THE IMPACT OF ONLINE TRADING

UNDERSTANDING ITS EFFECTS ON OCCUPATIONS AND SKILLS WITHIN THE UK'S CONSUMER FACING BUSINESS SECTORS

JULY 2008

A RESEARCH REPORT COMMISSIONED BY THE SKILLS FOR BUSINESS NETWORK WITH SKILLSMART RETAIL, E-SKILLS UK, FINANCIAL SERVICES SKILLS COUNCIL, GOSKILLS, PEOPLE 1ST AND SKILLSET

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FOREWORD

Online retailing, its growth and possible future trends have captured the imaginations of a wide range of commentators. Much of their debate has focused on how consumers now access a range of services online that they previously accessed via other channels; now more than ever, booking travel, managing our finances, gambling, downloading films and other leisure activities are all increasingly done online.

But while this movement online has been widely documented, its effects on workforces has not. As Sector Skills Councils we (SSCs) are determined to understand and address future skills and productivity challenges, meaning that understanding online trading is essential. This is why six SSCs; GoSkills, People 1st, Skillsmart Retail, Skillset, e-skills UK and the Financial Services Skills Council, have worked together to understand how online trading is changing working patterns in a wide range of consumer facing sectors.

Using in-depth interviews with industry experts and employers, this is the first study of its kind conducted in the United Kingdom. It focuses on how organisations have begun to restructure to exploit the full potential that online trading offers. Furthermore it explores how traditional job roles are being challenged and how new roles are emerging. Many of those working today will see their job roles requiring new and exciting combinations of skills.

Already, the findings of this research are helping us work with our employers to we have the world-class skills needed by the UK. We are delighted to present them together in this report.

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2 Executive Summary

2.1 This report details findings from a study designed to examine the impact of online trading on businesses in the sectors under the remit of GoSkills, People 1ˢᵗ, Skillsmart Retail, Skillset, e-skills UK and the Financial Services Skills Council.

SKILLS TRENDS IN ENABLING SECTORS

2.2 The 'enabling sectors' (IT and interactive media companies covered by e-skills and Skillset) make it possible for their clients to trade online. The services and products they offer range from the least complex provision of off the shelf hardware and software, through to providing ongoing support and consultancy. Larger companies are increasingly investing in more bespoke services rather than standard packages.

2.3 Consultancy services and the development of bespoke software are growth areas for 'enabling' companies. Current 'off the shelf' software is not always able to integrate sufficiently with back office systems of those trading online.

2.4 The past 3-5 years have seen general trend away from 'brochure websites' towards a new generation offering greater interactivity between the users and businesses. These next generation (Web 2.0) websites have required input from those within both the IT and interactive media sectors. While some developments reside purely in the sphere of IT skills or require only advanced interactive media skills, **there is an increasing need for a fusion of the IT and interactive media skill-sets**.

2.5 Ever increasing customer expectations and demand of businesses to measure the performance of all aspects of their businesses are driving the development of ever more sophisticated websites. Such demand is changing how teams and job roles are structured, particularly in the interactive media sub-sector. **Many job roles have changed from a single channel focus to a more flexible approach in which those who develop the websites must work across platforms or languages / packages. The people filling these roles require a new blend of specialist and generalist skills.**

2.6 Freelancers, outsourcing and consultancy services have long been part of employment landscape in 'Enabling' sub-sectors. **The increasing sophistication and pace of change in the market means there is increasing competition for a limited pool of experienced freelance contractors**.

2.7 Some employers are looking to strengthen their **in-house** technological capabilities. These employers are often in "end-user" sectors such as financial services and retail, rather than within the enabling sectors.

2.8   In skills terms, the drive is towards individuals with ever-deepening 'hard' or specialist skills, who also possess a breadth of 'soft' or transferable skills. Some of these hard skills are "traditional" (e.g. programming skills, database management, design skills and relevant IT languages), while others are relatively new (e.g. web analytics, search engine optimisation and understanding security issues). Sector-specific knowledge is increasingly important, as the focus moves to maximising the potential of the technology in particular situations, rather than simply breaking new technological frontiers.

SKILLS TRENDS IN CONSUMER FACING ENTERPRISES

2.9   All consumer facing sectors studied, those represented by, People 1st, Skillsmart Retail, Skillset, e-skills UK, Go Skills and the Financial Services Skills Council - accept that online trading will be a part of the future. All the businesses who participated recognised the potential for the online channel to open up new markets (whether in terms of their geographical reach in the market, or adding to the customer demographics in which they had traditionally been successful).

2.10   A number of factors emerged as driving the speed and the extent of the adoption of online trading as a means of delivering products and services, these included:

- The nature of the goods being traded
- Type of purchase (everyday vs occasional)
- Consumer knowledge
- Trust

2.11   The development of businesses' online offer typically runs through several broad phases: a "brochure marketing" approach, a transactional model, a more sophisticated trading model and culminating in an online offer which is relational, and transformational. Not all sectors will progress sequentially through all of these stages, and not all organisations within each sector will target the same phase as their optimal state of online trading. The end-point, for each company will emerge as a function of its sector, sub-sector and size, and in the context of its product-market strategy.

2.12   The organisational structures that underpin businesses' online trading activities also tend to progress through a number of stages, starting from a small number of technical employees running a stand-alone e-commerce "department" or "team", to a department dedicated to e-commerce within an overall business strategy, to a multi-disciplinary team at the heart of a multi-channel business. The extent to which online trading affects internal structure will clearly vary depending upon the stage of development of the online offer.

2.13   Within demand companies, where online trading remains at an early stage of development, the main focus in terms of skills provision has been training existing staff. As the online offer becomes more developed or complex, demand firms **initially** outsource tasks and projects, or bring in freelancers until they reach the stage where they are leading innovation in the market, when they need to build their own specialist teams. It is at this stage that demand companies end up in competition with the enabling sectors for skilled labour.

3 Introduction, background and methodology

3.1 The Leitch Review (*Prosperity for all in the global economy – world class skills*) set out a vision for the UK to overcome its relatively weak productivity and growth, and to become a world leader in skills by 2020.

3.2 Amongst other things, Leitch recommended that the SSCs reform with a new focus to articulate the future skill needs of their sector(s) and to raise employer ambition and investment in skills to meet these needs.

3.3 Against this backdrop, this document reports the findings of a survey of employers in the sectors covered by Goskills, People 1st, Skillsmart Retail, Skillset, e-skills UK and Financial Services, which was designed to enhance understanding of the impact of online trading[1] on businesses in these sectors, and on the skills of the people who work within them.

3.4 More specifically, the aims of the project were to:

➢ Identify and describe the different strategies adopted by businesses in respect of online trading;

➢ Explore the drivers that promote and the obstacles which restrain doing business online;

➢ Investigate how working practices have changed as a result of online offers being developed;

➢ Predict new trends likely to emerge, and anticipate how these will impact on the sectors' job roles and skills mixes.

3.5 Underpinning all of these aims, the study sought to understand which developments are specific to certain sectors, and which cut across online offers throughout the economy. The growing importance of online trading has transformed the nature of competition in a range of sectors and the skills demanded of the IT technical experts who serve them.

3.6 Some of the key areas in the development of online trading which are examined by this study include the following:

• How online trading has become complementary to traditional forms of trading and how businesses can use the internet to support the development of their operations. Underlying this is how businesses are incorporating innovative ways of working and a new range of business models.

• Whether the growing body of anecdotal evidence claiming that new demands are being put on people in these industries in terms of the way that they are organised and the skills they require is reflected in these sectors.

• How traditional commercial skills in many sectors can be matched with the more technical skills associated with the development of websites, and the role of overseas outsourcing.

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[1] Throughout this report the terms 'e-commerce' and 'online trading' are used interchangeably to refer to the buying and selling of products or services over the internet or via e-mail. The bulk of online trading involves physical items in some way but the term also encompasses e-commerce that is conducted entirely electronically for virtual items e.g. access to content. Whilst e-commerce is primarily considered a function of sales it also comprises the use of online systems for behind the scenes operations such as payment and data management.

Methodological approach

3.7   The survey was conducted in two phases - the first took place during November and December 2007 and the second over January and February 2008.

3.8   Phase one was an exploratory stage and combined desk research with in-depth, qualitative interviews with sector experts in the field. The SSCs played a key role in directing this part of the research, in particular putting forward experts who could offer insight into online trading within their sector[2]. This initial phase helped to establish a starting point for the survey in terms of the state of the collective intelligence of the SSC sectors concerning the impact of online trading on their employers and additionally served to identify themes to be explored in Phase two.

3.9   Phase two involved in depth interviews with 63 employers across a range of sub-sectors, business sizes and stages of online offering. An outline structure of the achieved sample is shown in Table 2.1 below, with more details provided in each of the individual sector appendices.

Table 2.1: Structure of the achieved sample

Sector Skills Council	Number of interviews
e-skills UK	10
Financial Services Skills Council	11
GoSkills	11
People 1st	11
Skillset	11
Skillsmart Retail	9

3.10   The respondents were a mixture of employers put forward by each SSC and employers "free found" by IFF Research (from a combination of published listings and purposive web searches).

Structure of the report

3.11   The report has been structured into two main sections. Part one attempts to pull together learning across the sectors and is divided into two chapters. The first of these (Chapter 3) focuses on how employers within the sectors covered by e-skills UK and Skillset (and to a lesser extent those within the Financial Services sector) facilitate or enable online trading both within their own sectors and more widely.

3.12   The second (Chapter 4) focuses on how online trading is impacting on the ways in which employers across all of the sectors do business. In both chapters we consider how online trading is affecting workforce structures and the skills that businesses need to meet their objectives.

3.13   Part two then reports the findings from interviews with employers within each sector, in turn as follows

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[2] Interviews were conducted with experts representing the e-skills UK, Skillset, People 1st, Skillsmart Retail and Financial Services Skills Council sectors. No expert interview was conducted with a representative of the Go Skills sector.

4 The 'Enablers'

Introduction

4.1 The analysis in this chapter focuses on the sectors and companies that make it possible for other businesses to offer products or services online. It mainly concentrates on the circumstances, experiences and perceptions of companies in the IT and Interactive Media sub-sectors (which fall within the remit of e-skills UK and Skillset SSCs respectively) and also briefly considers the impact of financial services and security providers (who come under the footprint of FSSC) in enabling other businesses to trade online.

4.2 Although these businesses market themselves and trade online in their own right, in this chapter the focus is solely on their role in facilitating online trading for *other businesses*.

How the enablers help other businesses to trade online

> **There are four broad ways in which IT and interactive media companies enable their clients to trade or offer services online. These range from the least complex interaction of building off the shelf hardware and software through to providing ongoing support and consultancy with a great degree of involvement with clients. Larger end user companies are increasingly investing in more bespoke services rather than standard packages.**

4.3 Beyond the basic provision of hardware and software to allow a company to access the internet and build a website, there are four broad ways in which these companies facilitate or enable other businesses to trade online. These are illustrated in Figure 3.1. The shape of the diagram does not attempt to represent the size of the respective markets, but rather traces the extent to which the services provided are bespoke or tailored to the needs of a business, with the offering becoming more tailored at the top, narrow end of the diagram.

4.4 The first level is the development of 'off the shelf' hardware and software and is the sphere of IT companies (i.e. within the e-skills UK sector).

4.5 The second level - provision of bespoke design and software solutions - allows more sophistication and improved solutions which are tailored to the specific needs of businesses. Here the boundaries become more blurred with both niche IT companies and interactive media companies (or a combination of these) being involved in the creation and supply of these products.

4.6 The third level, providing consultancy services looking at business models and existing processes offers an even more tailored outcome. This crosses the boundaries of the traditional remit of IT and design companies, with consultants from the IT *and* interactive media sectors looking at a company's e-commerce offering and systems. The sorts of solutions offered might include how the value of e-commerce can be maximised in terms of increasing sales or how it could fit within different business models to deliver cost reductions and efficiencies. Taken even further, consultants operating at this level seek to address how online trading could affect the wider organisation structure, and how companies could adapt to ensure they are set up to deal with online trading in the best way possible.

Figure 3.1 Products and services offered to other businesses wishing to trade online
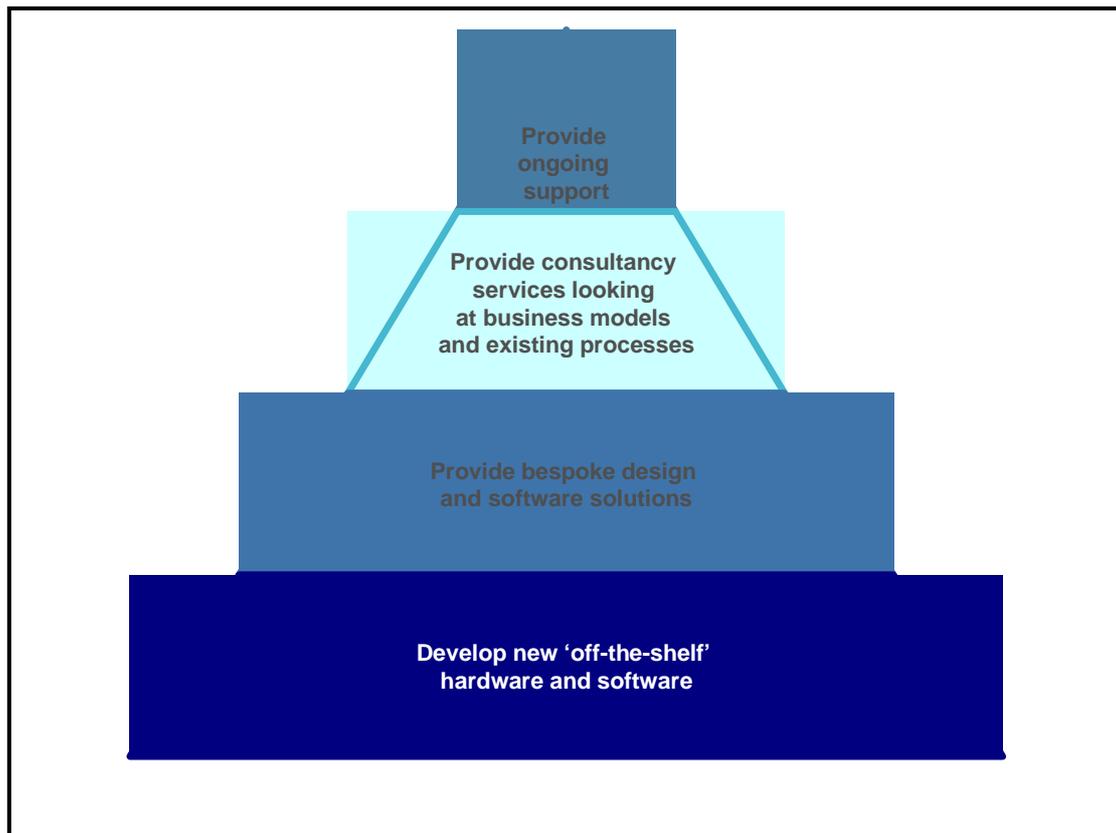
4.7 Finally, those trading online require ongoing support. At one end of the scale this might be in the form of a customer service assistant within an IT firm dealing with e-mails or telephone calls regarding minor glitches in software. At the other end of the scale this could involve ongoing analysis of customer behaviour, website usability and functionality leading to recommendations for adapting, increasing and refining the online offer. These demands are being met by a mixture of IT companies, freelancers and interactive media agencies.

