with the its introduction.
- However, considering the relatively small number of users, the economic impact of the advanced broadband service has been shown to be significant. The service has been estimated, through the modelling exercise, as directly attributing to an indicative £2.338 turnover increase and 58 new jobs across the programme area.

The Users of Diagnostics and Project Grants are

- A hybrid of the other two categories in terms of size and turnover. During the programme period, users of diagnostics and grants are shown to have grown at fairly high rates of turnover (£45,152) and have shown the highest rates of employment growth experienced by any user group (7.64 jobs). The proportion of users reporting growth is also high, at 58% for turnover and 44% for employment.

- The attribution of the impact of these increases to the 'onlincolnshire' programme is relatively high, at 32% and 21.8% for turnover and employment respectively.
- The overall impact of this large group of users (885) undertaking diagnostic and ICT project grants has been a major driver of the economic impact generated by the programme – directly attributing to £7.382m turnover increase and 647 new jobs in the programme area.

The outcome is that the programme has successfully exceeded the levels of assistance provided both to the infrastructure and the enterprises and individuals involved. This has resulted into job creation levels which have exceeded expectations for the ICT diagnostics and grants. However, the programme has not resulted in the level of job creation anticipated, particularly for the basic and advanced broadband connections.

There appears to be a number of factors affecting this outcome, none of which is exclusively responsible, but all of which appear to have contributed to it:

- The geographic eligibility, which is restricted to Objective 2 Main and Transitional wards, has proved an artificial filter to the take-up of the Broadband Initiative as the need and operation of the technology does not recognise these programme boundaries. In particular this has meant that all of South Kesteven and a number of wards in Lincoln, Boston and Spalding have been excluded from assistance through the programme.
- The outcome of Measure 2.2 which forecast considerable impact on major sites through advanced connectivity has not been evidenced by the levels of jobs created.
- The connectivity agenda has developed universally since the start of the programming period. The private sector market has seen fundamental change and development and the public sector uptake agenda has moved away from deployment to adoption.

The desk research of other similar initiatives highlights that the incremental benefits associated with the introduction and or upgrade of broadband capacity are not linear and have a time lag before businesses realise the full productivity benefits associated with that upgrade. This feature has been the basis of the longitudinal survey that was introduced to the project to track such changes.

The interviews demonstrate that a standard return on investment (ROI) calculation does not provide a complete picture of the benefits achieved from investing in broadband infrastructure. The programme has had a significant initial impact on the economy of the local community and the surrounding area above and beyond the direct turnover and employment growth experienced by individual businesses

1.5 Effectiveness and Wider Benefits

The summary of views on each service area and the difference it made to the businesses is as follows:

Basic Broadband

This service is demonstrated to offer:

- An effective method of encouraging SME take-up and continued subscription to a basic broadband service. Once connected businesses tend to remain connected;
- Good customer service, with very positive feedback on advice and support;

- Effective marketing strategies to promote the benefits of 'onlincolnshire'

The main limitation of the service relates to the capacity of the basic broadband infrastructure which - in some rural areas - is insufficient for SME needs. This limits the ability of rural SMEs to make full use of the breadth of ICT applications that can be supported by broadband.

Advanced Broadband

The service has been shown to be effective in following ways:

- Providing access to selected rural areas where DSL broadband has insufficient capacity;
- Early evidence of *some* use of advanced broadband to support sophisticated use of ICT, i.e. ecommerce, shared servers, and hosting others' websites;
- Amongst advanced users, the service is reported to be efficient, with few reliability problems.

Limitations at this early stage of advanced broadband implementation are that:

- Current use of applications supported by advanced broadband is a small proportion of its potential use;
- Benefits of advanced broadband could be maximised by awareness raising about the potential applications of the service to both existing and prospective users;
- Limited awareness of advanced broadband, and its relevance, among basic broadband users;
- Availability of advanced broadband may be overstated to SMEs. A number of companies that have applied for advanced broadband have been unable to receive it because their property is located in an area that is currently unable to receive wireless transmissions. The service may be improved through provision of clear information on the availability of advanced broadband, to ensure that customer expectations are not unnecessarily raised.

ICT Diagnostics and Grants

The ICT diagnostics and grants are shown to be an effective in the following ways:

- Delivering ICT solutions where SMEs may not have otherwise been able to justify the expenditure, particularly micro businesses;
- Enhanced impact in that those in receipt of both services were more likely to develop an enhanced or transformed business model than those subscribing solely to basic or advanced broadband;
- Provision of tailored advice and financial assistance to purchase new ICT products and systems is shown to make a significant difference to the way a business operates.

The main limitation of the service relates to the:

- The format and accessibility of the diagnostic consultation and report, including;
 - reports are difficult to understand for those unfamiliar with ICT;
 - advice given is 'generic' and not tailored the individual needs of each business;
 - ICT consultants lack knowledge of equipment needed for specialist sectors such as graphic design, printing and photography.
- The need for both elements of the service to be delivered to the SME for maximum benefit. Where businesses had not applied for the project grant, the diagnostic service alone is found to have little effect on the business;
- A significant number of businesses that have received the diagnostic service do not go on to apply to the grant, for a number of reasons including:
 - the threshold for match-funding, too high for micro-businesses;

- difficulties in understanding recommendations outlined in diagnostic reports.

1.6 Geographical and Technology Context

Comparisons with two other broadband initiatives – ActNow Cornwall and the Northern Ireland Broadband Initiative - show key differences in the delivery approach. The two comparators show a focus on stimulating the supply of broadband by, for example, working with broadband providers to upgrade exchanges. 'onlincolnshire' has also worked with broadband providers to broadband-enable all exchanges in Lincolnshire, but it also provides a wider range of services that seek to promote both the supply of broadband (such as through wireless technologies) and demand for broadband and ICT (via connection subsidies, diagnostics and grants).

A technology review has been undertaken which examines current developments in broadband technology. The review notes that the role of ADSL in providing broadband access for businesses in Lincolnshire is limited, due to the rural nature of the county and relatively long telephone lines. It states that implementation of wireless technologies provides one alternative solution for delivery of advanced broadband where there is a shortfall in performance of ADSL.

The review comments that fibre is now regarded as the principal long-term broadband distribution solution that is capable of delivering capacity for internet-intensive businesses, and recommends that further analysis is undertaken into the feasibility of publicly-funded support for fibre distribution in Lincolnshire. Current costs of fibre are estimated to be around €1000 per household, but are expected to fall significantly within the next three years. Analysis of Point Topic data suggests that the costs for delivering fibre in a rural area such as Lincolnshire may be 13% higher than the national average.

Recommendations for future action

1. ICT Diagnostic Support

Any future diagnostic service should consider:

- Meeting the needs of the self-employed and micro-business, which comprise the vast majority of 'onlincolnshire' clients;
- Focusing on the role of ICT as a business tool, and understanding individual business needs and objectives;
- Delivering consultations and diagnostic reports in a format that is accessible to businesses with varying levels of ICT experience and knowledge;
- Offering a programme of training and peer learning to sit alongside the diagnostic service, which enables owner-managers to develop the skills to take responsibility for decisions about ICT within their business.

2. ICT project grants

- Providing a range of grant amounts, which are relevant to the needs and budgets of micro-businesses, as well as small and medium sized companies;
- Undertaking follow-up consultations and offer further support to ensure that 'onlincolnshire' clients are able to act on and implement the ICT diagnostic report recommendations and, therefore, obtain maximum benefit from the service.

3. Basic Broadband

- Ensure that basic broadband users are aware of other 'onlincolnshire' services;
- Other recommendations for the basic broadband service apply to the overall service, as outlined below.

4. Advanced Broadband

- Ensure that advanced broadband is marketed to existing, as well as new, 'onlincolnshire' customers;
- Focus marketing of advanced broadband around the potential uses and applications that it can support, and use case studies to illustrate its potential and relevance to businesses;
- Provide clear and comprehensive information on the availability of advanced broadband, to ensure that businesses are fully aware that, in rural areas, access is determined by their ability to receive the radio transmission, and that their expectations are not unnecessarily raised.

5. Overall Service

The observation is that there is broad interest in learning more about how ICT can be used within a business. This can be addressed via the following:

- Develop a mechanism for ongoing engagement with 'onlincolnshire' clients – using media such as electronic forums and business self-help groups – to encourage peer learning and experience exchange;
- Provision of – or signposting to - training workshops for specific topics, such as using the internet for marketing, designing and commissioning company websites, general computer skills, and how ICT can be used as a business development tool;
- Provision of independent and impartial advice to ensure that 'onlincolnshire' clients are able to make informed decisions when seeking to commission IT consultants, implement broadband-enabled applications, and purchase hardware.

1. Introduction

Background

- 1.1 This report presents the findings from an evaluation of the economic impact of broadband on small and medium sized enterprises (SMEs) in Lincolnshire. The evaluation has been undertaken for Lincolnshire County Council to assess the effectiveness of the Lincolnshire Broadband Initiative, and to provide an understanding of the ways in which broadband and broadband-enabled services affect the local economy.
- 1.2 The study has been undertaken by the Enterprise Research and Development Unit (ERDU) at the University of Lincoln, and Groupe Intellex. ERDU is the University's focus for activity relating to enterprise and economic development. The Unit has undertaken consultancy work for a variety of organisations including the European Commission, EMDA, and a number of local authorities. Groupe Intellex is a broadband specialist consultancy, and has a strong track record in projects related to telecommunications, IT strategy and operations, and business planning and venture development.
- 1.3 The objectives of the study are to:
 - Assess the performance of the Lincolnshire Broadband Initiative, 'onlincolnshire', against Objective 2 ERDF targets;
 - Investigate the effectiveness of the delivery approaches developed within the project;
 - Show the wider impacts on SMEs over and above the ERDF targets;
 - Develop an understanding of national trends and new technologies in broadband usage, to show how Lincolnshire compares and where gaps exist;
 - Develop an IT-based model to assess the economic impact of strategies to encourage broadband usage and to generate 'what if' scenarios and projections;
 - Investigate lessons to be learnt for ICT and broader business support and development

Strategic Context

- 1.4 During the last five years, rapid changes have occurred in broadband availability and usage in the UK. Having ranked 21st out of all OECD countries in 2001, the UK now leads the table for availability of broadband.¹ A recent report by the Broadband Stakeholder's Group (BSG) states that the UK is leading in access to broadband (up to 8Mb) provision, but is in danger of being left behind by other countries that are adopting strategies to implement high speed broadband.
- 1.5 The Government's strategy for delivering broadband and ICT access for all of society, *Connecting the UK: the Digital Strategy*², outlines the steps the government is taking to ensure that ICT can improve the cohesion of our society, the wealth of its economy and the quality of life of its people. The

¹ Broadband Stakeholder Group (2007) *Predicting Bandwidths Report*

² Prime Minister's Strategy Unit and DTI (2004) *Connecting the UK: the Digital Strategy*

Strategy includes a discussion of key areas of relevance to the Lincolnshire Broadband Initiative, such as e-business and ICT access for rural areas, and reports significant increases in ICT usage among UK businesses. The document sets out actions to reduce the digital divide and transform delivery of public services up to 2008.

- 1.6 In 2005, the European Commission hosted the i2010 conference which launched the EU ICT Policy up to 2010³. The Policy is developed in the context of the 2000 Lisbon Strategy, and highlights the disparities in business use of ICT between the US and Europe. The Policy outlines a number of priorities, including strengthening innovation and investment in ICT research to promote more and better jobs, and ensuring that Europe becomes an open, transparent and inclusive knowledge society by 2010.
- 1.7 The latest UK Broadband Status Report⁴, which is produced for the DTI, showed that broadband access in the UK had reached 99.8% in the UK at the end of 2005, a growth of 3.4% since the previous year. The International Broadband Market Comparisons Update⁵ reports that the UK now leads the G7 countries in terms of broadband availability. The report states that availability has almost reached standstill levels across most G7 countries, as operators are reaching the limit for the number of exchanges that are economically viable to broadband enable. The report adds that there has been a noticeable trend towards 2Mbps as the standard offering by most broadband service providers. However, there are still a minority who are unable to receive broadband at a speed of 512kbps and above due to the distance from telephone exchanges, and poor quality of telephone lines. This is particularly true for rural areas such as Lincolnshire.
- 1.8 The East Midlands Regional Economic Strategy, *A Flourishing Region*⁶, sets out a commitment to promote and implement enabling technologies, including broadband. Access to broadband is identified as a key contributor to growth in productivity, and the strategy states that over a third of SMEs in the East Midlands have not adopted any sort of e-business or process. *The Challenge of e-Adoption in the East Midlands Survey*⁷, which measures take-up of ICT among SMEs, shows a broad increase in broadband usage in the region. The latest survey, which took place in 2006, indicated that 90% of SMEs that use computers access the internet via broadband compared with 80% in 2003. However, 36% of SMEs interviewed in the survey did not use computers for their business at all, and one in five of these said they would be unlikely to start using them in the future. Where SMEs did not plan to use computers or the internet, it was suggested that this was due to a lack of understanding of the relevance, or the potential benefits, of ICT to their business. The survey report discusses the *E-Adoption Ladder*, outlined in Figure 1.1, which has been developed to illustrate how ICT adoption within SMEs evolves over time, and is partly determined by the way a business thinks about ICT.

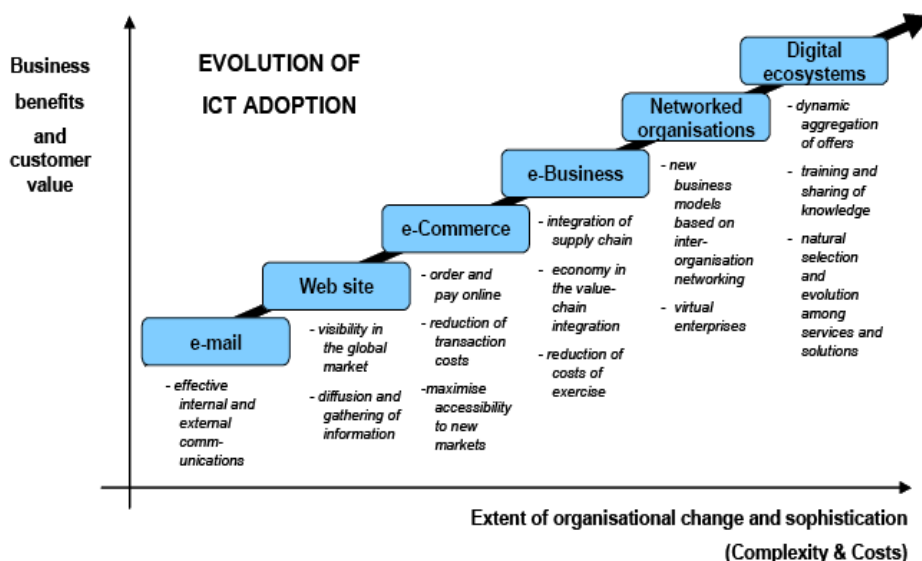
³ DTI (2005) *i2010: Responding to the Challenge*

⁴ Ovum (2006) *UK Broadband Status Report, Covering the Period October – December 2005, A Report for the DTI*

⁵ Ovum (2006) *International Broadband Market Comparisons Update, March 2006, A Report for the DTI*

⁶ Emda (2006) *A Flourishing Region: Regional Economic Strategy for the East Midlands 2006-2020*

⁷ BMG Research (2006) *The Challenge of E-Adoption in the East Midlands: East Midlands Small Business E-Adoption Survey*

Figure 1.1 E-Adoption Ladder

← Non Adopters – Basic Adopters – Advanced Adopters – Strategic Adopters ----->

- 1.9 The Enterprise and Innovation Strategy 2008-2008⁸, developed by Lincolnshire Enterprise, identifies “home and small office working, heavily dependent on electronic communication” as an emerging business characteristic of Lincolnshire. The strategy highlights the importance of symmetrical broadband access to rural areas of Lincolnshire, to ensure that the full benefits of broadband technology are realised by businesses. The rural and sparsely populated nature of Lincolnshire makes it an ideal environment for different ways of working, such as working from home or from more than one site. However, the environment also poses challenges for delivery of high-speed broadband services.

Defining Broadband

- 1.10 There are a number of definitions of broadband. The Broadband Stakeholder's Group (BSG) defines broadband as: “Always on access, at work, at home or on the move provided by a range of fixed line, wireless and satellite technologies to progressively higher bandwidths capable of supporting genuinely new and innovative interactive content, applications and services and the delivery of enhanced public services”. The International Telecommunication Union (ITU) provides a more restrictive definition of broadband, which is a symmetrical service of greater than 2Mbit/s. According to this definition, few current services offered by broadband providers would qualify as broadband⁹.
- 1.11 There are a number of options available for providing access to broadband for the end user, each of which contribute different forms of economic impact:
- Asymmetric digital subscriber line (ADSL), which enables an existing telephone line to be upgraded to offer a broadband connection;

⁸ Lincolnshire Enterprise (2005) *Enterprise and Innovation Strategy 2005-2008*

⁹ Analysys (2004) *The need for higher speed and symmetric broadband services for SMEs*

- Symmetric digital subscriber line (SDSL), which also uses existing telephone lines to offer a high speed service with the same upload and download speeds;
- Fibre, which tends to be available in central business districts and trading areas in large centres of population;
- Cable, which connects customer premises to a national telecommunications network;
- Wireless, which allows users to access broadband via radio links or satellite rather than using a fixed line;

1.12 In the UK, as in other G7 countries, ADSL has been the primary broadband access technology for both the residential and SME market. ADSL is marketed principally on enabling high speed internet access, which is thought to tie in with customer demand. However, high-speed *symmetrical* broadband (SDSL) offers a broader range of potential benefits to SMEs. These include high-capacity data transfer, video conferencing, video on demand, remote surveillance, internet-based telephony, information research, online shopping and banking, e-government, e-commerce, e-learning, secure local area network access, news-feeds and dynamic alerting/monitoring services, and web-hosted business applications.

The 'onlincolnshire' Initiative

1.13 The Lincolnshire Broadband Initiative was launched in 2003, to bring a range of broadband and related ICT products and services to businesses across the county using £15 million of European funding, together with matched funding from Lincolnshire County Council. The Initiative has essentially supported a series of significant Information and Communication Technology (ICT) interventions to provide support and financial assistance to eligible Lincolnshire businesses.

1.14 The 'onlincolnshire' initiative has four long term strategic objectives:

- By 2010, Lincolnshire will be the foremost rural County in the UK, with regards to ICT usage and skills and will have a commercial environment that embraces ICT;
- By 2010, the main employment sites and premises will have attracted increased and more diverse investment;
- By 2010, ICT will have made a major contribution to business competitiveness, expansion and diversification of the economy – measured through an increase in ICT related employment and a range of ICT based activities;
- By 2010, to have engaged individuals and employers in improving ICT skills to increase local competitiveness, raise the standards, participation and achievement in ICT throughout the County.

1.15 The support products that have been available include:

- Subsidised connection of at least 1500 small and medium businesses (that previously had no broadband connection) to broadband;
- Free ICT diagnostic advice delivered to at least 500 small to medium size enterprises; worth £2000 for small office/home office and micro businesses and worth £3000 for small and medium sized businesses;
- Delivery of at least 275 individual ICT projects to small and medium business, funded up to £10,000 each at 50% of the total cost.

1.16 In 2005, the 'onlincolnshire' initiative signed an agreement with British Telecom plc following a competitive tendering process to deliver advanced broadband services to businesses in Lincolnshire. The product is delivered using wireless technology, and offers a 2Mbit/s symmetrical service, which enables information to be sent and received at the same speed. The agreement was signed with intention of providing advanced broadband services to 67% of SMEs and all employment sites of over five acres by Spring 2006.

1.17 The advanced broadband services are intended to be available to all businesses in Objective 2 areas of Lincolnshire. Subsidies to connect to advanced broadband are only available to businesses in these areas but, because of the wireless technology used, some businesses outside the programme area may also be able to access the service. The infrastructure is open to all service providers that wish to participate in the Initiative. The advanced broadband subsidy is payable directly to the end user and supports both the cost of connection and monthly rental.

1.18 The wireless access service available within Lincolnshire is based upon a point to multi point radio network operating in the 5.8GHz radio spectrum, and a backhaul point-to-point wireless network using 100 Mbit/s links at licensed frequencies, such as 13 GHz. The wireless service has been designed to provide reliability equivalent to wired services but with much greater coverage and availability by avoiding the reach restrictions of wired solutions.

1.19 The service is delivered at the end user's premises by a small radio antenna which communicates with the central base station to send and receive signal. This is erected in a similar fashion to a satellite dish or TV aerial and connected via a single cable to a small indoor unit that provides the data connection to the computer or network and connects to the mains power.

1.20 Advanced broadband is specifically designed for small and medium sized businesses which need to send out large amounts of data, such as publishers, architects, advertisers and designers. It differs from ADSL in that it is symmetrical, allowing businesses to fully exploit the potential of the internet by sending data at the same speed as it is received.

1.21 Kingston Communications sets out, that by using advanced broadband, businesses can:

- Send large files, data or emails;
- Host their own email, web or extranet;

- Create Virtual Private Networks (VPNs), whereby branch offices or teleworkers can be linked to the main office;
- Increase the number and improve the experience of home and teleworkers;
- Use remote data storage, virus protection or backup applications;
- Upload multimedia files to the internet

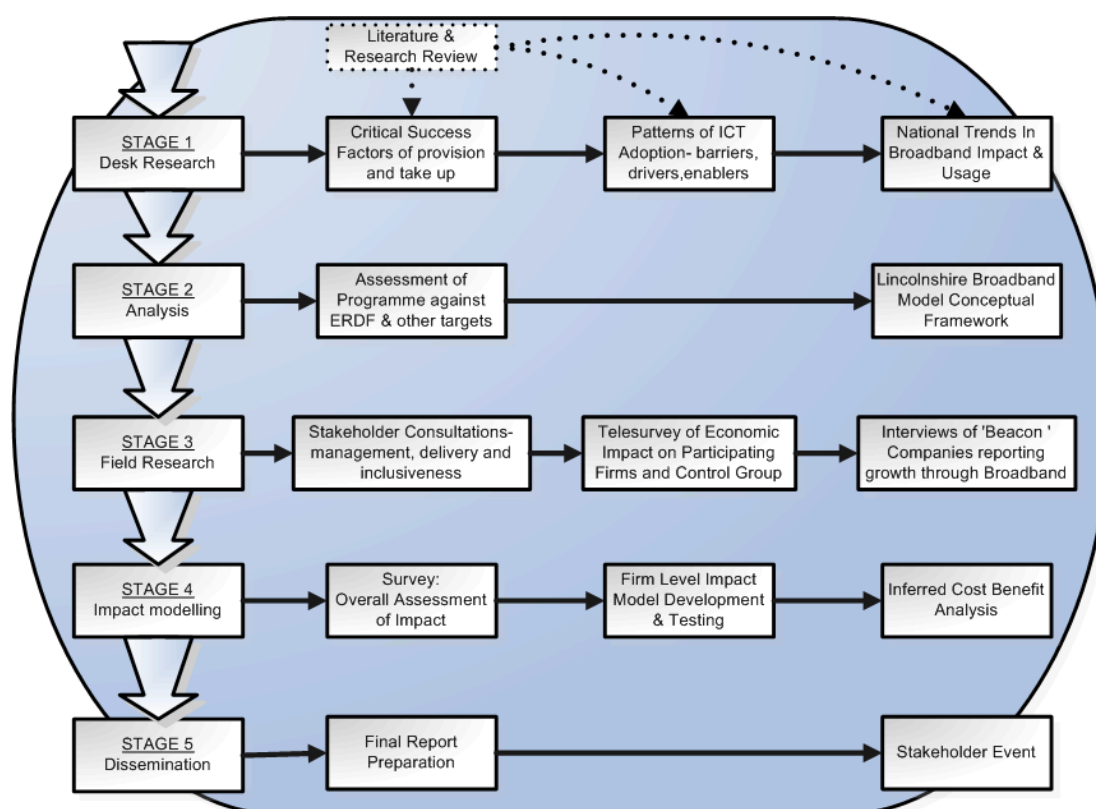
1.22 BT literature highlights the key features of the access service as:

- Always-on, symmetric internet connection (delivered via radio)
- Upload and download speeds of up to 2Mbps
- Contended at 10:1
- Engineer installation of radio equipment

2. Research Approach

- 2.1 A structured methodology for assessing the economic impact of broadband was adopted by the project team. This is shown in Figure 2.1. The approach was agreed at the inception stage of the project. A key consideration in the development of the evaluation framework was a focus on the impact of broadband on SMEs and ensuring that the range of uses and effects of broadband implementation were captured. For this reason, the approach incorporates elements of both qualitative and quantitative research, to provide a quantifiable assessment of the impact of broadband and to develop a more detailed understanding of how broadband has been used to improve or change the way businesses operate.
- 2.2 The project was managed with ongoing involvement from the Lincolnshire Broadband project team. Regular meetings were held with Lincolnshire County Council to provide continuous updates on the project findings and recommendations, and to seek feedback and guidance on the evaluation approach.

Figure 2.1 - Stages within the evaluation study



The key stages of the evaluation approach are outlined below, together with an account of the methodology adopted:

- 2.3 **Assessment of Progress against Objective 2 ERDF targets:** the evaluation includes an examination of the delivery and achievements of the Lincolnshire Broadband Initiative. It is not an ERDF Post Evaluation, but it provides commentary and detail that will form part of the final claim and report

on the total programme outturn financial and programme performance from the project management team.

2.4 **Review of Technology and Trends in Broadband Usage:** a technology review was undertaken in collaboration with consortium partners, Groupe Intellex, in order to develop an understanding of:

- Trends in broadband usage nationally and regionally to determine relative performance and identify good practice;
- New developments in broadband and related technology, and the identification of new technological developments that are relevant, or could be applied to, Lincolnshire;
- Provision and take-up of advanced broadband services in Lincolnshire, and the identification of gaps in broadband provision;
- Broadband initiatives in other areas of the UK that are comparable to Lincolnshire and that face similar challenges in terms of sparsity and rurality.

2.5 **In-Depth Interviews with 40 companies:** In-depth qualitative interviews were arranged with 40 companies that had received assistance from the 'onlincolnshire' initiative. The fieldwork approach was structured around four key stages, as shown in Figure 2.2.

2.6 The aim of the interview-phase of the research was to develop an in-depth understanding of broadband adoption from the SME perspective. In the pilot stage, six interviews were undertaken to identify broad patterns of drivers for internet adoption, broadband implementation, and its effects. The themes and issues that arose from the pilot interviews formed the basis for the development of a semi-structured interview pro forma (shown in Annex 2) which was used in the main phase of the business interviews. The interviews were structured around the following themes:

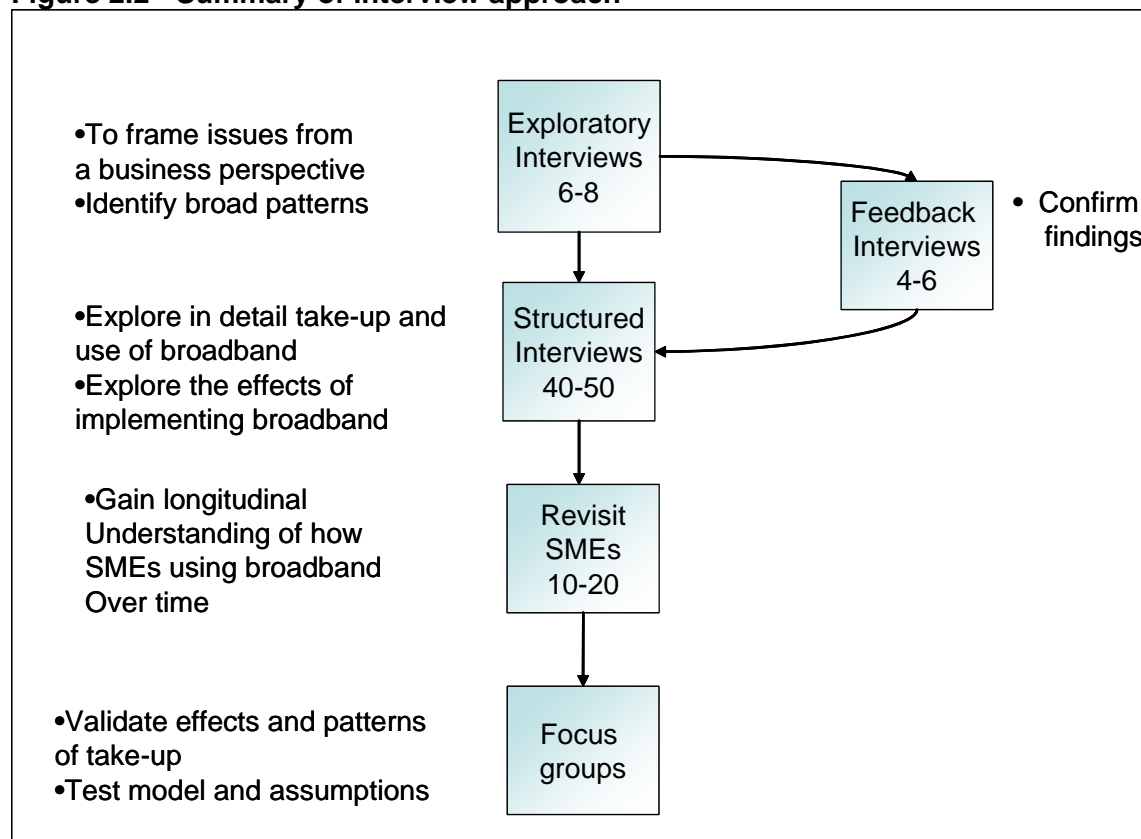
- Drivers for adopting broadband and applying for other services;
- How the business found out about the 'onlincolnshire', and experience of the service;
- Effect of broadband on the efficiency of the business, reaching new markets and customers, and changing the way the business operates;
- Use of broadband and ICT in the future;
- Issues relating to reliability and speed of connection.

2.7 SMEs were selected using a random sample from the 'onlincolnshire' client database. Companies were contacted by telephone in the first instance to request their participation. Once contact had been established, access to the companies was unproblematic as businesses were mostly happy to share their experiences of broadband. Interviews were undertaken at the SMEs' own premises and generally lasted between half an hour to an hour.

2.8 The main interview phase took place between June and September 2006. Follow-up interviews were undertaken with 15 of the original interviewees between February and April 2007. These were proposed to add a longitudinal element to the study. At the time of the first interview phase, many businesses were new broadband users and the inclusion of follow-up

interviews enabled the research team to develop an understanding of how SMEs' use of broadband and its effects on their business changes over time.

Figure 2.2 - Summary of interview approach



2.9 Telephone Survey of 150 companies: The aim of the telephone survey was to establish the extent to which businesses in receipt of broadband and other ICT technology experience improvements in the operation of their business. A key objective of the survey was to generate quantitative data related to the economic impact of broadband and ICT on businesses.

2.10 The survey pro forma was developed using themes and patterns identified in the qualitative interviews, and used mostly closed questions with pre-defined answer options to develop quantitative data on the take up and effects of broadband and related technology. The pro forma was designed by the research team, in consultation with Lincolnshire County Council. The administration of the telephone interviews was commissioned to FMC, a specialist market research consultancy based in Lincoln.

2.11 The survey was used to explore the following themes:

- Take-up and awareness of the services provided by 'onlincolnshire'
- Views on the effectiveness of the 'onlincolnshire' service
- Frequency of use of ICT before and after adopting broadband
- How broadband and related ICT technology has been used within the business
- Perceived effect of broadband on factors such as employment, turnover, profitability, productivity, and skills.

- 2.12 The survey has been undertaken in two stages:
- (i) to explore the broad effects of broadband and ICT adoption on businesses;
 - (ii) to gather detailed data on key measures such as turnover, employment, and sales to feed into the development of an economic impact model.
- 2.13 The initial survey achieved responses from 151 companies that had subscribed to broadband and/or other services from 'onlincolnshire'. The follow up survey was conducted in May 2008 to gauge the longer term effects of the broadband initiative, and to gather data to update the economic impact model.
- 2.14 The sample was designed to ensure that there were sufficient responses from three key groups: basic broadband subscribers; advanced broadband subscribers; and recipients of diagnostic report and project grants. This was to provide the opportunity to draw comparisons between the three types of user. Information regarding the change in the numbers of employees and overall turnover of the business at the time of accessing the programme and at present was collected from each respondent. Additional information for other metrics, such as that regarding investment into the company during the same period, was also collected where available. Respondents' perceptions of the proportion of any change experienced that could be attributed to the intervention of *onlincolnshire* broadband services was also recorded.
- 2.15 The respondents to the second stage of the survey comprise 75 users who have not contributed to the review before in addition to 75 respondents who have previously taken part. In both subsets, a sample of 25 responses from each of the three main services (basic, advanced, ICT project grants/diagnostic) was sought. The inclusion of both former and fresh respondents not only instils continuity within the results, through re-sampling previous respondents, but also ensures the total proportion of users that have contributed continues to grow.
- 2.16 **Development of an Economic Impact Model:** the aim of the model is to provide an assessment of the economic impact of the 'onlincolnshire' initiative on participating firms and the wider economy, and to develop a deeper understanding of the ways that companies adopt, implement, and benefit from broadband technology. The model will be used to assess the effectiveness of different approaches to promote broadband usage, and will assist Lincolnshire Development in developing future strategies to promote broadband and ICT availability and take-up.
- 2.17 The model seeks to assess economic impact (i) at the level of the firm, i.e. how individual companies respond to and experience the implementation of new technology and (ii) across all firms, i.e. the 'generic' effects of broadband that apply to any firm. The model design was developed from the empirical findings from the in-depth qualitative interviews and quantitative telephone survey and, as such, is very much embedded in real life perceptions and experiences of broadband users. The model is structured around two, interlinked, stages:
1. a qualitative 'micro-level' framework, which demonstrates how firms respond to broadband and related ICT technology. The framework sets out the drivers of broadband adoption, patterns of implementation, and the effects and outcomes. It explores the factors that influence the

effectiveness of broadband and ICT implementation, and sets out a typology of broadband users.

