

Research Summary



Impact of ICT on SMEs in the South East

Prepared for: South East of England
Development Agency (SEEDA)

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ICT ADOPTION LEVELS

Key points:

- 66% of SMEs are adopters; 36% basic adopters, 20% intermediate adopters, 10% advanced adopters.
- Positive correlation between adoption level and SME size (*fig 1*). South East adoption levels could be constrained by regional business composition; large proportion of zero-size SMEs in SE. Certain industries with high levels of self-employment (e.g. logistics) notable for low adoption rates.
- Certain industry types, especially amongst micro-businesses may not have any particular need for ICT. For example, low adoption levels in community services sector, which includes businesses such as launderettes, hairdressers etc. Besides simple financial management tools, the ICT requirement may be limited here.

§1 K-means analysis used to cluster respondents into four basic ICT adoption groups: non-adopters, basic, intermediate and advanced adopters. A range of questions input into the cluster analysis, with the cluster analysis undertaken mechanically through SPSS:

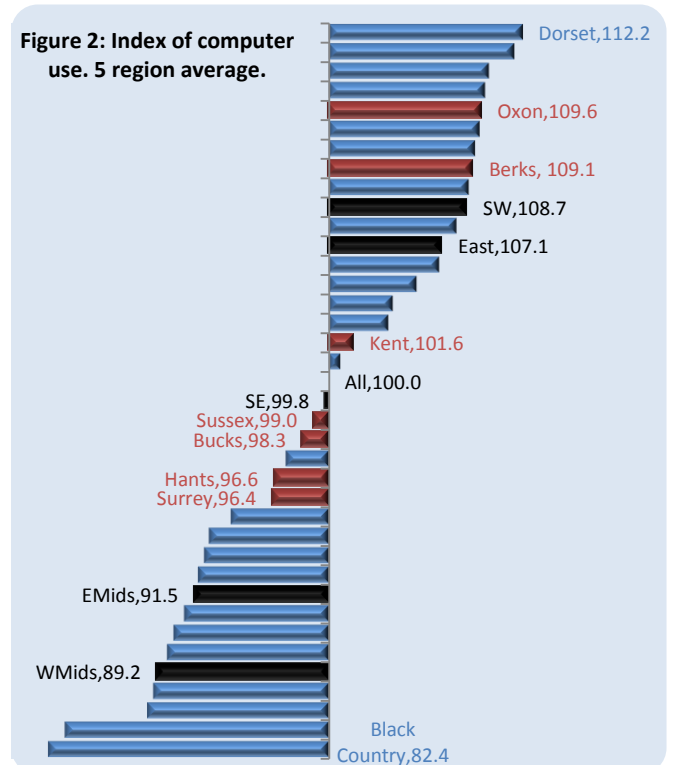
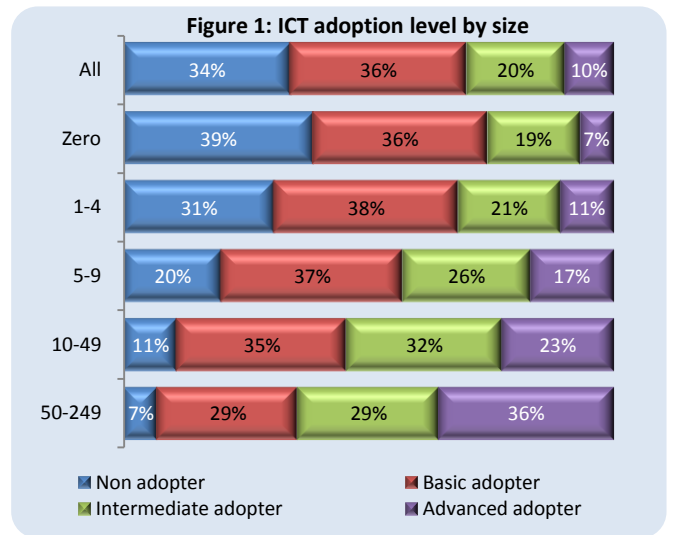
- Internet connection speed
- Website availability and functionality
- Level of ICT-enabled remote working function
- Extent to which applications are integrated
- Proportion of sales generated online
- CRM availability and functionality
- Range of other ICT applications available
- Presence of dedicated and/or trained ICT staff within business

§2 66% of SMEs are ICT adopters to some degree: 36% are *basic* adopters; 20% *intermediate* adopters, 10% advanced adopters. There is a positive correlation between adoption levels and enterprise size – e.g. 50-249 size, 93% are adopters, including 36% advanced. (*Figure 1*)

§3 General consistency in adoption levels across Business Link Areas. Only Berkshire reports higher proportion of adopters (74%). Advanced adoption less likely to occur in Kent (6%), with concentration of construction firms (generally lower-level adopters) in Kent influencing the result here. Regionally, South East adoption levels fall below the South West and East of England, but above the East and West Midlands (*Figure 2*). In contrast to these regions, micro-businesses account for a much larger proportion of SE SMEs.

§4 Wide disparity in adoption levels by industry. Finance and business & professional services sectors report high levels of adoption (92% and 84%), community services (45%) a very low adoption level.