4.8 Consultancy services and the development of bespoke software and design are both growth areas for 'enabling' companies. These services are required because existing 'off the shelf' software cannot always adequately integrate with their customers' back end systems.

4.9 Some predict, however, that over the next few years more advanced standard or 'off the shelf' software will be developed which will reduce the need for bespoke systems. This will require those that are responsible for overseeing the interaction between offline and online processes to be able to plan and manage these processes.

4.10 There is also some evidence that certain sectors are moving towards this approach already, with some *small* businesses in the retail sector using Amazon and eBay 'shops' to create online channels easily and cheaply. If these models were further advanced to meet the needs of bigger players with more sophisticated requirements, and/or those in other sectors such as travel and tourism, there could be an even greater take-up of such services.

4.11 However, it seems unlikely that the largest companies will go down this route, preferring instead to continue investing in developing ever more tailored bespoke systems (and therefore requiring the support of specialised staff, consultants or freelancers).

How the online offer has become more sophisticated

IT and interactive media businesses are operating in a market characterised by an increasing sophistication of both their client base (firms trading or wishing to trade online) and their online audience or market (the end users or end purchasers).

The last 3-5 years have seen a move away from 'brochure websites' towards a new generation of websites offering Web 2.0 features and functionality. The demand for these next generation websites has required input from both the IT and interactive media sectors. While some developments reside purely in the sphere of IT skills and some require only advanced interactive media skills, there is an increasing need for a fusion of the IT and interactive media skill-sets.

4.12   Figure 3.2 illustrates the key features and functionality of such a sophisticated website or online offering. Those elements shown in a pale blue box are ones which require interactive media skills; purple boxes indicate the need for IT skills (with the features in boxes which are blue and purple requiring a collaboration of IT and interactive media skills); the green box represents the input from those with Financial Services related skills.

Figure 3.2 Key features and functionality of a Web 2.0 website
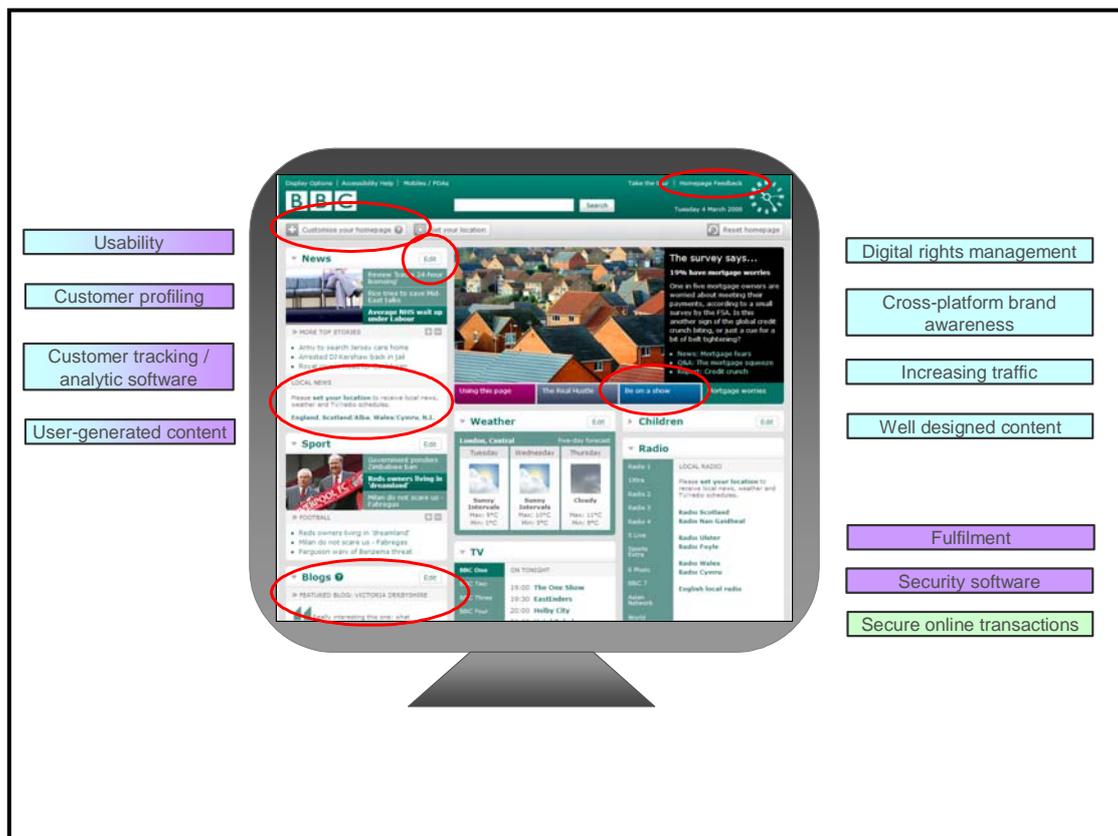
Drivers behind sophistication: customer expectations and maximising business benefit

> **The drive to increasing sophistication in website design is driven by a combination of customers' expectations and the increasing ability of businesses to measure outcomes. Customers expect a seamless online experience, and are quick to log out or shop elsewhere if they do not get this. Businesses can track customer behaviour to monitor how many potential sales are lost in this way, and can also profile their online customer base so as to target marketing to match the individual's interests and past purchases. These and other related developments are starting to impact on how businesses trade online.**

4.13   Customers' expectations of websites are higher than ever, and usability is fundamental in ensuring a smooth online experience and thus in maximising potential interaction with customers. There is decreasing patience from customers with a slow online experience, and companies are now able to see the proportion of customers that do not complete a sale because of either poor explanation of the process or a technical fault. As large companies with established offline brands increasingly demand websites that will complement rather than compromise their image in terms of design or customer service, the importance of usability is even greater. Analysing and improving both the technical and visual design of a website requires skills which traditionally reside within both IT and interactive media employees (namely an integration of both programming / deploying technology and design skills). Individuals that understand the interaction between these two aspects and who are able to plan or produce both website architecture and graphics are in high demand.

4.14   While it is mostly larger companies who are leading the drive to greater usability, and despite the suggestion that (some) smaller companies are adopting web-strategies based on standardised "shell" packages or channels, some "enablers" argue that end-customers (consumers and businesses purchasing online) expect a similar level of service online whether what they are buying is top of the range or cheap and cheerful. The online medium blurs or confounds expectations of service levels; online shoppers expect to "be served" to a similar level regardless of whom they are shopping from. This puts smaller traders operating within much smaller budgets on the same playing field as (inter)national corporate giants.

4.15   Although currently still in its infancy, the **PROFILING OF CUSTOMERS** has huge potential for growth once suitable software has been developed. Sites such as Amazon are current forerunners by using data collected about website selections and purchases to inform understanding of individual customer's needs and preferences. The ability to target marketing to match the individual's interests and past purchases is a tool all sectors could benefit from in the future.

4.16   Similarly, as more companies understand the huge possibilities that web analytics tools offer in **TRACKING CUSTOMER BEHAVIOUR** and the language or environment that is most likely to convert browsing into a sale, the demand for more advanced models will increase. While the development of this software would normally sit with the IT and interactive media sectors, demand-led end-user companies are becoming increasingly involved in advising and producing changes to websites to make sure this knowledge is put into action.

4.17   **USER-GENERATED CONTENT** is a key distinguishing feature of Web 2.0. Websites are no longer simply a marketing tool but are seen as a way to interact and engage with consumers on a deeper level. As users add their own content (often in the form of comments, reviews or feedback), websites are becoming a forum for dialogue rather than simply the dissemination of one-way information. This is creating the need not only for supporting software, but also for communication and PR skills, to ensure that online communities and content flow in a manner desirable to the host.

4.18   Looking now just at demands which impact on the interactive media sector, delivering **CROSS-PLATFORM BRAND AWARENESS** by ensuring that online design and content match the offline brand to deliver a coherent concept to the customer is an increasing point of focus. As retail companies in particular move to offer multi-channel interactions e.g. providing online kiosks to check stock in shops, or the ability to reserve products online to collect later at a High Street branch, the transition between channels is even more important. How to integrate brand images ranging from high quality to bargain basement is a skill demanding marketing and design expertise, as is the understanding of how customers expect these values to be translated online.

4.19   **INCREASING THE VOLUME OF TRAFFIC** to a website also involves those working in the interactive media sub-sector. Whether this is through online marketing campaigns or search engine optimisation, the demand for individuals with knowledge and understanding of how to increase the number of online customers and/or sales is rapidly growing.

4.20   **ONLINE CONTENT**, download services and applications are expected to be of high quality, but in many cases to be supplied free of charge. This includes music, film, games, and TV shows. However, the **MANAGEMENT OF DIGITAL RIGHTS** to protect copyrights for writers, developers and artists is becoming increasingly important. If consumers do not accept a model involving payment for these items, it will become increasingly hard for suppliers to have sustainable business models.

4.21   There is increasing evidence that despite these concerns audiences will pay for downloadable content or services if this will bring benefits (e.g. significant time savings or other, added value), and of course if the content is priced appropriately. (iTunes is one example where customers are paying for products they could obtain for free elsewhere.)

4.22   There are also clearly other roles for the IT sector to play with minimal input from the interactive media sector. Integrating back-end systems with new online processes is vital to ensuring successful **FULFILMENT** of orders and delivery of services. As websites become more complex and customers are able to interact to an even greater degree, the amount of data needing to be transferred increases and creates work for IT data managers.

4.23   **SECURITY SOFTWARE** is another key area. As online transactions and sales increase, so does the demand for more sophisticated payment systems. Here too, the input of financial services companies, with their expertise not only of developing successful payment models but also in tackling fraud, is required. Customers are also becoming more aware of the risks connected with the storage of their personal details. Those that capture this information online require robust IT systems to ensure their procedures are in line with data protection regulations and are immune to hackers.

Changing team structures

> **The increasingly sophisticated products and services that 'Enablers' are required to provide have resulted in a change in how teams and job roles are structured in these businesses, in particular in the interactive media sub-sector.**
>
> **Many job roles have changed from a single channel focus to a more flexible specialisation approach.**

4.24   Several years ago employees in the interactive media sub-sector tended to be 'single-channel' (i.e. a designer would work only on print design or only on web design). In companies which offered multi-platform services, separate teams would be established with expertise in each channel or platform.

4.25   Within these team structures job roles would be relatively fluid; for example a designer might turn their hand to some simple programming when the need arose, or a producer might also have marketing or account management functions.

4.26   The current picture is characterised by a 'flexible specialisation' occurring in many job roles (Figure 3.3). Job roles are fragmenting and becoming more differentiated, with fluidity *between roles* less common. W*ithin* job roles flexibility or adaptability is increasingly required across platforms, languages and packages.