2. a quantitative 'macro-level' model, which assesses the effect of broadband adoption on a number of key output measures, such as employment, turnover, profitability, and sales. The model also assesses the effect of different strategies, i.e. basic broadband, advanced broadband, diagnostics and grants, on implementation and outputs.

3. Commentary on Programme Performance

3.1 What has been achieved?

- 3.1 All of the products offered by the programme were delivered throughout the County across both main and transitional locations of the programme area. Table 3.1 shows the distribution of activity across the four types of service: ICT diagnostics; ICT project grants; basic broadband connections and advanced broadband connections.

Table 3.1 Overall Programme Performance– 1964 Projects

	ICT Diag.	ICT Diag.	ICT Grants	ICT Grants.	Basic B/bnd	Basic B/bnd	Adv B/Bnd	Adv B/Bnd
	Main	Trans	Main	Trans	Main	Trans	Main	Trans
Applications	485	73	290	37	782	117	156	24

Source: 'onlincolnshire' project management office GAS report, July 2008

Programme Area Profile

- 3.2 The profile of the business community in terms of size, turnover and sector that are eligible for support across the programme area covered by the Lincolnshire Objective 2 Main and Transitional areas establishes the baseline for the impact of the 'onlincolnshire'.
- 3.3 The East Midlands ERDF Single Programme Document (SPD) highlights how more than 1 in 10 businesses in the programme area are in the agriculture and forestry sectors, which is significantly higher than the UK average. Only 320 of the 7,445 businesses in this sector (4%), employ more than 10 staff, and Lincolnshire accounts for more than 4,500 of these agricultural businesses.

However, as the 'onlincolnshire' programme receives funding from European Commission's De Minimis scheme, SMEs in the transport, agriculture and fisheries sectors are not eligible for assistance.

- 3.4 The ERDF Programme complement which the broadband programme was evaluated against provides the market profile of the programme area client base as:

Table 3.2 Businesses By Employment,1999

	0-9	10-49	50-199	200+	Total
Rural Lincolnshire	17,415	1,940	225	70	19,645
East Midlands Obj2	58,800	7,480	1,095	365	67,735

Source: IDBR, ONS; ERDF Programme SPD 2000-2006

- 3.5 In spite of the decline of traditional industrial employment, the manufacturing sector still accounts for 1 in 8 of businesses in the Objective 2 area. However, although it is still significant in the rural area, many manufacturing businesses have a low turnover, and typically employ a handful of employees. Overall 88.65% of firms in the rural Lincolnshire areas have fewer than 10 employees.

- 3.6 The net effect is that, in the Lincolnshire programme area, almost 21.5% of businesses had a turnover lower than £50,000, and 73.5% were trading below £250k annual turnover.

Table 3.3 Objective 2 Businesses By Turnover (£)

	0-49,k	50,-249,k	250-999,k	1-5m	Over 5m
Rural – Lincolnshire	4,295	10,285	3,900	1,020	280
East Midlands Obj2	13,210	35,755	13,680	4,190	1,305
Percentage					
Rural – Lincolnshire	21.5%	52.0%	19.7%	5.2%	1.4%
East Midlands Obj2	19.4%	52.5%	20.1%	6.1%	1.9%
<i>Source: IDBR 1998, ONS</i>					

- 3.7 The transitional parts of the programme area are geographically spread and include urban, rural and coalfield areas, and there is still much reliance on key sectors.

In Lincolnshire, the South Holland and Boston transitional programme areas are characterised by low population density, low wage rates and skill levels, with food related industries estimated to employ 45% of the economically active population.

Programme Client Profile

- 3.8 **(i) Size:** Within this baseline, the take-up client profile for the Broadband Initiative in the programme area has been:
- Consistent with the programme area profile, more than three quarters (78%) of the sample were micro-businesses, employing fewer than 10 people.
 - The average number of employees recorded was 10.3 per business. However, a large proportion of these were part time, and
 - The average number of full time equivalent employees for businesses in the sample was 3, with a median of 1.
 - 63% of businesses in the sample employed fewer than 5 people.

Table 3.4 Businesses By Employment

	0-9	10-49	50-199	200+	Total
Rural Lincolnshire	17,415	1,940	225	70	19,645
%	88.64	9.86	1.14	0.36	
Sample Profile %	77.45	19.57	2.17	0.72	

Programme Sample Profile

Table 3.5 Businesses in Employment Size Band in the Sample

No.Employees	%
0	7.25%
1-4	55.80%
5-9	14.49%
11-20	10.87%
21-30	5.80%
31-40	0.72%
41-50	2.17%
50-249	2.90%

- 3.9 **(ii) The Age Profile** of the sample reflects a core of start ups and early stage businesses engaged, with businesses that had been operating for less than 2 years accounting for just under half the client base. This was complemented by a cross section of growing businesses and small number of (larger) mature businesses established over 50 years ago.

Table 3.6 Businesses by Age Band in the Sample

Business Profile Age years trading	%
0-2	48.48%
3-9	28.78%
10-20	13.64%
20-50	7.25%
50 +	1.51%

- 3.10 While the mean number of trading years of the client group was around 16 years, the median was only 2.6. This highlights the high percentage of start-up and early stage businesses receiving support.
- 3.11 **(iii) Sector:** The sample included businesses from all sectors, with the largest proportion of businesses from general business categories (designated 'other business activity'). The distribution of the firms with approved applications is shown in Table 3.7.

Table 3.7 Distribution of Firms in the Programme by Sector

	SIC Codes Frequency	ICT Diag. Core	ICT Diag. Trans.	ICT Proj. Core	ICT Proj. Trans.	Basic B/bnd Core	Basic B/bnd Trans.	Adv. B/Bnd Core	Adv. B/Bnd Trans.
15	Manufacture of Food and Beverages		1		1	1			
16	Manufacture of Tobacco Products								
17	Manufacture of Textiles		1	2		2			
18	Manufacture of Wearing Apparel	2				1	1		
19	Tanning and Dressing Of Leather	1							
20	Manufacture of Wood and Products of Wood	4	2	4		3	1	1	
21	Manufacture of Pulp Paper and Paper Products	1							
22	Publishing and Printing	4	8	5	1	4	3	4	
23	Manufacture of Coke and Refined Petroleum								
24	Manufacture of Chemicals and Chemical Products			1	1	3		1	
25	Manufacture of Rubber and Plastic Products	2		4		5	1		
26	Manufacture of Other Non-Metallic Mineral	3	2	1	1	5	4	1	
27	Manufacture of Basic Metals	1							
28	Manufacture of Fabricated Metal Products	5	1			7	1		
29	Manufacture of Machinery and Equipment	6	2	5		8	3	3	1
30	Manufacture of Office Machines and Computer								
31	Manufacture of Electrical Machinery	3		2		3			
32	Manufacture of Television and Line Telephone								
33	Manufacture of Medical and Optical Instruments								
34	Manufacture of Motor Vehicles and Trailers	1		1		1			
35	Manufacture Of Other Transport Equipment	2				2		1	
36	Manufacture of Furniture and Manufactureing N.E.C	1				3	1	1	
37	Recycling	2		2		2		1	
40	Electricity Gas Steam and Hot			1		3			
41	Collect and Distribute Water	1		1		1			

45	Construction	10	1	6		27	5	1	1
50	Sale and Maintenance of Motor Vehicle	8	3	3	2	24	2	10	2
51	Wholesalers Trade and Commission	14	3	4		8	4	2	4
52	Retail Trade	65	10	25	7	133	16	16	4
55	Hotels and Restaurants	22	2	11		62	6	9	
60	Land Transport	2	2		2	10	3		
61	Water Transport								
62	Air Transport								
63	Supporting and Auxiliary Transport								
64	Post and Telecommunications	5		3		4		1	
65	Financial Intermediation	10	4	10		28	6	8	1
66	Insurance and Pension Funding	2		1		2	2	1	
67	Activities Auxiliary to Finance		1			1			
70	Real Estate Activities	10	1	7		15	2	4	
71	Renting Machinery and Equipment					6			1
72	Computer and Related Activities	22	4	15	2	34	1	17	3
73	Research and Development	5				8	1		
74	Other Business Activity	114	16	146	18	194	26	36	4
75	Public Administration	6		5		7	2	1	
80	Education	9		5		13	4		
85	Health and Social Work	11	2	4	1	16	2	3	
90	Sewage and Refuse Disposal			1		3	1	1	
91	Activities Membership Organisations	3	2			3	1	4	
92	Recreational Cultural and Sport	18	1	10		43	6	4	1
93	Other Service Activities	37	4	5	1	81	14	9	
95	Private Households								
99	Extra Territorial Organisations and Bodies								
	TOTALS = 1869	412	73	290	37	776	119	140	22

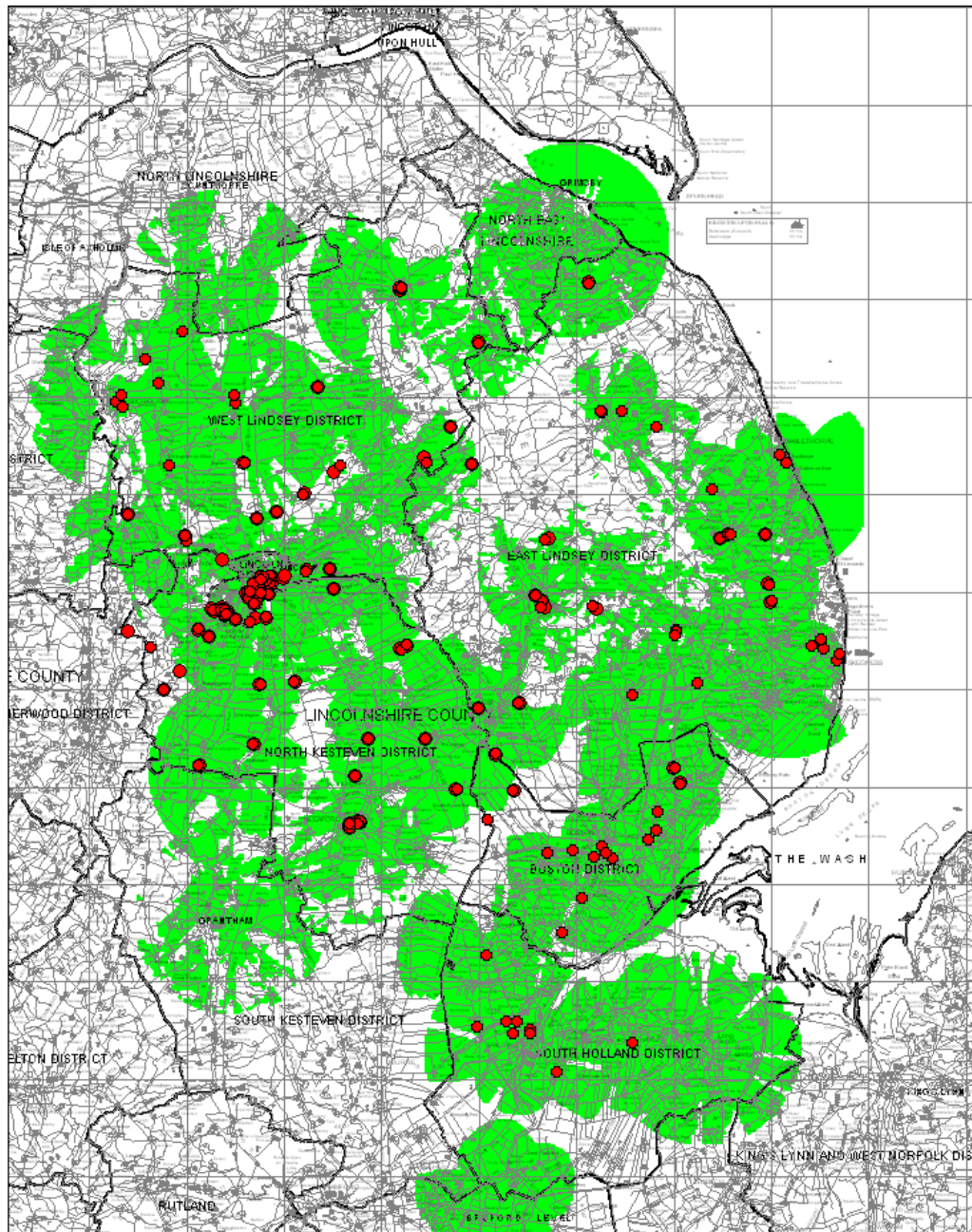
3.12 **(iv) Spatial Review** The following maps (maps 3.1-3.4) illustrate the spatial distribution of the four types of 'onlincolnshire' client: advanced broadband, basic broadband, ICT diagnostic, and ICT project grant.

3.13 Map 3.1 indicates the areas where advanced broadband is available (highlighted in green) and the distribution of users. The map highlights how the greatest level of advanced broadband take-up has been in the areas around Lincoln, Gainsborough, Louth, Skegness and Boston. There appear to be gaps in take-up in the area between Lincoln and Horncastle, and Horncastle and Louth.

Take-up of basic broadband (map 3.2) shows a fairly even distribution throughout the main and transitional Objective 2 areas, with rural and urban areas clearly represented.

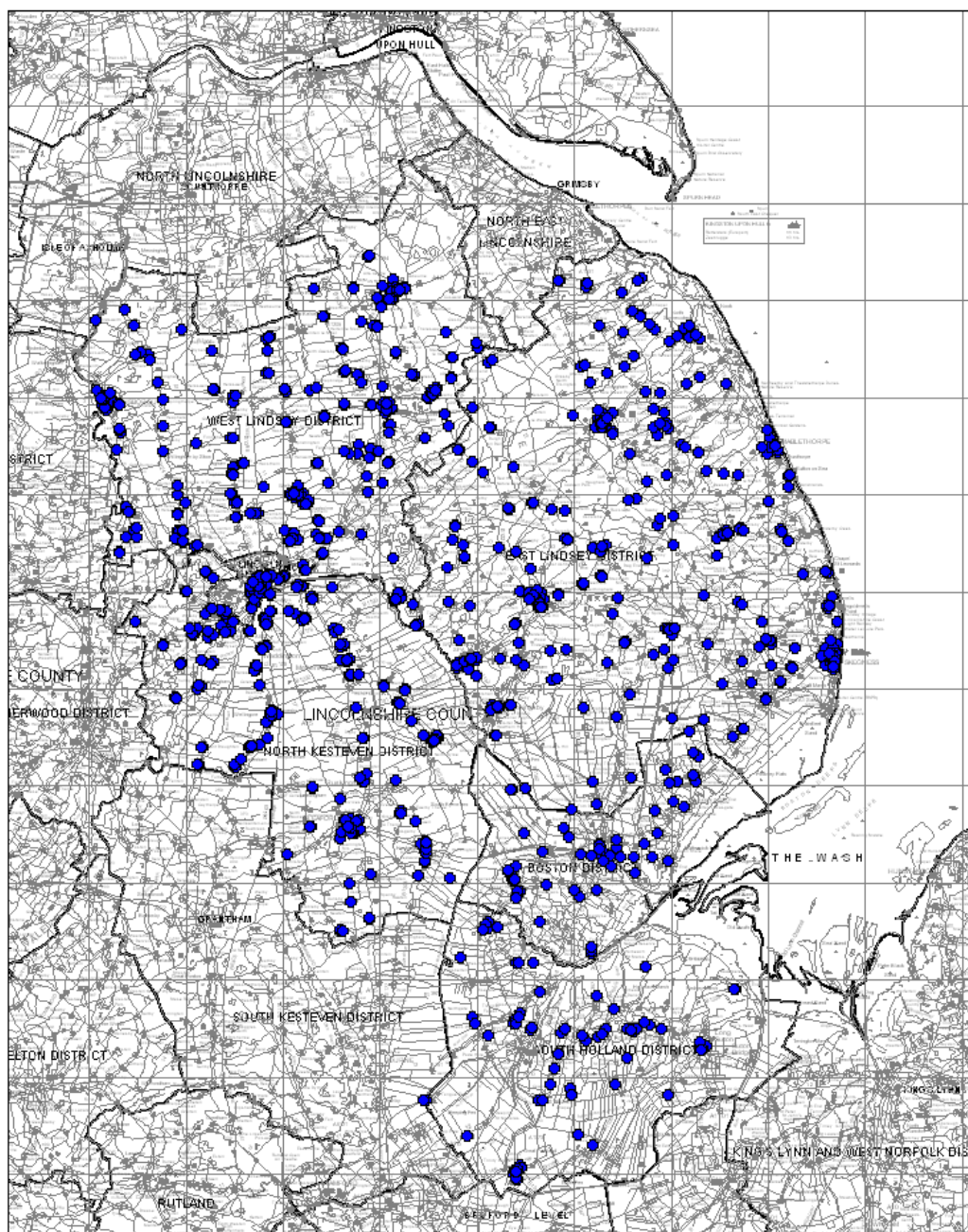
Take-up of ICT diagnostics and grants appears to be more sparsely distributed and focused much more around Lincoln and the market towns. Map 3.4 reflects a slightly lower level of take-up of ICT project grants compared with ICT diagnostics.

Map 3.1 Availability and Take Up of Advanced Broadband in Lincolnshire



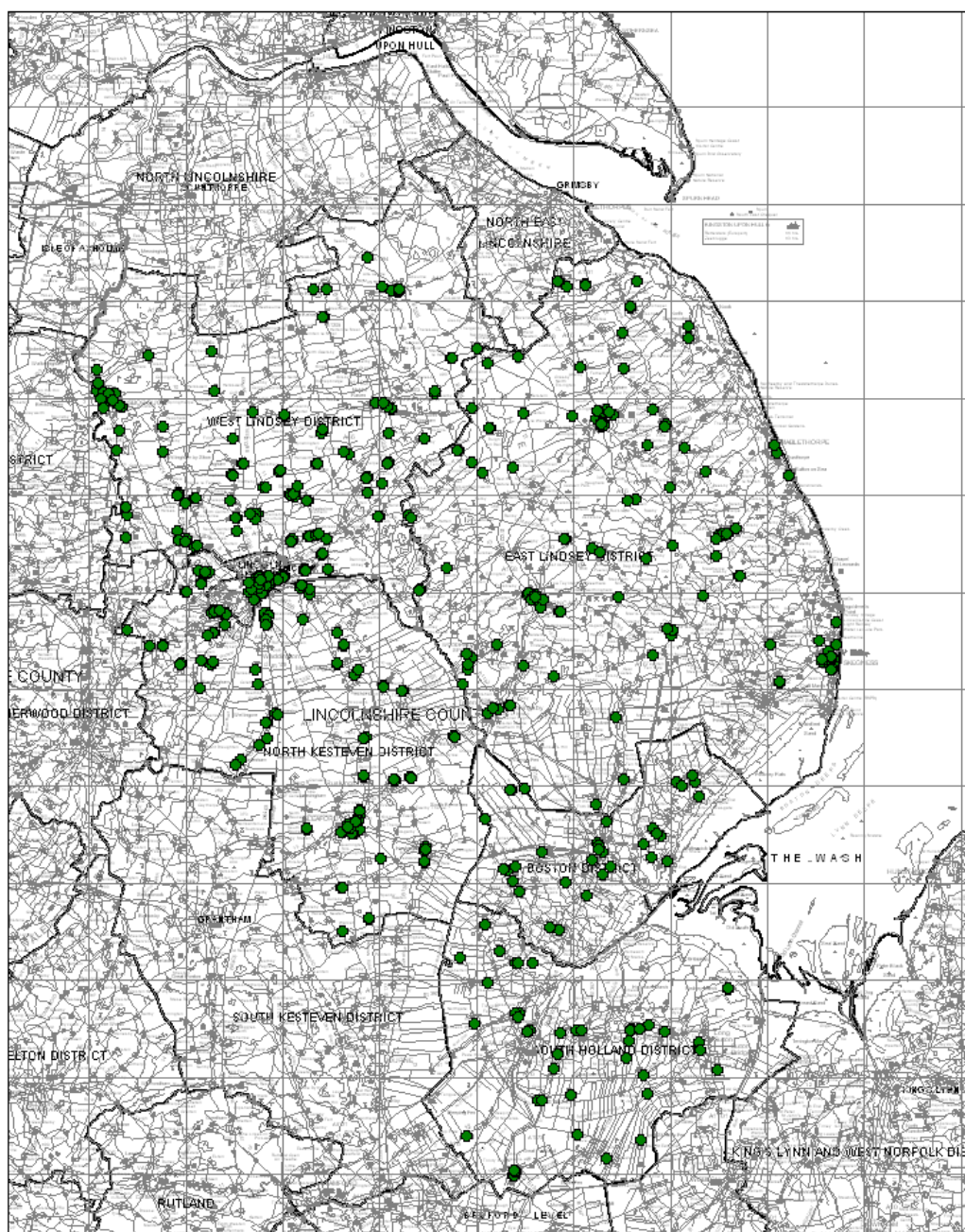
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**Map 3.2 Take Up of Basic Broadband
in Lincolnshire**



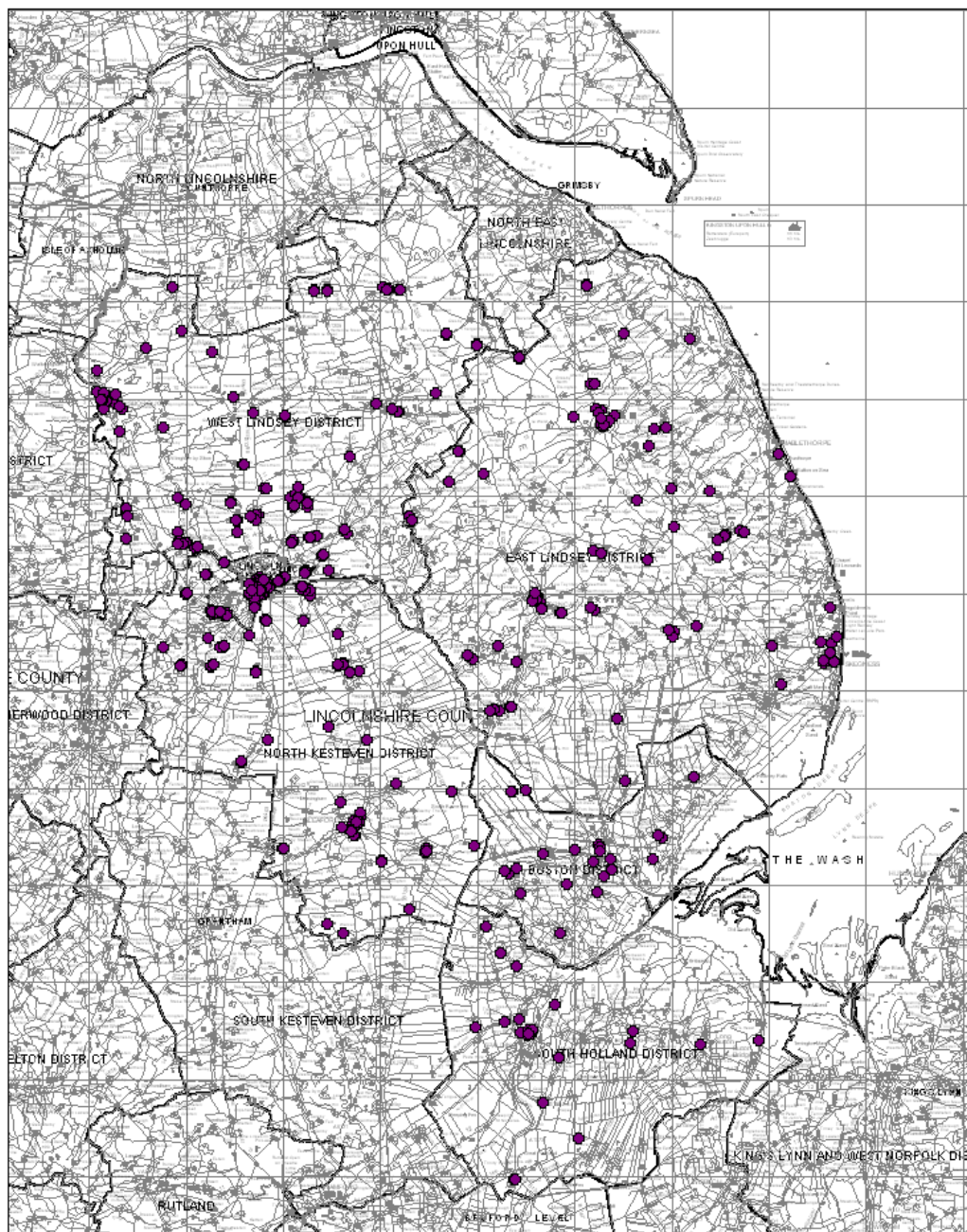
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**Map 3.3 Take Up of ICT Diagnostics
in Lincolnshire**



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Map 3.4 Take Up of ICT Project Grants in Lincolnshire



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Summary of Programme Performance

- 3.14 The examination of the operation and delivery of the Lincolnshire Broadband Initiative has highlighted the **significant and positive contribution** that 'onlincolnshire' has made to increasing the ICT awareness, adoption and usage throughout Lincolnshire.
- 3.15 It has been a **core programme** of publicly funded business support and skills development activity taking place in the sub region, which has demonstrated strongly the value of ERDF focused support to increase the capacity and use of the digital infrastructure across the County.
- 3.16 The targeted activity in both main and transitional areas whilst proving difficult in part has addressed the diversity of the County in terms of its coverage of the geographic area, local environment, population, and business base. The evidence is of progress in developing **new working relationships between providers, intermediaries and users across the sub region**. An outcome of this has been a greater interest and understanding between organisations involved which has built a legacy for the future.
- 3.17 The qualitative evidence is that whilst some of the clients supported would have acted without the support of 'onlincolnshire', **the programme has added value** and expanded their operation. Others have been introduced to potential ICT related benefits exclusively through access to funding and expertise that was not otherwise available.
- 3.18 The interviews and survey have confirmed **the importance of the support** to the businesses themselves, at a variety of levels, to their overall performance and growth prospects. Anecdotally, whilst there is evidence that the programme has widened the market, because many of the beneficiary interviewees already had previous contacts with the business support sector or were referrals into the scheme by providers, it is not clear how many participants were reached and engaged for the first time through the programme. Also, because connection subsidies were only available to SMEs connecting to broadband for the first time, many businesses were engaged in the programme that did not go on to receive funding.
- 3.19 It has **added capacity** to the organisational developments of a range of sub sectors, and has contributed towards supporting activity for the expansion of various sectors
- 3.20 The programme has **enabled an upgrade of infrastructure**, with evidence that this in turn has supported improved business planning processes within various enterprises.
- 3.21 The diagnostic products for both micro and small & medium sized enterprises provided a **successful approach to determining the ICT related needs** of a (diverse) range of clients in a number of business clusters. However, there is evidence that the recommendations were not always adopted. Where they were implemented the programme has been reinforced, with other mainstream support available sub-regionally through the new business support structure across the East Midlands.
- 3.22 However, it is evident that the programme has experienced **difficulties in delivering quantified outputs**, directly attributable to this project, for jobs

created, and safeguarded, despite increased turnover and productivity being evidenced. The outcome is that the programme has successfully **exceeded the levels of assistance provided** both to the infrastructure and the enterprises and individuals involved. However this has **not resulted or translated into the level of hard outputs** anticipated as a result.

- 3.23 There appears to be a **number of factors impacting on this** outcome, none of which is exclusively responsible but all of which appear to have contributed to it.
- 3.24 The geographic eligibility which involved specific wards has proved **an artificial filter to the take-up** of the Broadband Initiative as the need and operation of the technology does not recognise these programme boundaries.
- 3.25 There is however **evidence of 'softer' less tangible benefits** being achieved, highlighted through the qualitative comments of users, providers and participants, and these are discussed further in section 4.
- 3.26 It should be recognised that the **connectivity agenda has developed** universally since the start of the programming period. The private sector market has seen fundamental change and development and the public sector uptake agenda has moved away from deployment to adoption.
- 3.27 The desk research of other similar initiatives highlights a common feature that incremental **benefits** associated with the introduction and or upgrade of broadband capacity are **not linear and have a time lag** before businesses realise the full incremental productivity benefits associated with that upgrade. This feature has been the basis of the longitudinal survey that was introduced to the project to track such changes.

3.2 Effectiveness of Delivery

Management

- 3.28 The Broadband Project Management Office (PMO) is the operational unit that has delivered the Broadband Initiative. Its activities have included:
- Development of bespoke, web based system processing of applications for connection subsidies grants and free ICT advice;
 - Management of outsourcing contract (£1m) with a private sector company selected to deliver ICT advice to local SMEs – Mantix;
 - Management of service contract (£3.5m) with BT Group plc to roll out symmetrical wireless broadband.

The Broadband Project Management Office (PMO)

- 3.29 The PMO team is accountable to a Project Board which has had the following remit:
- Management of the overall ICT strategy;
 - Management of Grants and subsidies awarded to SMEs;
 - Promotion and Marketing of the ICT agenda services and infrastructure;
 - Development of new and Innovative ICT initiatives and the use of Broadband;

- Facilitation of a climate of change in response to the ICT challenge;
- Development of support services and ICT projects to build the capacity of Lincolnshire's ICT sector and increase in jobs in knowledge based sectors;
- Coordination of activities and expertise to ensure collaboration;
- Connecting projects and organisations to share and manage knowledge base.

Promotion

- 3.30 Promotion of Broadband Initiative has been through various activities such as seminars and the establishment of exemplars to demonstrate the benefits that can be delivered through the adoption of broadband technologies. This links in with the external promotion of the County's high quality Broadband and ICT environment, and support available as a focus for attracting new investment.

Awareness of 'onlincolnshire' services

- 3.31 From the telephone survey, respondents' awareness of the services offered by 'onlincolnshire' was fairly high, as table 3.8 shows. The vast majority, 91.4%, had heard of the subsidies to connect to basic broadband. Almost three quarters (74.2%) were aware of the advanced broadband service. Fewer businesses were aware of the diagnostic service (55%) and the ICT project grants (64.2%).

Table 3.8 – Awareness of the services provided by 'onlincolnshire'

	% of respondents
Diagnostic	55.0
ICT Project Grants	64.2
Basic Broadband	91.4
Advanced Broadband	74.2

- 3.32 Table 3.9 shows that businesses found out about the initiative through a variety of media. Almost a quarter of businesses (24.8%) were made aware of 'onlincolnshire' by a business advisor. A similar number couldn't recall where they had heard about it from. Other key avenues of information included word of mouth through another business (15.5%), and newspaper adverts (12.4%).

Table 3.9 How respondents found out about 'onlincolnshire'

	% of respondents
Radio Advert	3.9
Newspaper Advert	12.4
Business Link/emda Advisor	24.8
Mail Newsletter	4.7
From another business	15.5
Can't recall	23.3
Other (including the internet, seminars, roadshow, email from LCC)	15.5

- 3.33 A project website www.onlincolnshire.net was designed to highlight how the programme seeks to ensure that local businesses stay ahead of the competition and work more efficiently by providing a range of support products and broadband internet services.

Administration

- 3.34 The administrative mechanics of the programme have been well-matched to the needs of applicants and include useful triggers to ensure timely actions and follow-up processes.
- 3.35 A web based interface has been established with a secure logon process and consistent data collection of SME details of eligibility, location, and activity. The data is segmented in terms of size, location, sector in web-based XML on-line format. It serves to support the PMO to recruit, qualify, coordinate, track and manage the progress of applicants through their individual broadband access and business development pathways.
- 3.36 From a management perspective, the system provides useful metrics for reporting and audit of activities and outcomes. The system also coordinates well the consultancy activities that are outsourced. The systems have established a useful 'timeline' of take-up of Lincolnshire Broadband services and offer.

Views on 'onlincolnshire'

- 3.37 In the first phase of the telephone survey, businesses were asked to indicate how satisfied they were the service they received from 'onlincolnshire', using a scale of 1 – 4, where 1 is very dissatisfied and 4 is very satisfied. As table 3.10 shows, the service was rated very highly. Aspects of the application process, such as the ease of finding an application form, the ease of completion, and knowing who to contact for assistance received mean ratings of 3.7. The overall service received a mean rating of 3.8.