§5 Sectoral disparity in adoption levels carries across to key SE industry (boost) sectors. Aerospace (92% adoption) and Creative & design (85%) have high adoption levels, logistics & freight and automotive (both 43%) particularly low.



INTERNET ADOPTION

Key points:

- 62% have internet connection. A small proportion still on dial-up connections, so some scope to extend broadband penetration within this small group.
- A strong rural broadband infrastructure regionally, low adoption rates in rural Kent exceptional.
- High degree of uncertainty over broadband connection speeds (43% unsure). Lack of awareness more acute amongst low-level adopters, and those with no dedicated ICT staff resource within the company. The lack of dedicated ICT staff may limit the drive (especially amongst low-level adopters) towards faster broadband installation.

§6 62% of SMEs have an internet connection, but 3% have dial-up only. Broadband connections (59% overall) are more limited amongst zero-size and micro SMEs (at 55% and 61% respectively, adoption level at least 10% lower than small and medium sized SMEs).

§7 Generally even broadband adoption rates between urban and rural areas regionally (59% and 61%), but this hides adoption disparity between rural and urban Kent (weak rural adoption level) and Surrey/Hampshire (weak urban adoption level). At a BLA level, strongest adoption level overall in Berkshire. (Table 1)

§8 Regionally, broadband adoption levels fall at the mid-point for the five region average, with a smaller proportion of SMEs likely to have adopted than in the South West and East of England, but adoption levels being stronger than in the West and East Midlands. (Figure 3)

§9 Wide disparity in broadband adoption levels by industry. Very high adoption levels in finance (88%) and business & professional services (81%) sectors. Limited adoption in community services sector (35%).

§10 Limited penetration of broadband connection technologies other than ADSL (68%). Cable (11% SE, 22% Hants), and wireless (11% SE, 16% Kent) gaining some ground within selected Business Link Areas.

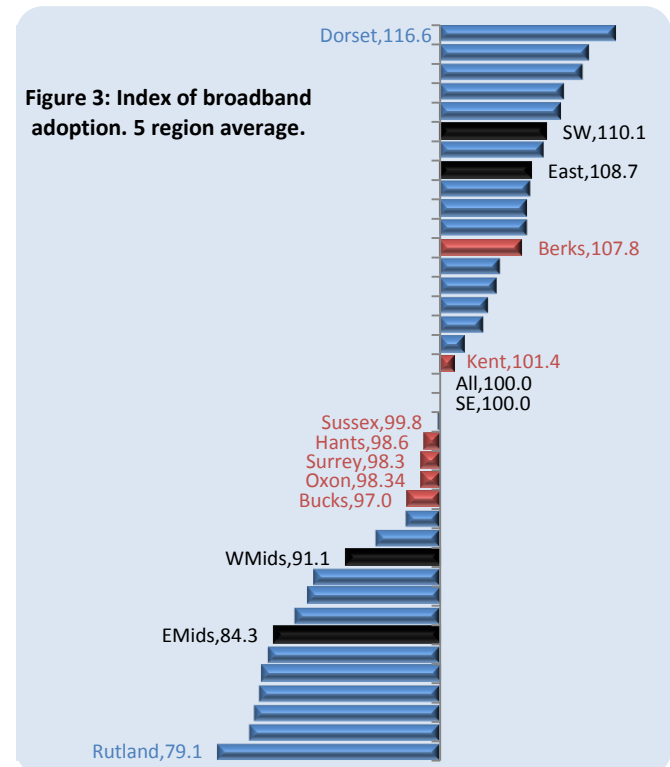
§11 Lack of clarity re: speed of broadband connections (43% of broadband adopters unsure of connection speed). Only 4% of SMEs currently have connections of 20Mbps+, which suggests limited current potential for adoption of new technologies such as NGANs that are reliant on faster connection speeds. There is potential demand at present for higher-speed connections, albeit limited in scope. Where broadband speeds are stated:

- 26% have a connection of 8Mbps+ currently
- 32% will need a connection of 8Mbps+ in future

Table 1: Broadband adoption rates

Base: SMEs with a broadband connection	Has broadband connection		
	All %	Urban %	Rural %
All South East	59	59	61
Berkshire	65	65	65
Hampshire/IoW	57	55	65
Kent	59	66	48
MKOB	58	57	59
Surrey	59	55	71
Sussex	61	58	67

Figure 3: Index of broadband adoption. 5 region average.



WEBSITE IMPLEMENTATION (1)

Key points:

- 41% have a website. Website use driven by the high-technology or high-skill sectors such as business & professional, education, finance, and manufacturing. Potential to increase implementation within wholesale & retail and hotel & restaurant sectors in particular.
- Whilst operation of websites increases with company size, of those currently with websites, small SME size does not present a barrier to being able to undertake internal site maintenance and development. Internal capacity does lead to a benefit of being able to make more regular site updates; however staff resource is an issue here, with few micro businesses able to undertake maintenance more than on a monthly or ad-hoc basis.