Figure 3.3 Changing team structures in the interactive media sub-sector
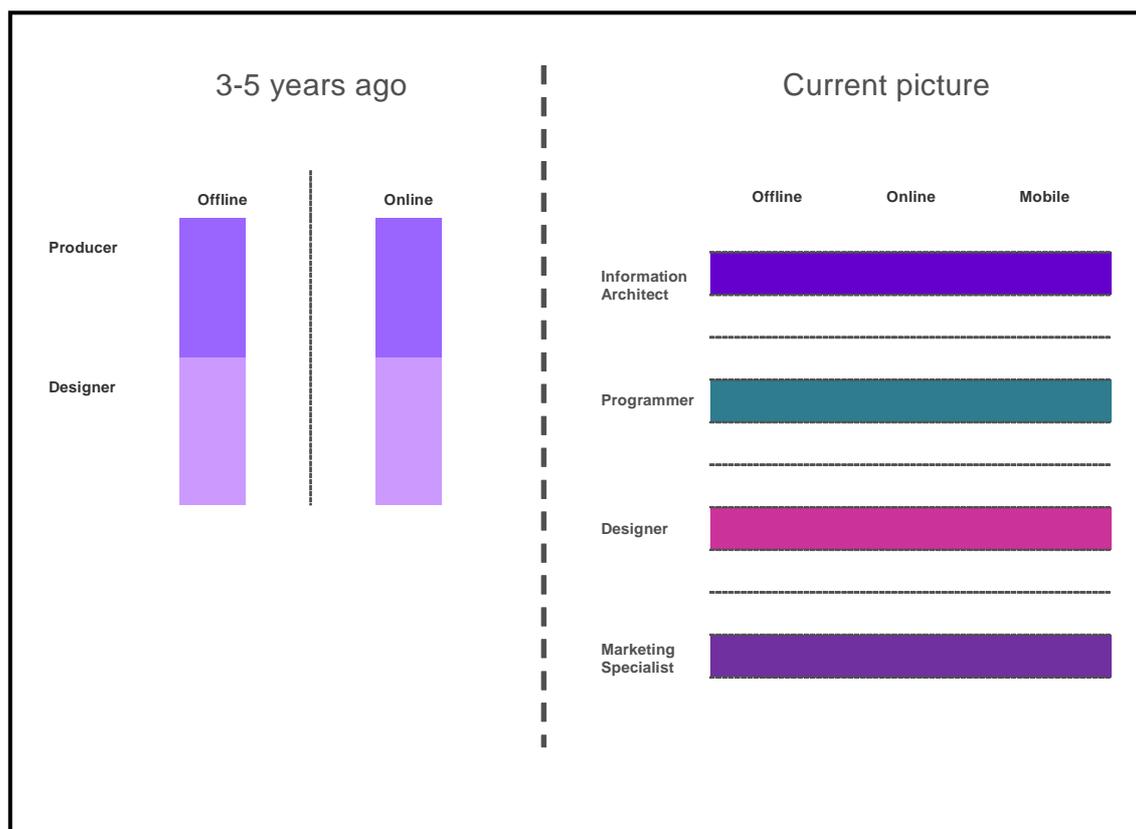
4.27   Many interactive media businesses now take a 'platform agnostic' approach to providing solutions to clients (i.e. not attempting to sell an off-the-shelf web design but responding to a client's brief by recommending the most appropriate platform - or combination of platforms). As such, individuals in the sub-sector are required to possess a breadth of understanding across these platforms.

4.28   At the same time, increased technical specialisation within particular job roles is also required, in order to meet the demands of clients wanting sophisticated, bespoke websites. In some cases this

has led to the creation of relatively new job roles within the sub-sector, such as Community Manager and Usability Specialist.

4.29 These changes have seen the team structures within the interactive media sub-sector move closer to those observed in IT companies. That is, fairly non-hierarchical structures where teams are formed from a pool of highly technically skilled individuals on a project by project basis.

In-house or outsource?

> **Freelancers, outsourcing and consultancy services have long been used in 'Enabling' sub-sectors to complement existing skills. While this continues to be the case, the increasing sophistication and pace of change in the market means there is increasing competition for a limited pool of experienced freelance contractors. At the same time, further increasing the pressures, the changing market means that some employers are looking to strengthen their in-house technological capabilities. These employers are often in "end-user" or demand-led companies (in particular in financial services and retail), rather than within the enabling sectors.**

4.30 Freelancers, outsourcing and consultancy services have long been used in the 'Enabling' sub-sectors, and this continues to be the case. In the main, the process is well-established and uncomplicated, with IT and interactive media companies being able to supplement their permanent workforce as and when needed from a pool of trusted individuals or consultancies.

4.31 The growth and development of e-commerce has resulted in changing demands on the size, shape, and skills of the workforce and these changes are impacting on outsourcing practices and strategies, with businesses increasingly in competition for a limited pool of experienced individuals.

4.32 In the interactive media sub-sector, IT professionals (freelancers with specialised online or network programming skills) have historically been brought in when a project requires these skills (to supplement and work alongside permanent employees with design skills). However, the increasing sophistication in website features and functionality described earlier in this chapter means that, for some interactive media companies, these programming skills are needed on a more permanent basis. Some employers are already looking to strengthen their in-house technological capabilities.

4.33 In the IT sector, smaller companies will typically take on freelancers when extra resource is needed (i.e. bringing in 'more of the same' as opposed to individuals with a different skill-set). Larger companies will often outsource the development of niche software, before incorporating it into an overall package to sell on.

4.34 Because IT companies sometimes need to supplement their permanent workforce with individuals possessing specialist IT skills, and because these individuals are also in demand in the interactive media sector, experienced IT professionals are increasingly being sought out by large companies in the financial and retail sectors looking to establish their own in-house e-commerce function.

4.35 Large financial services organisations (i.e. banks) can pay high salaries for an IT professional to develop and maintain the technology behind their online offering. There is some feeling among 'Enabling' employers that both experienced individuals and the best graduates are being lost to those sectors or organisations offering higher pay. This is having the effect of reducing the pool of shared skills (freelancers and consultants) as well as of the best new graduate talent, available to "enablers".

4.36 Moreover, those freelancers and consultants who continue to work across different sectors face greater difficulty in maintaining a skills advantage in the face of employees whose employer funds expensive training provision.

Current and future skills needs

> **In skills terms, the drive is towards individuals with ever-deepening 'hard' or specialist skills, who also possess a breadth of 'soft' or transferable skills. Some of these hard skills are "traditional" (e.g. programming skills, database management, design skills and relevant IT languages), while others are relatively new (e.g. web analytics, search engine optimisation and understanding security issues). Sector-specific knowledge is increasingly important, as the focus moves to maximising the potential of the technology in particular situations, rather than simply breaking new technological frontiers.**

4.37   The increasing specialisation and differentiation of job roles coupled with a requirement for flexibility and adaptability across platforms, languages and packages have implications for the skill-set of individuals employed in those roles. Commonly, individuals are required to deepen their 'hard' or specialist skills, whilst also possessing a breadth of 'soft' or transferable skills.

4.38   Figure 3.4 below gives some examples of the 'hard' and 'soft' skills most commonly mentioned as "in demand" by enabling employers. It is not intended to be an exhaustive list of skills required by employers, but instead illustrates how some current job roles (shown in the section where the two circles overlap) increasingly call on a *combination* of 'hard' and 'soft' skills in response to the changing market.

Figure 3.4 Job roles increasingly needing a combination of hard and soft skills
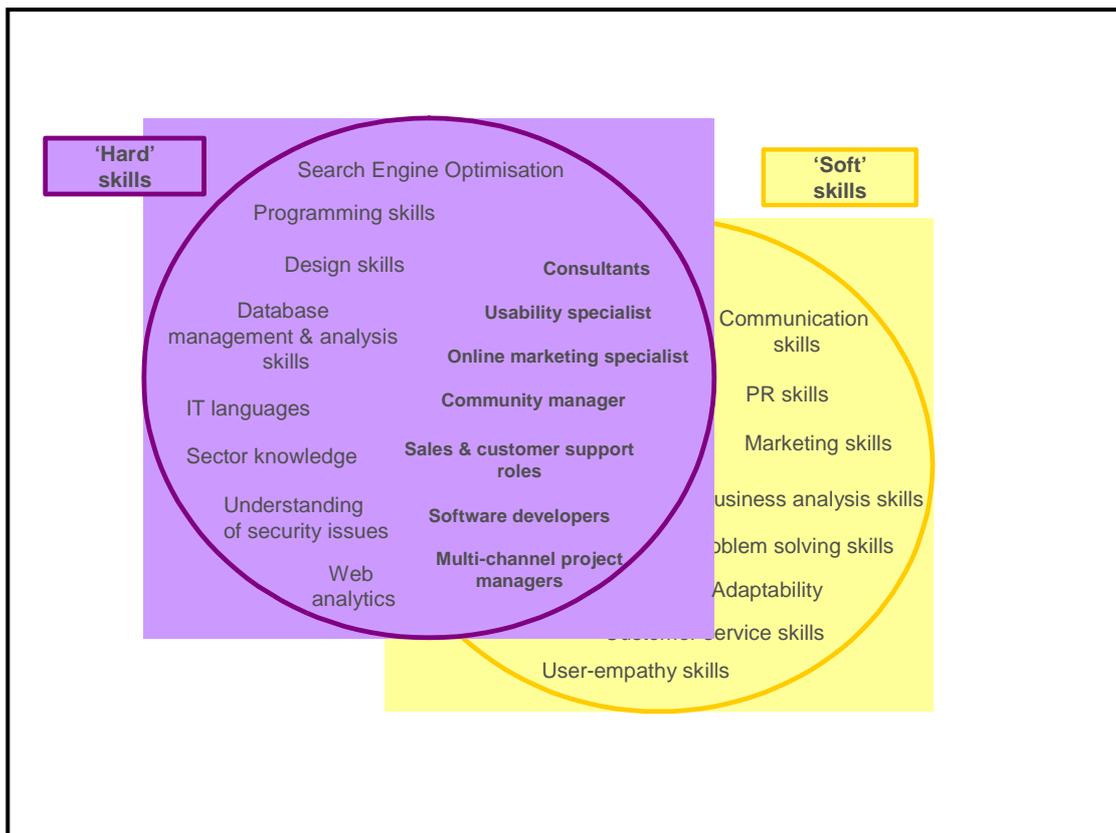
4.39   The **'HARD', SPECIALIST SKILLS** range from the more 'traditional' skills, such as **programming skills**, **database management**, **design skills** and relevant **IT languages,** to relatively new skills, such as **web analytics**, **search engine optimisation** and **understanding security issues**.

4.40   **SECTOR-SPECIFIC KNOWLEDGE** is also increasingly important, with technical employees who can demonstrate specialist knowledge in specific sectors finding themselves in great demand. IT companies who traditionally focus on recruiting large numbers of graduates whom they then train up,

are now also appointing managers with particular sector specialisations to feed their knowledge into new products and services.

4.41   On the whole the 'softer', non-specialist skills are those which are relevant across many fields. **PROBLEM-SOLVING SKILLS** are particularly valued in the world of e-commerce. As offerings and systems are still relatively novel (and continually evolving), new issues are constantly coming to the fore, whether through customer requests or internal needs. The ability to adapt, learn new systems, and understand the wider implications, is crucial for those employees providing e-commerce related services and products.

4.42   Online marketing and production of web content requires **COMMUNICATION**, **PR**, and **MARKETING SKILLS**. **CUSTOMER SERVICE EXPERTISE** is required to ensure that queries and complaints are dealt with correctly.

4.43   Also in increasing demand (albeit not from a standing start) is the **ABILITY TO ANALYSE BUSINESS MODELS,** in order to be able to adapt day-to-day processes and to facilitate the development of new strategies.

4.44   **USER EMPATHY** is a newer proficiency mentioned by 'Enabling' businesses. A good website designer or architect needs to understand how customers will use the website, and what their expectations will be. From a slightly different angle, communications and PR staff must be able to identify with the observations and comments that come with user-generated content, and be adept at turning these to their employer's advantage without disengaging their audience.

4.45   These skills have primarily been identified as necessary in employees from sectors enabling others to trade online, they are also applicable to those working in business sectors other than IT and interactive marketing, who have larger e-commerce divisions or deal mainly with in-house online trading. This is particularly common in the financial services industry, which typically invests a large amount in staff and resources to deliver online systems rather than relying on external agencies. Larger retailers and travel companies are also increasingly hiring their own internal e-commerce specialists.

A combination of 'hard' and 'soft'

4.46   Employers report that many of the roles evolving from the growth of online trading require a combination of these production and support skills. They increasingly need staff who are specialists in terms of technical skills but equally have softer, support skills.

4.47   Some specific roles that employers identified as requiring this fusion of hard and soft skills include;

- IT Consultants

- Usability Specialists

- Online Marketing Specialists

- Community Managers

- Sales and Customer Support roles

- Software Developers

- Multi-Channel Project Managers.

4.48   Completely discrete sales and technical (production) teams are no longer effective. As websites and the software that support them become more sophisticated or niche, Software Developers increasingly require communication skills to explain their products and the options they offer to clients or their sales teams. On the other hand, sales teams need to possess a degree of technical and sector knowledge to enable them to understand and respond to client requests.

4.49   Online Marketing professionals require both traditional marketing and PR skills alongside newer knowledge of search engine optimisation, pay per click campaigns and web analytics.

4.50   New roles such as Community Managers, which combine technical and sector familiarity with PR and user empathy skills, are also emerging.

Employer response to changing skills needs

4.51   The need for flexible, adaptable employees is particularly pressing for smaller IT and interactive media companies whose workforces are necessarily expected to be more flexible and to cover a multitude of tasks.

4.52   Although providing ongoing specialist training in 'hard' skills is common across these sub-sectors, the provision of training in 'softer' skills is not. This is especially the case for small organisations whose training budgets are smaller, and for whom training in 'soft', generic skills does not offer as immediate a return on investment as training in 'hard' skills. Many of the 'softer' skills that are in demand can be successfully sourced from outside the sub-sectors. In the interactive media sub-sector in particular, the industry is very young and there is a shortage of experienced individuals (it is estimated that just under half of all employees in the sub-sector have been working in interactive media only since 2000 or later). Experienced Project Managers, Marketing Managers and Business Analysts, among others, are recruited from other industries. In these cases "Conversion Training" e.g. to translate the skills of a Marketing Manager into those of an Online Marketing Manager, or a TV Producer into a Web Producer is desirable, but relatively rare in practice.

4.53   Some employers felt more could be done to equip potential recruits with the necessary 'enduring' skills (i.e. the foundation of technical understanding that provides the building blocks to adapting to new systems and technologies) and 'transferable' skills (e.g. communication and problem solving skills) before they enter the labour market.

4.54   So-called 'transient' skills (i.e. those related to specific software or languages liable to rapid change) could then be learnt on-the-job, with a good grounding in 'enduring skills' enabling employees to adapt quickly to new languages, packages and technological developments.

5 Key issues in e-commerce / online trading for demand sectors

5.1 This section deals with the consumer focused businesses across the sectors that utilise online trading to sell their products or supply their services (and which rely on the 'enabling sectors' for much of the technology and design behind their offering). These are the companies generating demand for online support services.

The nature of the online offer

> **The nature of the online offer to consumers varies considerably by and within sectors in terms of the extent to which services and products are available online.**

5.2 Online trading had opened up new markets for businesses in all the sectors covered in this study, and created wider customer choice. While 24-hour service offers great opportunities for some businesses, others struggle to meet the resource demands.