Table 3.10 – Views on the 'onlincolnshire' service

	Mean Rating
It was clear where to find an application form	3.7
The application form was easy to complete	3.7
It was clear who to contact for assistance	3.7
The overall service I received from 'onlincolnshire' was good	3.8

Table 3.11 – Comments on the 'onlincolnshire' service

Ref	Service	Positive Comments
1121	Advanced	happy with the service provided
1133	Advanced	very happy with the broadband
1134	Advanced	very happy with broadband but not happy with BT
1138	Advanced	very happy with the service and has no complaints
1142	Advanced	very happy as its very efficient compared to the dial-up they used!
1149	Advanced	she said very happy with the service and has heard no complaints from anyone in the office
1156	Advanced	happy with everything
1158	Advanced	happy with the service
1190	Advanced	It does exactly what it says on the tin
1207	Advanced	really happy with the help of getting subsidy, it has really improved the business!
1802	Basic	It provided more customer satisfaction for his clients

Ref	Service	Positive Comments
1849	Basic	Client is extremely satisfied with the service
1858	Basic	speed due to BT
1861	Basic	very happy with the broadband!
1973	Basic	excellent service! Very happy!
1983	Basic	gone beyond expectations, got extra sales! Extra service!
2029	Basic	happy with the service provided!
2033	Basic	excellent service, very happy with it!
2049	Basic	very happy with service, thank you very much!
2055	Basic	very happy with service, it really helped the business!
2067	Basic	grant helped her set up the business and very grateful
2069	Basic	happy with the service
1876	Diagnostic	very happy with the service as it turned around his business
2094	Diagnostic	grant helped him upgrade website, computers to improve business
2097	Diagnostic	service as expected
2111	Diagnostic	happy with the service overall
2160	Diagnostic	very happy with service
2181	Project Grants	generally happy with the service
2196	Project Grants	happy he got the help to set up business
2439	Project Grants	it exceeded his expectations if anything
2445	Project Grants	grant helped set up business and doing so well going to set up another shop!
2468	Project Grants	very happy as needed the grant to relocate business
2489	Project Grants	very happy with the service
1814	Project Grants	it was just made life easier for the techicans in the company
1817	Project Grants	really helped set up the business, thanks!
1820	Project Grants	very happy with the service
1830	Project Grants	no complaints!
1860	Project Grants	really happy with service provided
1862	Project Grants	very happy with the service and have no problems
1869	Project Grants	very happy with the service
1871	Project Grants	Only wanted it for advertising so happy with it
		Negative Comments
1209	Advanced	have not had it installed for long enough
1824	Advanced	have not had it installed for long enough
1965	Basic	still integrating changes
2465	Basic	Would like any more available advice
1103	Basic	wanted advance broadband through phone
1877	Basic	slower than last broadband he had, did not help the business at all!
1878	Basic	cannot go online while on phone as did not get the extra phones
1881	Basic	connection not faster than other broadband they had, not happy with service overall!
1882	Basic	less problems as it went down over xmas
1885	Basic	had to pay VAT on subsidy and was not informed of this, also told he had free international calls but got charged for them
1889	Basic	faults with broadband, poor signal in the area
1890	Basic	need advanced but cant get it in Gainsborough, not happy!
1103	Basic	problem setting up virtual private network, BT
1836	Project Grants	company needs a faster connection
1956	Project	wants advice re website production

Commentary

- 3.38 The delivery overall has necessitated the formation of a new team to satisfy the needs for formal rules associated with delivering this programme, with a Project Board to front its structure of accountability. Lincolnshire County Council accepted the accountable body role, as a central authority and a GOEM approved strategic body.
- 3.39 The work of the Project Management Office (PMO), established to oversee the programme delivery, has been demonstrated as pivotal to the planning, delivery and management of the various strands of activity.
- 3.40 The Project Board confirmed the confidence in the Project Management Office (PMO) team which is considered to have been effective and thorough in its role in providing detailed information on which to monitor and inform all decision making.
- 3.41 The operation of the PMO for the client firms has been of a high order. The majority of clients that participated in the survey expressed a high level of satisfaction.
- 3.42 The PMO has been relatively under resourced for a programme of this size in comparison to other regional initiatives such as Cornwall, and the focus has had to be on programme delivery rather than review and development.
- 3.43 The quality of the project management processes and procedures developed by the PMO are considered to be robust and the online environment for application and monitoring was well received and considered a useful and innovative addition to the operation of the programme.
- 3.44 The effectiveness of the programme processes was rated highly by many participants. However, there was a view that the progress of the programme has been affected by mechanistic and process-related issues, such as eligibility constraints, which were related to the strict requirements of ERDF programmes and were outside the PMO control.

4. Economic Impact

4.1 Overview of Approach

- 4.1 A primary aim of the study is to provide an assessment of the economic impact of the 'onlincolnshire' initiative on participating firms and the wider economy, and to develop a deeper understanding of the ways that companies adopt, implement, and benefit from broadband technology.
- 4.2 Our approach seeks to assess economic impact in terms of:
1. 'Generic' effects of broadband that apply to any business;
 2. Effects at the level of the firm, i.e. how individual companies respond to and experience the implementation of new technology.
- 4.3 The analysis has been undertaken using the empirical findings from the in-depth quantitative telephone surveys and qualitative interviews and, as such, is very much embedded in real life perceptions and experiences of broadband users.
- 4.4 The methodology assesses both the overall programme impact on the key economic measures of turnover, employment and also the effect of different interventions, i.e. basic broadband, advanced broadband, diagnostics and grants, on implementation and outputs.
- 4.5 In the first instance, the impact of the programme on the key economic outputs - jobs and turnover - has been extrapolated from the following indicators:
- Total number of project deliveries;
 - Percentage of projects recording increased jobs, turnover, etc;
 - Average increase in each measure per project;
 - The % of the increase attributed to the programme intervention.
- 4.6 Each of these indicators has been derived as follows:
- The total number of approved projects is derived from the programme performance reports;
 - The percentage of projects recording growth in turnover and/or employment is derived from the survey returns;
 - The average increase in each key measure (jobs, turnover, etc) per project is derived from the returns from the SMEs that indicated that they had experienced growth during the period;
 - The apportionment of this to the programme is derived from the returns from the SMEs applied across the same sample to derive the weighting factor applied.

- 4.7 The economic impact of the programme has been calculated by using the measures of employment and turnover. The formula for assessing the economic impact of the programme is derived from the following:

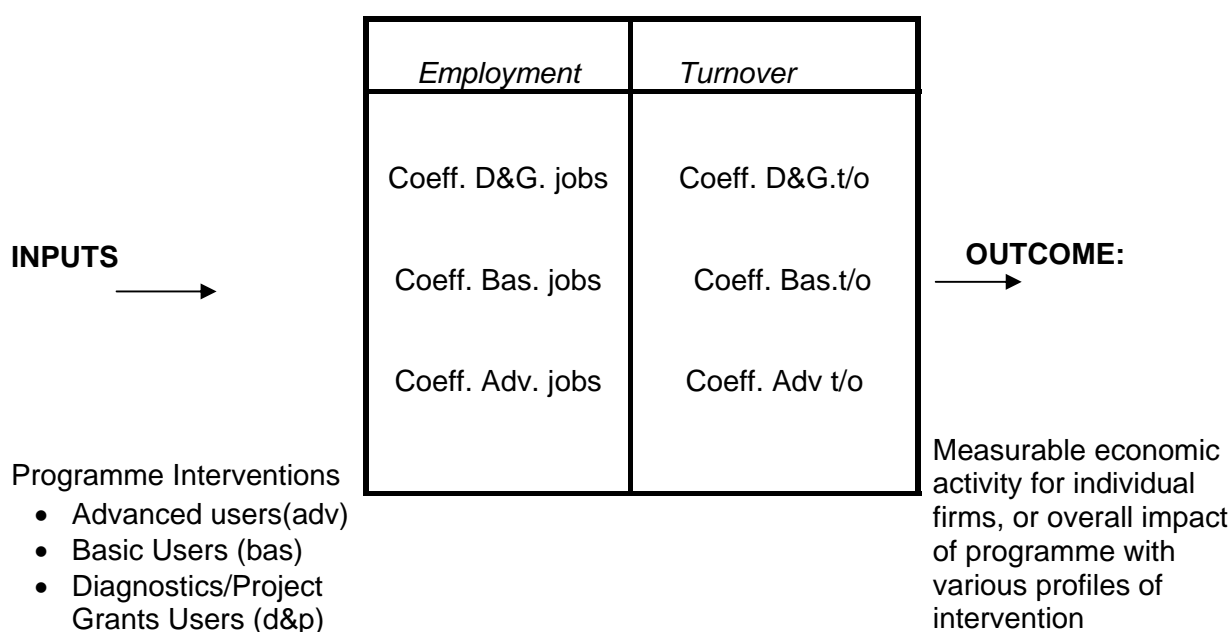
No. of Interventions * Coefficient of Impact

where, Coefficient of Impact for each measure (Turnover, Employment etc.) =

% of growth projects * Average Inc/project * % factor due to Broadband

The framework for assessing the effect of the 'onlincolnshire' initiative on employment and turnover is outlined in figure 4.1.

Figure 4.1 – Framework for Assessing the Effect of 'onlincolnshire':



- 4.8 This analytical approach is complemented by a qualitative 'micro-level' framework, which demonstrates how firms respond to broadband and related ICT technology.

The framework sets out the drivers of broadband adoption, patterns of implementation, and the effects and outcomes. It explores the factors that influence the effectiveness of broadband and ICT implementation, and sets out a typology of broadband users.

This is discussed in more detail in section 5.

4.2 Employment Impact Coefficients

- 4.9 Table 4.1 shows the percentage of SMEs, in the sample, that experienced changes in employment over the period of the project. The percentage figures in the table represent overall increase, which includes changes due to all factors, not just attributable to the programme. 29.3% of respondents had experienced an overall increase in the number of employees in their company.

Table 4.1 Changes in the Number of Employees

	Total 2008
Increase	29.33%
Decrease	2.00%
No Change	68.67%
Total	100.00%

- 4.10 Table 4.2 shows the percentage of SMEs that experienced changes in employment, by user type. There is a slight variation between the proportion experiencing changes by the three user groups, with 44.0% of diagnostics/grants, 38.0% of advanced users experiencing increases in employment and just 6.0% of basic users.

Each product/service generated different impacts on employment levels with many more advanced broadband users (1 in 2.63 users) reporting increases in employment than the basic users (1 in 16.67 users). This is in excess of 500% more - a proportion much larger than previously reported and produced in the most part as a result of a drop in the number of basic users advising of growth since the last sampling exercise. One in 2.27 of those receiving diagnostics and grants reported an increase in employment during this period.

Table 4.2 Breakdown by User Type

	Increase '08	Decrease '08	No Change '08
Diag & Grants	44.00%	0.00%	56.00%
Basic	6.00 %	4.00%	90.00%
Advanced	38.00%	2.00%	60.00%
Total	29.33%	2.00%	68.67%

- 4.11 Table 4.3 outlines the number of projects delivered by the 'onlincolnshire' initiative for each type of intervention across main and transitional objective 2 areas of Lincolnshire.

Table 4.3 Overall Programme Performance– 1964 Projects

	ICT Diag.	ICT Diag.	ICT Grants	ICT Grants.	Basic B/bnd	Basic B/bnd	Adv B/Bnd	Adv B/Bnd
Approved	Main	Trans	Main	Trans	Main	Trans	Main	Trans
Applications	485	73	290	37	782	117	156	24

Source: 'onlincolnshire' project management office GAS report, July 2008

4.12 Tables 4.4a, b, and c illustrate the employment impact for each type of intervention in the survey sample.

Table 4.4a Employment Impact for Advanced Users

Ref	2007 Response?	Service Received	Change in employee?	Employees on access	At end of Apr 08	CHANG E Emp	% due to Initiative	Employed due to initiative
ADV037	No	ADVANCED	Increase	3	5	2	20	0.4
ADV032	No	ADVANCED	No change	4	4	0	0	0
ADV020	No	ADVANCED	No change	11	11	0	0	0
ADV011	No	ADVANCED	No change	3	3	0	0	0
ADV003	No	ADVANCED	Increase	2	5	3	0	0
ADV002	No	ADVANCED	No change	1	1	0	0	0
ADV047	No	ADVANCED	No change	3	3	0	0	0
ADV049	No	ADVANCED	No change	35	35	0	0	0
ADV056	No	ADVANCED	Increase	17	33	16	0	0
ADV063	No	ADVANCED	No change	3	3	0	0	0
ADV075	No	ADVANCED	No change	6	6	0	0	0
ADV053	No	ADVANCED	Increase	7	28	21	0	0
ADV077	No	ADVANCED	No change	10	10	0	0	0
ADV079	No	ADVANCED	No change	2	2	0	0	0
ADV098	No	ADVANCED	Increase	3	5	2	0	0
ADV100	No	ADVANCED	No change	1	1	0	0	0
ADV109	No	ADVANCED	Increase	12	14	2	0	0
ADV139	No	ADVANCED	No change	8	8	0	0	0
ADV135	No	ADVANCED	Increase	80	85	5	0	0
OLD145	Yes	ADVANCED	No change	135	135	0	0	0
OLD036	Yes	ADVANCED	Increase	13	18	5	25	1.25
OLD065	Yes	ADVANCED	No change	2	2	0	0	0
OLD004	Yes	ADVANCED	No change	2	2	0	0	0
OLD095	Yes	ADVANCED	Increase	3	6	3	20	0.6
OLD092	Yes	ADVANCED	Increase	5	7	2	0	0
OLD058	Yes	ADVANCED	Increase	14	15	1	0	0
OLD104	Yes	ADVANCED	No change	2	2	0	0	0
OLD073	Yes	ADVANCED	Increase	11	13	2	100	2
OLD074	Yes	ADVANCED	Increase	10	12	2	0	0
OLD171	Yes	ADVANCED	No change	1	1	0	0	0
OLD018	Yes	ADVANCED	No change	15	15	0	0	0
OLD062	Yes	ADVANCED	Increase	28	33	5	20	1
OLD044	Yes	ADVANCED	Increase	1	3	2	15	0.3
OLD139	Yes	ADVANCED	No change	5	5	0	0	0
ADV001	No	ADVANCED	No change	1	1	0	0	0
ADV036	No	ADVANCED	No change				0	0
ADV087	No	ADVANCED	Increase	6	7	1	0	0
OLD069	Yes	ADVANCED	No change	2	2	0	0	0
OLD066	Yes	ADVANCED	Decrease	3	2	-1	0	0
ADV085	No	ADVANCED	No change	12	12	0	0	0
ADV090	No	ADVANCED	Increase	970	1000	30	0	0
ADV091	No	ADVANCED	No change	7	7	0	0	0
ADV123	No	ADVANCED	Increase	9	11	2	10	0.2
ADV128	No	ADVANCED	No change	8	8	0	0	0
OLD094	Yes	ADVANCED	No change	12	12	0	0	0
OLD068	Yes	ADVANCED	No change	4	4	0	0	0
OLD071	Yes	ADVANCED	No change	4	4	0	0	0
OLD035	Yes	ADVANCED	No change	3	3	0	0	0
ADV028	No	ADVANCED	No change	2	2	0	0	0
OLD086	Yes	ADVANCED	Increase	45	46	1	0	0
ADV	Result 2008	Total 50		Total 1546	Total 1652	Av. 2.16	Av. 4.20%	Av. 5.75

Table 4.4b Employment Impact for Basic Users

Ref	2007 Response?	Service Received	Change in employee?	Employees on access	At end of Apr 08	CHANGE Emp	% due to Initiative	Employed due to initiative
BAS006	No	BASIC	No Change	2	2	0	0	0
BAS074	No	BASIC	No Change	3	3	0		
BAS667	No	BASIC	Increase	2	4	2	0	0
BAS654	No	BASIC	No Change	5	5	0		
BAS646	No	BASIC	No Change	6	6	0		
BAS620	No	BASIC	No Change	2	2	0		
BAS616	No	BASIC	No Change	2	2	0		
OLD027	Yes	BASIC	No Change	1	1	0		
OLD114	Yes	BASIC	No Change	2	2	0		
OLD111	Yes	BASIC	No Change	6	6	0		
OLD052	Yes	BASIC	No Change	1	1	0		
OLD032	Yes	BASIC	No Change	2	2	0		
OLD016	Yes	BASIC	No Change	2	2	0		
OLD085	Yes	BASIC	Decrease	2	0	-2		
OLD149	Yes	BASIC	Increase	10	15	5	15	0.75
BAS132	No	BASIC	No Change	1	1	0		
OLD030	Yes	BASIC	No Change	65	65	0		
OLD082	Yes	BASIC	No Change	2	2	0		
OLD103	Yes	BASIC	No Change	1	1	0		
OLD138	Yes	BASIC	No Change	6	6	0		
BAS115	No	BASIC	No Change	2	2	0		
OLD020	Yes	BASIC	No Change	4	4	0		
OLD047	Yes	BASIC	Decrease	1	1	0		
BAS050	No	BASIC	No Change	5	5	0		
BAS063	No	BASIC	Increase	3	6	3	5	0.15
BAS097	No	BASIC	No Change	1	1	0		
BAS633	No	BASIC	No Change	20	20	0		
BAS629	No	BASIC	No Change	4	4	0		
BAS592	No	BASIC	No Change	4	4	0	0	0
BAS589	No	BASIC	No Change	1	1	0		
OLD026	Yes	BASIC	No Change	2	2	0		
BAS165	No	BASIC	No Change	4	4	0		
OLD015	Yes	BASIC	No Change	2	2	0		
BAS145	No	BASIC	No Change	8	8	0		
BAS117	No	BASIC	No Change	2	2	0		
BAS107	No	BASIC	No Change	1	1	0		
BAS163	No	BASIC	No Change	1	1	0		
OLD028	Yes	BASIC	No Change	3	3	0		
OLD034	Yes	BASIC	No Change	0	0	0		
OLD055	Yes	BASIC	No Change	12	12	0		
OLD079	Yes	BASIC	No Change	1	1	0		
OLD097	Yes	BASIC	No Change	1	1	0		
OLD151	Yes	BASIC	No Change	5	5	0		
OLD127	Yes	BASIC	No Change	1	1	0		
OLD128	Yes	BASIC	No Change	8	8	0		
OLD120	Yes	BASIC	No Change	4	4	0		
BAS653	No	BASIC	No Change	2	2	0		
BAS075	No	BASIC	No Change	6	6	0		
BAS047	No	BASIC	No Change	7	7	0		
BAS643	No	BASIC	No Change	1	1	0		
BASIC	Result 2008	Total 50		Total 239	Total 247	Av. 0.16	Av. 4.0%	Av. 0.9

Table 4.4c – Employment Impact for Diagnostics and Grants

Ref	2007 Response?	Service Received	Change in employee?	Employee on access	At end of Apr 08	CHANGE Emp	% due to Initiative	Employed due to initiative
INN540	No	DIAG & GRANT	Increase	15	25	10	0	0
INN541	No	DIAG & GRANT	Increase	1	5	4	0	0
INN539	No	DIAG & GRANT	No Change	16	16	0		
INN525	No	DIAG & GRANT	Increase	3	4	1	100	1
INN516	No	DIAG & GRANT	Increase	1	3	2	30	0.6
OLD123	Yes	DIAG & GRANT	No Change	2	2	0		
OLD077	Yes	DIAG & GRANT	Increase	4	7	3		
OLD122	Yes	DIAG & GRANT	Increase	22	25	3	30	0.9
OLD002	Yes	DIAG & GRANT	Increase	1	2	1		
OLD109	Yes	DIAG & GRANT	No Change	45	45	0		
INN074	No	DIAG & GRANT	Increase	2	3	1	50	0.5
OLD124	Yes	DIAG & GRANT	Increase	4	5	1	20	0.2
OLD090	Yes	DIAG & GRANT	No Change	2	2	0		
OLD075	Yes	DIAG & GRANT	No Change	2	2	0		
OLD115	Yes	DIAG & GRANT	Increase	18	20	2	0	0
OLD012	Yes	DIAG & GRANT	No Change	1	1	0		
OLD001	Yes	DIAG & GRANT	Increase	1	5	4	25	1
OLD051	Yes	DIAG & GRANT	No Change	3	3	0		
OLD076	Yes	DIAG & GRANT	No Change	1	1	0		
INN044	No	DIAG & GRANT	No Change	2	2	0		
INN050	No	DIAG & GRANT	No Change	15	15	0		
INN078	No	DIAG & GRANT	No Change	1	1	0		
INN093	No	DIAG & GRANT	Increase	5	9	4	20	0.8
INN099	No	DIAG & GRANT	No Change	1	1	0		
INN474	No	DIAG & GRANT	No Change	2	2	0		
INN170	No	DIAG & GRANT	Increase	185	202	17	7	1.19
*INN455	No	DIAG & GRANT	Increase	190	280	90	0	0
INN443	No	DIAG & GRANT	Increase	4	11	7	0	0
INN234	No	DIAG & GRANT	Increase	31	32	1	100	1
INN090	No	DIAG & GRANT	No Change	1	1	0	0	0
INN018	No	DIAG & GRANT	No Change	2	2	0	0	0
INN517	No	DIAG & GRANT	No Change	2	2	0		
INN520	No	DIAG & GRANT	No Change	1	1	0		
OLD117	Yes	DIAG & GRANT	No Change	2	2	0		
OLD137	Yes	DIAG & GRANT	No Change	160	160	0		
OLD014	Yes	DIAG & GRANT	Increase	2	4	2	0	0
OLD056	Yes	DIAG & GRANT	No Change	5	5	0		
OLD060	Yes	DIAG & GRANT	No Change	3	3	0		
OLD063	Yes	DIAG & GRANT	Increase	9	12	3		
OLD023	Yes	DIAG & GRANT	No Change	1	1	0		
OLD099	Yes	DIAG & GRANT	No Change	2	2	0		
OLD106	Yes	DIAG & GRANT	Increase	7	14	7	10	0.7
INN076	No	DIAG & GRANT	No Change	2	2	0		
INN489	No	DIAG & GRANT	Increase	16	19	3	0	0
INN132	No	DIAG & GRANT	No Change	38	38	0		
INN447	No	DIAG & GRANT	Increase	5	6	1	0	0
INN146	No	DIAG & GRANT	No Change	2	2	0		
OLD125	Yes	DIAG & GRANT	No Change	5	5	0		
OLD105	Yes	DIAG & GRANT	Increase	4	5	1		
INN118	No	DIAG & GRANT	No Change	2	2	0		
DIAG & GRANT	Result 2008	Total 50 49		Total 851 661	Total 1019 739	Av. 3.36 1.59	Av. 19.6% 20.6	Av. 7.89 7.89
TOTAL PROG.	Result 2008	Total 150		Total 2636	Total 2916	Av. 1.867	Av. 15.6%	Av. 14.5

- 4.14 Over the programme period, the companies participating in the survey experienced the following changes in employment according to the recent sampling:
- 4.15 **Advanced Users in terms of Employment Increase:**
- 38.00% of Advanced users increased jobs (Growth Advanced Users)
 - Average size of Growth Advanced User is 70.84 staff
 - Median size of Growth Advanced Users is 13 staff
 - Average increase employment by Growth Advanced Users is 5.63 jobs
 - Rate of increase of employment in Growth Advanced Users is 7.95%
 - 15.00% of such increase is attributed by the clients to the programme
- 4.16 **Basic Users in terms of Employment Increase:**
- 6.00% of Basic users increased jobs (Growth Basic Users)
 - Average size of Growth Basic User is 8.33 staff
 - Median Size of Growth Basic Users is 6 staff
 - Average increase employment/project by Growth Basic Users is 3.33 jobs
 - Rate of Increase of employment in growing Basic Users is 39.98%
 - 6.67% of such increase is attributed by the clients to the programme
- 4.17 **Diagnostic and Grants Users:**
- 44.00% of Diagnostic/Projects users increased jobs (Growth D&P Users)
 - Average size of Growth Diag/Proj User is 31.73 staff
 - Median size of Growth Diag/Proj Users is 8 staff
 - Average increase employment by Growth Diag/Proj Users is 7.64 jobs
 - Rate of increase of employment in growing Diag/Proj Users is 24.08%
 - 21.78% of such increase is attributed by the clients to the programme
- 4.18 **Diagnostic and Grants Users (INN455 excluded):**
- 42.00% of Diagnostic/Projects users increased jobs (Growth D&P Users)
 - Average size of Growth Diag/Proj User is 19.90 staff
 - Median size of Growth Diag/Proj Users is 7 staff
 - Average increase employment by Growth Diag/Proj Users is 3.71 jobs
 - Rate of increase of employment in growing Diag/Proj Users is 15.93%
 - 23.06% of such increase is attributed by the clients to the programme
- 4.19 Table 4.5 presents the coefficients of employment growth (the number of jobs created per intervention) that are attributable to the 'onlincolnshire' programme. The coefficients for diagnostic/grant interventions are shown as two figures. The coefficient shown with an asterix (*) excludes the result for company INN455, which experienced a 47% increase in employment during the period from 190 to 280. This can be seen in Table 4.4c.

Table 4.5 Coefficients of Employment Impact

		% Increase 2008	Average Increase 2008	% Increase due to Intervention 2008	Coefficient of Impact (Jobs/Intervention) 2008
Total Programme	C bbp.jobs	29.33	1.867	15.60	0.0849
Diag. & Proj	C d&p.jobs	44.00 *42.00	7.64 *3.71	21.78 *23.06	0.7322 *0.3597
Basic	C bas.jobs	6.00	3.33	6.67	0.0132
Advanced	C adv.obs	38.00	5.63	15.00	0.3209

* Figures calculated without the outlier INN455

4.20 Table 4.6 applies these updated coefficients to the Broadband overall output performance to extrapolate the employment impact of the programme.

Table 4.6 Employment Impact

Coefficients applied to the total number of 'onlincolnshire' programme interventions

	Total	Coefficients of Impact		Programme Employment
	Interventions	jobs/intervention		Impact
Total Programme	1964	0.0849		167
<i>Breakdown:</i>				
	885	0.7322 *0.3597		647 *318
Diag. & Grants Projs.				
Basic	899	0.0132		12
Advanced	180	0.3209		58
				717 *388

4.3 Turnover Impact Coefficients

4.21 Table 4.7 shows the proportion of SMEs that experienced a change in turnover in the survey sample during the programme period.

Table 4.7 Change in Turnover in the Sample before and after the Initiative

Change in Turnover	Total
Increase	58.00%
Decrease	4.00%
No Change	34.67%
Don't Know	3.33%
Total	100.00%

4.22 Table 4.8 shows the proportion of each user group that experienced a change in turnover. Each product/service generated different impacts on turnover levels, with 63.6% more advanced broadband users (1 in 1.39 users) reporting increases in employment than the basic users (1 in 2.27 users), with the corresponding figure for growth in jobs in the firms involved in diagnostic and project work being 1 in 1.72 users.

Table 4.8 Change in Turnover, by User Type

	Increase '08	Decrease '08	No Change '08
Diag /Proj	58.00%	4.00%	32.00%
Basic	44.00%	2.00%	52.00%
Advanced	72.00%	6.00%	20.00%
Totals	58.00%	4.00%	34.67%

Table 4.9 Overall Programme Performance

Overall Programme Performance – 1964 Projects

	ICT Diag.	ICT Diag.	ICT Grants	ICT Grants.	Basic B/bnd	Basic B/bnd	Adv B/Bnd	Adv B/Bnd
Approved	Main	Trans	Main	Trans	Main	Trans	Main	Trans
Applications	485	73	290	37	782	117	156	24

Source: 'onlincolnshire' project management office GAS report, July 2008

4.23 Tables 4.10a, b, and c illustrate the impact of the programme on turnover for each type of user. In the calculation of turnover, which used a series of bandings for the purpose of the survey, the following assumptions have been made:

- <£5k = assume £2500;
- 6k-10k = assume 6k;
- 11k – 15k = assume 11k;
- 16k – 25k = assume 16k;
- 26k – 35k = assume 26k;
- 36k – 500k = assume 36k;
- 501k – 750k = assume 501k;
- 751k – 1m = assume 751k;
- 1m+ = assume £1m.

4.24 Where the survey failed to capture how much turnover increased by, the increase has been included at the conservative level of the mean increase as used in the previous analysis of (£10,000). As with the previous analysis, the use of this mean figure is considered prudent.

Table 4.10a Turnover Impact on Advanced Users

Ref	2007 Response?	Service Received	Change in turnover?	Turnover on access	At end of Apr 08	CHANGE turnover	% due to Initiative	Turnover due to initiative
ADV037	No	ADVANCED	Increase	151000	501000	350000	20	70000
ADV032	No	ADVANCED	Increase	501000	501000	0	30	0
ADV020	No	ADVANCED	Increase	751000	751000	0	5	0
ADV011	No	ADVANCED	Increase	6000	11000	5000	10	500
ADV003	No	ADVANCED	Increase	11000	251000	240000	0	0
ADV002	No	ADVANCED	Increase	26000	36000	10000	20	2000
ADV047	No	ADVANCED	Increase	2500	2500	0	50	0
ADV049	No	ADVANCED	Increase	351000	501000	150000	15	22500
ADV056	No	ADVANCED	Increase	#N/A			10	0
ADV063	No	ADVANCED	Increase	#N/A			12	0
ADV075	No	ADVANCED	Increase	501000	1000000	499000	0	0
ADV053	No	ADVANCED	Increase	16000		10000		0
ADV077	No	ADVANCED	Increase	76000	151000	75000	15	11250
ADV079	No	ADVANCED	Increase	16000	16000	0	10	0
ADV098	No	ADVANCED	Increase	76000	101000	25000		0
ADV100	No	ADVANCED	Increase	26000	36000	10000	5	500
ADV109	No	ADVANCED	Increase	#N/A			0	0
ADV139	No	ADVANCED	Increase	251000	251000	0	25	0
ADV135	No	ADVANCED	Increase	#N/A			0	0
OLD145	Yes	ADVANCED	Increase	#N/A			20	0
OLD036	Yes	ADVANCED	Increase	351000	501000	150000	25	37500
OLD065	Yes	ADVANCED	Increase	1000000	1000000	0	1	0
OLD004	Yes	ADVANCED	Increase	36000	76000	40000	75	30000
OLD095	Yes	ADVANCED	Increase	1000000	1000000	0	20	0
OLD092	Yes	ADVANCED	Increase	151000	351000	200000	0	0
OLD058	Yes	ADVANCED	Increase	351000	501000	150000	50	75000
OLD104	Yes	ADVANCED	Increase	16000	26000	10000	25	2500
OLD073	Yes	ADVANCED	Increase	351000	501000	150000	100	150000
OLD074	Yes	ADVANCED	Increase	351000	501000	150000	5	7500
OLD171	Yes	ADVANCED	Increase	16000	26000	10000		0
OLD018	Yes	ADVANCED	Increase	1000000	1000000	0	50	0
OLD062	Yes	ADVANCED	Increase	#N/A			10	0
OLD044	Yes	ADVANCED	Increase	#N/A			50	0
OLD139	Yes	ADVANCED	Increase	51000	76000	25000	0	0
ADV001	No	ADVANCED	Increase	26000	36000	10000	80	8000
ADV036	No	ADVANCED	Increase	1000000	1000000	0		0
ADV087	No	ADVANCED	Decrease	351000			0	0
OLD069	Yes	ADVANCED	Decrease	#N/A			0	0
OLD066	Yes	ADVANCED	Decrease	#N/A				0
ADV085	No	ADVANCED	No Change	251000	251000	0		0
ADV090	No	ADVANCED	No Change	1000000	1000000	0		0
ADV091	No	ADVANCED	No Change	101000	101000	0		0
ADV123	No	ADVANCED	No Change	501000	501000	0		0
ADV128	No	ADVANCED	No Change	1000000	1000000	0		0
OLD094	Yes	ADVANCED	No Change	1000000	1000000	0		0
OLD068	Yes	ADVANCED	No Change	151000	151000	0		0
OLD071	Yes	ADVANCED	No Change	251000	251000	0		0
OLD035	Yes	ADVANCED	No Change	#N/A				0
ADV028	No	ADVANCED	No Change	101000	101000	0		0
OLD086	Yes	ADVANCED	Don't Know	#N/A				0
ADV	Result 2008	Total 50		Total £ 13,168,500	Total £ 15,060,500	Av. £ 59,710.53	Av. 21.71 %	Av. £ 417,250

Table 4.10b Turnover Impact on Basic Users

Ref	2007 Response?	Service Received	Change in turnover?	Turnover on access	At end of Apr 08	CHANGE turnover	% due to Initiative	Turnover due to initiative
BAS006	No	BASIC	Increase	26000	36000	10000	10	1000
BAS074	No	BASIC	Increase	#N/A			25	0
BAS667	No	BASIC	Increase	2500	2500	0	0	0
BAS654	No	BASIC	Increase	151000	251000	100000	10	10000
BAS646	No	BASIC	Increase	6000	6000	0	0	0
BAS620	No	BASIC	Increase	16000	26000	10000	20	2000
BAS616	No	BASIC	Increase	51000	101000	50000	0	0
OLD027	Yes	BASIC	Increase	#N/A			50	0
OLD114	Yes	BASIC	Increase	11000	16000	5000	5	250
OLD111	Yes	BASIC	Increase	#N/A			5	0
OLD052	Yes	BASIC	Increase	#N/A			20	0
OLD032	Yes	BASIC	Increase	16000	26000	10000	15	1500
OLD016	Yes	BASIC	Increase	51000	76000	25000	100	25000
OLD085	Yes	BASIC	Increase	#N/A			50	0
OLD149	Yes	BASIC	Increase	#N/A			15	0
BAS132	No	BASIC	Increase	6000	6000	0	25	0
OLD030	Yes	BASIC	Increase	#N/A			5	0
OLD082	Yes	BASIC	Increase	#N/A				0
OLD103	Yes	BASIC	Increase	26000	51000	25000	100	25000
OLD138	Yes	BASIC	Increase	#N/A				0
BAS115	No	BASIC	Increase	101000	101000	0	50	0
OLD020	Yes	BASIC	Increase	#N/A			0	0
OLD047	Yes	BASIC	Decrease	16000	2500	-13500	0	0
BAS050	No	BASIC	No Change	76000	76000	0		0
BAS063	No	BASIC	No Change	151000	151000	0		0
BAS097	No	BASIC	No Change	16000	16000	0		0
BAS633	No	BASIC	No Change	51000	51000	0		0
BAS629	No	BASIC	No Change	51000	51000	0		0
BAS592	No	BASIC	No Change	501000	501000	0	0	0
BAS589	No	BASIC	No Change	36000	36000	0		0
OLD026	Yes	BASIC	No Change	26000	26000	0		0
BAS165	No	BASIC	No Change	251000	251000	0		0
OLD015	Yes	BASIC	No Change	251000	251000	0		0
BAS145	No	BASIC	No Change	251000	251000	0		0
BAS117	No	BASIC	No Change	76000	76000	0		0
BAS107	No	BASIC	No Change	11000	11000	0		0
BAS163	No	BASIC	No Change	26000	26000	0		0
OLD028	Yes	BASIC	No Change	101000	101000	0		0
OLD034	Yes	BASIC	No Change	#N/A				0
OLD055	Yes	BASIC	No Change	#N/A				0
OLD079	Yes	BASIC	No Change	26000	26000	0		0
OLD097	Yes	BASIC	No Change	#N/A				0
OLD151	Yes	BASIC	No Change	1000000	1000000	0		0
OLD127	Yes	BASIC	No Change	#N/A				0
OLD128	Yes	BASIC	No Change	#N/A				0
OLD120	Yes	BASIC	No Change	501000	501000	0		0
BAS653	No	BASIC	No Change	#N/A				0
BAS075	No	BASIC	No Change	#N/A				0
BAS047	No	BASIC	No Change	#N/A				0
BAS643	No	BASIC	Don't Know	51000	51000	0		0
BASIC	Result 2008	Total 50		Total £ 3,932,500	Total £ 4,154,000	Av. £ 6,921.88	Av. £ 23.0%	Av. £ 64,750