§12 41% of SMEs have website. There is a very strong positive correlation between website adoption levels and SME size. (Figure 4)

§13 High implementation levels within the business & professional sector (58%, unsurprising given the nature of businesses, including the IT sector, advertising, architectural practice etc). Lowest implementation level in agricultural sector (24%).

§14 Generally uniform level of website implementation across the region. A slightly higher level is reported in the Berkshire Business Link Area (45%), and lower in Hampshire (38%). Business Link Area data does hide a wide divergence of adoption rates in the MKOB counties (high in Buckinghamshire, low in Oxfordshire). Figure 5 also indicates that South East implementation rates again fall approximately in the centre of the five-region average, with the East of England and South East having higher implantation rates, and the East and West Midlands lower.

§15 A majority of website operators at least partly maintain their website internally (66%); no correlation between SME size and internal development capacity (68% zero-size, 71% 50-249 staff maintain internally).

§16 42% of those with websites update on an ad-hoc basis. In contrast, 22% undertake weekly updates at least (rising to 28% of those who maintain website internally). There is a positive correlation between SME size and the undertaking of weekly updates (18% zero-size, 39% 50-249 staff).

§17 The suggestion is that the need for frequent website updating could be overstated, and that weekly updates are only required when website functionality is complex (see §18), or when the website is in infancy stage (note that new business start-ups undertake more frequent website updates - 53% weekly).

Figure 4: Website implementation level by size

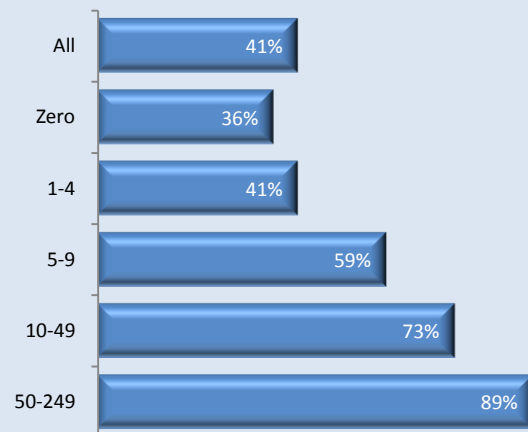
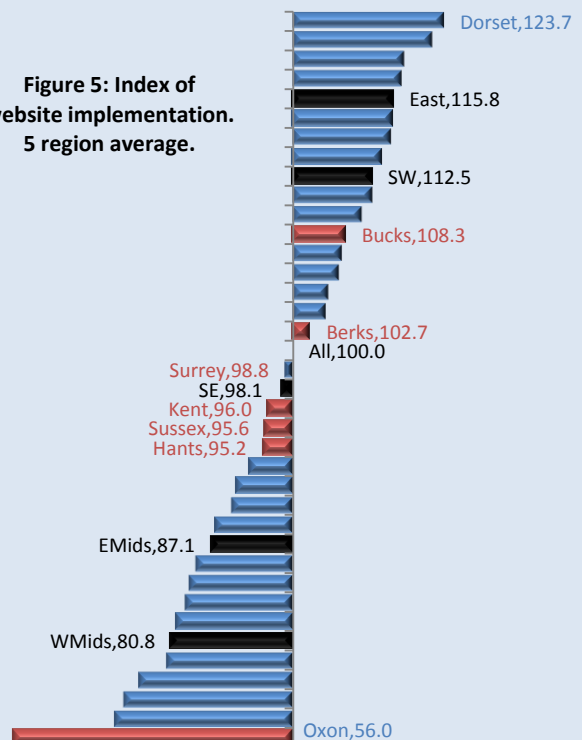


Figure 5: Index of website implementation. 5 region average.



WEBSITE IMPLEMENTATION (2)

Key points:

- Websites are of limited complexity, mainly offering static information (product descriptions, contact details, links to associates). Minorities do offer real-time information facilities (payment and stock levels), which require more detailed linkages to other applications. No evidence that in-house website development capacity leads to more sophisticated website function.
- Future website development again centres around static information provision rather than interactivity. This reflects a potentially limited business requirement for advanced functionality, and the lack of technical know-how amongst micro-businesses in particular to develop anything more advanced.
- However, as future website development is being driven by a sales focus (increasing sales, reacting to customer demand etc), it appears that restricted functionality may prevent websites from fulfilling requirements.

§18 Key areas of website function include descriptions of products and services, contacting after-sales support, and providing links to associates. (Figure 6) Functionality does not vary significantly between those with in-house development capability against those without.

§19 Websites are the main scope of future advance in terms of adoption. In all 21% of SMEs are seeking to develop existing website capability in the next 12 months, whilst 4% may implement a website for the first time. Desired areas of future functionality closely mirror those seen in current websites, with an emphasis on static information provision rather than interactive services, which are easy to maintain and develop. (Figure 6)

§20 Despite the lack of advanced functionality, the key objective behind future web development lies in increasing sales. Other benefits that are expected include greater company visibility, responding more quickly to demand, and increasing the customer base. (Figure 7) Note that 19% mention increasing their customer base as a reason for (further) developing their website. If the experience is the same as current website usage trends, websites would be used in attracting customers from varied locations (15% high importance in finding local, 13% South East, 15% UK, 11% international customers).