5.3 Figure 4.1 shows the scope (in terms of sub-sector) of the end-user companies interviewed during the research[3].

Figure 4.1 Breakdown of the 'demand' sub-sectors covered in this study
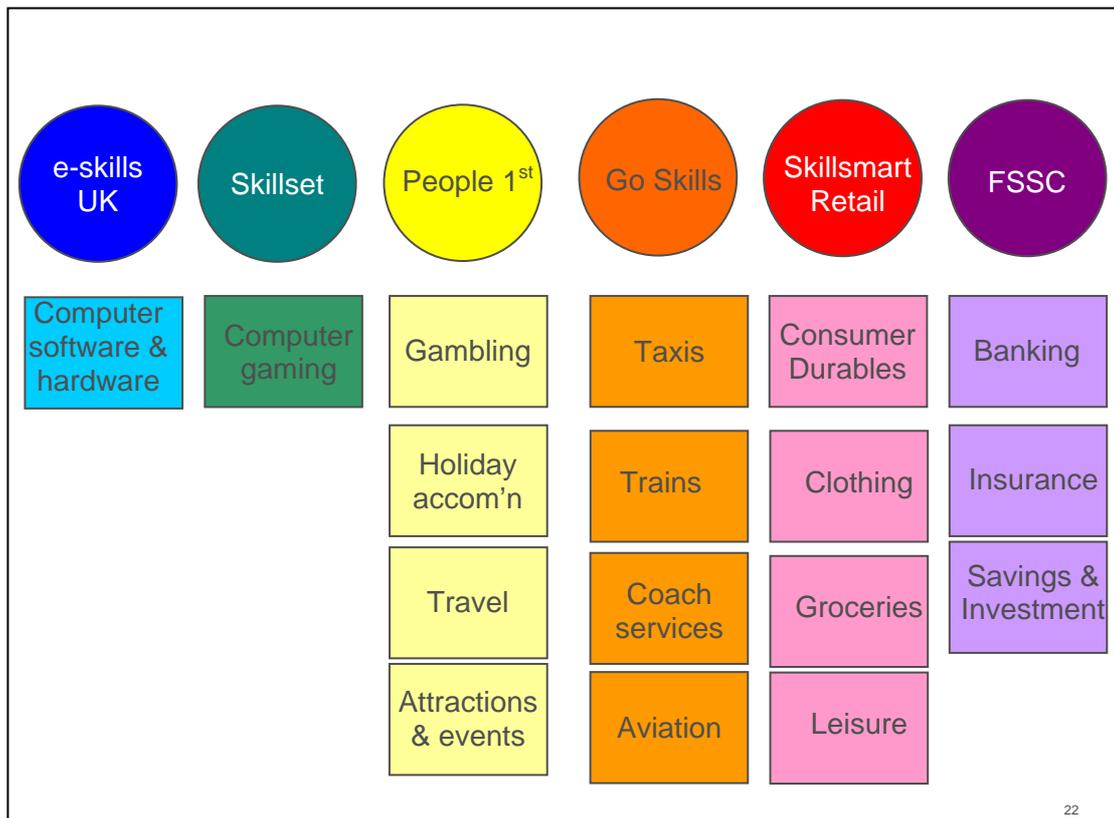
5.4 End-user companies interviewed under the **e-skills UK** remit offer both software and hardware directly to companies and consumers via the internet. Increasingly this includes updates and support services delivered entirely online, as well as more traditional transactions. The companies offering online purchasing to consumers were those with globally recognised brands. The smaller IT firms that were interviewed were not able to offer products directly to consumers via websites as they simply could not compete with larger players or build the necessary trust.

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[3] It should be noted that this does not represent the full range of sub-sectors under each of the SSC sectors but rather the range of sub-sectors with which we were able to engage in the course of the research

5.5   The end-user companies interviewed under **Skillset's** footprint delivered computer games, and content produced by interactive media agencies. The nature of their online offer ranged from traditional brochure marketing and transactional models (e.g. the purchase of games that are sent to the customer who then "consumes" the game in the same way as they would have done had they purchased it from a traditional (real-world) store) to downloadable products / services.

5.6   The emergence of digital downloads has transformed the market, as smaller independents now have direct access to consumers. Making computer games available online has changed the demographics of the customer base – for example, opening the sector up to female customers more than ever before.

5.7   Interestingly, in the gaming sector, these new downloadable products and services are not cannibalising traditional business. On the contrary, they are enabling businesses to stretch the life of their products in ways that were not envisaged when the technology first emerged. Consumers will commonly purchase a game in the traditional way (either in store or online) and will then subsequently purchase a download extension to the game. Additional elements of the game will only be made available online, and will be released some time after the initial game is launched onto the market. And the potential to consume the game online, competing against other gamers anywhere in the world, extends the life of the game far beyond the experience of games played by one person on their own.

5.8   The research did not encompass the main content-providing industries - sub-sectors such as television, radio, film and music. It is recognised that the general increase of web usage, including that of social networking sites has produced high demand for audio visual content as well as textual content from the creative industries and the publishing sub-sector.

5.9   The interviews in the **financial services** sector covered large High Street banks and insurers as well as a number of smaller financial advisory firms who made a very limited use of the internet. This sector has seen massive increases in the consumer take-up of banking services (both in terms of numbers, and in terms of range / sophistication). At the same time, the financial services marketplace (in the wider sense) has become increasingly crowded, with brand stretchers, "new" pure play providers, and comparison sites making an interactive website essential. However, the (perceived) complexity of some financial products has constrained the penetration of online in some areas (e.g. Savings and Investments). Equally, while legislation may change in the future, some financial products still require a signature, and therefore cannot be offered entirely online.

5.10   Online security and the development of new payment systems continue to be challenges, and are major sources of investment for all financial institutions, although there is now increased consumer confidence.

5.11   Massive growth in online trading has transformed the landscape for **People 1st** companies. Increased consumer confidence has led many of the travel and holiday accommodation companies interviewed to highlight the potential for even more growth. The gambling sector has benefited hugely from its online presence, with brands such as Pureplay attracting new audiences (and acquiring a far more female market than traditional offline companies)[4].

5.12   All sub-sectors were finding that being online changed their markets, as they found it easier to reach different audiences, including those overseas. Multi-channel trading is the norm, but some sub-sectors (e.g. bespoke travel packages) remain resistant to online trading. For smaller businesses, websites tend to serve a marketing / information function, rather than being transactional.

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[4] Although the gambling sector has influenced this section, the total number of interviews achieved was limited.

5.13   The ease of online purchasing was reported as leading to more frequent transactions, but also as increasing the threat of "brand switching".

5.14   Within the **GoSkills** sphere there has been a period of flux, with considerable growth in the use of e-commerce over the last few years and an expectation that this will continue. Taxi, train, coach and aviation firms were interviewed for this sector. The levels of expectation and the costs associated with an advanced online offer are often seen as threatening. Limitations to technology mean that offline channels are still more convenient than online channels for many sub-sectors. In these sub-sectors, websites are more commonly used as information channels (featuring routes and schedules), although some are now offering the added function of tracking locations or the progress of journeys. The aviation industry is arguably the one area that has been most impacted by the rise of pure online, low cost operators.

5.15   Companies interviewed under **Skillsmart Retail's** remit report the greatest volume of online trading, with the emphasis starting to shift to online as part of multi-channel strategies. The research in this sector covered businesses selling a range of goods including consumer durables, clothing, groceries and leisure goods. Smaller companies are now also making the most of online opportunities, using platforms such as eBay and Amazon to quickly and cheaply set up online shops. The type of product being sold impacts the potential for e-commerce, although some products previously designated as "resistant" (e.g. clothing) are now enjoying increased sales. The concept of personal shopping online has taken off, with sites offering interactive online advice based on the items a customer has viewed, or how long they have stayed on a page. Websites retain marketing / information as their key role, but future technological development is expected to change the nature of the customer journey.

5.16   For many sectors, the changes brought about by e-commerce behind the scenes are greater than those evident on their websites. Those who are using e-commerce most successfully tend to think of it in terms of a way to save money as much as a way to make it and it is thought that this is the area in which businesses will be investing increasingly in future.

5.17   For example, in the passenger transport sector, websites are also used as information and transactional channels for large, diffuse workforces. Reaching staff this way is economical, fast and secure as well as ensuring that all employees receive the same communications.

5.18   For smaller businesses, online bookings and orders can improve efficiency, and enable them to invest in those products they know are selling well.

The scope of the online offer

> **All sectors have reached a point where they accept that online trading will be a part of the future, whether in complementing other channels, or as the sole route via which their customers will interact with them. All sectors also recognised the potential for online trading to open up new markets (whether in terms of their geographical reach in the market or adding to the standard customer demographics in which they had traditionally been successful).**
>
> **A number of factors emerged as driving the speed and the extent of the adoption of online trading as a means of delivering products and services, in particular: the nature of the goods (commodities) or services traded and the extent to which they are "consumable" on line, the type of purchase they represent (everyday v occasional) and the extent of consumer knowledge, understanding and confidence in making purchasing decisions.**

5.19   Each sector has so far embraced online trading in different ways, and at varying rates. While for some, such as retail, there has been a longer history and deeper involvement with the development of online trading, others have kept more distant and been reluctant to invest. All sectors, however, have now reached a point where they accept that online trading will be a part of the future, whether in complementing other channels, or as the sole route via which their customers will interact with them.

5.20   A number of factors emerged as driving the speed and the extent of the adoption of online trading as a means of delivering products and services. These are illustrated in Figure 4.2.

Figure 4.2 Factors affecting the adoption of online as a platform for trading
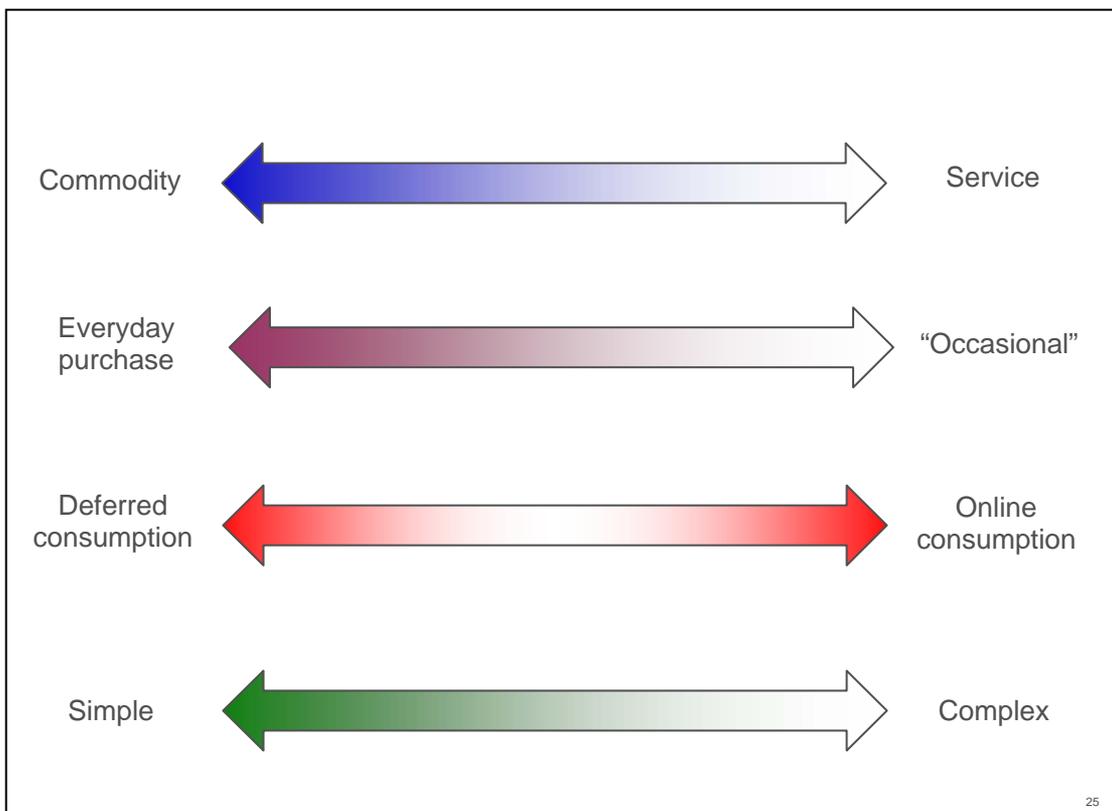
5.21   Those that typically offered services (such as online banking, and travel booking) reported needing more advanced online functionality compared to those selling commodities (e.g. IT hardware or clothing). Whilst firms offering services were quicker to adopt a log in / account set-up, more commodity-based companies are now moving to this model as well, as they appreciate the advantages of being able to track customer behaviour, as well as being able to generate added value by recognising a customer. This results in the customer not only being able to avoid re-entering personal and financial information to ensure a quicker sale, but also allowing targeted marketing campaigns and encouraging loyalty to their site.

5.22   Similarly those whose businesses were related to everyday purchases rather than occasional ones were more likely to have created a transactional website earlier, regardless of sector. However, firms offering occasional purchases (at typically higher value) are able to reach a wider audience, enabling customers to research their options in greater detail before making a choice, and then purchasing offline.

5.23   Some businesses reported that they felt consumers were now happier to make spontaneous decisions (even for occasional products and services) and buy online rather than waiting and visiting the company offline. As a great deal of research can be done online, including accessing price comparison and independent review sites, customers are often happy to make a decision based purely on online information. For example, in the air travel industry the model for many has changed from a high value, low frequency purchase to a lower value, higher frequency purchase.

5.24   A new age of online consumption (e.g. gambling, computer games, virtual shopping on sites such as Second Life) is also offering a different business model to the more traditional, deferred consumption model (where customers order and pay online for a product or service that will be delivered and consumed offline, e.g. buying a camera, booking a cinema ticket). The unlimited availability and minimal offline infrastructure required for these companies are creating profitable businesses competing for consumer interest with offline entertainment, products and services.