Table 4.10c Turnover Impact on Diagnostics and Grants

Ref	2007 Response?	Service Received	Change in turnover?	Turnover on access	At end of Apr 08	CHANGE turnover	% due to Initiative	Turnover due to initiative
INN540	No	DIAG & GRANT	Increase	1000000	1000000	0	5	0
INN541	No	DIAG & GRANT	Increase	16000	101000	85000	0	0
INN539	No	DIAG & GRANT	Increase	#N/A				0
INN525	No	DIAG & GRANT	Increase	#N/A			70	0
INN516	No	DIAG & GRANT	Increase	51000	151000	100000	40	40000
OLD123	Yes	DIAG & GRANT	Increase	1000000	1000000	0	50	0
OLD077	Yes	DIAG & GRANT	Increase	1000000	1000000	0	10	0
OLD122	Yes	DIAG & GRANT	Increase	1000000	1000000	0	50	0
OLD002	Yes	DIAG & GRANT	Increase	151000	151000	0	100	0
OLD109	Yes	DIAG & GRANT	Increase	1000000	1000000	0	5	0
INN074	No	DIAG & GRANT	Increase	101000	151000	50000	75	37500
OLD124	Yes	DIAG & GRANT	Increase	76000	101000	25000	20	5000
OLD090	Yes	DIAG & GRANT	Increase	251000	351000	100000	0	0
OLD075	Yes	DIAG & GRANT	Increase	2500	51000	48500	5	2425
OLD115	Yes	DIAG & GRANT	Increase	#N/A			0	0
OLD012	Yes	DIAG & GRANT	Increase	#N/A			20	0
OLD001	Yes	DIAG & GRANT	Increase	26000	36000	10000	25	2500
OLD051	Yes	DIAG & GRANT	Increase	26000	36000	10000	15	1500
OLD076	Yes	DIAG & GRANT	Increase	2500	6000	3500	100	3500
INN044	No	DIAG & GRANT	Increase	16000	26000	10000	5	500
INN050	No	DIAG & GRANT	Increase	751000	1000000	249000	1	2490
INN078	No	DIAG & GRANT	Increase	2500	101000	98500	100	98500
INN093	No	DIAG & GRANT	Increase	751000	1000000	249000	30	74700
INN099	No	DIAG & GRANT	Increase	76000	76000	0	20	0
INN474	No	DIAG & GRANT	Increase	#N/A				0
INN170	No	DIAG & GRANT	Increase	1000000	1000000	0	7	0
INN455	No	DIAG & GRANT	Increase	1000000	1000000	0	0	0
INN443	No	DIAG & GRANT	Increase	#N/A				0
INN234	No	DIAG & GRANT	Increase	1000000	1000000	0	75	0
INN090	No	DIAG & GRANT	Decrease	36000	2500	-33500	0	0
INN018	No	DIAG & GRANT	Decrease	51000	36000	-15000	0	0
INN517	No	DIAG & GRANT	No Change	#N/A				0
INN520	No	DIAG & GRANT	No Change	26000	26000	0		0
OLD117	Yes	DIAG & GRANT	No Change	76000	76000	0		0
OLD137	Yes	DIAG & GRANT	No Change	1000000	1000000	0		0
OLD014	Yes	DIAG & GRANT	No Change	1000000	1000000	0		0
OLD056	Yes	DIAG & GRANT	No Change	151000	151000	0		0
OLD060	Yes	DIAG & GRANT	No Change	51000	51000	0		0
OLD063	Yes	DIAG & GRANT	No Change	351000	351000	0		0
OLD023	Yes	DIAG & GRANT	No Change	#N/A				0
OLD099	Yes	DIAG & GRANT	No Change	101000	101000	0		0
OLD106	Yes	DIAG & GRANT	No Change	#N/A			10	0
INN076	No	DIAG & GRANT	No Change	#N/A				0
INN489	No	DIAG & GRANT	No Change	251000	#N/A			0
INN132	No	DIAG & GRANT	No Change	#N/A				0
INN447	No	DIAG & GRANT	No Change	#N/A				0
INN146	No	DIAG & GRANT	No Change	#N/A				0
OLD125	Yes	DIAG & GRANT	Don't Know	#N/A	351000	10000		0
OLD105	Yes	DIAG & GRANT	Don't Know	#N/A				0
INN118	No	DIAG & GRANT	Don't Know	101000	101000	0	8	0
DIAG & GRANT	Result 2008	Total 50		Total £ 13,494,500	Total £ 14,584,500	Av. £ 28,571.43	Av. 28.2%	Av. £ 268,615
TOTAL PROG.	Result 2008	Total 150		Total £ 30,595,500	Total £ 33,799,000	Av. £ 33,023.58	Av. 24.3%	Av. £ 750,615

4.24 Over the programme period, the companies participating in the survey experienced the following changes in turnover:

4.25 **Advanced Users in terms of Turnover Increase:**

- 72.00% of Advanced users increased turnover (Growth Advanced Users)
- Average turnover size of Growth Advanced User is £382,303.60
- Median turnover of Growth Advanced Users is £301,000.00
- Average increase in turnover per Growth Advanced User was £78,241.38
- Rate of increase of turnover in growing Advanced Users is 20.47%
- 23.06% of such increase is attributed by the clients to the programme

4.26 **Characteristics of Basic Users in terms of Turnover Increase:**

- 44.00% of Advanced users increased turnover (Growth Basic Users)
- Average turnover of Growth Basic User is £58,208.33
- Median turnover of Growth Basic Users is £31,000.00
- Average increase turnover per Growth Basic Users is £19,583.33
- Rate of increase of turnover in growing Basic Users is 33.64%
- 25.25% of such increase is attributed by the clients to the programme

4.27 **Characteristics of Diagnostic/Project Users in terms of Turnover Increase:**

- 58.00% of Advanced users increased turnover (Growth Diagnostic/Project Users)
- Average turnover of Growth Diag/Proj User is £492,956.50
- Median turnover of Growth Diag/Proj Users is £151,000
- Average increase turnover/project by Growth Diag/Proj Users is £45,152.17
- Rate of increase of turnover in growing Diag/Proj Users is 9.16%
- 31.85% of such increase is attributed by the clients to the programme

4.28 Table 4.11 presents the coefficients of turnover growth (the value of turnover per intervention) that are attributable to the 'onlincolnshire' programme.

Table 4.11 Coefficients of Turnover Impact

		% Increase	Average Turnover Increase £	% Increase due to Intervention		Coefficient of Impact £Turnover increase/Intervention)
Total Programme	C bbp.t/o	58.00	33,023.58	24.29		4,652.56
Diag. & Proj	C d&p.t/o	58.00	45,152.17	31.85		8,340.96
Basic	C bas.t/o	44.00	19,583.33	25.25		2,175.71
Advanced	C adv.t/o	72.00	78,241.38	23.06		12,990.57

4.29 Table 4.12 applies these coefficients to the Broadband overall output performance to extrapolate the employment impact of the programme.

Table 4.12 Turnover Impact

	Total Interventions	Coefficients of Impact t/o/intervention		Programme Turnover Impact
Total Programme	1964	£4,652.56		£9,095,754
<i>Breakdown:</i>				
Diag. & Proj	885	£8,340.96		£7,381,785
Basic	899	£2,175.71		£1,956,224
Advanced	180	£12,990.57		£2,338,380
	1964			£12,126,389

4.4 Summary

4.30 **Advanced Users:** the research has shown that, from the sample interviewed, advanced users are the largest in size. Over the programme duration, they have grown on average at a high rate in terms of employment (5.63 jobs) and at a high frequency (38%) relative to the other user groups. The proportion of these changes being attributed to the broadband intervention is also relatively high at 15%. Interestingly, the advanced users group also shows the greatest proportion of growing users in terms of turnover (72%), with the average growth user experiencing an increase in turnover of £78,241. Similarly the proportion of this change which users attribute to the broadband intervention has also shown a marked increase, rising to 23%.

While this does not conflict with previous findings, it may begin to suggest the timescale in which the user's appreciation of the effect of broadband

intervention may occur, or the timescales involved in seeing such an intervention make a significant impact.

- 4.31 **Basic Users:** are the smallest enterprises in terms of employee numbers and turnover. Over the period of the programme, they have grown on average at lower rates of employment growth (3.33 jobs) and turnover (£19,583) and at a much lower frequency (6% and 44% respectively) than other users. The average increase in jobs is 3.3 jobs. However, the numbers of users experiencing growth is just 6%, and the degree attributed to the broadband intervention is just 7%. In terms of turnover, however, while the average increase is £19,583 and the proportion of users also seeing an increase accounts for 44%, the degree to which users experiencing growth attribute in part to the broadband intervention is shown to be over 25% at this time.
- 4.32 **Diagnostics and Grants:** The users of diagnostics and project grants have seen high growth in turnover and employment. 44% of users have seen growth in terms of employment, and the average increase in jobs has been 7.6 jobs at this time. The degree of change attributed to the broadband intervention by those experiencing growth is relatively high at 21.8%.

On average this user group forms the group with the largest average turnover (£492,956) and has seen growth experienced by 58% of users. The average increase in growth for growth users from this sample is £45,152. The proportion attributed by these users to the broadband intervention is also relatively high at 31.9%.

Table 4.13 Characteristics of Growth Firms Engaged in Broadband Programme

	Nos. of Projs.	Nos. of Projs.	Nos. of Projs.	Average Jobs	Median (50%)	% Projects Growing	Av. Inc. in Growth Projects	% Due to Prog..	Average Turnover	Median (50%)	% Projects Growing	Av. Inc. in Growth Projects	% Due to Prog.
	Core	Trans	Total	jobs	jobs		jobs		t/o	t/o		Increase	to Prog.
Proj/Diag	775	110	885	31.73	8.00	44.00	7.64 *3.71	21.78	£492,956	£151,000	58.00	£45,152	31.85
Basic	782	117	899	8.33	6.00	6.00	3.33	6.67	£58,208	£31,000	44.00	£19,583	25.25
Advanced	156	24	180	70.84	13.00	38.00	5.63	15.00	£382,304	£301,000	72.00	£78,241	23.06
Totals	1713	251	1964	19.70	4.00	29.33	1.867	15.60	£324,990	£101,000	58.00	£33,023	24.29

Table 4.14 Table Applying model to Programme Performance

MODEL									
Interventions			*	Coefficients		=	Programme performance		
Diag & Grants Projects	Basic Projects	Advanced. Projects		Employment Increase /Intervention	Turnover Increase /intervention			Jobs Created	Turnover Increase
885	899	180		0.7322 *0.3597	£8,341		Diag.& Grants projects	647 *318	£7,381,785
				0.0132	£2,176		Basic Projects	12	£1,956,224
				0.3209	£12,991		Advanced Projects	58	£2,338,380
							Totals	717 *388	£11,676,389

4.5 ERDF Impact Summary

- 4.33 The approved ERDF bid for £7m of European Funding covered 3 Measures of the SPD delivered into both Main and Transitional areas of the County, with £6.3m grant for the County Objective 2 areas, and £770,000 for the Transitional areas, which include Boston and South Holland area. These were:
- 4.34 **Priority 1 Enterprise and Innovation** - the need to develop new, additional jobs in growth sectors to establish a more balanced industrial structure, and support existing businesses of all types to improve competitiveness.
- Measure 1.1 Support for ICT, Technology Development, Business Innovation
 - Measure 1.2 Financial Support For SMEs and the Social Economy
- 4.35 **Priority 2 Strategic Development Opportunities** - to create a high quality economic infrastructure...link the intellectual capital in the region to the SME base, sustainable tourism and cultural facilities and access to employment.
- Measure 2.2 Economic Infrastructure:
- 4.36 From the coefficients of impact derived in section 4.2 and 4.3, an estimation of the jobs created in each measure can be extrapolated by:

	Total Interventions	Coefficients of Impact Jobs/Intervention
Diag. & Grants Projs.	885	0.7322 *0.3597
Basic	899	0.0132
Advanced	180	0.3209

Table 4.15 Job Creation

Extrapolated Programme Employment Impact					
		Coefficient	MAIN	TRANS	
M1.1	Diagnostics Projects	0.7322 (*0.3597)	485	73	
	Jobs Created		355 (*175)	53 (*26)	408 (*201)
M1.2	Project Grants	0.7322 (*0.3597)	290	37	
	Jobs Created		212 (*104)	27 (*13)	239 (*117)
M2.2	Basic Connections	0.0132	782	117	
	Advanced Connections	0.3209	10 156	2 24	12
	Total Jobs Created		50 60	8 10	58 70
	PROGRAMME TOTAL		627 (*339)	90 (*49)	717 (*388)

- 4.37 In terms of jobs safeguarded, the analysis of the survey sample extrapolated to the overall Programme Measure 2.1 interventions highlights a total of 187 jobs safeguarded.

Table 4.16 Jobs Safeguarded

	Yes	No	nk	% S/guard	No. jobs	Average	Coefficient
Sample (interventions)	26	116	8	17.333	26	1	0.173333

	Adv. Main	Adv. Trans	Basic Main	Basic Trans	Total Main	Total Trans
Programme Assists	156	24	782	117	938	141
Programme Jobs Safeguarded	27	4	136	20	163	24

4.17 Additional metrics

4.38 The following table outlines the proportions of all users in the survey sample experiencing change over the duration of the period accessing the initiative services. The majority of uses experienced no change across most of the measures. This was with the exception of sales, where 55% of users experienced an increase, and customers, with 51% reporting an increase.

Table 4.17 Changes experienced by Users in Key Areas

	Increase	Decrease	No Change
Cost of salaries	30.67	4.00	55.33
Profit	42.67	7.33	42.67
Level of inward investment	33.33	2.67	50.00
Number of sales	55.33	5.33	32.67
Number of exported sales	12.00	0.67	66.67
Number of customers	51.33	4.00	37.33
Number of products/services offered by the company	45.33	0.67	48.67
Number of trading markets	17.33	1.33	64.00

4.39 The following table indicates the proportions of users in the survey sample that had experienced an increase in the metrics, broken down by type of intervention - diagnostic assistance and/or project grants, basic broadband connection, and advanced broadband. Growth was most frequently reported by users of diagnostics/grants, with 58% of these users experiencing an increase in sales, customers and products/services.

Table 4.18 Percentage of Users Experiencing Increases in Key Areas

	Diag & Grants %	Basic %	Advanced %
Cost of salaries	38	20	34
Profit	42	36	50
Level of inward investment	42	20	38
Number of sales	58	44	64
Number of exported sales	22	6	8
Number of customers	58	48	48

	Diag & Grants %	Basic %	Advanced %
Number of products/services offered by the company	58	34	44
Number of trading markets	24	14	14

- 4.40 Due to a large difference in the number of users reporting increases in the key metrics, and the small number of users able to supply quantitative data to describe the change, the sample size is too small to reliably apply the figures across the whole data set of users. The methodology for calculating the coefficients of impact has been developed to take account of such discrepancies and provide a more reliable coefficient. The most prudent model for assessing the economic impact of the programme from these metrics is derived from the following:

No. of Interventions * Coefficient of Impact, where:

(% of growth projects reporting a figure / % of growth projects) * Avg Inc = X,

X * (% of growth projects reporting a figure * % factor due to Broadband)

= Coefficient of Impact for each additional metric

- 4.41 The following tables outline the coefficients for the additional metrics and the resulting total impact from intervention using this new model. The broadband initiative is shown to have made the largest impact on costs of salaries (£819,479 when extrapolated across the programme), sales (£925,594), and profit (£635,962). It is also shown to have brought about increases in customers (979) and products and services (837).

Metric	% reporting an increase	% reporting an increase and a figure)	Average Increase	% Increase due to Intervention	Coefficient of impact increase/ intervention
Cost of salaries	30.67	26.67	£29,725	6.052632	£417.2520
Profit	42.67	23.33	£10,871	23.35135	£323.8086
Level of inward investment	33.33	7.33	£35,210	31.66667	£179.7385
Number of sales	55.33	4.67	£20,939	26.66667	£471.2826
Number of exported sales	12.00	1.33	2	38.33333	0.0011
Number of customers	51.33	7.33	207	23.00	0.4984
Number of products/ services offered by the company	45.33	20.00	9.93	48.62857	0.4261
New trading markets	17.33	2.00	£343,500	32.64706	£258.8405

	Coefficient of Impact (increase/Intervention)	Total intervention extrapolation
1964 interventions		
Cost of salaries	£417.25	£819,479
Profit	£323.81	£635,962
Level of inward investment	£179.74	£353,009
Number of sales	£471.28	£925,594
Number of exported sales	0.0011	2
Number of customers	0.4984	979
Number of products/services offered by the company	0.4261	837
New trading markets	£258.84	£503,962

Table 4.19 Outputs against ERDF Targets for 6 integrated programmes

Broadband Outputs 2003-2006 (April 2007)	Project Total	Core	Trans
Action Plan - Measure 1.1		M1.1	M1.1
SMEs Assisted (diagnostic advice)	Planned	375	45
	Actual	412	73
New Start Businesses assisted	Planned	4	5
	Actual	15	2
Collaborative Projects, SME/Research	Planned	4	2
	Actual	0	0
Gross New Jobs	Planned	147	15
	Actual	355	53
Net Additional Jobs	Planned	96	9
	Actual	n/k	n/k
No. SMEs assisted from Targeted Groups	Planned	50	5
	Actual	10	4
Action Plan - Measure 1.2		M1.2	M1.2
SMEs Receiving Financial support	Planned	280	25
	Actual	290	33
New Start Businesses receiving Financial Support	Planned	15	5
	Actual	11	1
% Financial Offers leading to enhanced ICT use	Planned	100	100
	Actual	0	0
Gross New Jobs	Planned	98	11
	Actual	212	27
Net Additional Jobs	Planned	60	7
	Actual	0	0
No. SMEs assisted from Targeted Groups	Planned	38	5
	Actual	10	2
Action Plan - Measure 2.2		M2.2	M2.2
Hectares of Business Parks Connected	Planned	74	25
	Actual	492	59
Technology Centres assisted	Planned	1	1
	Actual	1	1
Enterprises Connected	Planned	1330	170
	Actual	916	141
Training Centres Connected	Planned	12	3
	Actual	0	0
Gross New Jobs	Planned	571	70
	Actual	60	10
Net Additional Jobs	Planned	257	31
	Actual	nk	nk
Net Employment Safeguarded	Planned	212	98
	Actual	163	24
% New Facilities with ICT Access	Planned	100	100
	Actual	0	0
No. Enterprises assisted from Target Groups	Planned	28	15
	Actual	28	6

4.6 Wider Impacts upon SMEs

- 4.42 A broadband network functions much like other infrastructure, such as roads. It allows certain activities to occur which would otherwise not take place. These can include new business opportunities, improved service and an increased ability to control costs. While it is not possible to demonstrate that the network caused all the observed economic impact, the evidence indicates that it was a significant factor leading to the overall growth.

Drivers of Broadband and ICT adoption

- 4.43 Table 4.16 sets out, from the telephone survey, the reasons why businesses chose to apply for the relevant 'onlincolnshire' service. Businesses were asked to provide an open-ended response to this question. The categories have, therefore, been developed as a result of the responses received, and have been determined by the priorities identified by the businesses.
- 4.44 The key drivers for basic broadband adoption related to bringing about improvements in efficiency (30.1%) speed of access (26.5%), and marketing (13.3%). For 12% of basic broadband users, the availability of funding to enable them to connect to broadband was the key consideration.
- 4.45 Key drivers for the adoption of advanced broadband included increased efficiency (39.7%), speed of access (20.6%), and the service being essential for the operation of the business (12.7%).
- 4.46 The need for a faster internet connection to operate new systems was cited by 9.5% of advanced broadband users. 6.3% of advanced users stated that they had adopted advanced broadband as basic broadband was not available.
- 4.47 For respondents that had received diagnostic consultations and ICT project grants, the most frequently cited driver was the development of new systems (38.9% of those receiving diagnostics, and 46.2% of project grants).
- 4.48 Marketing was a key consideration for those applying for the diagnostic (21.1%), perhaps indicating that businesses needed advice on how to use ICT to market their company effectively. The availability of funding was also a key consideration for both user groups.

Table 4.20 – Reasons for adopting 'onlincolnshire' services

	Marketing opportunity	Increase efficiency	Improve sales	Speed of access	Essential for business	Because funding available	Lowest level for access	Business support	New systems
Diagnostic	21.1	15.6	2.2	0	2.2	12.2	0	7.8	38.9
Project Grant	3.1	7.7	0	0	12.3	30.8	0	0	46.2
Basic	13.3	30.1	4.8	26.5	9.6	12.0	0	0	3.6
Advanced	0	39.7	0	20.6	12.7	11.1	6.3	0	9.5

- 4.49 Just over three quarters of businesses (78.6%) said that they felt they had been able to use broadband to its full potential. Of those who did not feel able to use it to its full potential, the reasons included lack of time (5 businesses), lack of experience and knowledge (7 businesses), being in the early stages of use/implementation (3 businesses), and not having yet developed a website (4 businesses).

- 4.50 Only 5.9% of respondents felt that there were expectations that had not been met since adopting broadband. The majority of the concerns raised related to the speed of the connection, which was not felt to be fast enough by four businesses. Other issues included having to pay VAT on the project costs (1 business), and not being able access advanced broadband (1 business).

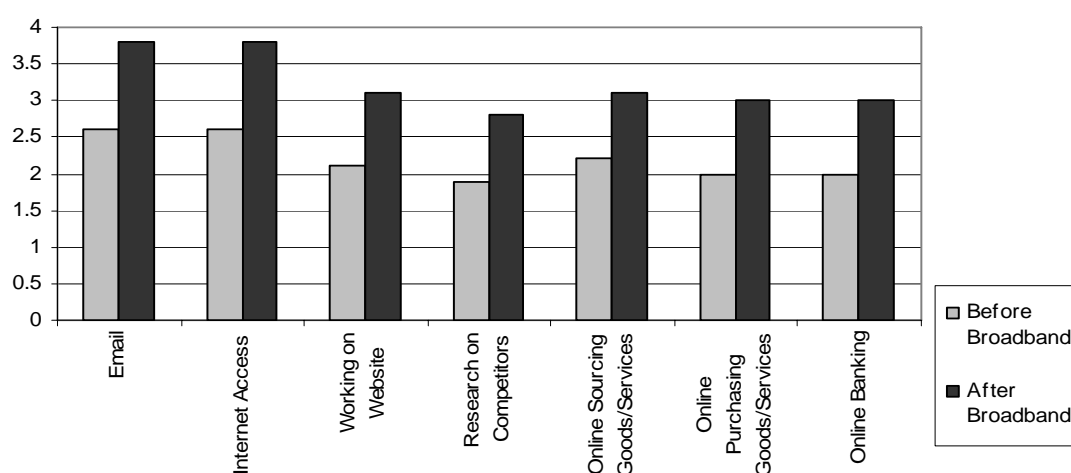
Effects of Broadband

- 4.51 Businesses were asked to indicate how often they accessed email and the internet for a variety of business purposes, both before and after they adopted broadband. They were asked to indicate the frequency of use on a scale of 1 to 4, where 1 is 'not used' and 4 is 'all the time'. The mean responses are shown in Table 4.18 and Graph 4.2.
- 4.52 The results show a broad increase in email and internet use for businesses after the adoption of broadband. Perhaps unsurprisingly, general email and internet access are the most frequent uses (a mean rating of 3.8), suggesting that the majority of businesses use these services all the time. Increases are also observed in the use of the internet to conduct research, source and purchase goods, and conduct online banking, with a mean rating of approximately 2 before broadband adoption moving to approximately 3 following broadband adoption. The findings also indicate that broadband has enabled companies to spend more time developing and working on company websites.

Table 4.20 Email/internet use before and after broadband adoption

	Before	After
Email	2.6	3.8
Internet Access	2.6	3.8
Working on Company Website	2.1	3.1
Conducting Research on Competitors	1.9	2.8
Online Sourcing of Goods and Services	2.2	3.1
Online Purchasing of Goods and Services	2.0	3.0
Online Banking	2.0	3.0

Graph 4.2 Email / internet use before and after broadband adoption



4.53 In addition, through the evaluation exercise, the respondents have highlighted a wide range of softer benefits that the programme has generated including:

- **Increased Business Support Network Contacts** more contact hours with specialists, increased level and depth of communications, access to specialist premises and facilities;
- **Improved Management Information** information sharing, technical data exchange, market research;
- **Staff Expertise** staff training, management development;
- **Business Development** increased cooperation with suppliers/buyers, increased innovation and new product idea introduction;
- **Higher Profile** coordinated events, increase publicity – press mentions, features, column inches, advertisements, publications;
- **Increased External Cooperation** placement opportunities, wider customer base, awareness of other schemes

4.54 These softer benefits help to build the capacity and infrastructure of the sub sectors as a whole and it is important that procedures are developed to capture these benefits as they have an impact overall. The overriding observation is that longer term consistency is essential to build the capacity to drive the growth of ICT application across the county in order to deliver the rewards, particularly into areas which had not traditionally had coverage. The feeling was that the difficult first stage had been successfully manoeuvred and that it was essential to push on and not lose the momentum created.

5. User Views

5.1 Interview Findings

- 5.1 This section outlines the findings from the in-depth interviews conducted with 40 businesses that had received assistance through the 'onlincolnshire' initiative. The business interviewees were selected using a random sample from the 'onlincolnshire' client database. The sample, therefore, represents a cross-section of company sizes, industrial sectors, and geographical locations. The sample includes a variety of broadband users, including basic and advanced broadband subscribers, and recipients of the diagnostic service and project grants.
- 5.2 At the time that the interviews were undertaken, the advanced broadband service had only recently become available. Advanced broadband users, therefore, account for only six of the business interviewees. For this reason, the term 'broadband' in this section refers to the basic broadband service, unless otherwise stated.
- 5.3 A summary of the interview findings for each of the 40 companies is set out in Annex 2. The analysis is structured around the following five areas:

- 1. Implementation and Use of Broadband:** how had broadband and related technology been implemented and used?
- 2. Effects of Broadband Implementation:** what effect had broadband and related technology had on the business?
- 3. Future Potential:** how did broadband and ICT fit into the long-term strategy of the business?
- 4. Capacity Implications:** had the business experienced any problems with the reliability or speed of connection? Did the business have the necessary skills and competencies to maximise the benefit of broadband?
- 5. Effectiveness of the 'onlincolnshire' Service:** what were businesses' experiences of 'onlincolnshire', and did they find the service effective?

1. Implementation of Broadband

- 5.4 **Internet and email use:** the most widely reported use of basic broadband technology was email and the internet access. Comparisons were made of the ease of accessing the internet and email using dial-up. For example, Company 27 stated, *"prior to broadband we had a dial up connection which was an absolute nightmare, and we used to literally plug in and unplug it as we needed it"*. A further advantage was the ability to send larger files over email – for example, Company 30 stated *"we now send attachments with gay abandon"*.
- 5.5 **Website development:** more than half of the companies interviewed (23) had developed a company website, either as a result of receiving an ICT project grant, or because the 'one-off' monthly payment for the basic broadband service and the faster internet connection had enabled businesses to devote a greater amount of time to website development without consideration of the cost of being online. The majority of companies had developed a website in order to have a web presence and to advertise their

services. A small number of companies, seven, had developed websites that enabled them to sell goods online. These were mainly retail companies and products included gifts, computer consumables, golf products, textiles footwear, and digital images. One company (Company 29) was developing a website that would allow hosting of other company websites.

- 5.6 **Online sourcing and procurement:** a key use of the internet was identified as researching and sourcing goods and services from existing or new suppliers. Almost all businesses used the internet to find products or look at prices. Around 17 companies also purchased goods and services directly over the internet. One retail company (Company 30) commented that it was able to order direct from its supplier's database, which enabled it to check stock and track the progress of orders. Online banking was also identified as a service that businesses are increasingly using since adopting broadband. Four companies stated that they had used the internet to find new suppliers.
- 5.7 **Research:** a key benefit identified by businesses was the opportunity to conduct research on competitors' and other websites. More than half of the interviewees had used the internet to compare their services and prices with other, similar businesses in the area. The internet was also used as a source of information for just about anything, such as researching government legislation, downloading forms, and looking up contact telephone numbers.
- 5.8 **Online advertising:** use of online directories and services such as Google Ads was also identified as a key benefit. For example, advertising on online directories was considered essential by Companies 11 and 38, which were both hotels/guest houses. However, the interviews suggest that businesses have different levels of knowledge about how to advertise online. For example, some felt able to use search engines to their benefit, while others express concern about appearing several pages into a search.

2. Effects of Broadband Implementation

- 5.9 **Time and Cost Efficiencies:** the most frequently reported effects of basic broadband implementation related to time and cost savings. Reasons given for improved efficiency include:
- (1) increased speed of access to the internet and email which frees up times for other activities;
 - (2) use of the telephone and the internet at the same time;
 - (3) the ability to work online at any time, and for any length of time, which means that the internet can be left on all day and emails continually checked and responded to as they come in; and
 - (4) savings to telephone bills compared with the cost of dial-up.
- 5.10 Businesses also identified that sourcing and procuring goods over the internet resulted in time and cost savings. Interviewees perceived that online ordering took less time than ordering over the phone, and several companies commented on the cost savings they made from using the internet for making price comparisons and for ordering goods/services. For example, Company 14 stated "*I will never pay more than I have to now*", as she was able to compare suppliers' websites and ensure that she was paying the lowest price.

- 5.11 **Improved communication:** fourteen companies stated that broadband adoption had resulted in improvements to the way they communicated with clients and/or suppliers. For example, as a result of advanced broadband, Company 30 had been able to assign each of its staff a separate email address, rather than a generic 'sales@' address, which enabled them to provide a more personal service to the customer. Company 17 was able to send email shots to its customers, which they felt reminded their customers of their presence, adding, *"you don't know who is contacting them in the meantime"*.
- 5.12 **Access new markets and customers:** seven companies indicated that broadband technology and, in particular, the development of a website had enabled them to access new customers. For example, as a result of developing a website, Company 8 had received sales and enquiries from other areas of the UK, and had attracted interest from customers in younger age groups. Companies 1 and 10 expressed an intention to further develop their websites to appeal to new market segments (customers that were not 'typical' for the businesses, e.g. marketing golf products to the under 30 age group, or to female players).
- 5.13 A smaller number of companies, three, had been able to access international markets. These included Company 17, which had experienced a growth in the number of exports since developing an ecommerce enabled website. They added that the use of email communication had helped language barriers to be overcome when dealing with customers in other countries.
- 5.14 For two companies, Companies 15 and 17, the development of an ecommerce website had enabled them to move from being wholesalers to retailers, i.e. that they were able to reach domestic customers directly. For both companies this led to an increase in sales turnover and profit. Company 15 stated, *"we are making so much more money by retailing – we are getting more profit for less volume so it is much better for us"*.
- 5.15 **'Professionalisation' of company image:** five companies stated that broadband and new technology had enabled them to appear more professional. For Companies 1 and 3, the development of a website was felt to have improved the company's image. Company 1 had secured a deal to become an outlet for a company based in the United States, partly due to the company website. The owner stated that the US company *"thought I was a big multi-national"*. The owner of Company 3 had used the company website to create an *"illusion of romance, conjuring up rural, idyllic feel"* to promote her products.
- 5.16 **Remote working:** Six companies stated that basic broadband had facilitated remote working – such as working from home, or working from more than one site. For one interviewee, Company 4, broadband facilitated relocation from London, and use of video conferencing reduced the number of visits to London made every month. Other companies commented on the convenience of video conferencing and email discussion, and the resulting savings in fuel and time. For example, Company 27 stated, *"instead of going down to London we can have an email discussion instead"*.
- 5.17 **Computer skills:** increased use of the internet and computers since adoption of basic broadband and other services had led to improved computer skills for at least seven companies. For example, the owners of Company 15 felt able

to manage and update their own website, after initially feeling that they did not have sufficient skills. They stated, *"it's the best thing we ever did because we can now take photographs put them directly on the website"*. They indicated that new technology had 'forced' them into learning new skills, and they had been able to learn as they go along.

3. Future Potential

- 5.18 A number of areas were identified as the focus for future development. These included:
- 5.19 **Continued website development** and, in particular: updating websites and adding images/content; developing facilities for online ordering, using the website to further develop other streams of business (such as retail in addition to wholesale), using the website to appeal to a broader range of customers (for example, marketing to a different age group, or to customers in other countries).
- 5.20 **Increase in online purchasing** and transactions: many companies stated that they would like to increase the amount of purchasing conducted over the internet. Several companies that did not currently use internet banking stated that they hoped to in the future.
- 5.21 **Video conferencing and use of Skype:** several companies expressed an interest in using alternative forms of communication, such as video conferencing and Skype, in the future. At least three businesses had Skype, but all commented that there were not enough other users to make it worth their while.

4. Capacity implications

- 5.22 **Connection speed:** the most frequently cited capacity issue related to the speed of the basic broadband connection, with at least seven companies expressing concern that their connection was not as fast as anticipated. Those experiencing problems with connection speed *at all times* were mainly those located in remote rural areas. Other companies had experienced problems with speed *at peak times*, such as lunchtimes, evenings, and school holidays. For at least two companies, the speed of connection led to difficulties in sending and receiving files by email (e.g. Companies 4 and 24) which meant that files continued to be delivered using traditional methods, such as post or by hand. Among those that had an advanced broadband connection, there were no reported problems with connection speed.
- 5.23 **Computer skills:** A further capacity issue related to computer skills within the companies and respondents' confidence to learn new skills. Several respondents felt that their ability to maximise the benefits of broadband and new technology was limited by their lack of computer skills. A lack of confidence or slight fear of new technology is also evident from some of the interviews. For example, Company 29 stated, *"it is the wrong generation...you see other people do it so easily and it comes natural to them – I am trying to write it all down"*. The vocabulary and 'jargon' associated with ICT technology was also cited as alienating by some respondents.