Figure 6: Main areas of website functionality

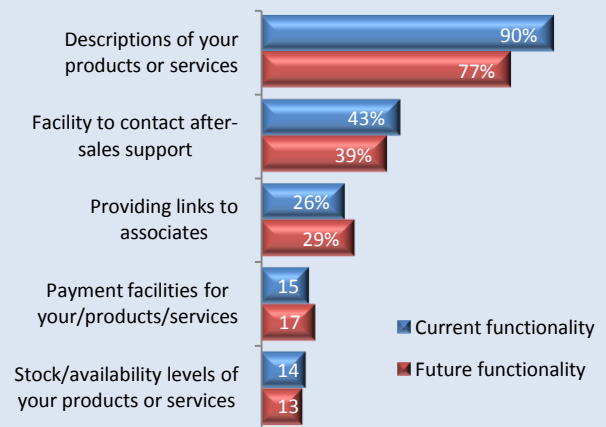
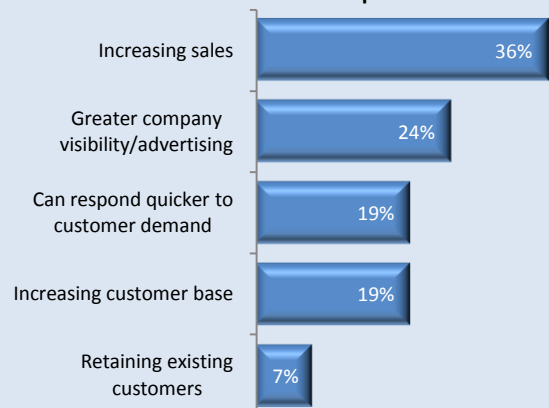


Figure 7: Benefits that are hoped to derive from website development



OTHER ICTs

Key points:

- Other than internet and websites, uptake of other ICTs appears slightly more limited, and there is also limited will to adopt more specific technologies over next 12 months. This is surprising given there may be scope for increasing the adoption of networking, online selling, internal resourcing/scheduling, CRM and stock control systems in particular. However, each of these have associated adoption barriers:
 - Networking – potential to increase usage levels amongst multiple site businesses, against cost barrier;
 - Online selling – new website development centred around increasing sales, but lack of know-how for developing complex real-time systems could be a barrier. Actual online sales volume at the moment are very low.
 - Internal resourcing – high cost of software;
 - Stock control/manufacturing processes – are not relevant to all sectors, and usage higher where expected (manufacturing sector).
- Online selling appears limited in terms of actual sales revenue generated, however, this is a channel through which sales turnover growth is expected over next 12 months.

§21 Internet and websites are the key areas of ICT implementation. Online buying facilities, accounting & financial software and networking also have healthy adoption levels, with other ICTs having more limited roll-out levels. (Figure 8) Other ICT implementation generally correlates positively with company size; online selling is an exception, where use only rises amongst those with 50-249 staff (30%).

§22 Adoption of other ICTs tends to be led by the manufacturing, business & professional and finance sectors, with construction, hotels & restaurants, health & social, and community services sectors tending to adopt in more limited numbers.

§23 With regards to specific technologies:

- Networking implemented by 31% overall, but rising to 56% of multiple-site businesses.
- Businesses that sell online currently generate only a small proportion of their total sales revenue from online selling (only 5% of online sellers generate all revenue online). Only the manufacturing sector has stronger performance here. (Figure 9) However, online selling is a potential growth area, with 60% of online sellers anticipating sales turnover growth in the next twelve months from channel sector alone, and only 3% a decrease in online sales revenue.

§23 Other than websites, few businesses are seeking to adopt specific ICTs in the next 12 months – 2% mention online selling, online buying, and accounting/financial.

Figure 8: ICTs in use (other than internet/websites)

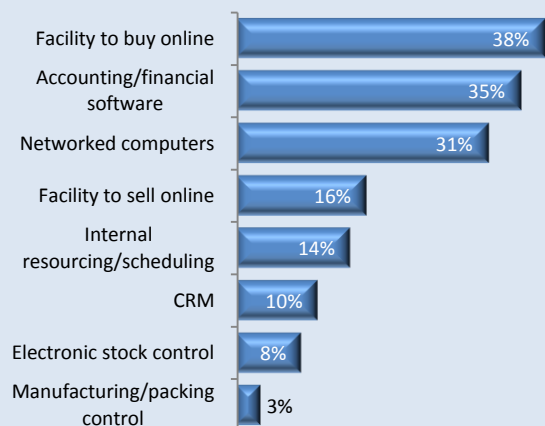
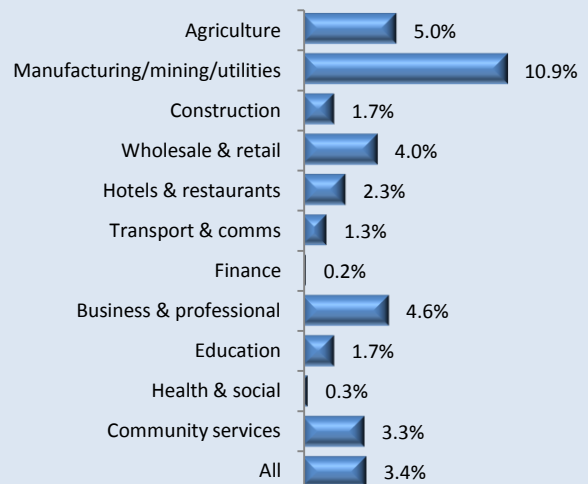