5.25   Those with a more complex product are continuing to find that this acts as a barrier to their online success. However, those businesses that insist their products require a face to face or telephone channel are increasingly seeing new functionalities such as live chat that meet some of their demands to be able to tailor and personalise the online experience further.

5.26   These companies with more resistant methods need to move towards offering incentives for online customers if they are to benefit from the cost savings that bulk online purchasing can offer. This could be in the form of added value e.g. being able to see financial transactions in real time or by offering worthwhile discounts e.g. the Oyster card scheme run by Transport for London. Once customers have visited and used the site once they will be more likely to return (if the process was smooth), especially if an account has been created so they do not need to enter details a second time.

5.27   Companies without a fixed product or service range also find that a website allows them to test new versions, measure response and amend immediately. Cost and time to do this is minimal. Businesses find they can offer a greater range online, as the set-up costs are lower once their basic website is in place.

5.28   Regardless of the scope of online offering or the sector of the company, those that are benefiting most from online trading are high profile businesses whose customers trust and choose them based on brand rather than price. Although some of these businesses expressed concerns about price comparison sites and uncensored reviews (and were putting strategies in place to minimise their impact), they were nonetheless confident that their customer loyalty would continue.

5.29   The other group of businesses that were gaining most from an online presence were small but highly specialised. Whilst the risk of being bought out or having prices undercut was a worry for most small businesses, those that offered very niche products or services were finding that the internet was widening their reach, and their businesses are now more sustainable than ever before.

Business strategies and the competitive landscape

> **The development of businesses' online offer runs through several broad phases: a "brochure marketing" approach, a transactional model, a more sophisticated trading model and culminating in an online offer which is relational, and transformational. Not all sectors will progress sequentially through all of these stages, and not all organisations within each sector will target the same phase as their optimal state of online trading. The end-point for each company will emerge as a function of its sector, sub-sector and size, and in the context of its product-market strategy**

5.30   Throughout the research it was apparent across sectors that online development goes through several phases. Companies with an advanced online offering related that their website had begun with a brochure role: publicising their product or service, and providing information that they hoped would lead to an offline sale. The second step was creating the possibility for transactions, enabling customers to purchase a product online, or use a service such as booking a holiday or paying a bill. The third step was a movement towards a less static offering, allowing customers to specify, identify and purchase a tailored product (e.g. choosing the fabric for a chair), or a package (e.g. a hotel and a flight). The final, most advanced level is an approach to doing business whereby the online channel becomes central to the offer, both in terms of relating to customers (the website and online communications become a primary communication and trading vehicle) and in terms of managing business processes (including internal communications, logistics, HR, etc).

5.31   Although most companies interviewed felt that they should be *considering* moving on to the next stage, it was also recognised that different (sub-)sectors require different (online) business strategies. Having an online presence is increasingly critical for all businesses, but having the most advanced offering is not necessarily required of all.

5.32   The minimum requirement for all is the first stage – a website that establishes a presence and gives basic details of the service or product offered, as well as a contact e-mail address. Without a website, even the smallest of businesses lack credibility with customers. However, this is also the limit at which many smaller businesses with no plans to expand (e.g. a family run hotel, small financial advisory firms) are happy to stop.

5.33   The ability for customers to transact online is dependent upon the function of the business. For the vast majority of companies this functionality will only increase the value of their website to the business, but it costs more and requires resources to manage. However, this allows them to widen their customer base beyond those who are within the region (and will visit them offline) to an international basis. If firms follow a transactional model there will inevitably be more demand in terms of customer service, namely for timely and informative responses. If they are competing on price and unwilling to invest in technology, marketing or resources at the expense of other offline channels,

then the transactional model may be as far as they are willing to progress. This is often the case for those selling a limited range of straightforward products and services.

Figure 4.3 Evolving business strategies
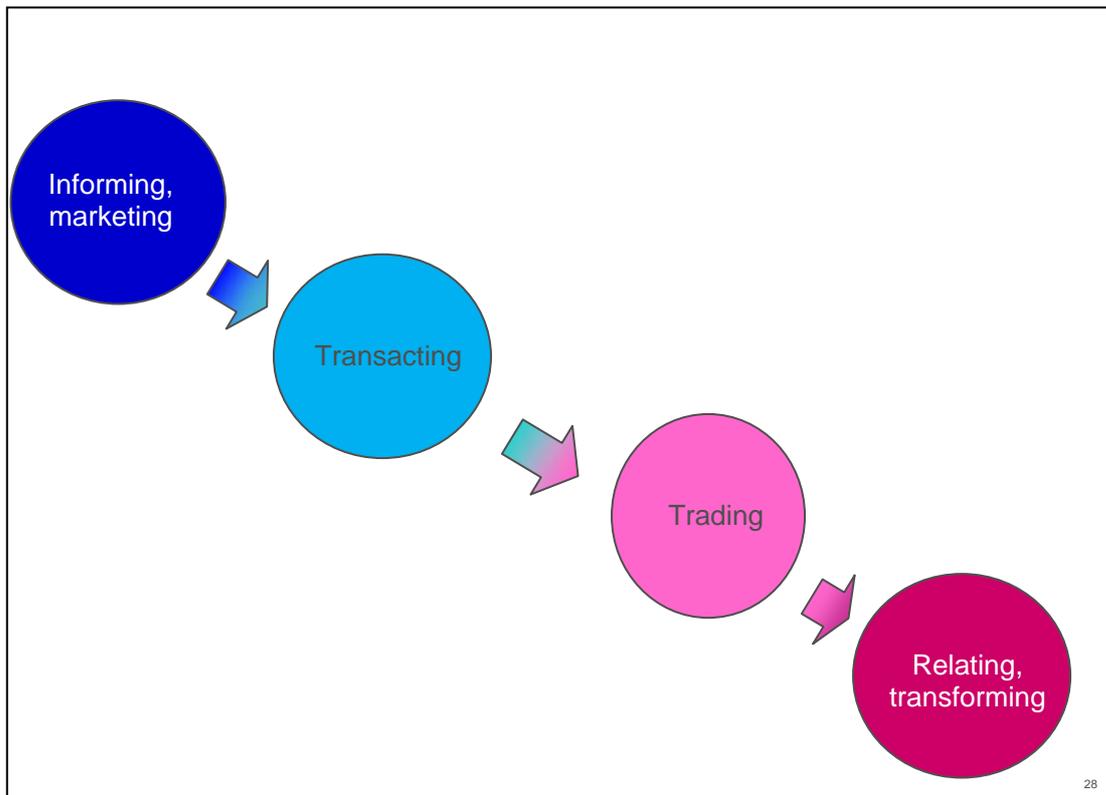
5.34   The third model, 'trading', offers a more developed and personalised option – but it may not be suitable for all business models. Those that are able to offer a wider range of services, or tie in product sales, would be more likely to consider moving to this style of website. For example, a travel company could offer an online journey planner, selling linked tickets. This type of website also starts to require specific marketing to maximise the potential, for example offering online discounts or additional services.

5.35   Online start-up companies generally begin somewhere in between the second and third models identified. Those that are successful realise they have to offer more than an offline business would on a transactional site. However, investing heavily in a more expensive model with no brand recognition is seen as risky.

5.36   The most advanced offering (the relational, transformational model) would include a 360 degree service – with customer profiling and web analytics used to their full extent to build a personalised online experience for each customer. Not only would customers be able to tailor the landing page but the company could also suggest products or services that customers with similar profiles have bought or used.

5.37   As this generation of offer is new, there are still companies spending huge amounts of money not knowing what return they can expect from their investment. The huge amounts of content and resource needed to maintain these websites will see some struggle to make a profit, whilst others will emerge as a standard model for the sector to emulate. This style of website breaks any residual perception that online trading is inexpensive in terms of marketing (a fact already accepted by most larger or successful online businesses), and will build on the basis that e-commerce is effective, targeted and saves costs on the processes and systems in place behind the 'shop window'.

5.38   This model would fully integrate with back-end systems (accounts, delivery, customer database): what the customer sees would be a tiny proportion of the whole which would be able to produce vast

quantities of data around customer behaviour and dissect the marketing techniques and language used on the site to help the business generate an ever better offering.

5.39   The competition within a sector to some extent determines where the bulk of businesses within that sector will locate their online strategy. Many of the companies interviewed reported that they had a website because they needed online presence to maintain market share, rather than to gain new customers. For others, particularly ones more dependent upon logistics, not having the same level of technology available in their back-end systems as their competitors was seen as a threat – companies were investing because of this, rather than due to customer demand.

5.40   However, the sector does not necessarily determine the limit that companies will reach on this model. Whilst it is true to say that retail companies (closely followed by travel) are typically the most advanced, it does not follow that all retail companies will follow this route (or, if they do, that they will be successful).

5.41   It is a combination of the sector, size and function of a company that will influence its online offering. Whilst for some very small companies it would only be economical to provide a basic, information-based website, for other niche companies, being able to offer the full-relating, transforming site allows them to provide a very high level of personal service.

5.42   Many companies will simply wait and pay a set fee for a site, taking advantage of more standard, off-the-shelf website models being developed, which will enable non-technical employees to manage the provision of an online offering.

5.43   Businesses with less developed e-commerce strategies need to accept that new customers do not appear automatically. Whatever their online offer, they will need to invest correspondingly in online marketing to realise the benefits.

Changing organisation structures

> **The organisational structures that underpin businesses' online trading activities also tend to progress through a number of stages, starting from a small number of technical employees running a stand-alone e-commerce "department" or "team", to a department dedicated to e-commerce, to a multi-disciplinary team at the heart of a multi-channel business. The extent to which online trading affects internal structure will clearly vary depending upon the stage of development of the online offer.**

5.44   For some businesses there have been dramatic changes in structure. A common path (illustrated in Figure 4.4, with the coloured shapes representing employees responsible for e-commerce and the white shapes those with no involvement) has been starting with a couple of technical employees running an e-commerce department at one side, to a department dedicated to e-commerce, to a more mainstream, multi-disciplinary team at the heart of a multi-channel business, with the number of multi-channel directors increasing.

Figure 4.4 Changing organisation structures
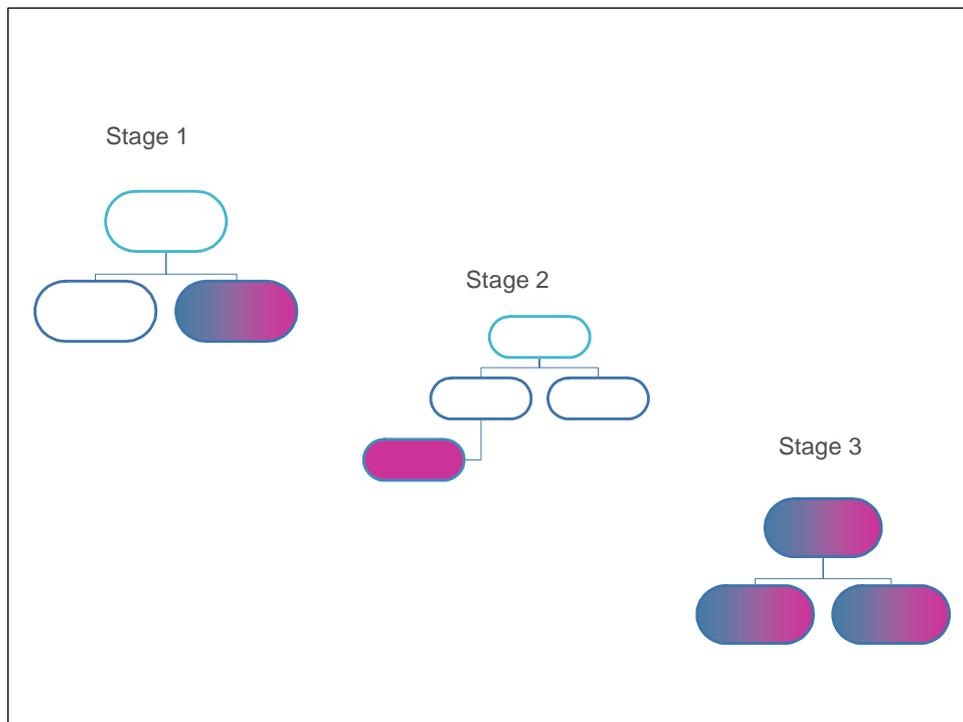
5.45   There is also pressure on companies for goods to be delivered very quickly, resulting in impetus to streamline and speed up existing internal processes. The flow of work required to be able to meet the demands of online customer ordering can be quite different from previous models – it demands managerial and organisational skills that a business may not have required previously.

5.46   The extent to which online trading affects internal structure will clearly vary depending upon the stage of development of the online offer (i.e. the business strategies identified in figure 4.3). If the progression between these stages has been slow, and implementation gradual, it is likely that team structures will reflect the skills that staff have picked up over time, and how their roles have adapted, rather than having been acquired through a recruitment drive (or the sudden set-up of a new team).

5.47   On a slightly different note, the increase in flexible working practices and home working requires companies to change their people and project management styles. Communication is crucial.

Skills needs: in house and outsourcing

> **Within demand companies, where online trading remains at an early stage of development, the main focus in terms of skills provision has been training existing staff. As the online offer becomes more developed or complex, demand firms initially outsource tasks and projects, or bring in freelancers until they reach the stage where they are leading innovation in the market, when they need to build their own specialist teams. It is at this stage that demand companies end up in competition with the enabling sectors for skilled labour. Across most stages of development, sector-specific and softer skills are consistently more highly valued than harder, technical skills.**

5.48   For companies where the impact of online trading has been minimal the main focus has been in training existing staff to add extra responsibilities – creating a multi-skilled workforce without investing in specialist IT or interactive marketing employees.

5.49   In sub-sectors where online competition for market share is high, and the need to keep up to date is paramount, it is accepted that training existing staff to the required technical level would take too long – these firms typically choose to outsource updates, or to bring in freelancers for specific projects.