5. Effectiveness of the 'onlincolnshire' service

- 5.24 **Application process:** feedback on the application process suggests that applicants found it easy and that the online application process, in particular, was very straightforward. Respondents had been made aware of the initiative through a variety of sources, including Lincs FM, Lincolnshire Chamber, Business Link, emda, Lincolnshire Enterprise Network, and County News.
- 5.25 **Diagnostic service:** Overall, the diagnostic service was well received. However, at least seven companies raised concerns about the diagnostic service, and their ability to implement the recommendations. Comments related to the one-to-one consultation and diagnostic report – companies have reported that they had difficulty interpreting what the consultant was telling them, and that the vocabulary used in the diagnostic reports was not easy to understand. For example, Company 9 stated, *"I couldn't understand him and I was out of my depth and felt stupid"*. The ability to take forward the recommendations from the diagnostic is raised as a concern by a small number of companies for various reasons, including finding the time to implement the recommendations in the report, and having sufficient ICT knowledge to implement the required changes.
- 5.26 Three companies with specialist IT requirements, including a graphic design company, printer, and photographer, voiced concerns that the diagnostic consultant did not have sufficient knowledge of the specialist hardware/software used in their business.
- 5.27 **ICT project grants:** Feedback from those that received ICT project grants shows that recipients were, overall, pleased with the service. Concerns related to:
- (1) the threshold for obtaining match funding which many businesses felt was too high and cited as a key reason for not applying for the grant and;
 - (2) the process of obtaining three quotes which was found by some to be difficult. For example, one company found that quotes varied between £200 to £1,800.
- 5.28 **Awareness of other services:** The interviews also suggest that not all businesses were aware of the full range of services available through 'onlincolnshire'.

6. Drivers of Broadband Adoption

- 5.29 The most frequently cited drivers of broadband adoption - the reasons why companies decided to adopt broadband and other ICT technology – were an increase in the internet connection speed (at least 18 companies) and improvements in efficiency (at least 10 companies). A broad impression from the interviews is that broadband adoption was regarded as 'common sense', and that using the alternative dial-up service wasn't effective for business. For example, Company 26 stated, *"prior to this I didn't have any connection at all - we had a really bad connection. I was dial up but gave up on it because it took such a long time"*.

- 5.30 Other reasons given include improvements in marketing (10 companies). All of the interviewees that intended to use broadband and ICT technology to assist in the marketing of their company had gone on to develop websites or make improvements to existing websites.
- 5.31 Four companies stated that they had applied for broadband and other services simply because funding was available. Company 14 stated that a clear driver was *“that it was paid for by someone else, and the fact that someone offered to have it installed”*. These companies would not have accessed broadband without additional funding, and the ‘onlincolnshire’ initiative enabled them to receive a broadband connection. Relocation was a driver for two companies, who were intending to work from home and were unable to do so without broadband. Other drivers included reducing costs and increasing sales.
- 5.32 What is evident from the interviews is that the drivers of broadband adoption did not always relate to the ways in which new technology was used and implemented, or the outcomes and benefits achieved. When asked about reasons for adopting broadband and other new technology, a common reply was that it was a necessary step for the business, or that there really was no alternative. The interviews suggest that many businesses proceeded to use broadband and new technology in ways that they had not anticipated before adopting the service/s and that the effects of broadband, therefore, exceeded their initial expectations.

7. Barriers to Maximising the Benefit of Broadband

- 5.33 **Reluctance or fear of online purchasing:** while the majority of companies used the internet to research and source products and services, a small number of companies showed a reluctance to purchase online. One reason given was that it wasn’t always possible to tell if an item was in stock when ordering online. For example, Company 10 stated, *“to put orders online is more difficult and more hassle than it is worth because by the time you have picked them up and the order has been placed you are not aware of stock problems”*. A number of companies, therefore, sourced products and checked prices over the internet, but preferred to telephone suppliers to check stock and place orders. Other reasons for not purchasing online included a distrust of internet security, and a dislike of the principle of internet shopping, i.e. that it will affect traditional suppliers. For example, when asked about whether they purchased products online, Company 21 stated, *“there is no doubt that I will come around to it eventually but I am hoping that it doesn’t go too much that way or else it will do my business in if no-one goes down to the shops anymore”*.
- 5.34 **Website not appropriate to business:** at least two businesses felt that a website would not be appropriate for their customers. For example, Company 10 stated, *“the average customer age is 55 and they are not interested (in using computers)”*. Company 34, which provides specialist consultancy services, did not feel the need to develop a website because it relied on work from existing customer contacts and word of mouth.
- 5.35 **Established supplier base:** rather than seeking new suppliers online, some businesses expressed the view that their existing supplier base was already established, or that they were happy with their existing suppliers. For

example, Companies 20 and 24 both stated that they had suppliers that visited every month. Personal contact with suppliers is something that a number of businesses mention as being valuable.

8. Lessons Learned from the Business Interviews

5.36 The interview findings suggest that – for the majority of businesses – the principal benefit of broadband adoption relates to efficiency gains, such as a reduction in costs, and the time taken to complete tasks. However, a small number of businesses have been able to use broadband technology to broaden their customer/market profile, and in some cases broadband has brought about changes to the way a business operates. The effects of broadband on businesses can be summarised under three broad headings:

- **Efficiency Gains** – general savings in time and costs brought about by faster email and internet access, the ability to download and email files, and conducting research over the internet;
- **Enhanced Model** – improvements made to the way the business operates as a result of broadband adoption, and the extent to which broadband adoption has led to new markets or customers;
- **Transformation** – changes in the way the business operates, or the business model, as a result of broadband adoption.

5.37 **Efficiency Gains:** the adoption of broadband has resulted in efficiency improvements for the majority of businesses. These relate to: the increased speed of internet and email access; the option of working online at any time; and the use of email (rather than postal mail) to send and receive documents. Other efficiency gains relate to the use of the internet to source goods and services, which has in some cases resulted in cost savings, and online banking.

Case Study: Efficiency Gains**Company 7****Type of Activity:** architectural design services

Company 7 has been in operation for 13 years and comprises one owner manager and a part-time assistant. The company undertakes commercial and domestic architectural work, mostly for customers in the local area. The company received the basic broadband grant from 'onlincolnshire'.

The main effect of broadband adoption has been an increase in the speed of the internet connection. The owner sends autocad drawings to clients, and this used to take a long time when the company used dial up. The owner communicates by email with his part-time assistant, who works from home, up to 8-10 times a day. According to the owner, broadband has made this a lot quicker, *"it has speeded it up brilliantly and has made a big difference to me actually"*.

The owner has noticed that broadband has made checking emails easier, *"when you are online all day you can check it periodically and I suppose that must be saving a bit of money on phone calls"*. He has also found that he can download colour sheets and drawings of materials and email these to clients to get instant feedback. This was not something he had anticipated when he first applied for broadband. The company has not developed a website, mainly because it attracts most of its business by word of mouth.

Overall, broadband adoption has led to improvements in efficiency for the company and, from the owner's perspective, had made everything a bit easier, *"from a personal perspective I am a bit less stressed because I know I can get things done quicker and the relationship between me and my assistant has improved"*.

5.38 **Enhanced Model:** the interview findings show that broadband and related ICT technology can be used to enhance or bring about improvements to the existing operation of a business (i.e. make companies significantly more likely to achieve their business objectives). Ways in which businesses have used broadband to enhance their business model include:

- The development of a website to give the company a web presence and to promote services to new customers;
- Use of online directories to marketing goods and services;
- Use of the internet to find new suppliers;
- An increase in online purchasing;
- Use of innovative methods of electronic communication, such as video conferencing and skype.

5.39 The development of a website, and use of online directories, in particular has enabled a number of businesses to reach new customers. Several businesses have experienced changes to their customer profiles (e.g. appealing to customers of different ages, genders, and socio-economic backgrounds) and/or a broadening of their geographical coverage, to other area of the UK and to markets outside the UK.

Case Study: Enhanced Model

Company 8

Type of Activity: fabric design and sports clothing

Company 8 has been in operation for twenty five years, at first specialising in fabric printing before moving on to designing yoga clothing. It is owned and managed by one person, who works from premises at home. The company received the basic broadband grant from 'onlincolnshire'.

The owner feels that the broadband connection has enabled her to spend more time developing her website. The one-off payment means that she has been able to spend time updating the site without consideration of the cost of being online. The website is used as an electronic brochure to showcase products and test out new styles, *"having the website is like having a shop window to test products out and they can be put up there very quickly"*. Compared to when the products were advertised solely through a printed brochure, the website has enabled the company to attract customers from younger age groups and from a broader range of geographical areas in the UK. The website is not ecommerce enabled, because the owner prefers customers to order over the telephone, so that they can provide a more personal service and discuss measurements.

Since adopting broadband, the owner has found that she sources a higher proportion of materials online, and now purchases t-shirts from Holland and fabric from Denmark. She has also started to use the website to advertise yoga classes, which have been fully subscribed as a result.

5.40 **Transformation:** a small number of businesses were able to use broadband technology to change their business model, i.e. make changes to their business objectives or the way their business operates. Examples of transformation include:

- The development of an ecommerce enabled website which, in some cases, has allowed companies to move from being solely wholesale suppliers to become retailers;
- Use of broadband technology to allow relocation, home working, or working from more than one site;
- Providing new services, such as hosting of others' websites or developing an additional stream of business.

Case Study: Transformed Model

Company 15

Type of Activity: wholesaler and retailer of footcare products

Company 15 has been in operation for 23 years. It imports and sells footcare products, such as insoles and shoe laces. It is owned and managed by a husband and wife partnership, who run the company from home. The company has received the basic broadband grant, diagnostic consultation and ICT project grant from 'onlincolnshire'.

As a result of the diagnostic and grant, Company 15 has developed a website which enables it to sell products online and control stock. The development of an ecommerce website was recommended by the diagnostic report, and the company decided to go with the cheapest of the three quotes they received as part of the grant process. The owners were pleased with the website but, at first, were concerned that the web developer had left them to put items on and take them off without any support. The owners since feel it was the best thing he could have done, adding, *"it is brilliant – it is the best thing he could have done - because we take photographs ourselves and put them on the site, and when things are sold we take them off"*. The company was, therefore, able to learn new computer skills as they became more familiar with managing the website.

Before developing the website, Company 15 operated entirely as a wholesaler of footcare products. The business wasn't doing very well, and a number of customers had been lost due to bankruptcy. The website enabled the company to diversify into retail, and sell directly to domestic customers. The owners have been surprised by the amount of business generated through the website, which included one order for 7,500 pairs of shoe laces. Supplying to domestic customers has meant that the company deals with smaller volumes, but generates more profit. The owners feel that diversification into retail has enabled the company to increase its sales turnover, and become more sustainable.

5.41 Table 5.1 sets out the number of business interviewees that experienced each type of impact as a result of broadband adoption. The results are presented by level of service received from 'onlincolnshire'. The table suggests that a high proportion of businesses in receipt of the diagnostic and/or grant (or advanced broadband, diagnostic and grant) demonstrated an enhanced or transformed model. All the SMEs that had implemented sophisticated uses of ICT – such as an ecommerce-enabled website, the development of new products/services, and purchase of new hardware - had received the diagnostic and grant service from 'onlincolnshire'. A lower proportion of those in receipt of the basic or advanced broadband subsidies developed an enhanced business model, and none changed their business model.

Table 5.1 – Impact of Broadband by User Type

Service	Efficiency gains	Enhance existing model	New transformed model	TOTAL
Advanced Broadband	1	1		2
Advanced Broadband, Diagnostic and/or Grant		2	2	4
Basic Broadband	9	6		15
Diagnostic and/or Grant	6	7	5	17
TOTAL	16	15	7	38

9. Developing a Framework of Broadband Adoption

5.42 The findings from the telephone and face-to-face interviews suggest that there are patterns in the way that broadband technology is adopted and implemented within SMEs, and in the outcomes achieved. Table 5.2 outlines the three broad levels of impact identified through the qualitative interviews – efficiency gains, enhanced model, and new transformed model. The table sets out the uses and outputs that typify, and are characteristic of, the three levels of impact experienced by SMEs. Analysis of the drivers of broadband adoption suggests that these do not necessarily determine how SMEs go on to use broadband, nor the effects of broadband adoption. For this reason, the drivers are presented as ‘generic’ factors that influence broadband adoption, but that cannot be directly related to the level of impact experienced by the SME.

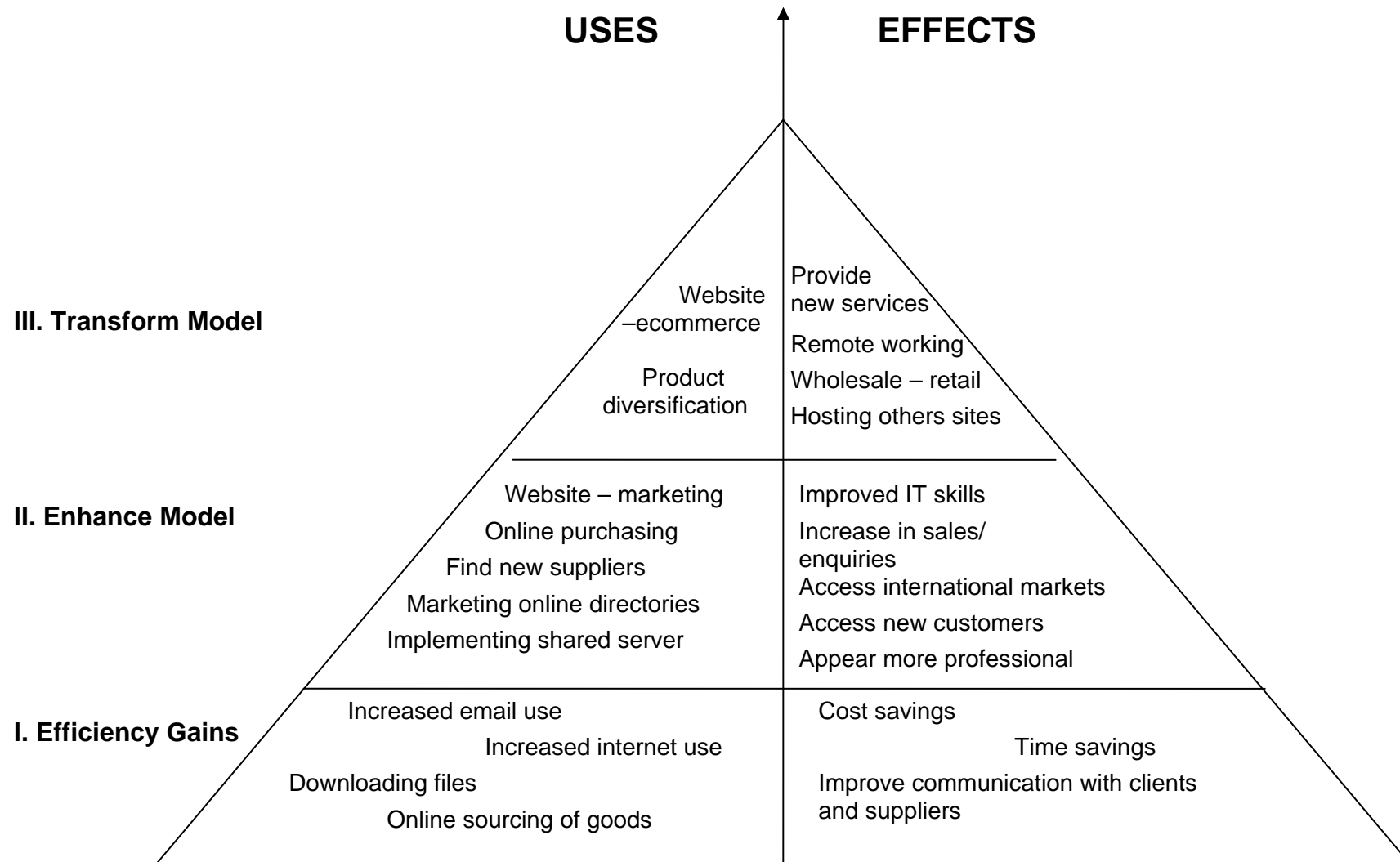
5.43 Across the three levels of impact (efficiency gains, enhanced model, and transformed model) the uses and effects of broadband adoption tend to be cumulative, i.e. that businesses that use broadband to enhance their business model also experience efficiency gains, and those with a transformed model also demonstrate uses and outcomes associated with efficiency gains and improving the existing business model.

Table 5.2 – Drivers, Uses, and Outcomes of Broadband Adoption

	I. Efficiency Gains	II. Enhance Existing Model	III. New Transformed Model
Drivers	Improve marketing Reduce costs Improve efficiency Increase sales	Increase access speed Previously no connection	Funding available Relocation
Implementation/ Use	Increased email use Increased internet use Downloading files Online sourcing of goods Online research	Video conference /Skype Implement shared server Website – marketing Online purchasing Finding new suppliers Marketing on online directories	Website – ecommerce Product diversification
Outcomes	Cost savings Time savings Improve communication with clients/suppliers	Improved IT skills Increase in sales/enquiries Access international markets Access new customers Appear more professional	Move from wholesale to retail Offer new services Develop an additional business Remote working

5.44 Figure 5.1 sets out a proposed framework of broadband adoption and outcomes, which outlines uses and effects at the level of the firm. The pyramid format reflects the proportion of SMEs that are likely to experience each level of impact as a result of broadband adoption and implementation. The framework indicates that, for the majority of SMEs, broadband adoption brings about efficiency gains (as a result of faster connection speeds and increased email use) and improvements to their business model (as a result of, for example, website development and finding new suppliers). A very small proportion of businesses use broadband and related technology to transform their business model. The analysis outlined above suggests that these SMEs are likely to be (a) enthusiastic and competent users of ICT and/or (b) in receipt of the 'onlincolnshire' diagnostic and project grant service.

5.45 The framework has some similarities with the e-adoption ladder described in section 1. However, unlike the e-adoption ladder, it is not intended to be a hierarchical representation of broadband adoption. In other words, the framework does not assume that a transformed model is desirable, nor appropriate, for all SMEs. Rather, it demonstrates that the experience of taking up broadband can bring about benefits regardless of how it used and implemented within the SME.



5.2 Longitudinal Interview Findings

1. Introduction

- 5.46 This section presents the findings from the follow-up interviews conducted with 15 SMEs that took part in the original qualitative interviews. Table 4.3 presents the uses and effects of broadband implementation for each business at the time of the first and second interviews. A more detailed summary of the interviews can be found in the Annex 3.

2. Use and Implementation of Broadband

- 5.47 The findings presented in the table 5.3 suggest that, at the time of the second interviews, all businesses demonstrate at least the same, or a more diverse, use of broadband and ICT technology. The findings indicate that the businesses' use of ICT has continued to develop since the time of the first interviews. Feedback from the interviewees suggests that, as businesses become more familiar with new technology, their propensity to use ICT for a wider range of purposes increases.
- 5.48 An increased use is evident in the following: using the internet to find new suppliers (an increase of 6 companies); advertising on online directories (3); developing an ecommerce-enabled website (2); online purchasing (2); and sending and downloading files (2).
- 5.49 **New Suppliers:** Companies 3, 8, 10, 12, 15, and 28 had started to use the internet to find new suppliers. Key reasons for seeking new suppliers included: (i) cost savings compared to traditional suppliers; and (ii) sourcing specialist products. Most new suppliers were located outside Lincolnshire, or outside the UK.
- 5.50 **Online Directories:** Companies 3, 7, and 28 had started to advertise using online directories. For company 7, the directory was provided by a professional association on behalf of its members. Companies 3 and 7, both retailers, advertised on directories for stockists in their sector.
- 5.51 **E-commerce Websites:** Companies 3 and 33 had started to sell products directly over the internet. The owner of company 33 had developed two e-commerce websites, using a facility provided by Freestart, to sell products for two different aspects of her business. The owner of company 3 had started to use an online stockist to sell products on behalf, and was in the process of investigating how to make her own website e-commerce enabled.
- 5.52 **Online Purchasing:** Companies 8 and 15 had started to use the internet to purchase goods and services. Some companies that showed a reluctance to purchase online in the first interview phase demonstrated an increase in online purchasing at the follow-up interview. For example, the owner of Company 21 had been reluctant to purchase online due to fears about credit card security. At the time of the second interview, his online purchasing had increased, partly due to an increasing number of suppliers selling products online, but also because he had become more familiar and comfortable with the process of online purchasing.

3. Effects of Broadband Implementation

- 5.53 In terms of the effects of broadband, an increase can be observed in the number of businesses experiencing: a growth in sales (an increase of 3 companies); improved communications with clients and suppliers (3); cost savings (2); and accessing new customers (1); and accessing international markets (1).
- 5.54 **Growth in Sales:** Companies 3, 4 and 24 had started to experience a growth in sales/enquiries as a result of adoption of 'onlincolnshire' services. Companies 3 and 24 attributed this growth to the development of a website, which had led to enquiries from outside their usual markets. Company 4 attributed its increase in sales to the ability to complete more projects within the same amount of time, meaning that he could commit to a higher volume of orders.
- 5.55 **Improved Communication:** Companies 5, 7, and 33 had started to notice improvements in the way that they communicated with their colleagues, suppliers and customers. For example, the owner of company 33 found that she was able to send and receive customer emails, was able to provide a more efficient service by using the internet to check stock availability for customers.
- 5.56 **Cost Savings:** Companies 15 and 24 had identified cost savings as a result of adopting 'onlincolnshire' services. The owner of Company 24 found that he was spending less money on fuel and mail, as he was able to send large files to his customers by email.
- 5.57 **Access New Customers and International Markets:** Companies 8 and 12 found that they were attracting new customers as a result of their websites. Company 4 had been able to attract customers from international markets, and found that he was able to communicate with them using video conferencing.

4. Capacity Implications

- 5.58 Compared with the first interview phase, fewer capacity issues were raised. The main issues included:
- 5.59 **Reliability:** there were few concerns raised about the reliability and speed of broadband. This suggests that many of the original concerns raised were related to initial problems related to installation and getting used to new systems. Two companies that had previously had problems with sending files by email – companies 4 and 24 – no longer experienced problems.
- 5.60 **Computer knowledge:** more than half the companies interviewed (companies 3, 7, 10, 11, 15, 21, 33, 36) identified that their own computer knowledge was restricting them from fully benefiting from broadband. For example, the owner of company 3 intended to sell products directly over her own website but was unsure of the best way to approach this. Company 15 was advertising their website using pay-per-click, which cost them around £500 a month, but were unsure if this was the most cost effective approach.

5. Future Potential

- 5.61 Companies were asked how they planned to use broadband and ICT within their business in the future. A number of themes emerged:
- 5.62 **Using ICT for marketing:** such as through the use of email shots, is cited by Companies 3, 8, 10 and 21;
- 5.63 **Ecommerce:** developing the capacity to sell directly over their own website is cited by Companies 3, 8, 12, 21, 24. These are companies that, at the time of the first interview, did not express an interest in ecommerce;
- 5.64 **Overseas markets:** three companies, companies 3, 15, and 28, intend to use their websites to reach overseas markets;
- 5.65 **Company expansion:** expanding the company to employ more people or outsource functions is identified by companies 4, 7, 12, and 15 and 28. Companies 4 and 7 both currently outsource work, such as design and secretarial services, and plan to outsource other functions in the future. Companies 15 and 29, which have both developed e-commerce websites, plan to employ new staff to assist with the traditional streams of their business so that they can spend more time managing their websites. Company 12 expects to expand its workforce and move to new premises, due to an increasing number of orders.

6. Effectiveness of the 'onlincolnshire' service

- 5.66 Feedback on the 'onlincolnshire' service includes:
- 5.67 **Training and Independent Advice:** five companies – companies 28, 3, 4, 15, 33 - felt that the service could be improved via the provision of independent advice and/or training. For example, company 15 stated that, having developed their website, they weren't sure where to go next and that their sales were no longer increasing. They had been offered advice by a variety of IT consultants, but some of this was conflicting, and they would appreciate some impartial advice from somebody who wasn't trying to sell them a service.
- 5.68 The owner of company 4 stated that she would like the opportunity to talk to a trainer or an expert on how IT could be used within business – somebody who could communicate in layman's terms. She also felt that a self-help group, perhaps comprising companies within the same area of activity, could potentially help.
- 5.69 **Satisfaction with the 'onlincolnshire' service:** the follow up interviews suggest that most businesses continue to be happy with the 'onlincolnshire' service. Three companies – companies 8, 11, and 24 - stated that they were very happy with the service and required no further assistance.
- 5.70 **Awareness of Advanced Broadband:** three companies – companies 10, 21, and 28 – were unfamiliar with the advanced broadband service and expressed an interest in finding out more. Company 24 had applied for advanced broadband and was waiting for a radio transmitter to be installed in the area so that he could receive the service.

- 5.71 **Diagnostic and Project Grants:** three companies – companies 10, 12, 33 – had received the diagnostic service but had not applied for the project grant. Company 10 had not yet found the time to look at the diagnostic report, and company 33 was not able to afford the amount of money required for match funding. Company 12 had intended to apply for the project grant, but had not realised that the service was no longer available.

7. Examples

5.72 The following examples provide a detailed illustration of how businesses' use of broadband and related services has changed from the first to the follow-up interview phase.

Example 1 – Company 15

Background

Company 15 has been in operation for 23 years. It imports and sells footcare products, such as insoles and shoe laces. It is owned and managed by a husband and wife partnership, who run the company from home. The company has received the basic broadband grant, diagnostic consultation and ICT project grant from 'onlincolnshire'.

Interview 1

As a result of the diagnostic and grant, Company 15 has developed a website which enables it to sell products online and control stock. The development of an ecommerce website was recommended by the diagnostic report, and the company decided to go with the cheapest of the three quotes they received as part of the grant process. The owners were pleased with the website but, at first, were concerned that the web developer had left them to put items on and take them off without any support. The owners since feel it was the best thing he could have done, adding, *"it is brilliant – it is the best thing he could have done - because we take photographs ourselves and put them on the site, and when things are sold we take them off"*. The company was, therefore, able to learn new computer skills as they became more familiar with managing the website.

Before developing the website, Company 15 operated entirely as a wholesaler of footcare products. The business wasn't doing very well, and a number of customers had been lost due to bankruptcy. The website enabled the company to diversify into retail, and sell directly to domestic customers. The owners have been surprised by the amount of business generated through the website, which included one order for 7,500 pairs of shoe laces. Supplying to domestic customers has meant that the company deals with smaller volumes, but generates more profit. The owners feel that diversification into retail has enabled the company to increase its sales turnover, and become more sustainable.

Interview 2

The company has continued to sell products through its website, which they maintain and update themselves. The website is achieving around 18,000 hits per month and the owners report that turnover has increased by around £9,000 since the website went live. They now sell a broader range of products, and are attracting customers from across the UK. The site is advertised using pay-per-click which costs around £500 a month. Sales on the internet account for 20% of total sales, and the owners hope this will increase to 60-70% in the next two years.

The owners are pleased with the website, but say that having the website is "just the start – the easy bit". The company has received advice from a number of IT consultants about how best to market the site – such as using pay-per-click or links – but they feel they had received conflicting advice. One IT consultant changed their ad words, which caused visits to their site to drop from 18,000 to 12,000 a month. The owners are spending every evening on website links but are not sure if this is worth their while. They feel that they would benefit from some independent advice from 'onlincolnshire' or from a consultant that wasn't trying to sell them something.

Example 2 – Company 4

Background

Company 4 has been in operation for six years. The company started in London and moved to Lincolnshire five years ago. CDN is owned by one person who works from premises at home. The company provides a complete design service for businesses, including websites, stationery, and logos.

Interview 1

Although the company is based in Lincolnshire, 90% of Company 4's customers are still based in London. The owner keeps in regular contact with clients via video conferencing, which means that he only has to visit London once or twice a month. Without broadband, relocation to Lincolnshire would not have been possible, as it would not be feasible to operate the business using dial-up. The main uses of broadband are researching, downloading software, and communicating with clients.

The company is based in a rural area of Lincolnshire, and has experienced problems with the speed of broadband connection. For example, he still sends files to London by CD because it is not possible to send them via email.

Interview 2

In contrast to the first interview, 70% of Company 4's work is from the Lincoln area. The company has secured a contract with a multi-national company which has a subsidiary in Lincolnshire, and he uses video conferencing to communicate with offices at various locations around the world. Company 4's other customers range from start-up to very large companies. The owner reports that he now has the capacity to develop a dozen websites a month compared to three when he was on dial-up. He also uses the internet for off-site data storage.

The company has expanded rapidly and now outsources secretarial and graphic design work to people living in the Lincoln area. The owner's aim is to provide a consultancy role, and to outsource design work to various suppliers while providing a seamless service to the customer.

Table 5.3 - Effects and Outcomes of Broadband Implementation – Interviews 1 and 2

	Company 8		Company 28		Company 3		Company 10		Company 4		Company 11		Company 15		Company 33	
IMPLEMENTATION/USE	1	2	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Increased email use	✓	✓					✓	✓								
Increased internet use	✓	✓					✓	✓								
Send/download files										✓						
Shared server																
Website – marketing	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Website – ecommerce			✓	✓		✓	✓	✓					✓	✓		✓
Product diversification										✓	✓	✓				
Hardware purchase				✓							✓	✓				
Online research			✓	✓		✓	✓	✓							✓	✓
Online sourcing of goods	✓	✓	✓	✓	✓	✓	✓	✓							✓	✓
Online purchasing		✓	✓	✓	✓	✓	✓	✓						✓		
Find new suppliers		✓		✓		✓		✓						✓	✓	✓
Marketing on online directories				✓		✓					✓	✓				
Video conferencing									✓	✓						
OUTCOME/EFFECT																
Cost savings			✓	✓			✓	✓	✓	✓				✓		
Time savings	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓						
Improve communication											✓	✓				✓
Increase in sales/enquiries	✓	✓			✓	✓				✓	✓	✓	✓	✓	✓	✓
Wholesale to retail													✓	✓		
Improved IT skills					✓	✓							✓	✓		
Access international markets										✓						
Access new customers		✓			✓	✓					✓	✓	✓	✓	✓	✓
Remote working									✓	✓						
Provide new services																
Appear more professional				✓	✓	✓						✓				

	Company 24		Company 21		Company 7		Company 36		Company 12		Company 5		Company 17	
IMPLEMENTATION/USE	1	2	1	2	1	2	1	2	1	2	1	2	1	2
Increased email use					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Increased internet use					✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Send/download files		✓			✓	✓			✓	✓				
Shared server														
Website – marketing	✓	✓	✓				✓	✓		✓			✓	✓
Website – ecommerce													✓	✓
Product diversification														✓
Hardware purchase		✓											✓	
Online research			✓	✓	✓	✓			✓	✓	✓	✓	✓	✓
Online sourcing of goods		✓	✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Online purchasing			✓	✓	✓	✓	✓	✓	✓	✓			✓	✓
Find new suppliers			✓							✓				
Marketing on online directories						✓	✓	✓	✓	✓				
Video conferencing														
OUTCOME/EFFECT														
Cost savings		✓			✓	✓	✓	✓						
Time savings		✓	✓			✓	✓	✓	✓	✓	✓	✓	✓	✓
Improve communication						✓	✓	✓				✓		
Increase in sales/enquiries		✓	✓							✓			✓	✓
Wholesale to retail													✓	✓
Improved IT skills							✓	✓						
Access international markets														
Access new customers										✓				
Remote working					✓	✓								
Provide new services														
Appear more professional			✓											

5.3 Implications for Service Delivery from the Qualitative Interviews

- 5.73 This sections sets out the implications for service delivery from the qualitative interview phase of the study, and examines the effectiveness of each of the services offered by 'onlincolnshire': basic broadband; advanced broadband; ICT diagnostic and ICT project grant.
- 5.74 **Basic Broadband:** the interviews suggest that the method of providing subsidies to enable businesses to connect to a basic broadband service is an effective way of encouraging basic broadband take-up. All of the businesses that were interviewed, at both the first and follow-up stages, had continued to subscribe to at least a basic broadband service.
- 5.75 Those who subscribed to the basic broadband service gave very positive customer feedback, and indicated that they had found the application process very easy and straightforward. A number of information channels were used by basic broadband users to find out about the initiative, suggesting that the marketing of the service had been successful.
- 5.76 The most frequently raised capacity issue related to the speed of the basic broadband connection. This highlights a limitation of providing financial assistance to enable businesses to connect to the basic broadband service. For this service, the responsibility for the speed and reliability of the connection is not the remit of 'onlincolnshire', but is determined by the infrastructure of private sector telephone and cable providers.

Table 5.4 Basic Broadband – Strengths and Weaknesses

Strengths	Weaknesses
<ul style="list-style-type: none"> •An effective way of encouraging broadband take-up and, once connected, businesses tend to stay connected •Very positive customer feedback, particularly related to the ease of finding out about the initiative, downloading and completing the application form •Effective marketing strategies: a wide range of media channels was cited by 'onlincolnshire' customers 	<ul style="list-style-type: none"> •Limited speed of basic broadband connection, particularly in rural areas

- 5.77 **Advanced Broadband:** as previously stated, only six companies in the sample were in receipt of advanced broadband at the time of the interviews. From the interview phase alone it is, therefore, difficult to provide a thorough assessment of the effectiveness of advanced broadband provision. Feedback from the six interviewees suggests that there are few reliability issues, other than minor problems with the initial installation and software. One interviewee was not

satisfied with the service they received from their advanced broadband provider, which charged a fee for coming out to fix a problem.

5.78 In terms of how advanced broadband is used and implemented within the business, the interview findings provide some evidence of more sophisticated use of ICT among advanced users. For example, all but one had developed a website for marketing, one had developed an ecommerce site, and another a site to host others' websites. Two companies had implemented a shared server, and two had diversified their products and services. Although these examples suggest more developed use of ICT among advanced broadband subscribers, it appears that the current use of applications supported by advanced broadband is a small proportion of its potential use.