Figure 9: Mean proportion of sales revenue derived from online sources (online sellers only)



BENEFITS OF ICT ADOPTION

Key points:

- ICT deployment tends to be matched towards business objectives (there is a correlation between the most important objectives, and those where ICT has had the largest benefit). However, caution is advised in not overstating the role of ICT – attitudes towards ICT in achieving objectives are neutral at best. This suggests that to achieve key objectives, the correct ICTs have been identified, but not necessarily used to the fullest extent.
- Internal communication and recruitment are areas of less importance to ICT adopters as a whole, and consequently, ICT has made little or no impact on these areas. In the case of recruitment in particular, the South East is comprised mainly of micro-businesses, for which vacancies may be limited (therefore negating any requirement for recruitment portals).

§24 Based on a score of 1-10 (where 1 = of no importance, 10 = essential), the key business objectives for ICT adopters include improving the quality of goods and services, increasing profitability, and improving/maintaining competitiveness. (Figure 10). Less emphasis is placed upon recruitment and improved internal communication.

§25 The role of ICT in enabling business objectives to be met should not be overstated. As figure 11 indicates, when asked to rate the importance of ICT in each area, the resultant mean scores fall at best around the mid-point of 5.5. ICT has had the most positive impact on maintaining increasing competitiveness, maintaining the quality of goods and services, and increasing productivity.

§26 Comparing the mean importance of business objectives against the role of ICT in enabling the objective to be met, there is positive correlation between the two. This suggests that adopters have appropriately identified their ICT use to objective achievement. However, the disparity in the two sets of mean scores suggest that further efficiencies in ICT use could achieve further business benefits. (Figure 14)

§27 ICT has also been most likely to have had a positive impact, by leading to performance improvements, in the following areas not specifically linked to business objectives:

- Communicating information (39% of ICT adopters)
- Financial management (38%);
- Technological research (34%);
- Making and receiving payments (35%).

§28 In contrast to the above, ICT adopters are most likely to mention ICT having had a limited role in:

- Recruitment (76% limited, but as noted previously, not a key business objective);
- Product manufacturing (75%), and production planning (68%) - both with limited scope outside the manufacturing sector.

Figure 10: Mean importance of business objectives (ICT adopters only)



Figure 11: Mean extent to which ICT has enabled SME to work towards objective (ICT adopters only)



TIPPING FACTORS

Key points:

- Future ICT adopters tend to match their future ICT requirement towards achieving specified business objectives. However, the potential role of ICT, whilst important in attaining objectives, should not be considered as the sole initiative that would help these SMEs develop. Indeed, the potential benefit of ICT in achieving specific objectives is rated in quite neutral terms.
- As with current adopters, the role of ICT in leading to recruitment or communication efficiencies is downplayed.

§29 Based on a score of 1-10 (where 1 = of no importance, 10 = essential), the key business objectives for non-ICT adopters include increasing turnover and the quality of goods and services. (Figure 12). As with ICT adopters, less emphasis is placed upon recruitment and improving internal communication.

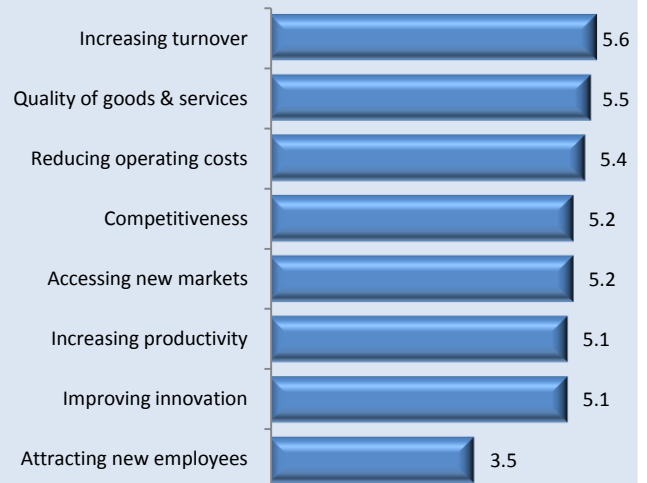
§30 When asked the extent to which achieving business objectives is driving their desire to implement ICTs in the future, there is a general uniformity in mean response, with future adopters most likely to cite increased turnover and the quality of goods and services as the key benefits they expect to derive from any future adoption. Again, ICT in helping recruit has minimal influence. (Figure 13)

§31 Comparing the mean importance of business objectives against the potential role of ICT in enabling the objective to be met, there is positive correlation between the two (Figure 15). This suggests that future adopters are specifically targeting ICT to meet specified objectives. However, the shortfall in mean score between the importance of objectives (higher) against the future role of ICT in enabling the objective (lower), suggests that ICT alone is not seen as sufficient, and that other factors might additionally contribute towards the business achieving its objectives.