5.50   Softer skills are consistently valued more than harder, more technical skills across all the demand sectors; this is indicative of the reliance on outsourcing and freelancers (with the notable exception of financial services). Core skills for staff remain unchanged, and sector (or business) specific understanding is the most important thing employers look for in employees.

5.51   As these highly valued employees have been more exposed to e-commerce, there has been increased confidence in managing online projects and operations. However, virtually all the companies interviewed under the Skillsmart Retail, People 1st and *Go*Skills footprints hire technical assistance in some form.

5.52   'Demand' companies most commonly outsource the initial set up of their website, and any significant upgrades (e.g. a large step-up to a new form of online interaction such as a move between the stages identified in Figure 4.3).

5.53   As in-house HR departments are not always able to identify suitable candidates to fill specialised online roles, there is increased use of (often expensive) recruitment agencies.

5.54   Those who find themselves in great demand are able to command higher remuneration packages. With a choice of roles available, many will decide to become freelance, or work for an IT or interactive media agency, which will offer them wider opportunities to further their skills, and remain at the cutting edge through continual training.

5.55   Reflecting shortages in the supply of those who are highly skilled technically, most businesses said that they are happy to invest in training existing employees.

5.56   'Demand companies' are on the whole choosing not to compete directly with 'enabling companies' in recruiting specialists by relying on outsourcing. The main exception is the financial services industry where the high demand for in-house expertise reflects the existence of large service-based websites which conduct financial transactions and house huge amounts of sensitive data. Rewards for experienced technical staff in this sector can be very high.

5.57   More generally, increasing numbers of businesses in other sectors are concluding that managing their online offer fully in-house enables them to maintain it and develop it as they wish much more quickly, allowing them to adapt when their markets and products change. In light of this, whether the current level of outsourcing will continue remains to be seen.

5.58   So long as outsourcing remains the norm, one of the main skills employees require is the ability to manage these relationships. Not only is excellent project management capability needed, but also sufficient technical knowledge to commission and understand the value and implications for the business as a whole of work done by outside agencies.

5.59   For sole traders and micro-businesses, this translates into the need to understand and utilise the value of their sites, moving away from a 'have a go' attitude to one that examines and analyses the benefits that various external companies can offer them.

5.60   Other specific skills needs highlighted by employers in the 'demand sectors' included online marketing, requiring employees to work with search engine optimisation experts, but also to maintain brand values and consistency across channels.

5.61   The number of analytical roles has also increased, with companies looking to make best use of the vast amounts of data available to them via advanced websites.

5.62   There is also an increased need for e-commerce awareness across the board in support roles. Finance teams need to be able to integrate their existing payment systems, and get to grips with

online regulations, whilst database managers need to understand the implications and uses of data generated online.

5.63   Queries generated by online presence require offline, 24-hour customer service teams, often with multiple languages to help overseas customers. For small and medium-sized companies this has required training staff, and hiring new staff who understand their website from a customer perspective and are able to offer assistance in an easily accessible manner. For larger companies this function is often outsourced.

6 e-skills UK

Overview of sector and profile of interviews achieved

6.1 The e-skills UK footprint covers the IT and Telecom sectors, and the SSC also caters for IT and telecoms professionals operating in other sectors. This study concentrates on the IT industry which has experienced greater impact from online trading (although some of the IT companies sampled have a telecom "arm").

6.2 The sector stands out from the other sectors covered by this research in that not only does its employers have a "consumer-facing" involvement in online trading e.g. through selling IT products and software online, but it provides products and services to other employers to facilitate their online offer. The analysis in this chapter focuses on both sides of this equation: the direct impact of online trading within the IT sector itself, and the impact occasioned by the requirements for services and products from businesses in other sectors to enable them to trade online.

The survey sample

6.3 Ten businesses operating under the e-skills UK footprint were included in the main research stage.

- two world market leaders (large, well-established global IT product and service providers);

- a small, independent company which develops systems for large, international airlines to both provide electronic confirmation and online boarding passes, as well as systems for more traditional data capture and management e.g. customer relationship and management information, they also provide online security services using electronic key management solutions and tracker devices;

- an IT equipment sales company;

- a small 'off the shelf' software developer with a limited range of services and products but an international customer base;

- a mapping software developer and consultancy firm who also provide training;

- a company offering data migration and warehousing, consultancy, and who sell to corporate clients in the financial sector via their partnership with a market leading IT company;

- a small support service company offering completely tailored, individual software and consultancy;

- a very small company who build stock control systems as well as designing and constructing websites for the retail sector;

- a freelance IT consultant specialising in online trading.

6.4 Some companies traded internationally, some nationally, whilst a couple operated only locally.

6.5 Several of the companies have been in existence for over 30 years and have witnessed huge changes in their sector, whilst others are recent start-ups which have been shaped by the growth of online trading.

6.6 All offer products and services through a range of channels, including online to a greater or lesser extent. Despite wide variation in size, customer base and function all rely heavily on personal contact

and face to face sales with business customers. Although a couple of the companies offered their full range for sale online, many simply use their website to provide information about their services to customers.

6.7   The majority of the companies had a mixed customer base, comprising both businesses (including the public sector for one) and consumers. Some of those with a b2b customer base were able to offer insight into how online trading has affected their business customers and delivery partners, as well as the impact on their own organisations.

Nature of online growth to date – as e-commerce enablers

6.8   Generally, there has been strong growth in online trading over the past few years in most sectors. This has generated demand for e-commerce related IT products and services. All the companies interviewed had seen continued growth in terms of revenue from providing these, although to varying degrees.

6.9   There was a consensus that the past three years have witnessed increased confidence in consumer purchasing online, feeding into this greater need for IT services and products that enable e-commerce. Recent figures for online Christmas shopping have further buoyed the confidence of the IT sector's retail customers in investing in e-commerce infrastructure.

> "*These numbers [buying online] are phenomenal. People are becoming accustomed to buying online. They've got over the hurdles of credit cards and security issues.*"
>
> ***World market leader***

6.10   In terms of b2b sales related to e-commerce, growth has tended to be more cautious, with companies on the whole reporting 'steady' growth. The legacy of the dot com crash of 2000 and the subsequent reluctance of businesses to invest in online technology are starting to dissipate. Most companies reported they were more comfortable with the more stable level of growth in income generated via online sales and sales of products and services related to e-commerce in recent years.

6.11   As IT companies have seen business customers' confidence returning, they have seen high levels of spending on a new, more sophisticated generation of websites to deliver customer profiling and integrated ordering systems for their customers as well as easier to navigate, well designed content.

6.12   This demand has mainly been driven by large, established offline businesses adding online channels to their offering, rather than new online start-ups. Again, the longer term financial security generated by these large contracts encourages IT firms to invest internally in new product development and staff training for e-commerce related work.

6.13   These long term contracts have created a greater need for IT consultants, business analysts and support services as well as hardware and software products. Those who have established online businesses increasingly now want to keep up to date with recent technologies, but also want to ensure that they are making full use of the potential efficiencies offered through online trading, not solely using it as a marketing opportunity.

6.14   The greatest growth is currently from retail customers, followed by telecommunications and distribution companies. Within the retail market demand for direct multi-channels access (having kiosks and web access at point of sale) is growing, as is customer profiling to enable their clients to target offers and promotions.

6.15   The additional data and business intelligence generated by the new websites which can deliver these advanced customer profiling and analytics result in companies needing to track and store more data than ever before, with a positive knock on effect for IT companies involved in data management. This also creates even more need for consultants (or IT sales representatives) to be able to explain and demonstrate the use these statistics could potentially have to help align business and e-commerce strategy.

6.16   Repeat custom has grown, stimulated by Web 2.0. Offering a more intuitive online experience for customers, and featuring community generated content, has also caused many business customers to re-examine their online offerings, as well as encouraging more and more consumers to engage online, and become more confident in purchasing online.

6.17   IT companies operate in a rapidly changing marketplace; they have had to be constantly at the forefront of technological developments in order to survive. However, in some business sectors customers are very cautious, as technology is moving so quickly, and they do not want to invest in yesterday's product. Small IT companies report that this unwillingness to commit makes it hard for them to invest in developing new products.

6.18   Smaller companies with products aimed purely at one sector are diversifying, so the impact upon them will be less if their customers face an economic downturn. For example, one business which had previously developed online ticketing products purely for the aviation industry is now entering the security market with low cost products suitable for a wider range of sectors. It is also seeking out sectors that are thriving under e-commerce, and extricating itself from those for whom the internet is having a negative effect on profits.

6.19   The IT sector has seen stable growth in sales of products and services to help other sectors trade online. As this is mainly from large, established offline businesses it has led to a higher degree of security, and IT firms are able to invest in the development of new products. These traditional companies also require complementary IT services to help them adapt and maximise their use of e-commerce.

Opportunities and threats – as e-commerce enablers

6.20   Unsurprisingly the IT sector sees online trading as an opportunity, and the demand that it creates from business customers in all sectors as they move towards embracing e-commerce is welcomed.

6.21   As websites become more advanced, IT companies hope that their customers will turn increasingly to professional companies and appreciate that expertise is needed to get good design and functionality, rather than simply putting together a site in a more ad hoc manner, simply for the sake of having an online presence.

6.22   However, providing the technology and knowledge for business customers to trade online does not guarantee that their customers will in turn use the channel. Although it is now undoubtedly expected that the majority of businesses offer an online channel (and that without it a business could be losing a great deal of potential sales opportunities), it does not equate that they will automatically gain more or new customers without undertaking promotion or having an online marketing strategy in place. Expectations and reality can vary widely, and whilst for some companies that purchase software, training or consultancy services this possible lack of uptake will encourage them to invest further in IT, for others it may cause them to question the value of the services and products they have bought.

6.23   Low levels of knowledge and understanding of the online market on the part of the client company can lead to IT companies (especially smaller IT consultancies) gaining a poor reputation, despite them having delivered what has been requested. Many companies have websites set up and then expect to be able to maintain them in-house without having the skills or time to commit to this.

6.24   This potential threat to the IT sector (doubting the value of e-commerce) serves to highlight one of the key opportunities facing the sector. Several companies pointed out that simply buying hardware and software is not sufficient to enable many of their business customers to engage in e-commerce as successfully or profitably as they previously imagined.

6.25   Outside the IT sector, companies often rush into an implementation that does not work the first time around, as there is a lack of understanding of the skills and effort required to make an online business model profitable.

> *"It is quite difficult for them [smaller clients] in the first instance; it's certainly not like turning a switch. And there is cost involved"*
>
> ***Freelance IT consultant***

> *People do want to jump into it and get things moving online very quickly . . . there is a lack of understanding of what's involved, what they need to do in order to get there."*
>
> ***Small support service company***

6.26   Senior management in larger companies can compound these issues by being either unrealistic or unenthusiastic about making e-commerce central to business strategy, as they do not always have a full understanding

> *"For my chairman, he doesn't really care much about e-commerce; he's from the old school. I think he just sees it as a marketing tool."*
>
> ***IT equipment sales company***

6.27   Buying new technology for e-commerce is something that will affect many parts of the business. The sector needs to ensure it can offer added value (and non-technical) services – helping their clients to integrate their e-commerce strategy with their business processes. For example encouraging business clients to examine not only the logistics of receiving online orders and offering home deliveries but also in ensuring the whole customer experience offering is able to adapt and tailor itself to multi-channel trading.

6.28   New technologies continue to present fresh opportunities for many IT companies, for example the development of mobile technology has meant IT companies can expand their offering to include interaction on this channel and software which will track and integrate customer behaviour and communication with the companies across the channels.

6.29   Equally, technologies rapidly become out-dated, and companies specialising in a genre that is no longer needed e.g. fax-related software have to completely reinvent themselves. In this environment it is hard for small companies to keep up. They need to diversify quickly and create new partnerships with re-selling partners. Keeping up is very difficult for companies with limited resources.

6.30   Whilst providing consultancy, training and software programmes that are easier for the end-user creates work for IT companies, it also leaves business customers self-sufficient, and in the future less dependent upon needs of IT companies. Indeed, as the workforce as a whole becomes more knowledgeable, the demand for basic services may reduce – IT companies need to add value at the higher end.

6.31   So, requests for a new generation of websites and help in understanding how to lower costs have kept up the demand for IT companies' services. However, buyers of technology are not always

knowledgeable and this could potentially lead to doubt in the value of e-commerce. IT companies need to add value and sell the softer skills to help their customers integrate e-commerce. It is still a new channel for which many do not fully understand either the requirements or the potential. Rapidly changing online capabilities and functionality make it hard for small companies to invest in innovative development.

Current and future skills needs – as e-commerce enablers

6.32   As online services are outsourced to IT companies, they see their clients needing the skills to manage these relationships. Not only do client companies need the knowledge and understanding of their sector and particular business but also sufficient technical understanding to request and monitor the best services and products for their companies.

6.33   However, finding those able to develop these technical skills in combination with softer skills is harder. The main challenge for larger companies is keeping their sales and technical teams constantly interacting, so the sales team is aware of the capabilities and products the company can offer. The sales team needs to have a sufficient level of technical knowledge to be able to explain the products, and to be able to evaluate their value for each customer. One large company reported expanding at analyst level significantly over last five years, as well as architects (business consultants that look at companies' strategies).

> *"You need people to go out there and understand, interpret, advise and propose."*
>
> *World market leader*

6.34   Those that offer consultancy services need to be able to provide all the skills to set up online trading: a cycle of understanding the customers' business requirements (the market place, understand business drivers), analysis, consulting internally, developing an online trading strategy, implementing (possibly requiring new hardware and/or software). This requires software designers and developers to build the software, quality control, testers, and hardware specialists. Then on the implementation side they need consultants to look at business strategy (business analysts, database analysts, and design consultants). Why such a complex process is often outsourced is clear – needing to evaluate business strategy, and then determine how e-commerce strategy can sit with this, requires a degree of distance. If operational or functional changes are required, processes also need to be clearly examined. Research and development are a huge part of all IT companies wanting to keep ahead (one large IT company has 300 R&D engineers for their e-commerce product).