5.79 For the companies that did not have advanced broadband, there was limited knowledge about the service and the potential benefits it could bring to their business. Several companies (such as companies 24 and 29) located in villages to the south of Lincoln had applied for advanced broadband but were not able to receive a wireless signal. These companies were awaiting the availability of advanced broadband in their area in order to perform functions that were not possible using basic broadband, such as developing an online inventory of products and specialists in their sector (company 29) and setting up an ftp file (company 24).

Table 5.5 Advanced Broadband – Strengths and Weaknesses

Strengths	Weaknesses
<ul style="list-style-type: none"> • Effective in providing broadband access to selected rural areas where wired broadband has insufficient capacity. • Evidence of sophisticated ICT use among some, but not all, advanced broadband users • The service is reported to be efficient, with few citing problems with speed or reliability 	<ul style="list-style-type: none"> • Limited awareness of advanced broadband among existing basic broadband users, suggesting there is potential for marketing among existing 'onlincolnshire' customers • Among existing basic users that are aware of advanced broadband, there is limited knowledge of how it is could be relevant to their business, beyond simply providing a faster internet connection. • Evidence that some customers are unable to receive advanced broadband, due insufficient radio signal

5.80 **ICT Diagnostics:** Analysis of patterns of ICT adoption and the wider benefits experienced by SMEs across the four user groups suggests that those in receipt of diagnostics and/or grants were most likely to develop an enhanced or transformed business model. In other words, the provision of tailored advice and financial assistance to purchase new ICT products and systems was shown to make a significant difference to the way businesses operated.

5.81 Although well received by the majority of businesses, at least eight companies raised concerns about the diagnostic service. Concerns included: (i) that reports were difficult to understand for those unfamiliar with ICT; (ii) that the

advice given was 'generic' and not tailored the individual needs of each business; (iii) that the ICT consultants lacked knowledge of equipment needed for specialist sectors such as graphic design, printing and photography.

- 5.82 A significant number of companies, nine, that had received the diagnostic service had not proceeded to apply for the grant, for a number of reasons which are outlined in paragraph 5.84 below. Three of these companies were interviewed in the longitudinal study and it was found that, at a later stage, none had implemented the diagnostic recommendations. Where businesses had not applied for the project grant, the diagnostic service alone was found to have little effect on the business.

Table 5.6 ICT Diagnostics – Strengths and Weaknesses

Strengths	Weaknesses
<ul style="list-style-type: none"> • Among those that have received the project grant, the diagnostic is rated very highly, particularly for website development and hardware purchase • Effective way of delivering ICT solutions for SMEs and micro-businesses with limited knowledge of how ICT can be used within their business 	<ul style="list-style-type: none"> • Perceived as ICT consultancy rather than tailored advice for how ICT can be used within a business • Lack of knowledge hardware/software needed for specialist activities such as graphic design, printing, and photography • Vocabulary and pitch of report not always regarded as appropriate for micro-businesses • Where business have not applied for the project grant, the diagnostic alone has little impact

- 5.83 **ICT Project Grants:** As stated above, the combination of the ICT diagnostic and project grants is shown, through the qualitative interviews, to assist businesses in implementing ICT solutions that enhance or transform their business model. Feedback from the interviewees indicates that the project grant has enabled businesses to purchase hardware, software, and commission professional websites, where they would not have otherwise been able to justify the expense.

- 5.84 However, the interviews suggest that a significant number of businesses that have received the diagnostic service do not apply for the grant. Reasons include: (i) that the threshold for match-funding is too high, particularly for the self-employed and micro-businesses; (ii) difficulties in gathering the three quotes needed for the grant, particularly where the project involves specialist equipment available through only one outlet; (iii) difficulties in comparing quotes, where the prices quoted and specifications received are vastly different; (iv) difficulties in understanding the recommendations outlined in the diagnostic reports; and (v) that some businesses have not dedicated sufficient time to read the diagnostic report and apply for the grant.

Table 5.7 ICT Project Grants – Strengths and Weaknesses

Strengths	Weaknesses
<ul style="list-style-type: none"> • Enabled SMEs to purchase e-business solutions that would they would not have otherwise been able to afford 	<ul style="list-style-type: none"> • Funding threshold too high for micro-businesses • Not all businesses have applied for the ICT project grant after receiving the ICT diagnostic • Difficulties experienced in (i) the process of obtaining three quotes, which isn't possible for some specialist products and (ii) identifying good IT consultants

6. Geographical and Technology Context

6.1 Regional Comparisons

- 6.1 This section sets out examples of initiatives to promote broadband in selected UK regions. The aim is to illustrate examples that can be compared to 'onlincolnshire' in order to identify: (i) differences in the delivery of the initiatives and the types of support provided; (ii) outcomes achieved by initiatives elsewhere in terms of the effect on businesses and wider economic impact; and (iii) areas of comparative strength and weakness, and lessons to be learnt for 'onlincolnshire'.
- 6.2 A number of criteria were used to identify comparator regions for Lincolnshire. These included selecting regions that are both rural and sparsely populated, and therefore present similar challenges for delivery of broadband services. Examples were also selected based on their reputation as 'good practice', particularly in terms of the number of businesses that had been able to access, and subscribe, to broadband as a result of the relevant policy initiative.

Example 1: ActNow Cornwall

- 6.3 ActNow (Access to Cornwall through Telecommunications to New Opportunities Worldwide) was launched in April 2002 by the South West Regional Development Agency (SWRDA). The initiative is delivered by a public/private partnership, which includes Cornish Enterprise, Business Link, SWRDA, BT, Cornwall College, and DEFRA, and has used funding provided by SWRDA and the European Objective One programme.
- 6.4 The aim of the programme is to roll out and boost demand for broadband for businesses and residents in Cornwall. The programme has four key visions, which are:
1. To help 100% of businesses in Cornwall to connect to broadband and increase their profitability;
 2. To increase the take up of broadband amongst individuals, bringing broadband to every single man, woman and child in Cornwall;
 3. To make Cornwall a leading edge location for communications infrastructure;
 4. To make Cornwall the flexible working capital of the UK.
- 6.5 The initiative offers a number of services:
- Advice on connecting to broadband and details of rebates available on the costs;
 - Free, expert advice on how SMEs can use IT to improve their business;
 - Specialist IT advice and grants for farms;
 - Advice for accommodation providers on how to offer broadband as a facility for guests;
 - Computer recycling;
 - Local events, for example on flexible working.

- 6.6 The ActNow initiative has focused on giving broadband access to 100% of businesses in Cornwall. It has ensured that all Cornish exchanges have been upgraded to provide 'maxDSL', which enables download speeds of between 4 and 8 Mbps, and upload speeds of 800 kbps.
- 6.7 The approach adopted by ActNow has some similarities to the 'onlincolnshire' initiative: Key features of similarity and difference between the two initiatives include:
- ActNow offers free independent advice on how SMEs can use ICT within their business, which is similar to the Diagnostic service offered by 'onlincolnshire';
 - Both initiatives provide financial assistance to businesses to help them connect to broadband: ActNow offers rebates of up to £60 on the cost of broadband connection, compared with the £200 offered by 'onlincolnshire';
 - ActNow does not offer an equivalent to the ICT Project Grant offered by 'onlincolnshire', except for the farming sector;
 - ActNow promotes broadband to both SMEs and residents in the region, compared with 'onlincolnshire' which focuses primarily on SMEs and employment sites.
 - Both ActNow and 'onlincolnshire' have both worked with BT to broadband-enable all exchanges. However, although ActNow has enabled all exchanges to be upgraded to 'maxDSL', it has not funded a symmetrical DSL broadband service, equivalent to the advanced broadband offered by 'onlincolnshire'.

Table 6.1 – Key Similarities and Differences between ActNow and 'onlincolnshire'

Service offered	ActNow	'onlincolnshire'
Broadband connection subsidies	✓ £60 per SME	✓ £200 per SME
Advanced broadband	X	✓
Free independent advice	✓ free advice to businesses	✓ ICT diagnostic service
Grants for ICT projects	X only for farming sector	✓ ICT project grants
Promotion to businesses	✓	✓
Promotion to residents	✓	X

- 6.8 According to ActNow, 99% of Cornish businesses are currently able to access broadband. Compared with 'onlincolnshire', the ActNow initiative shows less of an emphasis on the stimulating *demand* for broadband, with fewer services focused on providing subsidies and expertise to businesses, and more of an emphasis on rolling out broadband to all businesses in the area.
- 6.9 Research undertaken on behalf of SWRDA by EKOS Consulting¹⁰ has sought to measure the impact of ActNow, in terms of the economic and social benefits of broadband adoption. The research comprised a survey of businesses subscribed to broadband and a comparator sample of non-broadband users. Businesses were asked whether they had experienced changes in staff numbers, turnover, workload, productivity and profitability in

¹⁰ EKOS Consulting (2004) *The Economic and Social Benefits of Broadband Adoption: a report for the South West Regional Development Agency*

the time since they had connected to broadband. Headline findings for SMEs that had subscribed to broadband are shown in Table 6.2 below:

Table 6.2 – Effects of Broadband Adoption in SMEs in Cornwall

	% of SMEs agree
Economic Benefits	76
Greater Efficiency	90
Reduced Phone Costs	33
Professional Image	25
Increased Staff	25
Increased Turnover	35
Increased Productivity	48
Increased Profitability	40

Example 2: Northern Ireland

- 6.10 The Northern Ireland Broadband Initiative was launched in 2003 by the Department of Enterprise, Trade and Investment (DETI). At the time of the launch, just over 60% of the population in Northern Ireland had access to broadband.
- 6.11 The aim of the initiative was to provide “equitable access to cost effective broadband services for all”. The initiative had the following targets:
- To be the leading broadband region in the UK
 - To be the first region in the UK to have 100% coverage of broadband services
 - 100% broadband access with a minimum of 512k for all households by end of 2005
 - 100% broadband access with a minimum of 512k for all businesses by the end of 2005
 - 12% of household take up of broadband by end of 2005
 - 20% of business take up of broadband by end of 2005
 - 100% broadband at 2Mb/per sec at cost competitive prices by end of 2006¹¹
- 6.12 The contract to provide 100% broadband coverage to Northern Ireland was awarded to BT Northern Ireland on 29 March 2004, after a competitive tendering process. The project was funded by the EU Building Sustainable Prosperity Programme, and received just under £10 million funding.
- 6.13 The initiative focused on upgrading all BT exchanges to ensure that they were broadband-enabled, with a particular emphasis on broadband-enabling rural exchanges where BT did not previously consider there to be economic justification for supplying broadband.
- 6.14 A number of other schemes have been established by the DETI and partner organisations to further promote broadband take-up. These include:
- The Broadband SME Programme, which provides 40% of the installation costs of broadband and 40% of the first year running costs for eligible

¹¹ DETI (2004) *Broadband Northern Ireland: Fully Connected*, Telecommunications Policy Unit

companies up a maximum of £5,000 funding. This programme is managed by Invest Northern Ireland, a business support organisation.

- The Northern Ireland Broadband Flagship Initiative, which aims to attract proposals from companies to develop broadband applications and services that could be used to showcase broadband innovation in Northern Ireland. A call for expressions of interest was published in June 2002, which received 81 applications. Six projects were selected for a share of £1.75 million funding.¹²

6.15 The approach adopted by the DETI was significantly different to that adopted for the 'onlincolnshire' initiative. Key features of similarity and difference between the two initiatives include:

- the Northern Ireland initiative aims to improve broadband access for households, businesses, schools and libraries, whereas 'onlincolnshire' focuses on SMEs and social enterprises;
- as with ActNow Cornwall, the Northern Ireland initiative focuses primarily on the supply side of broadband access, and ensuring that broadband is accessible to businesses and residents in the area. 'Onlincolnshire' shows a focus on encouraging businesses to connect to and maximise broadband technology, via the provision of subsidies to encourage take-up;
- the Northern Ireland initiative does not offer the equivalent of the ICT diagnostic and ICT project grant services. The Broadband Flagship Initiative offers businesses the opportunity to receive funding to demonstrate how broadband has been used within their business, but this programme is restricted to a small number of IT-intensive SMEs;
- although a target of the Northern Ireland initiative is to ensure all broadband is available at a speed of 2mbps, it is not clear whether this will offer the equivalent to the advanced broadband service offered by 'onlincolnshire'.

Table 6.3 – Key Similarities and Differences between the Northern Ireland Broadband Initiative and 'onlincolnshire'

Service offered	Northern Ireland	'onlincolnshire'
Broadband connection subsidies	✓ 40% of installation and running costs for first year	✓ £200 per SME
Advanced broadband	X	✓
Free independent advice	X	✓ ICT diagnostic service
Grants for ICT projects	X only for small number of companies through Broadband Flagship Initiative	✓ ICT project grants
Promotion to businesses	✓	✓
Promotion to residents	✓	X

6.16 According to the 2005 Annual Implementation Report¹³, the Northern Ireland broadband initiative had enabled 97% of the population to have access to

¹² DETI website(2006) www.detini.gov.uk

¹³ DFPI (2005) *Northern Ireland Programme for Building Sustainable Prosperity: Annual Implementation Report*

broadband in 2004. By the end of 2005, broadband access was available for 100% of the population, including households, businesses, schools and libraries. However, this referred to access to a 'basic' broadband service, at a minimum of 512k.

Lessons for 'onlincolnshire'

- 6.17 **Emphasis on Demand rather than Supply:** Comparisons with ActNow Cornwall and the Northern Ireland Broadband Initiative reveal key differences in the delivery approach adopted by 'onlincolnshire'. The two comparators show a strong focus on stimulating the supply of broadband. For example, both have focused on working with BT to upgrade telephone exchanges to ensure universal accessibility to at least a basic broadband service. 'onlincolnshire' provides services that promote supply and accessibility of broadband for rural areas (such as through wireless technologies) as well as demand for broadband (via connection subsidies)
- 6.18 **Advanced Broadband:** The two comparator regions have set out targets to ensure the provision of a faster speed broadband service; maxDSL with download speeds of 4-8mbps and upload of 800 kbps by ActNow, and a commitment by the Northern Ireland Initiative to have 100% of broadband available at 2mbps by 2006. Neither shows evidence of facilitating a symmetrical broadband service nor use of wireless technology, equivalent to 'onlincolnshire' advanced broadband.
- 6.19 **Business Support:** The comparison of the three cases suggests that 'onlincolnshire' is unusual in its emphasis on provision for businesses, rather for all users – domestic and commercial. This is further emphasised by 'onlincolnshire' provision of ICT diagnostics and project grants, which offers tailored advice to the SME with the opportunity for match funding to implement ICT solutions. This level of dedicated support is not offered by the comparator programmes, and is an element that is demonstrated – through the interviews and telephone survey – to be effective in facilitating more advanced use of ICT and bringing about improvements in productivity.

6.2 Technology Review

6.20 The technology review provides an assessment of new developments in broadband technology, and national trends in broadband usage. The full technology review is included as a separate appendix to this report. The main points discussed in the review are summarised below:

6.21 Observation 1: The rural nature of Lincolnshire with many small businesses served by relatively long telephone lines limits the effectiveness of current and future forms of DSL. (Report References: Annex 1 Para 2.2.2 and Table 1)

Nationally, fibre networks are now regarded as the only long-term distribution solution seen as capable of delivering the predicted capacity demand and multi-provider capabilities for businesses and Internet-intensive households. However, in predominantly rural areas such as Lincolnshire, it seems likely that without public sector intervention the gaps in availability and quality will widen further. It is therefore sensible to seek pragmatic shorter-term solutions. See also recommendation 4.

Recommendation 1: Further detailed analysis of line-lengths and community clusters in Lincolnshire (and the relative variance of these from UK average) based on the Point Topic study should be undertaken to prepare the economic case for publicly-funded intervention/support for infrastructure solutions appropriate to an area such as Lincolnshire.

6.22 **Observation 2:** The shortfall in performance of ADSL (delivered over copper as an add-on to telephony service) cannot be *fully* overcome by using wireless technologies as a direct substitute. In the case of Lincolnshire's Advanced Broadband, service comparisons are further complicated by a widespread lack of *Symmetric* service comparators. (Report References: Annex 1 Para 2.3.6 and footnote 18: Ofcom report SES 2006-9).

For example, the current explanation of Lincolnshire's Advanced Broadband service may be considered misleading. The claimed '8 times faster upload' is based on an assumed 'typical' ADSL provision of only 256kb/s. Contrast this with BT's standard publicity: *"BT Business Broadband Lite, Single, Share packages currently offer download speeds of up to 8Mb with a maximum upload speed of 448kbps regardless of download speed. Network and Network Premium products also offer download speeds of up to 8Mb with maximum upload speeds of up to 832kbps."*

There has been recent industry criticism of overstated 'up to' claims, including action by the Advertising Standards Authority and Ofcom. Since the inception of the Lincolnshire project, ADSL service providers have increased both the download *and* upload speeds of their standard broadband services – marginally reducing in some cases the *degree* of asymmetry. This trend is expected to continue and, since Symmetry is a key differentiator in Lincolnshire, the promotion of Advanced Broadband should not rely on simplistic comparisons.

Recommendation 2: Greater care should be taken by providers and promoters in describing the advanced broadband services; their advantages and disadvantages, and in accurately setting/managing customer expectations.

This is particularly relevant when drawing comparisons to ADSL services that are themselves also being improved

- 6.23 Observation 3:** Symmetrical broadband access services will become increasingly more important for SMEs than for households because of the business sector demand for remotely hosted applications (where the application software – e.g. Microsoft Word is not hosted on the local PC) and for internet-based telephony (also known as VoIP) or for video conferencing. These ('Software as a Service') applications will increasingly demand a greater equality (symmetry) of two-way traffic.

However, the advantages of greater symmetry for businesses are not yet perceived by many broadband access providers as sufficient to drive demand for a general rebalancing of their services away from asymmetry. The currently dominant asymmetric provision is dictated by a market where most users (i.e. domestic consumers) still find it entirely satisfactory to receive much more data than they need to transmit. (Report references: Annex 1 Para 3.1.1 and related footnote reference 25 to Ovum report.)

However, recent survey results from the Communications Management Association (CMA) suggest major changes over the next 5 years in the priority needs of businesses (the 'enterprise' market) for fixed broadband access. This survey provides support for greater provision of symmetrical services.

The prioritised results for the specific question 'Criticality for my home workers to ensure business continuity' are shown in the following table.

**Table 6.4 Business Requirement for Access to Broadband in the UK
(CMA Survey April 2007)**

Priority	2007	2012	Commentary on the predicted shifts in business priorities by 2012
1	Asymmetric	> 8Mb/s	Fastest mover – driven by remotely hosted applications services and collaborative & distributed working including Storage Area Networks (SAN) for regulatory conformance
2	2 Mb/s	Symmetrical	Up 3 places – driven by hosted applications services, but of these IP Telephony is dominant – as evidenced by some applications demonstrated in the onlincolnshire project
3	512Kb/s	8Mb/s	Up 1 place – acceptable for office-working if better not available
4	8Mb/s	2 Mb/s	Down 2 places and considered as minimum acceptable home-working or very small business service.
5	Symmetrical	Asymmetric	Fastest faller and increasingly inadequate for business
6	> 8Mb/s	512Kb/s	Down 3 places and largely irrelevant for business

Recommendation 3: It is recommended that further promotion of the benefits of (and future need for) symmetrical access (especially at higher speeds) should be developed through use of sector-specific and application-specific case studies, even if these are necessarily based on examples from beyond Lincolnshire.

For example, at the top-end of future (2012) requirements, the significance of Storage Area Networks (SAN) as a high-bandwidth driver is currently only apparent in the financial sector - driven by the need for Sarbanes-Oxley conformance.

This may be expected to migrate to other sectors as regulatory trends develop. (For example, the demand for food traceability data or Carbon Trading monitoring). In addition to demand driven by the need for regulatory conformance, businesses will also wish to be competitive by exploiting the benefits of advanced applications – for example using Google Apps¹⁴ to reduce the IT management complexity of a business.

The need for Symmetrical Broadband services is far better explained to small businesses through the use of case studies that focus on applications that are directly relevant to their own enterprise.

- 6.24 **Observation 4:** the cost of fibre distribution is expected to fall significantly over the next 3 years but public intervention may be required to selectively transform economic development prospects, rebalance the quality of rural/urban service provision, or prevent Lincolnshire's general infrastructure falling further behind the UK norm. (Report References: Annex 1 Para's 4.2.1 and 5.2 with footnote reference 36 to DTI report URN 07/602)

The recent BSG report (Pipe Dreams?)¹⁵ assessed the nation-wide cost of FTTH as between €14bn - €20bn based on an average cost of €1000 per household. These predicted costs assume scale economies but they are expected to fall yet further with improved installation techniques and are, even now, higher than experienced in other countries with comparable environments. See also supplementary note on the relative costs of FTTH and FTTC.

Note also (Observation1) that the costs for predominantly rural Lincolnshire will be higher than average and that the extent of this variance needs further study. Current analysis of the Point Topic data shows that for Lincolnshire the costs may be around 13% higher than the UK average.

The 'onlincolnshire' project experience has the potential to inform the larger national consideration of fibre and wireless infrastructures and to make a significant contribution to policy development via DCLG.

Recommendation 4: Lincolnshire County Council should actively engage in dialogue with a wide range of strategy influencers including the Broadband Stakeholders Group, the FTTH Council¹⁶, Ofcom, alternative infrastructure providers and other regional and overseas exemplars in order to maintain current (and independent) awareness of the challenges of fibre technologies and the wider benefits of advanced infrastructure provision.

- 6.25 **Observation 5:** For the majority of SMEs in Lincolnshire, a shift in focus away from Connectivity (i.e. getting broadband) and towards Application (making good use of broadband) may need stimulation to overcome low levels knowledge transfer which, relative to the South East region, has been attributed

¹⁴ See <https://www.google.com/a/> for additional examples of remotely hosted applications

¹⁵ Broadband Stakeholder Group Report, 'Pipe Dreams' published April 2007.

<http://www.broadbanduk.org/content/view/236/7/>

¹⁶ The European Fibre To The Home (FTTH) Council - <http://www.europeftthcouncil.com/>

to lower levels of employment mobility. In areas where employees change jobs more frequently they take their knowledge and experience with them and this in turn leads to greater transfer not only of skills but also expectations. (Report References: Annex 1 Para's 4.1 and 4.3)

Recommendation 5: Future interventions targeting Lincolnshire's business communities should place a higher priority on take-up of broadband-enabled business *services and applications* and less on the take-up of broadband access. The example given in the report featuring the Basecamp collaboration facility (enabling easier cooperation between businesses working on joint projects) is a typical example.

- 6.26 **Observation 6:** SME collaboration and the use of self-help community groups or 'Social Enterprises' (e.g. Community Interest Companies¹⁷ (CIC's) for the provision of enhanced infrastructures should be valued and encouraged. (Report References: Annex 1 Para 4.2.1 (with footnote ref 33 to Cook report) and Appendix C - SWBB)

Recommendation 6: In looking forward to fibre, Lincolnshire would benefit from understanding the enabling power of Social Enterprises – particularly the relatively recent introduction of Community Interest Companies (CIC) which provide a legitimate vehicle for public sector participation in a relatively commercial enterprise environment with safeguards on governance and clear exit strategies (and investment recovery) when public sector support is no longer required.

- 6.27 **Observation 7:** The provision of adequate fully mobile wide area broadband services in Lincolnshire - particularly for business travellers and for the delivery of more-efficient and higher quality public sector services - is unlikely to be addressable before 2009 because of delays in the release of suitable spectrum (Report References: Annex 1 Para 5.4).

Recommendation 7: The current delays and inhibitions are primarily related to spectrum availability. Lincolnshire County Council should question central government on whether delays in the market release of spectrum related to 'spectrum reframing' difficulties with legacy users in UK areas far distant from Lincolnshire constitute a valid reason for maintaining a low level of competitive service choice.

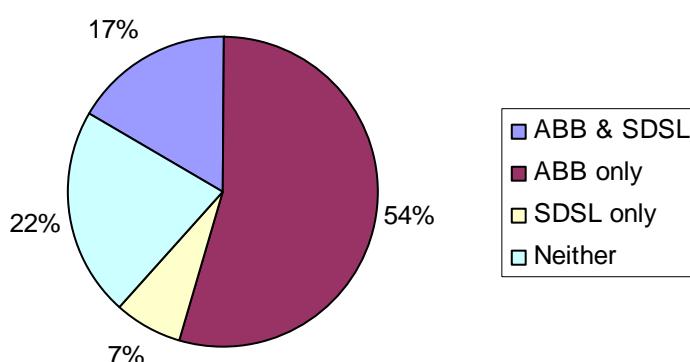
Analysis of Advanced Broadband Coverage in Lincolnshire

- 6.28 As part of the technology review, Point Topic was commissioned to undertake an analysis of broadband availability for businesses in Lincolnshire. A number of maps have been produced which can be seen in the technology review, which is available as a separate appendix. The maps were produced using the number of business addresses by postcode, the route length from local exchanges, and information on advanced broadband availability, which was provided by the Lincolnshire Broadband Team. Point Topic also generated an estimate of the number of businesses based at residential addresses, including home-based and tele-working businesses. This was felt to be particularly important for this analysis, due to the high proportion of self-employed and micro-businesses in the Lincolnshire SME population.

¹⁷ Community Interest Companies are one example of Social Enterprises. <http://www.cicregulator.gov.uk/> see also <http://www.socialenterprise.org.uk/>

- 6.29 The analysis included an assessment of the availability of advanced broadband and equivalent SDSL services for business premises in Lincolnshire. There are currently 7 SDSL-enabled exchanges in Lincolnshire, or immediately outside the county boundary, with significant coverage in the area covered by advanced broadband. These are located in Birchwood, Boston, Grantham, Grimsby, Lincoln, Scunthorpe, and Spalding.
- 6.30 Graph 6.1 presents the proportion of business premises in Lincolnshire that are covered by a 2Mbps symmetrical broadband service via advanced broadband and SDSL. Seventy one percent of business premises in Lincolnshire have coverage via the advanced broadband service, or have access to both advanced broadband and SDSL. Seven percent of business premises fall within the area served by SDSL only, and 22% of premises are not able to access a 2Mbps symmetrical service. The analysis suggests that, without the advanced broadband service, only 24% of business premises would be covered by a 2Mbps symmetrical broadband service.

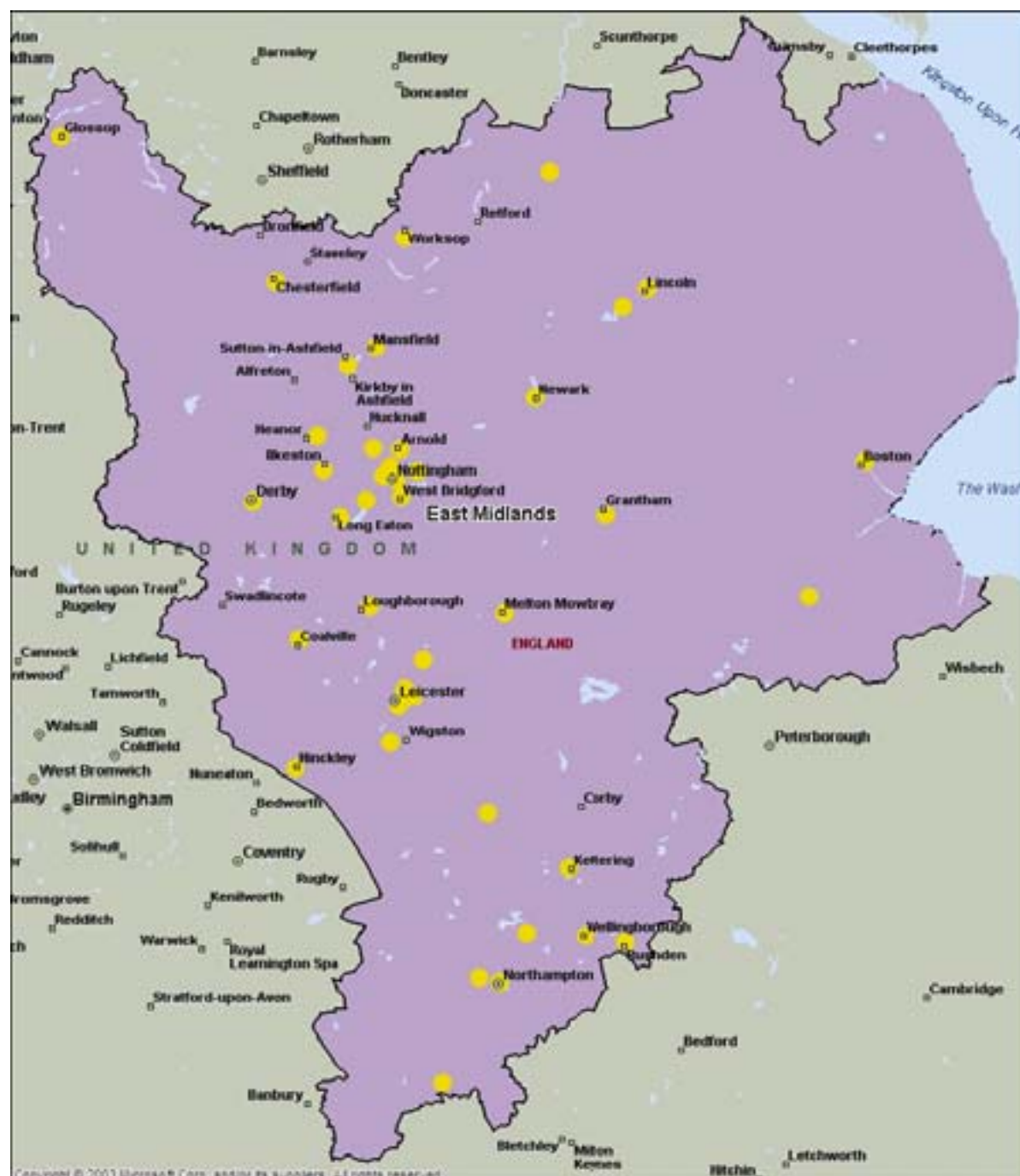
Graph 6.1 – 2Mbps Symmetrical Broadband Coverage of Business Premises in Lincolnshire



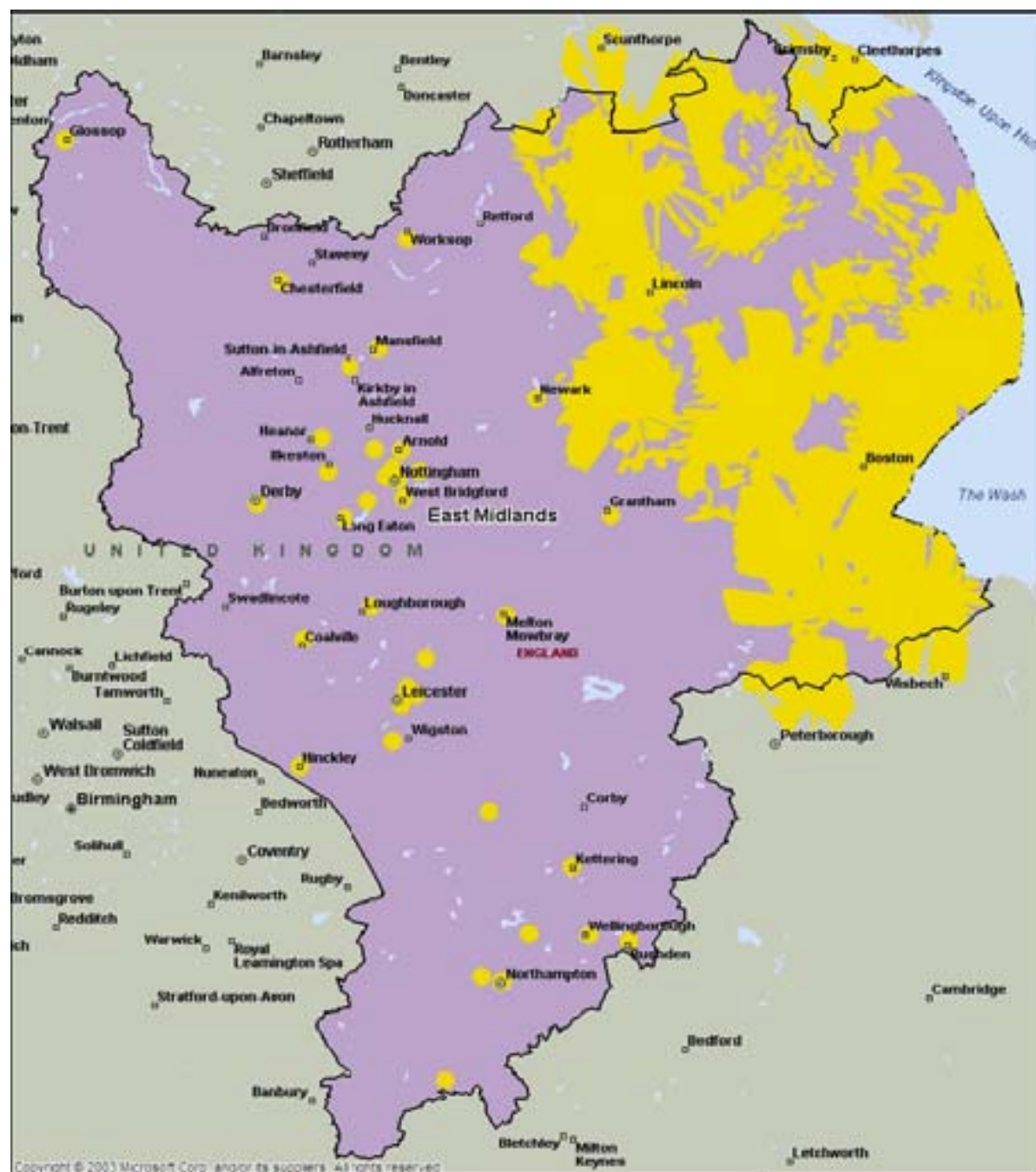
- 6.31 Maps 6.1 and 6.2 show symmetrical broadband coverage for Lincolnshire and the East Midlands before and after the deployment of advanced broadband by 'onlincolnshire' and BT Group. The map indicates that the areas unserved by symmetrical broadband include the Wolds between Louth and Horncastle, the area between Horncastle and Lincoln, and the coast north of Mablethorpe.
- 6.32 The following assumptions/caveats apply to the calculations and maps:

- The Point Topic calculations assume that 2Mbps symmetrical coverage available from an SDSL exchange extends to a radius of 1500 metres from the exchange. This corresponds to a maximum local loop length of about 3650 metres long.
- The availability data for advanced broadband has not been adjusted to allow for local reception difficulties, and the coverage presented may overstate availability. However, during the course of this evaluation, wireless coverage has further increased and locations unserved at the time the data was provided may now be able to access advanced broadband.