Figure 12: Mean importance of business objectives (Future ICT adopters only)



Figure 13: Importance of potential role of ICT in encouraging adoption (Future ICT adopters only)



BUSINESS OBJECTIVES AND THE ROLE OF ICT - CORRELATIONS

Figure 14: Use of ICT in meeting business objectives (ICT adopters)

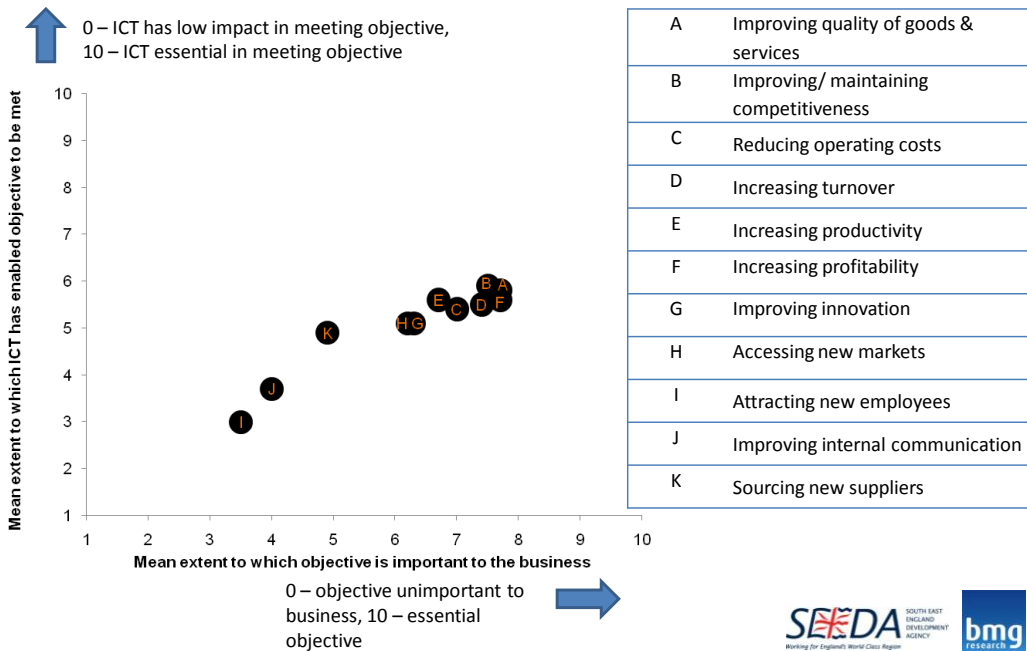
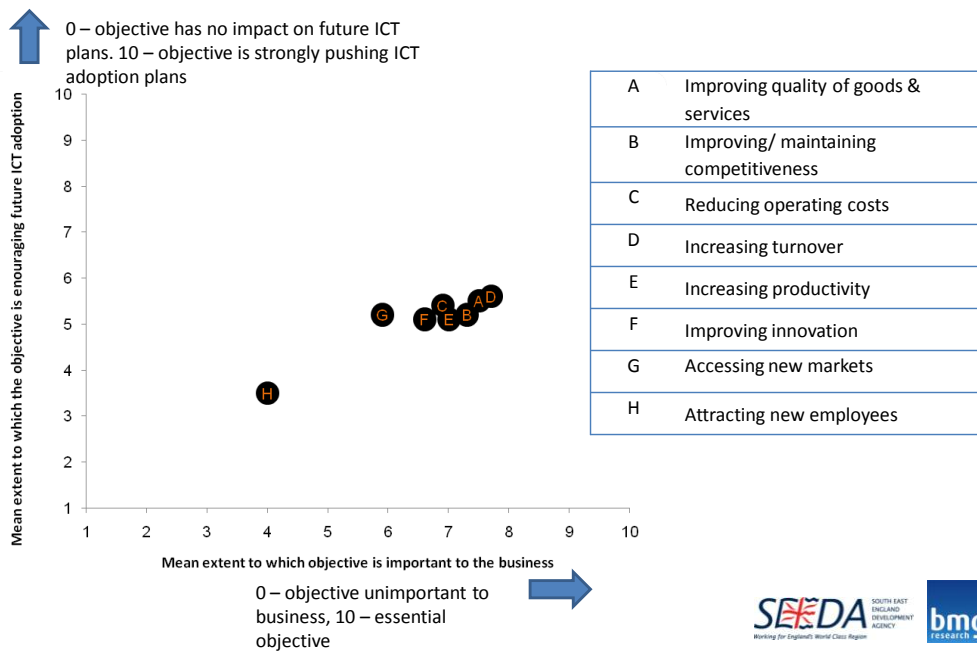


Figure 15: Extent to which business objectives are driving future ICT adoption (Future ICT adopters)



ADOPTION BARRIERS AND SUPPLY PROBLEMS

Key points:

- With non-ICT adopters (34% of SMEs), a perceived lack of relevance to the business of SMEs is the main factor preventing ICT adoption. This relevance issue is most clearly expressed as a lack of sector-specific application, although a notable minority also feel that they do not see any potential benefits deriving from implementing ICT in the future. However, there is some encouragement amongst non-adopters that suggests they may start using ICT in the future – cost issues security, and a lack of time in the past are not insurmountable adoption barriers.
- Given the dominance of ADSL within the local broadband supplier market, it is of concern that widely-available alternatives (cable and wireless in particular) are not yet placed to offer a region-wide solution for those businesses that are experiencing problems with their current connection. Results suggest that connection problems could seriously impact on other ICT-enabled functions, in particular in being able to operate a website, or taking and receiving online orders and payments.

§32 **ICT adoption barriers:** 24% of SMEs are non-ICT adopters. These businesses highlight a number of reasons which have prevented them from adopting ICTs in the past. Certain of these reasons do suggest that they would be unlikely to adopt in the future:

- Not relevant to the organisation (52%);
- Don't see any benefit coming from it (18%)
- Organisation is too small (8%)

§33 Other businesses do offer more encouragement however, with 7% highlighting a lack of time in the past as a reason preventing them having adopted, but a situation that does not necessarily preclude future adoption.

§34 **Broadband supply and issues with current connections:** of those with a broadband connection currently, approximately a quarter (23%) have experienced their connection going offline at some point in the past, although this has been more a problem for those with slower connections.

§35 Broadband supply and connection problems could have a knock-on effect and impair the operation of other ICTs within the business. Amongst broadband users, 57% rely on the connection for the successful operation of their website, 44% for being able to make online orders, and 45% for making online payments. (Figure 16) Of greater concern, is that connection problems could restrict cashflow inputs into broadband enabled businesses, with 36% reliant on their connection to receive online orders, and 30% online payments.

§35 §11 suggests that few businesses will upgrade to higher-speed broadband over the next twelve months – this reluctance is most likely to be business-led (28% of broadband users see not need for higher speeds), although a notable minority do suggest an external barrier in that there are no higher-speed connections locally (10%).

Figure 16: ICTs that are reliant upon having a broadband connection (Broadband adopters only)



FLEXIBLE WORKING (1)

Key points:

- There does appear to be a link between ICT adoption and the availability of flexible/remote working with increasing availability in line with increasing adoption levels. However, the unavailability of ICT does not preclude the use of flexible/remote working, and nor does it suggest that ICT adopters necessarily use any technology in this field. The suggestion instead is that the availability of flexible and remote working seems to be more industry based, and more strongly correlating with business size rather than ICT adoption level.
- Other than PC and laptop provision, there appears to be limited support in terms of technological deployment to staff to enable them to undertake flexible working.

§36 28% of SMEs offer a remote working option to staff:

- Mobile working (18%)
- Teleworking from home (17%)
- Teleworking from other locations (10%)

§37 There is a positive correlation between SME size and the availability of remote working (from 24% zero-size to 55% with 50-249 staff). Remote working has less application within the construction (14%) and hotel & restaurant (9%) sectors.

§38 37% of SMEs offer another flexible working option:

- Flexitime (18%)
- Annual hours (11%)
- Term-time working, compressed hours (both 10%)
- Job share (4%)

§39 As with remote working there is a positive correlation between establishment size and flexible working availability (29% zero-size; 66% 50-249 staff). Here however, agriculture (21%) and wholesale & retail businesses (28%) are less likely to allow flexible working.

§40 The use of flexible/remote working increases with adoption level. (Figure 17) However, this is not to assume that ICT has had a pivotal role amongst adopters in facilitating flexible or remote working – in all, 57% of adopters state that ICT has completely or partially enabled these flexible options to be implemented.

§41 Amongst ICT adopters, three in five (60%) provide some form of ICT equipment to staff to enable them to work remotely, although this is mainly limited to PCs and laptops. (Figure 18) Only 22% provide any financial assistance to facilitate this remote/flexible working.

Figure 17: Use of remote/flexible working

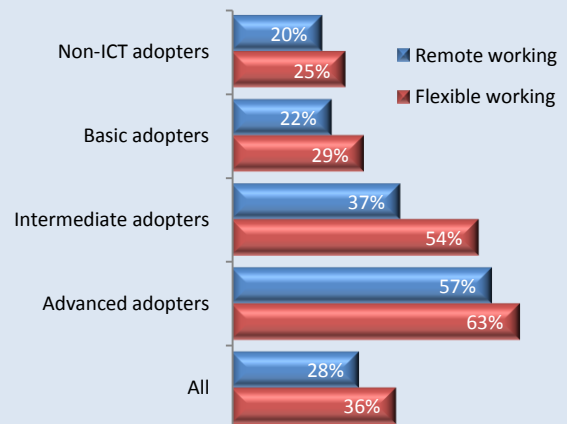
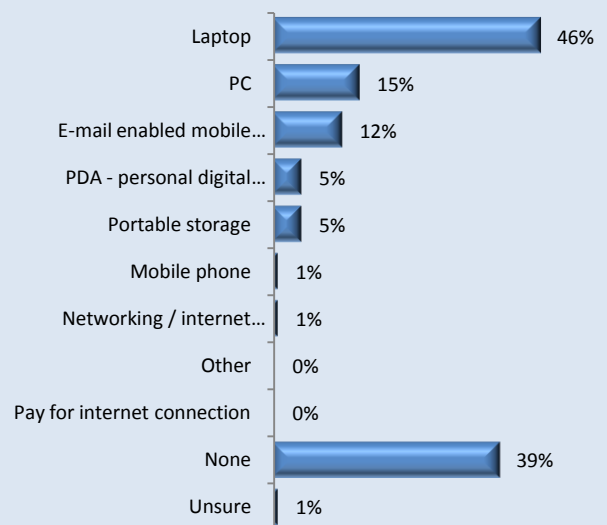