> *"There are many people out there with e-commerce skills. The difficulty would be for them [software engineers] to understand what our customers require."*
>
> *World market leader*

> *"You can have all the skills in the world, but if you are irritating a client then they are not going to give you any more work. Unfortunately IT people don't have the best people skills."*
>
> *Small 'off the shelf' software developer*

6.35   Freelancers and consultants find that not only having to keep up to date with technology, but also regulatory requirements such as compliance with data protection rules, take up a high proportion of their time. Developing skills such as sales, project management, and communication are also

needed to be successful as a sole trader. Communication skills are especially important when liaising with customers who are not necessarily knowledgeable or even comfortable with the products and services they are buying – and sometimes not even clear what end result they want.

Nature of online growth to date – utilising e-commerce within the IT sector

6.36   Although it has been slower to move online than many other sectors, and indeed many IT companies still have a minimal online offer, within the IT sector there has been recent growth in terms of e-commerce.

6.37   One large IT firm estimated that a quarter of their worldwide turnover is directly generated online or influenced by their online presence.

6.38   Some larger companies also mentioned greater growth rate just over the last year; one estimated that 20% of their b2b sales are now either online transactions or influenced by their online presence.

6.39   In terms of marketing and sales, e-commerce strategy is becoming more central to overall business strategy for IT companies, although it has not surpassed offline sales for most. Websites are more often used as a support or marketing tool, rather than directly for sales.

6.40   In b2b terms, relatively few IT sector sales or contracts are generated online. Customers are often unsure of their requirements and, with a high value purchase often at stake, they are nervous of buying without at least a conversation with the company from whom they are trading, as the language around IT products and services can be intimidating both for consumer and business customers.

6.41   Furthermore, the sale cycle is often longer than is easily adaptable to e-commerce. It frequently comprises obtaining an exact understanding of customer requirements and an analysis of these, following which a full proposal is written and a budget confirmed before the company even moves to considering an actual sale.

6.42   Lower value services for deferred consumption such as training are also increasingly being booked online, and even small companies find it easy and economical to offer these via a website. However, whilst smaller companies offer 'off the shelf' products online, such as security packages, if they provide bespoke solutions these sales are normally offline.

6.43   Typically customers want to deal with a recognised, well-known company; they prefer a 'safe' option. As IT becomes more central to business, making a wrong choice can have serious repercussions, and many will simply pay more to be sure. Most IT sales are therefore either from the large, well known companies, or via personal recommendation, smaller companies finding it harder to gain the confidence of customers, limiting their ability to sell online.

> *"It's increasingly difficult to compete with the few, very large organisations, even if you have more innovative technology. You know the saying, 'nobody gets sacked for buying IBM."*
>
> ***Small, independent software developers***

6.44   Small companies are increasingly aware that they need to look for ways to tackle these problems. One small business, originally purely a consultancy, had merged with another specialising in software, to enable them to approach customers with a broader product that is easier to sell and explain to customers.

6.45   One of the main problems facing these micro-businesses is explaining their products and services, and how these could meet their business customers' IT needs. Smaller, specialised companies

offering niche products (such as biometrics or mapping software) still offer their products via their own websites and sales networks, but are increasingly selling their software into one of the large IT companies to include as part of the packages they offer.

6.46   Whether these firms investing in a particular area of e-commerce will eventually be bought out entirely by larger companies wishing to offer a full service to customers, or whether this will be considered too high risk and larger companies will prefer to outsource such needs, remains to be seen. For larger firms, the capacity to buy-in expertise as required, without having to invest in development, obviously enables high levels of flexibility.

6.47   Smaller companies mention the threat of larger companies wanting to have exclusive rights to their software, whilst they would prefer to keep the option to sell to any business. However, using a partner organisation to sell internationally is a common and accepted way to reach new markets.

6.48   The twin aims of improved efficiency and cost effectiveness are driving many IT companies into developing advanced e-commerce strategies for themselves. All companies were developing, or at least were planning to develop, approaches to maximise the cost benefits which they were aware that e-commerce could offer them.

6.49   Large companies recognise the need for, and are investing in transactional technology to enable multi-channel trading, allowing customers to do business with them easily via a combination of different channels.

6.50   Amongst those who have invested in online procurement models, there is a need to push the more resistant business market as well as consumer into using online buying methods, as the more customers use them, the more cost-effective this is for the supplier. Large companies have teams dedicated to doing this, liaising with business customers, and offering incentives for ordering online.

> *"More and more organisations are interested in e-procurement; the government have incentivised it and set targets [for the public sector]."*
>
> ***World market leader***

6.51   Offering the ability to download software online rather than via CD has changed the way many business customers interact with their IT suppliers. Ordering systems that integrate the seller's and buyer's financial systems to conclude transactions within seconds rather than relying upon paper orders and invoices are also slowly impacting the sector.

> "*The challenge is to convert our old [business] customers to use the online portal; they are used to doing things the way they've always done them. If it's expensive for them they really don't care."*
>
> ***World market leader***

6.52   Smaller companies report that their customers do not require electronic invoicing and, although they are aware that this may be a service they are expected to provide in the future, they will wait until there is sufficient demand before investing in developing this.

6.53   Customer services are increasingly moving online though, with even small IT companies providing secure log-on areas on their websites to allow customers to register queries and download information as well as updates.

6.54   So, there are two motivators prompting IT companies to move into e-commerce. First it is seen as a marketing (and sales) opportunity, and second it offers savings internally, both financially and in

terms of resources. Whilst most IT companies have been doubtful of the value of the former for their sector, they are starting to accept that the savings can be considerable and that this alone is sufficient reason to invest in e-commerce. As low-value items are increasingly sold online, companies are looking at ways to push higher value items in the same way. For smaller companies there is less to gain, as their costs will never be on the same scale – the volume of sales will not be sufficient to make huge savings. The inability for companies offering bespoke or niche products to utilise the web for marketing, leaves them looking at alternative ways to package up their offerings for customers.

Opportunities and threats – utilising e-commerce within the IT sector

6.55 New entrants to the market, (such as Tesco Online, who sell hardware), are a threat to more traditional IT hardware companies who might not be able to compete with their huge brand awareness.

6.56 All businesses interviewed were confident that their use of e-commerce will only increase, impacting on how their own internal processes will run, although some were not clear how or when this was likely to happen. Even small companies are investing significant time and resources in re-writing software for use online.

6.57 Despite slow take-up of the online trading model in the IT sector, there are many benefits for companies in moving online.

6.58 For smaller companies, having an online presence often gives them the ability to enter national (or even international) markets. For those with niche products, this can be a real opportunity.

6.59 As IT is not an 'impulse purchase', websites offer the customer time to read and digest the details of a product, and this can work positively for companies who may not be able to get a sales call with a potential client, but may be more successful sending an e-mail with a link to this information.

6.60 Online marketing offers a low cost way, especially for small companies, to contact many potential customers and then to use their reactions to e-mail and web pages to determine which products they are likely to buy, and on which they should spend more time and resources to follow up.

6.61 The smaller companies who were more successfully embracing e-commerce were diversifying to allow them to offer (often lower value) products online to complement their (higher value, often bespoke or niche) offline services. This was to some extent seen as a sales technique but, as online sales grow, companies are happier to invest in these areas as well as in their more traditional offering, opening up an additional revenue stream.

6.62 Those less successful especially feel that they are not yet making the most of the opportunities that online trading could offer. Whilst some think that their products and services are not appropriate for online sales others simply say that they do not have the resources to prioritise putting their full offer online (implicitly doubting its profitability).

6.63 However, within IT companies themselves, some aspects of traditional sales mechanisms are difficult to adapt to e-commerce. Many small IT companies rely on recommendations and networking to make sales and find that only their existing customers look at their website – it is useful for repeat sales but not for gaining new customers. Consultancy services too require face to face meetings to secure a contract.

6.64 The assumption that online services are free e.g. support forums also make it hard to set up profit-making models, although many IT software providers are moving towards offering free trials, and then asking for payment for further / longer term services. This can be a useful tool to draw in new customers, creating a market to which to advertise core products.

6.65   IT firms are sensitive to some of the problems that other sectors developing e-commerce faster have encountered. As customers see a smoother, automated service when ordering online, they assume the processes behind this will also be quicker. Large IT firms have invested in technology to ensure orders are fulfilled with the risk of mistakes minimised.

> *"It is possible nowadays for customers' orders to go directly to our factory instead of being re-keyed by a human . . . the margin of error is far less than it has ever been, which increases our customer satisfaction."*
>
> ***World market leader***

6.66   To sum up this section, whilst online trading offers opportunities for the IT sector in terms of reaching wider audiences and reducing costs, many companies are finding it difficult to change from the face to face sales model, especially if their company is unknown or their products obscure. Traditional customer facing sales skills remain important as well as the more "technical" skills.

Adapting to online trading – utilising e-commerce within the IT sector

6.67   Larger IT companies have restructured to create multi-disciplinary e-commerce teams including sales, management and marketing. Most IT companies have integrated online teams, although these are often relatively small. There is little demand to recruit specialised e-commerce skills – many technical staff will just update their existing knowledge and keep up to date.

> *"[Employees] demand experience and you can't have that by locking off an e-commerce department."*
>
> ***World market leader***

6.68   Many of the skills required for e-commerce are found within large companies; for them it is just setting staff off on a particular project suited to their skills. Teams dealing with e-commerce would include web design software developers, online security, and data management.

6.69   Companies that have more advanced multi-channel models have existing teams e.g. call centres linked into a central database to enable them to trace customer behaviour throughout their channels.

6.70   For small companies, restructuring is not necessarily a conscious decision, as they tend to be much more fluid and less hierarchical - various people will work on e-commerce at different points.

6.71   Employees across the board are aware and involved in e-commerce, so growth of this internally is not considered such a large change, or indeed a surprise.

6.72   For many IT companies continually adapting is the norm, and does not cause great upheaval. Employees move into roles expecting them to be different a few years later. By nature it is less stable than many other sectors.

> *"We have always done it [adapting to provide services via new channels] so no challenge there."*
>
> ***Small, independent software developers***

6.73   The need for constant development and improvement is not necessarily new for the IT sector, but changes have accelerated over recent years. New ways of working and new services are constantly being adopted.

> "*There are no opportunities we cannot take up. We keep ahead of the curve . . . we constantly re-invent it.*"
>
> **World market leader**

6.74   Smaller companies are also more accustomed to changing with fluctuations in the market and economy, and accepting that they need adaptable workforces.

6.75   In terms of building in-house online marketing expertise, IT companies are having to learn quickly; many are reliant on direct sales and this lack of wider marketing knowledge has left them slow at adapting and building websites that maximise the opportunities that the internet offers.

Current and future skills needs – utilising e-commerce within the IT sector

6.76   Large companies report no difficulties in setting up internal teams for e-commerce projects, or in recruiting employees. By their nature, their workforces have a degree of understanding of online trading, and are accustomed to being placed on teams developing new products and services.

> "*We have always had a strong e-commerce back base. Everybody who works here knows about e-commerce.*"
>
> **World market leader**

> "*it's supplementing and broadening . . . there's always a subtle shift but our company has been involved in e-commerce since its conception . . . there have been technology changes and people shift their technology so the skills have just altered and changed.*"
>
> **World market leader**

6.77   Smaller companies are also confident that they can deal with the demands placed on them by e-commerce reasonably easily, claiming that although they may need to up-skill they do not require completely new skills. Therefore, they do need to invest in training (which is often established and ongoing within large IT companies which are accustomed to continual development and change).

> "*Not too difficult. Company X is a well known name and we have excellent career paths and excellent training.*"
>
> **World market leader**

> "*We can always find good people who we can train and mould to what we want.*"
>
> **World market leader**

6.78   Smaller companies too accept that they have to spend on training. One company offers internal courses and a dedicated training scheme for developers, as well as time set aside weekly for learning about new technology. There is widespread encouragement of continually improving skills.

6.79   Large companies use external companies to assist during particular projects, for example migrating from one e-business system to another. They also rely on business partners during periods when they wish to rapidly scale up particular services or products, and they are likely to do this if they want to offer new online sales or services.

6.80   Small consultancies will often outsource some aspects of developing online trading, such as more advanced programming or design. It is not always the case that the skills required cannot be found in-house, but that they cannot afford to invest in permanent resources, and would prefer to reduce the risk of having to make someone unemployed.

6.81   Future programming skills and computer languages that are anticipated to be in demand include;

- Java technology

- Web 2.0 technologies e.g. Ajax, .Net, C#,

- The technologies associated with second life,

- Mobile and wireless technologies.

6.82   Online marketing skills are required, and it is recognised that online sales will require different skill sets than offline sales do, e.g. search engine optimisation and web analytics. Online marketing is frequently outsourced and there is a realisation that dedicated experts are needed, and that the techniques and language are very different from traditional sales techniques.

6.83   Keeping up to date with and being able to understand the technology used by open source software companies is anticipated as a problem for smaller companies. Lack of accompanying documentation and products often not operating as advertised can require a lot of effort and time.

6.84   Legal and regulatory issues are also a concern for smaller companies.

6.85   However, the main skills shortages anticipated in the future are still the combination of softer skills with technical knowledge.

> *"Implementation, understanding, designing and how to describe exactly what is on offer - I don't think that will be easily met . . . it is not just a case of going on a course."*
>
> ***Freelance IT consultant***

7   Skillset

Overview of sector and profile of interviews achieved

7.1   Skillset is the SSC for the Creative Media Industries.

7.2   Of the 11 employer interviews achieved in the sector, four were with businesses operating in the Computer Games industry and the remaining seven were consultancies working in the Interactive Media field.