Map 6.1 – Symmetrical Broadband Coverage in the East Midlands prior to May 2006 (Source: Derbyshire Partnership)



Map 6.2 –Symmetrical Broadband Coverage in the East Midlands after May 2006



ANNEXES

- 1 Semi-Structured Interview Pro Forma
- 2 Analytical Matrix of Qualitative Interviews
- 3 Analysis of Longitudinal Interviews
- 4 Telephone Survey Pro Forma
- 5 Follow Up Telephone Survey Pro Forma

ANNEX 1

SEMI-STRUCTURED INTERVIEW PRO FORMA

INTRODUCTION TO BUSINESS

Could you tell us about your business?

- What is the history of the firm?
- What it does?
- How it operates?

DRIVERS

What are the main drivers for taking up broadband?

- Lifestyle
- Pre-requisite to business
- Marketing tool

PROCESS WITH BROADBAND INITIATIVE

How did you find out about the Broadband Initiative?

Could you explain the process that you went through with the broadband initiative?

PROCESS

How do you use broadband to enable your business?

How did you access the broadband?

SCOPE

Has the BB meant that you can reach other markets/customers?

Has broadband extended yours business to the extent that you require more?

EFFICIENCY

Has using broadband changed the way that you work? E.g. have you experienced cost savings, time?

What are the specific efficiency gains that you have experienced?

Do you buy more on-line?

TRANSFORMATION

How did your business operate before you had BB?

How has BB changed the way that you operate?

What aspects of the business have changed? How specifically have they changed?

What has not changed since broadband? Did you think that this would change?

FUTURE

What do you consider the future of using broadband?

Further organisations used to help the business?

CAPACITY ISSUES

- Reliability of access
- Speed
- Connection

ANNEX 2 – SUMMARY OF INTERVIEW FINDINGS

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
1	<ul style="list-style-type: none"> Small business act as large business <i>"he thought that I was a large multinational"</i> New website making a difference – in 10 days received 200 hits and £500 in sales which was projected to raise profits by roughly £10,000 Website increased number of products from 3 to 150 Provided owner with new interest since retiring, boosting his confidence through creating a new interest 	<ul style="list-style-type: none"> Grow to include son Employ someone to do packing so that he could concentrate on emails and sales Further development of the website to account to different markets owner had identified e.g. junior, ladies and seniors 	<ul style="list-style-type: none"> Owner had concerns over his own internet skills and concerned this would hold him back Owner felt lucky to have found the website developer (although serendipitous process) 	<ul style="list-style-type: none"> Whole service provided, from broadband connection to grant subsidy Website developer informed SME of 'onlincolnshire' Slower than expected Did not realise that the quotes had to be identical – difficult to achieve More advice required on which service/company to use <i>"good opportunity, good scheme"</i>
2	<ul style="list-style-type: none"> Email led to time efficiencies and when they want to communicate with clients – email allowed owner to concentrate on his job during the day and answer customer enquiries during lunch and evening (this had significantly changed the way the firm communicates with its client base in the last 9 months – something they want to encourage). Email allowed easier communication with people from abroad (a major proportion of firm's market) 	<ul style="list-style-type: none"> Reliability issues until solved will not develop website further Purchasing on-line creating further cost savings On-line purchasing for christening boxes, but not for the rest of the products as not the volume Upgrade of website would be able to contact old customers through a round robin 	<ul style="list-style-type: none"> Issue of connectivity – problems during school holidays and evenings Once connected doesn't lose connection – but if computer is not started until the afternoon then cannot always get connected Connections issues create problems when need to contact a client urgently Contacted BT but felt that they did not possess the right vocabulary to communicate the problem and understand what the issues were 	<ul style="list-style-type: none"> "very simple" process of application Did not know of project grants for ICT aid

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
3	<ul style="list-style-type: none"> Speed of internet <i>"definitely seems quicker"</i> Benefit of the website provided anonymity to the business Allowing an image to be conjured around romance and individuality - setting the scene helps to sell the products through creating an image through the website, create an illusion to personalise the site and create an image that sells the products to the customers. E.g. rural, idyllic, Lincolnshire create a feel on-line – <i>"very important marketing tool"</i> Website now beginning to generate business through people contacting through it Allows owner to update the website responding to customer enquiries Allows owner to use telephone and internet at the same time 	<ul style="list-style-type: none"> Allowing development of overseas markets Aiding research of potential customers in UK 		<ul style="list-style-type: none"> Aware of onlincolnshire through partners company Process "really simple" Provide good contacts – Alliance and Leicester bank account Was not aware of further services of onlincolnshire
4	<ul style="list-style-type: none"> Broadband allowed CDN to relocate 90% of clients still based in London without broadband would not be able to do this Efficiency gains through video conferencing (using i-chat) meaning that trips to London are reduced to once or twice a month – also suits the needs of the clients who want speedy meetings Video conferencing reduces overheads and wasted time 	<ul style="list-style-type: none"> Would expand but due to bandwidth cannot withstand another person reducing the speed Increased bandwidth would mean at least one website per month (generating between £2,000 to £15,000 extra per month) Company splitting into 2 separate companies to differentiate the two main elements of the business When 16m broadband arrives owner will set up a wi-fi connection for people in the local vicinity – but at present 2m is not enough to do this 	<ul style="list-style-type: none"> Reliability issues of broadband service – with heavy congestion at the peak times, even after exchange has been upgraded and with only 3 – 4,000 Issues of bandwidth not being fast enough resulting in business having to purchase printing equipment (costing £7,500) despite fibre optics having been installed Time wasting having to ship CD-roms costing, CDs, postage, time turnaround 	<ul style="list-style-type: none"> Easy process and helpful people Was not aware of the further services of onlincolnshire and required extra equipment due to inefficiencies of broadband

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
5	<ul style="list-style-type: none"> Enabled to provide a better service to clients and suppliers Quicker, easier and more reliable when sending and receiving emails Research differently – no longer has to visit the library all the time can do research on-line, especially taking advantage of search engines Enabled conformity to industry standard 	<ul style="list-style-type: none"> Provide further research through monitoring paper clippings for industry Had heard of sykke but at this point in time did not see the benefit – but maybe in the future 	<ul style="list-style-type: none"> Caused problems with the phones in house as cannot have them connected whilst using broadband Issues relating to uptake, wary of technology and not taking over the running of the business ISP provide a 2mb service can only receive 500k due to line – should be upgraded next year “can’t wait for it to get quicker” 	<ul style="list-style-type: none"> Easy process Aware of grants but did not feel business required such assistance
6	<ul style="list-style-type: none"> Expanding services offering clients – as they are beginning to demand more services that are linked to websites and web-hosting 		<ul style="list-style-type: none"> Due to the size of files and the possibility of corruption files are still sent on CD roms Experienced problems with voice quality in that it isn't as good since changing ISP 	<ul style="list-style-type: none"> Mantix report computer generated and generic – not thought of the needs of Graphica Difficult process for collecting 3 identical quotes
7	<ul style="list-style-type: none"> Speeding up the process of sending and receiving electronic drawings – it now takes 5 minutes rather than 40 minutes Better communication with assistant who works from home The one-off monthly payment means that email can be on and checked continuously Faster access to the internet for researching and buying materials 	<ul style="list-style-type: none"> It's easier and more convenient but – “I am not sure what more I can say – it's not life changing, is it?” 	<ul style="list-style-type: none"> Delays in receiving paperwork from Wanadoo has meant money has not yet been received from 'onlincolnshire' 	<ul style="list-style-type: none"> Easy process – application easy to download and complete
8	<ul style="list-style-type: none"> Able to spend more time developing company website, as one-off payment means there is no need to consider the amount of time spent on the internet 	<ul style="list-style-type: none"> Continuing to build up sales 	<ul style="list-style-type: none"> Experienced problems when Wanadoo taken over by Orange – increase 	<ul style="list-style-type: none"> Application process very simple Cannot recall whether the grant was

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<ul style="list-style-type: none"> No longer any conflict between using the internet and the phone, as with dial-up. Increased the proportion of materials sourced online 		<ul style="list-style-type: none"> in spam received Some difficulties understanding potential of computers 	provided by LD or LE
9	<ul style="list-style-type: none"> Improved email communication between residential homes Better access to Department of Health website to get updates on legislation and to research different disabilities Saving paper, printing and postage for sending meeting agendas, children's reports, and for communicating with parents and social workers General improvement in confidence with computers and use of online services – "it is only when I look at the ways that we did it before that I realise the difference because we do something new every day" 	<ul style="list-style-type: none"> Perhaps using video conferencing to save time 	<ul style="list-style-type: none"> Experienced slow connection, thought to be related to anti-virus software 	<ul style="list-style-type: none"> Difficulty understanding the diagnostic – "I couldn't understand him and I was out of my depth and felt stupid". Needed assistance from an external IT person to develop and implement the recommendations from the diagnostic
10	<ul style="list-style-type: none"> Faster internet access, making it easier to conduct research on competitors Use of online banking and online transfers, which saves money Limited increase in online ordering – "to put orders online is more difficult and more hassle than it is worth because by the time they have picked them up and the order has been placed you are not aware of stock problems" Limited potential of email and website for selling online, because "the average customer age is 55 and they are not interested [in using computers/online purchasing]" – "the best selling tool is face-to-face" 	<ul style="list-style-type: none"> Aiming to make it possible for customers to place mail orders on the website Using the website to broaden the customer profile – nationwide and to younger age groups 	<ul style="list-style-type: none"> Very slow connections around three times a month 	<ul style="list-style-type: none"> Difficulties understanding the difference between the three quotes as they each recommend different software packages and solutions Not yet found the time to read the diagnostic Not aware of advanced broadband service
11	<ul style="list-style-type: none"> Improved access to the internet to develop own website Finding tourist information, and looking at competitors' sites Researching and joining accommodation directories Enabled electronic payments to be made – "it has 	<ul style="list-style-type: none"> Improved familiarity with the website and accounting packages 	<ul style="list-style-type: none"> Fault with Tiscali connection – frequent "this page cannot be displayed" problems - but committed to six month contract 	<ul style="list-style-type: none"> Very straight forward process – heard about it on Lincs FM and applied online Diagnostic well received – "we didn't expect the size of the report that we

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<ul style="list-style-type: none"> hardened us off to being more business-like" Bought a PDA, "a phone/diary that when you go out you can have it with you" 		<ul style="list-style-type: none"> Slow connection at peak times 	<ul style="list-style-type: none"> got and it was obviously well done and in depth" Would have preferred a smaller grant of £2000 to be available
12	<ul style="list-style-type: none"> Quicker speeds for downloading files Slight increase in online purchasing Increase in searching for suppliers online 	<ul style="list-style-type: none"> Provide a very specialist service, so potential for advertising and selling online 	<ul style="list-style-type: none"> No connection problems 	<ul style="list-style-type: none"> Costs can seem to run away with you – turning £6000 software into £12000 expenditure on computers and router More advice needs to be available for business start-ups to help them find appropriate software Aware of advanced broadband, but not felt to be relevant
13	<ul style="list-style-type: none"> Parts now ordered online Invoices sent online Broadband enabled remote working, which saves 20 miles driving Website development Time savings as a result of online ordering 			<ul style="list-style-type: none"> Application process found to be easy Decided not to go through the grant system as it had gone up to £4,000, so have decided to fund the project themselves
14	<ul style="list-style-type: none"> Researching information on government initiatives and downloading forms – "it's my first port of call for anything" Online purchasing and price checking - "I will never pay more than I have to now" 	<ul style="list-style-type: none"> Hope to run a course for young women on how to use the internet 	<ul style="list-style-type: none"> A lot of spam email received – don't have funds to install a blocker No internal IT support available, which means a local IT person has to be called out whenever there is a problem Internet gone down twice in the last 6 months 	<ul style="list-style-type: none"> Not sure who applied for the subsidy
15	<ul style="list-style-type: none"> Website developed by an IT consultant to enable online selling of goods. The site is now managed and updated by the owners 	<ul style="list-style-type: none"> Continuing to develop online retail side of business 	<ul style="list-style-type: none"> Lack of computer skills to begin with, although this improved as the owners 	<ul style="list-style-type: none"> Found obtaining three quotes difficult and confusing – they ranged from £200 and £1,800

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<ul style="list-style-type: none"> Developed new skills in website administration – putting goods on and taking goods off – “it’s the best thing we ever did because we can now take photographs of whatever and put it on the website” Development of website has meant the business has moved from being entirely wholesale to include retail. This has reduced the risk associated with dealing with a small number of retailers – as the customer base has widened - and increased turnover. 		took over the administration of the website	<ul style="list-style-type: none"> Pleased with diagnostic, but frustrated with limited help the consultant is able to provide The diagnostic provides a lot of information that is difficult to take in when you’re new to computers
16	<ul style="list-style-type: none"> Freed up time - increased the capacity of the business by enabling them to do more jobs Felt to have resulted in an increase in turnover and customers Reduced time to install software updates from one day to half an hour 	<ul style="list-style-type: none"> Looking into SKYPE but know few others who would be in a position to use it To make all lines digital 	<ul style="list-style-type: none"> Some problems with BT – needed to install a router that was compatible with broadband 	<ul style="list-style-type: none"> Heard about broadband initiative from a radio advert Found online application easy Not aware of other services
17	<ul style="list-style-type: none"> Developed website to sell garments direct to the customer Increase in domestic business, such as hen and stag do’s – previously supplied mainly to trade Around 10 orders had come through the website as a repeat business from domestic orders Won business from the BBC as a result of the website Disadvantage of the website is that it gives the impression that the business is open all the time, and the telephone number is displayed – it’s therefore difficult to avoid unwanted calls Increase in speed of internet connection Use of internet to check websites, emails and check progress on parcels sent with couriers Investment in new equipment, with an integrated computer system which means that they can automatically check stock Found it’s easier to export as the internet and email means the language barrier is less of a problem Also sending out email shots to regular customers, to 	<ul style="list-style-type: none"> Upgrade of website – updating information on customers and products Continuing to broaden markets - “want to serve multiple people rather than on specific market” 	<ul style="list-style-type: none"> Sometimes difficult to access the internet at lunchtime, but otherwise fine 	<ul style="list-style-type: none"> Heard about broadband initiative from Lincolnshire Chamber breakfast meeting Parent company receive £20,000 worth of grants

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<p>remind them they still exist – “you don’t know who is contacting them in the meantime”</p> <ul style="list-style-type: none"> Are increasingly finding that the way to find new suppliers is over the internet, as suppliers don’t tend to run seminars any more 			
18	<ul style="list-style-type: none"> Downloading training material and undertaking online assessment for chartered surveyor training Without broadband, re-training for a new career would not have been possible 	<ul style="list-style-type: none"> Business no longer in operation 	<ul style="list-style-type: none"> Initial connection with AOL was problematic – and resulted in call-out fees and high telephone bills 	<ul style="list-style-type: none">
19	<ul style="list-style-type: none"> Quicker communication, particularly downloading and emails More research undertaken online, to find new customers and also training Increase in online purchasing and banking 	<ul style="list-style-type: none"> Downloaded Skype, but not yet used it - “there is no point being on Skype if nobody you know is on it” To learn and develop the IT capacity in the company 	<ul style="list-style-type: none"> Unsure of how to take the diagnostic report forward – feels that more IT knowledge is needed 	<ul style="list-style-type: none"> Diagnostic completed and report was fine However, client is not sure what to do now – “I expected them to phone back and follow it up and talked through what to do and how to do it, but that was 6 months ago and they still haven’t phoned” Communication from ‘onlincolnshire’ not felt to be good – wanted to be told what the next step was
20	<ul style="list-style-type: none"> Plans and information can now be sent and received online to contractors in Saudi Arabia The company hasn’t developed a website or used online advertising – “for a business like this it is completely pointless...for many of the things we sell you have to catch people at exactly the right point when the walk in and their gate drops off” Little online purchasing – “most is through regular steel suppliers- we get a rep comes round every month” 		<ul style="list-style-type: none"> Sometimes can’t get a connection on Sunday afternoon, but not a problem 	<ul style="list-style-type: none"> Found out about the broadband initiative from County News Found the online application process easy
21	<ul style="list-style-type: none"> Development of a website, which shows the portfolio of 	<ul style="list-style-type: none"> Development of a database of 	<ul style="list-style-type: none"> Lack of confidence using 	<ul style="list-style-type: none"> Found out about the broadband

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<p>products and brochure</p> <ul style="list-style-type: none"> • Increase in enquiries as a result of website • Owner feels the website and the speed of broadband has enabled his business to appear more professional • Development of capacity to "email merge" – purchased software which enables electronic mail shots • More searching for suppliers online – new suppliers used as a result • Limited use of online purchasing 	<p>contacts to use with email merge software</p> <ul style="list-style-type: none"> • Further development of website – to upload new pictures 	<p>computers – "it is the wrong generation...you see other people do it so easily and it comes natural to them – I am trying to write it all down"</p> <ul style="list-style-type: none"> • "The internet side of it scares me – it's so alien – I don't know how it works" • Cautious about online purchasing – "I am hoping it doesn't go that way or else it will do my business in if nobody goes to the shops anymore" • Cautious about use of credit cards online – "I do find it scary" 	<p>initiative through Business Link</p> <ul style="list-style-type: none"> • Very pleased with help and technical support received through the scheme
22	<ul style="list-style-type: none"> • Development of retail website, to provide an additional income stream to shop • Development of another website to promote self-development/healing business • Much more use of internet for browsing suppliers' websites, although not for purchasing – "I telephone them because they then can tell me whether it is in stock or not" • Use of suppliers images of jewellery – with suppliers' support - on own website for marketing 	<ul style="list-style-type: none"> • Continued development of alternative side of business – online selling of gifts, and marketing of self-development programmes 	<ul style="list-style-type: none"> • Time consuming nature of using internet for research – "it is addictive – you get hooked on it – so it will not take you 5 minutes, it will take you half an hour or more" • Website developed by family friend but has poor spelling on the front page which can't be changed – more support needed for website development • Occasionally has reliability issues, but feels doesn't have enough knowledge to know whether it's a fault of broadband or the 	<ul style="list-style-type: none"> • Found out about broadband initiative from Chamber of Commerce • Online application process used

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
23	<ul style="list-style-type: none"> Enabled the development of an online picture library ICT project grant enabled company to purchase a back office system, digital camera and hardware Able to work faster and achieve more work on images – “it has speeded everything up that we do and just makes life so much less frustrating” Cost savings – “I don’t think it has huge cost savings, well I suppose it does because you get cheaper prices – it is the first port of call now” 	<ul style="list-style-type: none"> Continuing to expand company – want to employ an assistant full time rather than temporarily Will perhaps do more research online in the future, but expect the main difference to be related to the speed of working that broadband enables Use of Skype, which has been purchased, but not used 	<p>computer</p> <ul style="list-style-type: none"> Would prefer to have a faster connection and believes this would make a real difference to the business – “I don’t think that 8MB and the word Lincolnshire go in the same sentence” Slower connection experienced in the afternoons 	<ul style="list-style-type: none"> Heard about the broadband initiative through EMDA Diagnostic assisted business to look at where the business was going from an IT perspective. However, the owner also paid for an industry consultant to look at the company’s IT requirements as they were looking at storage systems that the diagnostic consultant wasn’t familiar with
24	<ul style="list-style-type: none"> Slow speed of broadband means it hasn’t made much difference Website being developed by a company in Derby but has to be sent by CD because broadband too slow No increase in internet buying or selling – “I don’t want the business to get too big – I’m quite happy to do the work I can cope with” Benefits of slow connection and in collecting files personally rather than by email – “there is a lot of value in that (personal contact) and that’s what we do – it’s a lot slower and quite frustrating but generally you tend to get a better standard of customer that are going to be more loyal to you and then you tend to look after better” 	<ul style="list-style-type: none"> At the moment the business doesn’t rely on high speed connections, but this may change in the future (customer demands etc) so faster connection may be needed 	<ul style="list-style-type: none"> At the end of the BT exchange, so broadband quite slow (56K) but still ten times faster used to with dial-up Would have liked to have received advanced broadband to improve speed of connection Two biggest customers would prefer to email files but due to speed of connection files have to be collected by hand (although personal service appreciated by customers) 	<ul style="list-style-type: none"> Heard about broadband initiative from Business Link Diagnostic fine but consultant unfamiliar with the specialist printer software needed for the business Obtaining three quotes difficult as hardware same price through all suppliers Familiar with advanced broadband (heard about through Lincolnshire Enterprise Network) but not able to receive it – “I don’t even know why they are trying to do it...you have to be able to see the transmitter”
25	<ul style="list-style-type: none"> Slightly faster speed compared to dial-up The owner feels it has made no other difference to his business 	<ul style="list-style-type: none"> No change foreseen in the way the business is run as a result of broadband 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Can’t recall – somebody phoned the company and arranged a meeting
26	<ul style="list-style-type: none"> Using email much more to contact suppliers Website currently being developed 	<ul style="list-style-type: none"> Hope to use internet banking in the future Use of email shots, rather than mail shots 	<ul style="list-style-type: none"> Connection still a bit slow 	<ul style="list-style-type: none"> Could not afford to match fund for ICT grant – a small grant would have been preferred, particularly for start-up companies

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
		<ul style="list-style-type: none"> Hoping to increase sales when website online Use of ICT technology to teach computer courses to local rural area Developing wireless broadband on the premises 		<ul style="list-style-type: none"> Didn't find the diagnostic useful – want to diversify the business into adult learning and the diagnostic did not make recommendations for this Not heard of Advanced Broadband Would be interested in participating in a networking event of onlincolnshire customers to learn about how others have used the technology
27	<ul style="list-style-type: none"> Reduced costs and quicker speed compared with dial-up Able to receive emails immediately and continuously check for new mail Website developed as a result of ICT grant – still under construction Able to work from home Email enables audit trail No online purchasing, as the company is a charity and doesn't have a company credit card Enables different ways of working with partners – “Instead of going down to London we can have an email discussion instead” 	<ul style="list-style-type: none"> Investigating internet phone calls to save money 	<ul style="list-style-type: none"> Manage a lot of sensitive data, which cannot be held online for security reasons No reliability issues 	<ul style="list-style-type: none"> Haven't noticed a great deal of difference with advanced broadband but “it certainly is a good service” Heard about onlincolnshire from Lincolnshire Development Diagnostic was useful as the company doesn't have any IT staff Application process found to be easy Diagnostic easy to understand Experience difficulty claiming back VAT as a registered charity Would be interested in receiving more email contact from onlincolnshire
28	<ul style="list-style-type: none"> Increased research into new suppliers undertaken over the internet Developed a website, but have had no new orders from it The website appears low down on search engine – the owner is investigating how to increase the accessibility of the site Increase in online purchasing, although the owner always speaks over the phone before an order is made In the past, suppliers have been identified by driving 	<ul style="list-style-type: none"> “to conquer the world – we want to go worldwide”- hope to make deliveries around the world 	<ul style="list-style-type: none"> Experienced difficulties logging on – reported problem to internet service provider 	<ul style="list-style-type: none"> Heard about onlincolnshire through Business Link Found the process easy Experience difficulties getting paperwork from internet service provider

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	around the country – “we actually struggled until we got online” – savings in petrol and time			
29	<ul style="list-style-type: none"> Already had broadband but applied to onlincolnshire for diagnostic Recently developed new website to host a website for classic car enthusiasts and an online classic car toolshop – previously had two separate websites Advertise using pay-per-click on search engines Found it faster to look up parts online Affiliated with 1000 class car clubs online, and link to them for advertising 	<ul style="list-style-type: none"> Hoping to get Advanced Broadband, so that can host the site from home. Hope to host other sites and charge a commission Perhaps employ somebody in the future to administer the site 	<ul style="list-style-type: none"> Sometimes an issue with connectivity, but this seems to be happen with particular websites rather than at specific times of day 	<ul style="list-style-type: none"> Found the diagnostic useful, but used to be an IT consultant to already knew quite a lot about the potential of IT Became aware of onlincolnshire through existing contacts at Business Link Found the process fairly straightforward, although experienced some red tape
30	<ul style="list-style-type: none"> Website was already developed before broadband Mail order side of business declining compared to retail shop due to increasing online competition Owner feels broadband has made a “huge difference” to the operation of the company and that the company is now “far more efficient” Now send adverts to magazines over email rather than by post Can go in the internet any time which means the website can be updated continuously and can respond immediately to new orders Staff have individual email accounts (rather than sales@) which has enabled them to provide a more personal service Price-checking - comparing suppliers Goods are now ordered direct from suppliers' databases, which means they can see what is in stock and track the progress of orders Everything is so much quicker – “we now send attachments with gay abandon” 	<ul style="list-style-type: none"> Saving back-ups to an off-site source Hope to put surveillance system around the building using the broadband connection Considering developing forums and blogs on website to continue to build a loyal customer base 	<ul style="list-style-type: none"> Not happy with the service provided by AB internet – they charged for coming out to fix a problem No issues with connectivity at all 	<ul style="list-style-type: none"> Found out about onlincolnshire because somebody came to see them If somebody hadn't visited them they probably wouldn't have applied as they have so many sales calls and emails to deal with At first was unsure – they felt it could be a scam because it was a good deal Now “thoroughly impressed with the service”
31	<ul style="list-style-type: none"> A “helpful tool” – has used to research suppliers on the internet and to email customers 	<ul style="list-style-type: none"> Hope to bank online in the future 	<ul style="list-style-type: none"> 	<ul style="list-style-type: none"> Found the application process straightforward, although struggled to

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<ul style="list-style-type: none"> The internet used as an alternative to Yellow Pages In the process of developing a website to advertise company and show contact details, but is being developed by a friend of a friend so may take some time to complete 	<ul style="list-style-type: none"> Hope to submit VAT online Hope to reach new customers when website developed 		<ul style="list-style-type: none"> submit forms because weren't online at the time Not heard of ICT grants or diagnostic Not sure at the moment what broadband could do for the business, but training might help
32	<ul style="list-style-type: none"> Recently subscribed to Advanced Broadband – noticed some improvement in speed compared with normal broadband Hoped to use Skype on Advanced Broadband but that hasn't materialised – the cost of calls are too much and there are too few other people connected Recently redeveloped website – use it mainly as an advertising tool and to get listed on search engines Use the internet to source materials and find out information on client companies Now send video files over the internet rather than by post Advanced Broadband is considered to make them faster at doing what they already do 	<ul style="list-style-type: none"> Hope to use Skype when more people using it Hope to set aside more time to take advantage of free training 	<ul style="list-style-type: none"> Few problems – the service has gone down twice but was quickly fixed 	<ul style="list-style-type: none"> Heard about onlincolnshire through a local IT company that had attended a seminar Consider the service to be very efficient, there were no problems and nothing was too much trouble The application process was straightforward, but a few copies were needed of the quotes to get the grant which took some time to get together
33	<ul style="list-style-type: none"> Website developed but not happy with it at the moment. Developing two new websites – one for craft and one for cake business – through Freestart - which enables the owner to build her own website Used the internet to find suppliers and found it much quicker than searching directories and phoning up for prices Set up an Ebay shop to sell off some of the old stock 	<ul style="list-style-type: none"> Hopefully to have both websites up and running and generating new custom 	<ul style="list-style-type: none"> More advice and training needed on how to get websites on to search engines 	<ul style="list-style-type: none"> Heard about onlincolnshire through the Lincolnshire Target Found it easy to apply for the diagnostic Did not take grant because the threshold for match funding was too high – the owner felt a lower threshold would help smaller businesses Diagnostic helpful, but would have preferred some basic advice on how to get website listed on directories
34	<ul style="list-style-type: none"> Made the most difference in communication – use of 	<ul style="list-style-type: none"> Continuing to use to improve 	<ul style="list-style-type: none"> No reliability issues 	<ul style="list-style-type: none"> Found out about onlincolnshire

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	email and video conferencing, which saves trips to London <ul style="list-style-type: none"> Used to have trouble sending large spreadsheet models, but now easy to send using broadband For specific projects, set up a shared portal with the client where documents can be posted and downloaded Use of online purchasing – update anti-virus software over the internet Not developed a website – rely on word of mouth 	communication with clients and save on travel costs		through Horncastle News <ul style="list-style-type: none"> Found it an easy process Not aware of project grants Potentially interested in Advanced Broadband, as located in Lincolnshire Wolds
35	<ul style="list-style-type: none"> Use internet to conduct research on behalf of women Use to check for refuge vacancies using an online database of other refuges, which speeds up referrals as previously had to ring all refuges Have developed own website – use it to show contact details, display job vacancies, and provide links to other useful resources The organisation is based on three sites, and broadband helps communication between the different sites and sharing files Online purchasing and banking 	<ul style="list-style-type: none"> Had diagnostic report, but need to get costings in Want to have a central server to enable file sharing between sites Hope to be able to use the internet for phone calls 	<ul style="list-style-type: none"> No reliability issues Initially some problems with Advanced Broadband installed with firewall software 	<ul style="list-style-type: none"> Saw the onlincolnshire advert on a bus, and heard about it through word of mouth Found it easy to apply for Advanced Broadband and diagnostic Diagnostic useful, but more geared towards private company than charity (talked of using website to sell services etc)
36	<ul style="list-style-type: none"> Noticed reduced cost of phone calls since adopting broadband, compared with dial-up Increasingly communicating with potential guests using email Increasing in online purchasing Advertise on online directories Inherited website from previous owners, but hoped to update 	<ul style="list-style-type: none"> Perhaps enabling guests to use WiFi connection, although not sure of demand from holiday guests 	<ul style="list-style-type: none"> Lack of confidence in using computers Slight distrust of internet security 	<ul style="list-style-type: none"> Heard about 'onlincolnshire' through a seminar for the Hoteliers Association
37	<ul style="list-style-type: none"> Found broadband so much better than dial-up – "it was so frustrating" Really appreciate being able to use the phone and internet at the same time Company developing a maths video using cgi animation - broadband made this much easier – now have an ftp site to enable file transfers from clients 	<ul style="list-style-type: none"> Considering developing a website in the future – "if you haven't got a website it's like you haven't got a business card". <i>"It also gives the impression that loads of people are working here"</i> 	<ul style="list-style-type: none"> No reliability issues Getting support from son who is a 'wizz kid' at computers, but struggling with own computer skills 	<ul style="list-style-type: none"> Heard about 'onlincolnshire' through word of mouth Thinks he may have missed out on the project grant to help with purchase of hardware (forgot about other services) Hope to get a diagnostic report done

ID	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
				<ul style="list-style-type: none"> Would have appreciated a follow-up call from 'onlincolnshire' to remind him about other services but overall very pleased, <i>"if they've missed a trick then that's the only trick they've missed"</i>
38	<ul style="list-style-type: none"> In the process of developing a website, which will enable ecommerce Faster speed enables the owner to upload images onto website Increasing use of email and internet Use of internet to price-check own service, and compare service with competitors 	<ul style="list-style-type: none"> Hope to purchase computerised embroidery machine, which takes images from pdf files Hope to upgrade computer software 	<ul style="list-style-type: none"> No reliability issues 	<ul style="list-style-type: none"> Heard about 'onlincolnshire' through Realtime Business Services in Pinchbeck Found the application to be easy Happy with diagnostic service

Annex 3 – Summary of Longitudinal Interview Findings

Company 4

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> Broadband allowed CDN to relocate 90% of clients still based in London without broadband would not be able to do this Efficiency gains through video conferencing (using i-chat) meaning that trips to London are reduced to once or twice a month – also suits the needs of the clients who want speedy meetings Video conferencing reduces overheads and wasted time 	<ul style="list-style-type: none"> Would expand but due to bandwidth cannot withstand another person reducing the speed Increased bandwidth would mean at least one website per month (generating between £2,000 to £15,000 extra per month) When 16m broadband arrives owner will set up a wi-fi connection for people in the local vicinity – but at present 2m is not enough to do this 	<ul style="list-style-type: none"> Reliability issues of broadband service – with heavy congestion at the peak times, even after exchange has been upgraded and with only 3 – 4,000 Issues of bandwidth not being fast enough resulting in business having to purchase printing equipment (costing £7,500) despite fibre optics having been installed Time wasting having to ship CD-roms costing, CDs, postage, time turnaround 	<ul style="list-style-type: none"> Easy process and helpful people Was not aware of the further services of onlincolnshire and required extra equipment due to inefficiencies of broadband
B	<ul style="list-style-type: none"> Compared with the first interview, the owner now generates 70% of its business from the Lincoln area As a result of adopting broadband, the company has the capacity to develop a dozen websites a month compared with just three The owner has secured a contract with a multinational company and is able to video conference with them at different sites – “they like video conferencing – it saves carbon emissions” The company has expanded and now outsources work to a secretary and four designers. The owner now ‘cherry picks’ work and chooses more interesting jobs Tend to use the internet for researching, for downloading software, and for online data storage 	<ul style="list-style-type: none"> Hopes to continue to outsource work and become more of a consultant or expeditor Trying to use local people and recent graduates – “they tend to have the talent but not the business acumen” 		<ul style="list-style-type: none"> The owner has contact with many SMEs and feels that many need educating on the potential of websites – “too many are doing double entry systems – they don’t realise that all data can be put into one place” He feels there is an obsession with getting listed on search engines, which isn’t appropriate to all companies Would be happy to talk to companies, not as part of a sales pitch, but about what they need to know before they talk to IT consultants and web designers