Figure 18: Type of equipment provided to staff to allow them to work flexibly/remotely (ICT adopters that allow flexible working only)



FLEXIBLE WORKING (2)

Key points:

- For many SMEs, flexible working appears to have unproven benefits. Those that allow flexible working already are more positive generally, but there is still a notable minority (30%) who could not express any advantages when asked. This may point to:
 - Flexible working having been implemented too recently to measure the benefits to date;
 - Technology or working practices that have been implemented reluctantly on the part of businesses, as a reaction to staff requirements (e.g. term-time working for staff with school children), rather than a business-led venture;
 - A situation where the benefits are unclear due to poor monitoring processes.
- Lack of perceived benefits of flexible working has implications on future regional transport and environmental policy.

§42 All SMEs were asked to highlight what they perceive to be the benefits of flexible working. The key benefits are shown in Figure 19, but these include improved productivity, competitiveness etc, improved staff morale/quality of life, less crowded public transport.

§43 Of concern is that 48% are unable to highlight any specific benefits. Whilst this question includes both those that allow and do not allow flexible/remote working, 30% of those that *do* allow flexible working are unable to point to any benefits. It is unclear whether this is due to poor monitoring, or a reluctance on the part of the business to have allowed remote working in the first place.

§44 Certainly, those who allow flexible working currently have also noted some specific problems or barriers that they have encountered when introducing these practices, which may suggest the lack of benefit could also result from procedural difficulty having prevented the system from working at optimum levels – staff management, and a lack of understanding of the benefits have been the key implementation problems. (Figure 20)

§45 Only 4% of current/future ICT adopters plan to increase the amount of flexible working that they offer to staff over the next twelve months. Non-ICT adopters seem similarly reluctant to commit to further increases in flexible working operation. Financial funding here (government grants – 13% of non-ICT adopters) and tax incentives (12%) could have a limited impact here.

Figure 19: Benefits of flexible working

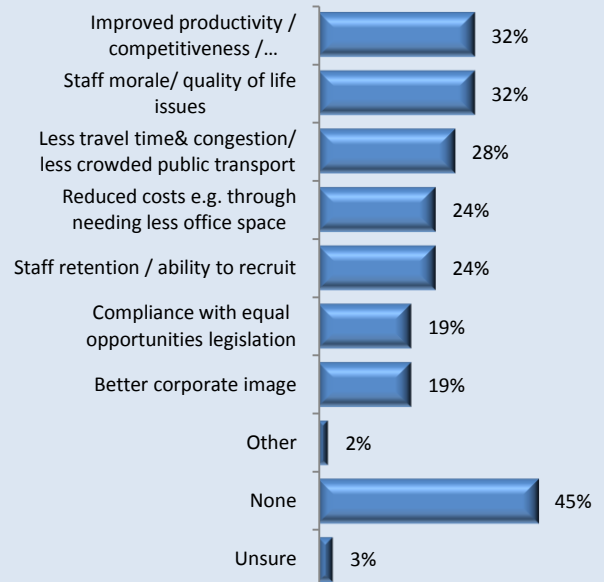
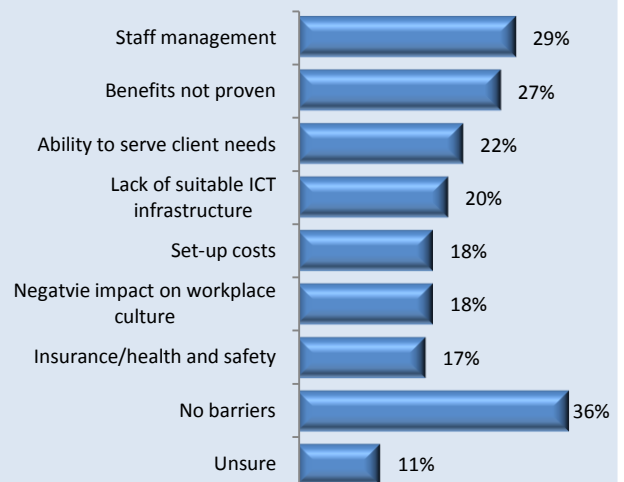


Figure 20: Barriers to implementing flexible working (where already has flexible working in place)



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