Company 7

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> Speeding up the process of sending and receiving electronic drawings – it now takes 5 minutes rather than 40 minutes Better communication with assistant who works from home The one-off monthly payment means that email can be on and checked continuously Faster access to the internet for researching and buying materials 	<ul style="list-style-type: none"> It's easier and more convenient but – "I am not sure what more I can say – it's not life changing, is it?" 	<ul style="list-style-type: none"> Delays in receiving paperwork from Wanadoo has meant money has not yet been received from 'onlincolnshire' 	<ul style="list-style-type: none"> Easy process – application easy to download and complete
B	<ul style="list-style-type: none"> Started to pay bills online, which is quicker and easier to manage Currently in the process of commissioning a website that will be used to market the business, give it a professional edge, and showcase some of the architectural designs Broadband has enabled the owner to continue working from more than one site, and to employ staff who work remotely – <i>"it keeps costs down, reduces the need for premise and is the way to go for people with families"</i> The owner estimates that broadband has increased her productivity by 10% <i>"What broadband means for us is efficiency, communication and time management – it's as simple as that"</i> 	<ul style="list-style-type: none"> Hoping to recruit another member of staff, who is likely to be another home worker. Will continue to communicate with staff via email. 	<ul style="list-style-type: none"> The owner feels like her lack of ICT knowledge holds her back - <i>"I feel like I have a brilliant tool but there are maybe more things I could be doing with it"</i> 	<ul style="list-style-type: none"> Would be interested in training or peer learning, but don't really have the time – maybe some feedback notes or something to look at on the internet would be helpful

Company 8

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> • Able to spend more time developing company website, as one-off payment means there is no need to consider the amount of time spent on the internet • No longer any conflict between using the internet and the phone, as with dial-up. • Increased the proportion of materials sourced online 	<ul style="list-style-type: none"> • Continuing to build up sales 	<ul style="list-style-type: none"> • Experienced problems when Wanadoo taken over by Orange – increase in spam received • Some difficulties understanding potential of computers 	<ul style="list-style-type: none"> • Application process very simple • Cannot recall whether the grant was provided by LD or LE
B	<ul style="list-style-type: none"> • Developed a new website which includes the same information but in a more modern format • The new website enables the owner to update content herself, and she accesses the admin site every evening • The website is now also used to advertise yoga classes to people in the local area, and the classes are fully subscribed • Now conduct more purchasing online and have sourced t-shirts from Holland and fabric from Denmark • Customers now 50% new, 50% existing customers 	<ul style="list-style-type: none"> • Considering developing an ecommerce enabled website • Hope to develop an email database to make the most of hits – want to know how to convert hits into orders 	<ul style="list-style-type: none"> • None 	<ul style="list-style-type: none"> • No further support needed – LCC <i>"have been brilliant – they've certainly helped"</i>

Company 10

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> • Faster internet access, making it easier to conduct research on competitors • Use of online banking and online transfers, which saves money • Limited increase in online ordering – "to put orders online is more difficult and more hassle than it is worth because by the time they have picked them up and the order has been placed you are not aware of stock problems" • Limited potential of email and website for selling online, because "the average customer age is 55 and they are not 	<ul style="list-style-type: none"> • Aiming to make it possible for customers to place mail orders on the website • Using the website to broaden the customer profile – nationwide and to younger age groups 	<ul style="list-style-type: none"> • Very slow connections around three times a month 	<ul style="list-style-type: none"> • Difficulties understanding the difference between the three quotes as they each recommend different software packages and solutions • Not yet found the time to read the diagnostic • Not aware of advanced broadband service

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	interested [in using computers/online purchasing]" – "the best selling tool is face-to-face"			
B	<ul style="list-style-type: none"> • The company has the same website, but it is considered to be poor, and there have been no sales through it • Have increased amount of online ordering, particularly for hampers and gift boxes • Sales predominantly wholesale and to local customers 	<ul style="list-style-type: none"> • The website needs to be improved and expanded to include gift products • Want to dedicate more time to the website • Want to be able to send out html emails to clients • Want to expand business to supply nationwide 	<ul style="list-style-type: none"> • Unfamiliar with IT and the internet – "to be perfectly honest, it's something I don't understand – it seems a bit daunting" 	<ul style="list-style-type: none"> • Not yet implemented the recommendations of the diagnostic • Not received a follow up from 'onlincolnshire' • Struggled to find three Business Link listed companies – a list of recommended suppliers would have helped

Company 11

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> • Improved access to the internet to develop own website • Finding tourist information, and looking at competitors' sites • Researching and joining accommodation directories • Enabled electronic payments to be made – "it has hardened us off to being more business-like" • Bought a PDA, "a phone/diary that when you go out you can have it with you" 	<ul style="list-style-type: none"> • Improved familiarity with the website and accounting packages 	<ul style="list-style-type: none"> • Fault with Tiscali connection – frequent "this page cannot be displayed" problems - but committed to six month contract • Slow connection at peak times 	<ul style="list-style-type: none"> • Very straight forward process – heard about it on Lincs FM and applied online • Diagnostic well received – "we didn't expect the size of the report that we got and it was obviously well done and in depth" • Would have preferred a smaller grant of £2000 to be available
B	<ul style="list-style-type: none"> • Website still the company's main marketing tool • Started using a 'no checks' facility for taking deposits using credit cards • Introduced web key on the computer so that guests can use the WiFi connection without accessing their files • Company listed with B&B UK, Visit Britain, Tourist net • Website definitely helped – people always go to the place with the website – but it's difficult to say how much turnover 	<ul style="list-style-type: none"> • Hope to buy a digital camera to update images on website 	<ul style="list-style-type: none"> • Limited knowledge of computers – want to be able to use spreadsheets, databases and do own accounts 	<ul style="list-style-type: none"> • No further services needed from 'onlincolnshire' • Would perhaps be interested in some training – such as book keeping

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	has increased			

Company 12

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> • Quicker speeds for downloading files • Slight increase in online purchasing • Increase in searching for suppliers online 	<ul style="list-style-type: none"> • Provide a very specialist service, so potential for advertising and selling online 	<ul style="list-style-type: none"> • No connection problems 	<ul style="list-style-type: none"> • Costs can seem to run away with you – turning £6000 software into £12000 expenditure on computers and router • More advice needs to be available for business start-ups to help them find appropriate software • Aware of advanced broadband, but not felt to be relevant
B	<ul style="list-style-type: none"> • Finding that more and more suppliers have an online presence, so doing more purchasing online • The company developed a website which went live at the end of last year. However, the company received too many unwanted enquiries as a result from people who didn't really understand the type of service they provide. The owner is in the process of developing a better website. • The majority of customers are still in Lincolnshire. However, the website has led to 4 new regular customers from elsewhere in the UK 	<ul style="list-style-type: none"> • Hope to develop an ecommerce site to sell plastic off-cuts 	<ul style="list-style-type: none"> • Some files too big to be sent via broadband. Not necessarily the fault of the connection, but limits set by the accounts of the recipients. 	<ul style="list-style-type: none"> • Would like more information on what grants are available, as the business is growing and looking for new premises

Company 15

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> Website developed by an IT consultant to enable online selling of goods. The site is now managed and updated by the owners Developed new skills in website administration – putting goods on and taking goods off – “it’s the best thing we ever did because we can now take photographs of whatever and put it on the website” Development of website has meant the business has moved from being entirely wholesale to include retail. This has reduced the risk associated with dealing with a small number of retailers – as the customer base has widened - and increased turnover. 	<ul style="list-style-type: none"> Continuing to develop online retail side of business 	<ul style="list-style-type: none"> Lack of computer skills to begin with, although this improved as the owners took over the administration of the website 	<ul style="list-style-type: none"> Found obtaining three quotes difficult and confusing – they ranged from £200 and £1,800 Pleased with diagnostic, but frustrated with limited help the consultant is able to provide The diagnostic provides a lot of information that is difficult to take in when you’re new to computers
B	<ul style="list-style-type: none"> The owners have continued to maintain and update their website They advertise the website using pay per click which costs around £500 per month Achieving 18,000 hits per month, and turnover increased by £9,000 since website went live Retail now accounting for a higher volume of sales than wholesale – “we want to knock wholesale on the head – it doesn’t make us any money” 	<ul style="list-style-type: none"> Want to expand more into Europe, and need advice for the best way to do this Want to expand the company so that they can employ somebody – “we want to be able to have holidays” 	<ul style="list-style-type: none"> Feel that pay per click is not working for them, but not sure what is the best way to get listed on search engines Poor advice given from some IT consultants – “right cowboys” – which meant that they dropped from 18,000 to 12,000 visits a month 	<ul style="list-style-type: none"> The website is still really good but “<i>having the website is just the start – the easy thing</i>” Need independent impartial advice – someone who they can contact to ask questions – perhaps like John Taylor who did the diagnostic (not somebody who is trying to sell them something)

Company 17

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> Developed website to sell garments direct to the customer Increase in domestic business, such as hen and stag do's – previously supplied mainly to trade Around 10 orders had come through the website as a repeat business from domestic orders Won business from the BBC as a result of the website Disadvantage of the website is that it gives the impression that the business is open all the time, and the telephone number is displayed – it's therefore difficult to avoid unwanted calls Increase in speed of internet connection Use of internet to check websites, emails and check progress on parcels sent with couriers Investment in new equipment, with an integrated computer system which means that they can automatically check stock Found it's easier to export as the internet and email means the language barrier is less of a problem Also sending out email shots to regular customers, to remind them they still exist – "you don't know who is contacting them in the meantime" Are increasingly finding that the way to find new suppliers is over the internet, as suppliers don't tend to run seminars any more 	<ul style="list-style-type: none"> Upgrade of website – updating information on customers and products Continuing to broaden markets - "want to serve multiple people rather than on specific market" 	<ul style="list-style-type: none"> Sometimes difficult to access the internet at lunchtime, but otherwise fine 	<ul style="list-style-type: none"> Heard about broadband initiative from Lincolnshire Chamber breakfast meeting Parent company receive £20,000 worth of grants
B	<ul style="list-style-type: none"> Still selling goods directly over the internet to both retail and domestic customers. Estimate the split to be 90% trade/10% retail – compared to 100% trade before the website was developed The website has brought about an increase in enquiries, but a lot of the enquiries are not relevant – e.g. from 	<ul style="list-style-type: none"> <i>"Everything is in place – the website, marketing, brochures – we just need to get them out there"</i> – want to concentrate on marketing Hope to continue sending out 	<ul style="list-style-type: none"> No reliability issues Spending a lot of money on GoogleAds, but finding that only come up 3 pages into a search on key words – currently working 	<ul style="list-style-type: none"> Happy with service received from 'onlincolnshire' Would be interested in finding out information about any further grants

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
	<p>companies that require a large volume of orders very cheap prices. The company is more likely to provide goods for SMEs that want a small order of quality goods for a medium-price</p> <ul style="list-style-type: none"> • The website is helping to increase the number of orders from the existing home market (UK and Ireland) • Increasing amount of online purchasing, as more and more suppliers are selling via websites and seem to pushing customers to purchase online. • Increasing the range of products sold over the website – now have 120 products on the site 	email shots to customers and potential customers	with IT consultant to find out the best way to market the site	that become available

Company 21

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> Development of a website, which shows the portfolio of products and brochure Increase in enquiries as a result of website Owner feels the website and the speed of broadband has enabled his business to appear more professional Development of capacity to "email merge" – purchased software which enables electronic mail shots More searching for suppliers online – new suppliers used as a result Limited use of online purchasing 	<ul style="list-style-type: none"> Development of a database of contacts to use with email merge software Further development of website – to upload new pictures 	<ul style="list-style-type: none"> Lack of confidence using computers – <i>"it is the wrong generation...you see other people do it so easily and it comes natural to them – I am trying to write it all down"</i> <i>"The internet side of it scares me – it's so alien – I don't know how it works"</i> Cautious about online purchasing – <i>"I am hoping it doesn't go that way or else it will do my business in if nobody goes to the shops anymore"</i> Cautious about use of credit cards online – <i>"I do find it scary"</i> 	<ul style="list-style-type: none"> Found out about the broadband initiative through Business Link Very pleased with help and technical support received through the scheme
B	<ul style="list-style-type: none"> Have started sending out pdf flyers by email merge – have managed to do several hundred at a time The website hasn't generated as many new enquiries as the owner hoped – he regards it as a good website but feels it isn't maybe getting the exposure it needs. It has generated new work on only a couple of occasions. Cost savings made on purchase of new spraying equipment – the owner was able to use the internet to make cost comparisons Still reluctant to undertake too much purchasing online – <i>"I find it frustrating and if more and more people buy online it will affect by business"</i> 	<ul style="list-style-type: none"> Hope to start advertising on online directories Hope to move more into design rather than manufacture, as there is increasing competition, particularly from China Hope to take the website in-house a bit and learn to update it 	<ul style="list-style-type: none"> No capacity issues – <i>"broadband is brilliant for speed"</i> 	<ul style="list-style-type: none"> Would appreciate some advice on how make the most of the website and how to ensure it is listed on search engines Would appreciate some training on how to manage and update websites Heard of advanced broadband but would like to find out more The owner thinks 'onlincolnshire' has been very helpful and has enabled him to communicate electronically and portray more of a professional image

Company 24

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> • Slow speed of broadband means it hasn't made much difference • Website being developed by a company in Derby but has to be sent by CD because broadband too slow • No increase in internet buying or selling – <i>"I don't want the business to get too big – I'm quite happy to do the work I can cope with"</i> • Benefits of slow connection and in collecting files personally rather than by email – <i>"there is a lot of value in that (personal contact) and that's what we do – it's a lot slower and quite frustrating but generally you tend to get a better standard of customer that are going to be more loyal to you and then you tend to look after better"</i> 	<ul style="list-style-type: none"> • At the moment the business doesn't rely on high speed connections, but this may change in the future (customer demands etc) so faster connection may needed 	<ul style="list-style-type: none"> • At the end of the BT exchange, so broadband quite slow (56K) but still ten times faster used to with dial-up • Would have like to have received advanced broadband to improve speed of connection • Two biggest customers would prefer to email files but due to speed of connection files have to be collected by hand (although personal service appreciated by customers) 	<ul style="list-style-type: none"> • Heard about broadband initiative from Business Link • Diagnostic fine but consultant unfamiliar with the specialist printer software needed for the business • Obtaining three quotes difficult as hardware same price through all suppliers • Familiar with advanced broadband (heard about through Lincolnshire Enterprise Network) but not able to receive it – <i>"I don't even know why they are trying to do it...you have to be able to see the transmitter"</i>
B	<ul style="list-style-type: none"> • Applying for advanced broadband again, now that a transmitter is being installed near the hospital • Once get advanced broadband hope to be able load files up to an FTP site and avoid the use of CDs for sending files to clients • The website is now developed – it provides a web presence for the company and displays company and product details • The project grant has been used to purchase a software upgrade which means the owner can run a number of printer/laminator machines at the same time. Each job now takes 50% of the time. • The owner doesn't advertise or link the website to search engines – <i>"I don't want to generate loads of business – my objective is to have one holiday a year"</i> • A small number of new enquiries generated via the website, but most of work through existing customers and word of mouth" • Found a small number of new suppliers over the internet but prefer to stay with existing suppliers – loyalty and quality is more important than saving money 	<ul style="list-style-type: none"> • Might try to sell some products online – perhaps through an ebay shop 		<ul style="list-style-type: none"> • Feedback on 'onlincolnshire' – <i>"the whole system is brilliant – they were even good when we changed supplier"</i> • The owner wishes he had spent more time considering what he wanted to do with the grant. • The diagnostic was good – the consultant had expertise in IT, but limited knowledge of how IT can be used in a business environment • Any further grants for upgrades would be really helpful • Would be prepared to attend any feedback events – <i>"it's only fair we attend – they did give us the money"</i>

Company 28

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> Increased research into new suppliers undertaken over the internet Developed a website, but have had no new orders from it The website appears low down on search engine – the owner is investigating how to increase the accessibility of the site Increase in online purchasing, although the owner always speaks over the phone before an order is made In the past, suppliers have been identified by driving around the country – “<i>we actually struggled until we got online</i>” – savings in petrol and time 	<ul style="list-style-type: none"> <i>“to conquer the world – we want to go worldwide”</i> - hope to make deliveries around the world 	<ul style="list-style-type: none"> Experienced difficulties logging on – reported problem to internet service provider 	<ul style="list-style-type: none"> Heard about onlincolnshire through Business Link Found the process easy Experience difficulties getting paperwork from internet service provider
B	<ul style="list-style-type: none"> The company has received a project grant from 'onlincolnshire' and has developed a full ecommerce website, bought a new laptop, digital camera and photo software The site has built in stock control and automatically takes off stock when it is sold The company has ordered a router which means they can work at different locations in the office and shop Recently employed a part time assistant to work in the shop which enables to owners to work on the website and mail order business The owners update and manage their own website – they decided to approach the consultant who developed the website of the company that one a business award for their site Advertising the site with AOL and Google Increased the amount of purchasing online and found new suppliers that wouldn't have been able to find about without the internet 	<ul style="list-style-type: none"> Hope to expand to have more than one shop – to set up a franchise Hope to market hampers to hotels chains, housing developments 	<ul style="list-style-type: none"> Two separate telephone lines are needed as can't have broadband on at the same time as the credit card machine 	<ul style="list-style-type: none"> Would be interested in finding out more about advanced broadband Some free training would be good, even just for an afternoon The £200 connection subsidy was great, but £500 would have been even better!

Company 33

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
A	<ul style="list-style-type: none"> • Website developed for the cake shop but not happy with it at the moment. • Used the internet to find suppliers and found it much quicker than searching directories and phoning up for prices • Set up an Ebay shop to sell off some of the old stock 	<ul style="list-style-type: none"> • Hopefully to have both websites up and running and generating new custom 	<ul style="list-style-type: none"> • More advice and training needed on how to get websites on to search engines 	<ul style="list-style-type: none"> • Heard about onlincolnshire through the Lincolnshire Target • Found it easy to apply for the diagnostic • Did not take grant because the threshold for match funding was too high – the owner felt a lower threshold would help smaller businesses • Diagnostic helpful, but would have preferred some basic advice on how to get website listed on directories
B	<ul style="list-style-type: none"> • Developing two new websites – one for craft and one for cake business – through Freestart - which enables the owner to build her own website. The owner is able to maintain both sites herself. • The craft website is ecommerce enabled, and she has been able to sell cross-stitches, tapestries etc over the internet and post them to customers • Sales of wedding cakes up 25% in the last year • The owner has found that wedding cake customers are coming from further afield as a result of the website – from Grimsby and Lincoln • Still have an ebay shop although this accounts for a small proportion of sales • Increase in online purchasing – such as for jewellery marking, card marking. It's helpful to show customers goods on the internet before they order them. • Increase in online banking • Frequently get email enquiries from brides and grooms regarding wedding cakes 	<ul style="list-style-type: none"> • Starting to make gluten-free and diabetic cakes – received funding from Sustainable Development Fund of the Wolds AOB for this stream of business. This will need to have its own websites 	<ul style="list-style-type: none"> • More independent and easy-to-understand advice needed on how to make the most of broadband. Have found events arranged through Taste of Lincolnshire and the Food Forum very helpful. 	<ul style="list-style-type: none"> • <i>"I wish I'd saved up for the match funding" for the project grant,, but the amount was too high. It would be good to have "small grants for little people".</i>

Company 36

Int	Impact/effects of broadband connection (what difference has it made?)	Future potential	Capacity implications	Effectiveness of 'onlincolnshire' service
36	<ul style="list-style-type: none"> Noticed reduced cost of phone calls since adopting broadband, compared with dial-up Increasingly communicating with potential guests using email Increasing in online purchasing Advertise on online directories Inherited website from previous owners, but hoped to update 	<ul style="list-style-type: none"> Perhaps enabling guests to use WiFi connection, although not sure of demand from holiday guests 	<ul style="list-style-type: none"> Lack of confidence in using computers Slight distrust of internet security 	<ul style="list-style-type: none"> Heard about 'onlincolnshire' through a seminar for the Hoteliers Association
	<ul style="list-style-type: none"> Continuing to use broadband much more than used dial-up People now email specific requests over email – such as dietary requirements Continued to increase the amount of goods bought online Considering advertising using entirely on online directories as it is cheaper (£50 per year) compared with £700 for the Funcoast Guide Considered introducing online booking but they perceive that most of their guests would prefer to book using traditional methods, as they are mostly from older age groups 	<ul style="list-style-type: none"> The owners are selling the hotel, and moving to new premises in Northamptonshire where they hope to provide a WiFi connection for guests 	<ul style="list-style-type: none"> The owners have attended many ICT training courses and information events run by Lincolnshire Tourism, Success Matrix, Grimsby Institute 	<ul style="list-style-type: none"> The owners would like to attend more events run by 'onlincolnshire' but feel that they are all run mid-week and in the Lincoln, which they find difficult to attend. They would prefer more events to be held in the winter and in a variety of locations, such as Boston, Louth or Horncastle. The owners feel that it should be a requirement of the connection subsidy for businesses to attend a training course, <i>"there's no point having broadband if you don't know how to use it"</i>.

ANNEX 4 – TELEPHONE SURVEY PRO FORMA

Evaluating the Economic Impact of Broadband in Lincolnshire Telephone Survey of Broadband Users

INTRODUCTION

Good morning/afternoon. Could I speak with _____ please?

Hi. I'm _____ and I'm calling on behalf of the Lincolnshire County Council's Broadband Team. As a user of the County Council's 'onlincolnshire' service, we are interested in finding out how your business has implemented broadband and your views on the service received.

We are contacting 150 businesses overall and the findings and results will be based on the views of all the businesses that are contacted. Any information you provide will be treated in the strictest confidence and nothing that you say will be attributed to you or your business. Are you free to talk for five to 10 minutes about your experiences?

ABOUT YOUR BUSINESS

Please provide the following information - this is purely for analysis: the survey is COMPLETELY ANONYMOUS

Name of business		
Postcode		
Contact name		
Position		
1. What is the main activity of your business?		
<input type="checkbox"/> Agriculture, hunting, forestry & fishing	<input type="checkbox"/> Hotels, restaurants & pubs	
<input type="checkbox"/> Community, social & personal service activities	<input type="checkbox"/> IT & computer related	
<input type="checkbox"/> Construction & trade services	<input type="checkbox"/> Manufacturing, production & wholesale	
<input type="checkbox"/> Creative and media	<input type="checkbox"/> Mining & quarrying	
<input type="checkbox"/> Education	<input type="checkbox"/> Real estate	
<input type="checkbox"/> Health	<input type="checkbox"/> Recreational services	
<input type="checkbox"/> Electricity, gas & water supply	<input type="checkbox"/> Research, development & consultancy	
<input type="checkbox"/> Engineering	<input type="checkbox"/> Retail	
<input type="checkbox"/> Financial services	<input type="checkbox"/> Transport, storage & distribution	
<input type="checkbox"/> Other [please state other _____]		
2. When was the business established?		
Month: _____	Year: _____	
3. How long has your business been at its current site?		
Month: _____	Year: _____	
4. How many people does your business employ?		
Full-time: _____	Full-time equivalent: _____	
5. Please provide me with an estimate of your business's turnover for the last financial year (April 2005 to March 2006)?		
<input type="checkbox"/> Up to £25,000	<input type="checkbox"/> £250,000 to £500,000	
<input type="checkbox"/> £25,000 to £50,000	<input type="checkbox"/> £500,000 to £1,000,000	
<input type="checkbox"/> £50,000 to £250,000	<input type="checkbox"/> £1,000,000+	
6. Since the previous financial year (April 2004 to March 2005) would you say that the turnover of the business has...		
<input type="checkbox"/> ...increased	<input type="checkbox"/> ...decreased	
<input type="checkbox"/> ...stayed the same	<input type="checkbox"/> Don't know	

EXPERIENCE OF 'ONLINCOLNSHIRE' SERVICES				
7. Which of the following 'onlincolnshire' services are you aware of?				
<input type="checkbox"/> Basic Broadband subsidies	<input type="checkbox"/> Advanced broadband			
<input type="checkbox"/> Diagnostic	<input type="checkbox"/> ICT project grants			
8a. Which of the following 'onlincolnshire' services has your business used?				
<input type="checkbox"/> Basic Broadband subsidies [go to Q8b]	<input type="checkbox"/> Advanced broadband [go to Q9]			
<input type="checkbox"/> Diagnostic [go to Q8b]	<input type="checkbox"/> ICT project grants [go to Q8b]			
8b. Would you be interested in the advanced broadband service provided by 'onlincolnshire'?				
<input type="checkbox"/> Yes	<input type="checkbox"/> Yes - but not eligible	<input type="checkbox"/> No	<input type="checkbox"/> Don't know	
9. Why did you adopt this service/these services? [up to three reasons]				
<input type="checkbox"/> Basic Broadband subsidies:	<input type="checkbox"/> Advanced broadband:			
<input type="checkbox"/> Diagnostic:	<input type="checkbox"/> ICT project grants:			
[for respondents checking diagnostic box go to Q10a for respondents not checking diagnostic box go to Q11]				
10a. How would you rate the following aspects of the service?				
	Very useful	Fairly useful	Not useful	
One-to-one consultation	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Report	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
10b. Have you implemented the recommendations from the diagnostic report?				
<input type="checkbox"/> All (yes)	<input type="checkbox"/> Some (yes)	<input type="checkbox"/> Plan to (no)	<input type="checkbox"/> No	
10c. Any comments about the diagnostic?				
11. How did you first find out about the service?				
<input type="checkbox"/> Radio advert	<input type="checkbox"/> Mail newsletter	<input type="checkbox"/> Newspaper advert		
<input type="checkbox"/> From another business	<input type="checkbox"/> Business Link/ emda advisor	<input type="checkbox"/> Can't recall		
<input type="checkbox"/> Other [please state: _____]				
12. In respect to the application process and on a scale of 1 to 4 (where 1 is strongly disagree and 4 is strongly agree) please indicate the degree to which you agree with the following statements:				
	Strongly disagree		Strongly agree	
	1	2	3	4
It was clear where to find an application form	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The application form was easy to complete	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
It was clear who to contact for assistance	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
The overall service received from 'onlincolnshire' was good	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Any additional comments:				
13. On a scale of 1 to 4, where 1 is very dissatisfied and 4 is very satisfied, overall how satisfied are you with the service you have received from 'onlincolnshire'?				
	Very dissatisfied		Very satisfied	
	1	2	3	4
Overall satisfaction	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
14. How could the service be improved?				

USE OF 'ONLINCOLNSHIRE' SERVICES WITHIN YOUR BUSINESS				
15a. Before adopting broadband, how often did you make use of the following, where 1 is not used and 4 is all the time?				
	Not used		All the time	
	1	2	3	4
Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working on company website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducting research on competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online sourcing of goods and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online purchasing of goods and service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online banking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: [please state]				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
15b. Since adopting broadband, and on the same scale, how often did you make use of the following?				
	Not used		All the time	
	1	2	3	4
Email	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Internet access	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Working on company website	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Conducting research on competitors	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online sourcing of goods and services	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online purchasing of goods and service	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Online banking	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Other: [please state]				
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
16. How much of a difference have the following benefits of broadband adoption made to your business?				
	Significant difference	Some difference but not significant	Slight difference	No difference
Being able to use the telephone while online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Being able to work online at any time	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to the internet more quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Access to email more quickly	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
Savings to telephone bill	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
17a. Has the adoption of broadband and other new technology adopted as a result of the 'onlincolnshire' programme enabled you to do any of the following?				
	Yes	No	Hope to in the future	
Market goods/services online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Sell goods/services online	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
	[go to Q17b]	[go to Q18]	[go to Q18]	

17b. Approximately what percentage of goods/services have been sold online?				
_____ %				
17c. What is the approximate total value of goods/services that have been sold online?				
£ _____				
18. For which of the following would you say the adoption of broadband has had an effect?				
	Yes	Please indicate...	No	Don't Know
Creating or preserving any jobs	<input type="checkbox"/>	...no. created: _____ ...no. preserved: _____	<input type="checkbox"/>	<input type="checkbox"/>
Increased sales turnover	<input type="checkbox"/>	...by how much: £ _____	<input type="checkbox"/>	<input type="checkbox"/>
Improved profitability	<input type="checkbox"/>	...by how much: £ _____	<input type="checkbox"/>	<input type="checkbox"/>
Enhanced productivity	<input type="checkbox"/>	...by how much: £ _____	<input type="checkbox"/>	<input type="checkbox"/>
Created new market opportunities	<input type="checkbox"/>	...where: _____	<input type="checkbox"/>	<input type="checkbox"/>
Increased skills in your workforce	<input type="checkbox"/>	...by how much: _____	<input type="checkbox"/>	<input type="checkbox"/>
Increased use of ICT throughout the business	<input type="checkbox"/>	...by how much: _____	<input type="checkbox"/>	<input type="checkbox"/>
Increased number of employees in IT-related industry	<input type="checkbox"/>	...by how many: _____	<input type="checkbox"/>	<input type="checkbox"/>
More employment of graduates	<input type="checkbox"/>	...by how many: _____	<input type="checkbox"/>	<input type="checkbox"/>
Improved supplier chain management	<input type="checkbox"/>	...how: _____	<input type="checkbox"/>	<input type="checkbox"/>
More involvement with HE institutions (eg Knowledge Transfer Partnerships)	<input type="checkbox"/>	...how: _____	<input type="checkbox"/>	<input type="checkbox"/>
Changes in net asset value of the company	<input type="checkbox"/>	...how: _____	<input type="checkbox"/>	<input type="checkbox"/>
Increased business investment	<input type="checkbox"/>	...by how much: _____	<input type="checkbox"/>	<input type="checkbox"/>
19. How has the new technology been integrated into your business? (eg do you have a stock ordering system that is directly linked online?)				
20. Do you feel that your business has been able to use broadband technology to its full potential?				
Yes	No	Please indicate why...	Don't Know	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	
21. Are there any expectations of broadband that have not been met since adopting it in your business?				
Yes	No	Please indicate why...	Don't Know	
<input type="checkbox"/>	<input type="checkbox"/>		<input type="checkbox"/>	

ANNEX 5 – Follow Up Survey
Evaluating the Economic Impact of Broadband in Lincolnshire
Telephone Survey of Broadband Users

INTRODUCTION

Good morning/afternoon. My name's _____ and I'm calling on behalf of the Lincolnshire County Council's Broadband Team. You may recall being contacted by us at the start of the year.

We are now looking to design the next level of support for companies like your own through the County Council's 'onlincolnshire' service. In this brief, follow-up survey we are interested in finding out how your company has developed during the first phase of broadband development and your experience of how it has contributed to your business. All information will be held anonymously and in the utmost confidence.

Are you available to answer this survey? YES/NO

If NO, is there a better time to call? _____ (note time)

Name

Position

Company Name

E Mail

Can you tell us:

1. Has your Company grown overall during the last 3-4 years **YES/NO**

2. People

2a. Has the number of people employed by your Company increased over the last 3-4 years YES/NO

If YES:

2b. How many people did your business employ when you accessed the programme?

People

Full-Time
Equivalents

2c. How many people did your business employ by the end of 2006?

People

Full-Time
Equivalents

2d How much of this growth in staff would you attribute to the Broadband Programme?

<input type="text"/>	People	<input type="text"/>	Full-Time Equivalents
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2e. Has the programme helped you to safeguard any jobs at risk? YES / NO

If Yes - How many?

If NO - Was the programme expected to help?

3. Salaries

3a. Has your Company salary costs increased over the last 3-4 years YES/NO

3b. What was your business's estimated salaries cost when you accessed the programme?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

3c. What was your business's estimated salaries cost at the end of 2006?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

3d. How much of the change in salaries would you attribute to the Broadband Programme

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

4. Turnover

4a. Has your Company's turnover grown over the last 3-4 years YES/NO

4b. What was your business's estimated turnover when you accessed the programme?

£ (please obtain absolute figures)

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

4c. What was your business's estimated annual turnover at the end of 2006?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

4d How much of the change in turnover would you attribute to (having accessed) the Broadband Programme

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

5. Profit

5a. Has your Company's profit grown over the last 3-4 years YES/NO

5b. What was your business's estimated annual pre-tax profits when you accessed the programme?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

5c. What was your business's estimated annual pre-tax profits at the end of 2006?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

5d How much of the change in profitability would you attribute to the Broadband Programme

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

6. Investment

6a. Has your Company grown in terms of investment over the last 3 years YES/NO

6b. What was the estimated total level of investment in your business when you accessed the programme?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

6c. What was the estimated total level of investment in your business at the end of 2006?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

6d. How much of the increased investment would you attribute to the Broadband Programme

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

7. Sales

7a. Has your company increased its sales to existing customers during the last 3-4 years?

7b. What was the estimated value of your Company's exports before you accessed the programme?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

7c. What was the estimated value of your Company's exports at the end of 2006?

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

7d. How much of the increase in exports would you attribute to the Broadband Programme

£

Up to 5k 6-10k 11-25k 26-50,k 51,-250,k 251k-1m 1-5m Over 5m

8. Customers

8a. Has your number of customers increased over the last 3-4 years? YES/NO

8b. Approximately how many customers did your company have when you accessed the programme?

customers

8c. How many customers did your company have at the end of 2006?

customers

8d. How much of the growth in new customers would you attribute to the Broadband Programme?

customers

9. Products

9a. Has your Company developed any new products or services over the last 3-4 years? YES/NO

9b. How many products or services did your Company offer when you accessed the programme?

9c. How many products or services did your Company offer at the end of 2006?

9d. How many of the new products and services that your Company offers would you attribute to the Broadband Programme?

9e. Have you changed the way you provide products or services since adopting broadband? YES/NO

If yes, how has the delivery of your products or services changed?

10. Markets

10a. Has your Company accessed any new markets over the last 3-4 years? (any areas outside your usual market, such as new geographical areas or new groups of customers?) YES/NO

10b. Which new markets have you accessed in the last 3-4 years? Please give details

10c. What is the approximate value of sales to these new markets?

 £

10d. How much of your success in reaching new markets would you attribute to the Lincolnshire Broadband Initiative?

All Most Some A Little None

Thank you for taking part in this survey