7.3   The Computer Games businesses interviewed were all developers and publishers of video games, ranging from a small independent company (employing just 10 staff) to the market leaders in the gaming industry (employing thousands of staff worldwide).

7.4   In the Interactive Media sub-sector the businesses interviewed varied less in terms of size – ranging from a consultant working alone, to a company with 35 full-time staff. The bulk of the interviews were with small companies with less than 10 staff (reflecting the general composition of the sub-sector[5]).

7.5   The nature of Skillset's footprint means that engagement with e-commerce is well developed across the sector, particularly so in the Computer Games and Interactive Media sub-sectors. Marketing, interacting with customers or clients, and processing sales have long been conducted online. Some areas of the sector are as young as e-commerce itself (and 'traditional', purely offline companies are extremely rare within the sector).

> *'[e-commerce is] a chance to compete and exist. For us it's a way of life, we couldn't do this any other way.'*
>
> ***Small Computer Games business***

> *'Our involvement with e-commerce is 360 degrees: we use it; we make it for other people; then we're recipients of it; and we set it up for other people so that they can do it for other people.'*
>
> ***Small Interactive Media business***

7.6   Exploring the developments in online trading among employers covered by Skillset over the past few years, and looking at the future of the sector's online offering, will to some extent bring understanding of the more long-term future and potential skills needs of sectors which may be at a comparatively early phase of their engagement with e-commerce.

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[5] Nearly 7 in 10 companies in the Interactive Media industry have less than 10 staff and just 3% have more than 50 staff *(Source: Skillset 2006 Employment Census)*

Computer Games

Nature of online growth to date

7.7   Around two years ago computer games would be purchased either from a physical store or via the internet, but with a physical product still shipped to the consumer. Some businesses in the sub-sector would be responsible for both developing and publishing the game, while some (typically smaller, independent businesses) would just develop the games (with these then handed over to a publisher for marketing and distribution once finished).

7.8   The key developments over the past three years in terms of engagement with online trading can be summarised as:

- The emergence of digital downloads (either to a PC or console) as a means of distributing the product to the customer

- The development of user-generated content platforms and online communities

7.9   The first of these has had a significant impact on the way businesses in the sub-sector operate and are structured. Opportunities have opened up for businesses of all sizes, although to maximise these opportunities investment is needed to bring new skills to the sector (and in the case of smaller businesses to acquire the necessary hardware). The second is a newer development and most businesses in the sector tend to be at the very first stages of trying to exploit its potential.

7.10   Businesses are not yet able to fully quantify the growth associated with these two developments. In many cases new products that harness these opportunities have just been launched and success is yet to be measured. There is the sense that the sub-sector is very much in a transition phase and that future consumer demand for games experienced purely online is somewhat of an unknown. Even the largest employers that are at the forefront of the sector's online offerings feel the extent of the impact of recent developments was unpredictable:

> *'The online component of both Xbox 360 and Playstation 3 games – where you've got these huge numbers of online players – that wasn't predictable; even Microsoft didn't predict it. They were trying it and thought it was going to be the next big thing but they had no idea it was going to be so successful, so much so that it is now pretty much a mandate that all games should have at least some online component.'*
>
> ***A large Computer Games business***

7.11   However, at present there is still very much a market for a physical product and sales of physical 'on shelf' games still represent the lion's share of turnover.

7.12   Consequently all the businesses interviewed were multi-channel and do not anticipate this changing in the near future. It should be noted that employers in this sub-sector consider themselves multi-channel if they offer products which are purely virtual, as well as offering physical products which are *only* purchased online. This contrasts with consumer led businesses in other sectors such as retail, where multi-channel is understood to mean a physical product can be purchased either online or in a physical store.

7.13   Around 12-18 months ago it became possible to deliver a purely virtual product direct to a consumer's console (whereas previously digital downloads had been to a PC). This was a significant development which has led to a diversification of the market into two streams: an 'on shelf' market, and a digital download market.

> *'It's just blown everything out of the water. Now lots of the big companies are setting up online divisions – casual games, short session games. In the leisure software industry the online, digital distribution is definitely the next big thing.'*
>
> **A medium-sized Computer Games business**

7.14   The customer base for 'on shelf' computer games has been relatively static over the past three years, with males, 30-35 years of age, mid to higher earners being the key demographic. However the emergence of digital downloads has unlocked a female demographic spanning an age range from teenager to 50 year olds, who are a key market for casual or short session games that can be downloaded directly onto a PC (often via social networking sites).

7.15   The market has become increasingly global, with games typically translated into multiple languages and games which are played online having anything between one and hundreds of thousands of multinational users.

7.16   In the context of these developments within the sub-sector, businesses have adopted a range of strategies for offering their products to the consumer:

- Purely dealing in digital downloads with no physical product at all

- Offering consumers the choice between a physical product and a virtual one

- Requiring consumers to purchase a physical product first, with digital downloads or content platforms accessible as 'add-ons'

7.17   An important development for the Computer Games businesses has been the rise of online gaming communities, blogs and social networking sites. Consumer reviews have always been essential to the success or otherwise of a product in the sub-sector. In the past consumers would have accessed reviews in magazines, whereas now the main forums for discussing computer games are international online-based community networks.

Opportunities and threats

7.18   The nature of the Computer Games sub-sector is such that e-commerce is seen only as presenting opportunities for businesses.

7.19   One business however did report that the regulations surrounding e-commerce were an impediment when trading internationally:

> *'Right now with e-commerce you're operating in a much more global market but a lot of the industry trading bodies operate on a very national level. At the moment that's in conflict and it's being left up to the producers to sort out, but it's not within our remit.'*
>
> ***A large Computer Games business***

7.20   The rise in online games and digital downloads has not cannibalised the 'on shelf' market. Overall the relationship is complementary; the emergence of digital downloads has extended the lifespan of shelf games. If a shelf game is popular, online add-ons can be released at intervals, which are both profitable in themselves, and serve to advertise the original product.

7.21   Traditional games development businesses that are now moving into the digital downloads market are better placed to meet its challenges than new start-ups which deal exclusively in digital downloads. Established businesses will have typically developed their own 'middleware' over the years – powerful tools used to make on-shelf games, which means they can get things up and running very quickly, as this same technology is used to make short session games. New start-ups need to invest in hardware and will take 6-12 months to get technology up and running (by which time the market may have moved on). The market context is very advantageous to established companies.

7.22   In summary, increasing utilisation of e-commerce over the past three years has led to the following opportunities for businesses in the gaming industry:

- SMEs being able to deliver a product directly to the consumer without the need for a publisher. This has been made possible by both digital downloads and the infrastructure existing for a third party (such as PayPal or Google Checkout) to process payments, meaning that small businesses do not need to have the (costly) high levels of security to store credit card numbers themselves

- Extending the life span of 'on shelf' games through digital add-ons

- Tapping into community forums and social networking sites to manage the marketing process

- Using sites such as YouTube and MySpace to launch promotional videos (mainly an opportunity for smaller businesses who can't afford more traditional advertising in magazines)

- Increased potential for tracking consumer behaviour and improving the conversion rate of users visiting a web page

- Increased potential for monitoring response to elements of a product

- Unlocking a new female demographic as a result of short session, casual gaming

- Unlocking an under 18 online consumer market through the development of store-bought 'points' or subscriptions, which can then be used to make online purchases without a credit card

- New revenue streams opening up through being able to release re-branded packs digitally and the rise of 'advergames' (and their potential for obtained marketing information)

> *'We'd never have considered self-funding a year and a half ago because it would have meant spending 5-10 million to make a full game, but we can now with these short session games. The number of downloads since Xbox Live is in tens of millions. From a revenue stream point of view it's very appetising for people.'*
>
> **A medium-sized Computer Games business**

> *'Once you release a game you can fiddle around with it forever, you can fix any issues there may have been with it or you can re-skin everything with the Coca-Cola brand.'*
>
> **A medium-sized Computer Games business**

Adapting to online trading

7.23   Among the businesses interviewed, no significant restructuring has been needed to respond to the new opportunities offered by e-commerce. This is essentially because so many of the sub-sector's processes were already online, and the developments in e-commerce have led, in the main, to expansions of the products or services already offered. That said, some changes to the shape and size of the workforce were reported:

- In some businesses a new team or department has been set up to deal exclusively with online content and digital downloads

- An anticipated advantage of this is less seasonal fluctuation in size of the workforce for some businesses who now have both on shelf and digital download departments (the former is highly seasonal whereas the latter is not; employees working predominantly on 'on shelf' development can switch over to the online department in quiet times).

- Some restructuring and / or recruitment necessary to deal with planning and co-ordination across the two channels (on-shelf and digital downloads)

- A need to recruit people to new, highly skilled online-related roles that didn't exist previously e.g. online or server programmers, information architects

- A need to recruit community managers or moderators (also a role that didn't exist previously) in response to the rise of online communities, forums, blogs and user-generated content platforms

- Some indication that sales and marketing teams in larger businesses may shrink with the rise of products being delivered direct to the consumer

- Conversely, smaller businesses now need a marketing function as they are delivering products to consumers whereas previously they had just developed content

- General growth in numbers of developers needed (not necessarily to do with specific changes or developments in e-commerce, but a reflection of general growth of the industry which is inextricably tied to growth of e-commerce)

- Changes in the structures of Quality Assurance and Testing teams with greater likelihood of this function being outsourced; speed to market is quicker now so testing procedures have changed e.g. collapsed from several stages to one. One company has downsized testing team from 20 to 4 and now uses an external contractor as and when necessary

- An increase in Artwork being outsourced to India and China (although this isn't a direct result of e-commerce, but has mainly been influenced by the release of next generation consoles)

Current and future skills needs

7.24   As a result of e-commerce, larger employers reported that there is now a demand for certain skills within the Computer Games sub-sector which were not required previously. These split between:

- Existing occupational roles that have just not been needed by Computer Games businesses previously (and therefore where businesses in the sub-sector might be competing with employers across sectors, as well as within their own sector, for suitably skilled recruits)

- Entirely new job roles which have been created to fit a specific skills need within the sub-sector

- Skills or occupations where previously contractors or freelancers had been used, but there is now a need for permanent staff

Occupations new to the gaming industry

7.25   Among the first group of roles, the skills or occupations that are reported to be in demand are:

- Online / Server / Network Programmers – with specialised technical skills

- Online Content Managers – with management skills as well as specialised online production skills

- Information Architects – with web design (both visual and functionality) skills

- Multi-channel Project Managers - with technical knowledge of the industry, as well as co-ordination, project management and communication skills.

7.26   Some businesses reported that online or server programmers were particularly difficult to recruit. There was seen to be a small pool of individuals with the required skills who were highly in demand by businesses in various sectors. Online programmers tend to be freelance and this was seen as offering pros and cons for Computer Games businesses:

> *'You have the web industry who use the same people, you have the finance industry in the City who use the same people, you have other IT related sites on the internet – we all need the same people. In that skills area they can get contracts for a lot of money. It can be good because you can get somebody really quickly because you know the agencies to go to, but you might prefer someone to grow with you and stay on the team.'*
>
> ***Large Computer Games Business***

7.27   Larger companies either recruit to bring these technical skills into the company (sometimes recruiting graduates), or use freelancers when necessary.

7.28   A small business reported relying exclusively on retraining existing staff in web programming and web design when the need arose (and had found this a relatively easy process).

7.29   In businesses of all sizes, traditional game designers had been retrained in the visual aspect of web design. This was also reported to be a fairly straightforward process. This tended to be done via individual learning rather than a formal taught course. It was also seen to be quite easy to recruit people with the required visual design skills if necessary. More problematic was attracting recruits with the necessary features and functionality web design skills.

Creation of new roles

7.30   In terms of entirely new roles (and the associated skills), some businesses had already recruited or were looking to recruit a Community Manager. Finding the right applicant was seen to be a difficult process; there are very few community managers in existence, so in most cases appointing someone in this role means recruiting someone with no previous direct experience. As this is such a new role, there was a sense that businesses were not yet sure what the ideal skill-set is for this occupation. In large companies, language skills were desired to be able to moderate international forums. Another business said that a community manager needed effective PR skills to be able to manage undesirable news stories. However, it was noted that, although there were plenty of applicants with PR skills, the right candidate would also need to possess user-empathy and an interest in games, otherwise they would be unable to communicate effectively with users.

> *'Community is actually about talking to people and being truthful about the game that's coming out and knowing what you're talking about there and you can't really train someone to do that. It's got to be from the heart and something they really believe in. We knew it would take quite a while to find him – we just had to keep going until the right person applied in the end.'*
>
> ***Large Computer Games Business***

Skills now needed permanently

7.31   One large business also reported needing permanent usability specialists (a highly niche job role requiring technical design skills). Previously a sub-contractor had been used for this, as this function was only required every few months. The new digital downloads market means that this is now an everyday need.

7.32   In smaller businesses that are or will be delivering games direct to consumers where they had not done previously, marketing skills are needed. As well as combining traditional marketing models and approaches in a new e-commerce context, marketing staff in smaller Computer Games businesses will also need to be adept at reassuring customers about giving their details over the web.

Future skills needs

7.33   In terms of future skills needs, one business that had been particularly successful in developing 'advergames' (short session games that were also advertisements) predicted that this would be a key growth area for the industry over the next few years. Here the main additional skills requirement was client liaison or business development skills. These skills were seen as transferable from any sector (and therefore easy to recruit), although any candidate would also need to be trained in the vocabulary of the sector and game production.

7.34   That example aside, businesses felt that their future skills needs would be broadly similar to their current ones.

Interactive Media

7.35   Although there are many commonalities between the Computer Games and Interactive Media industries in terms of the impact of and response to online trading, the fact that the Interactive Media businesses interviewed operate in a business-to-business environment gives these issues and developments a slightly different context. Therefore, the nature of the growth of e-commerce in the business-to-business interactive media sub-sector, the opportunities for further growth, and the impact of these changes on the shape, size and skills needs of the workforce, are described separately here, with the similarities and differences with the Computer Games' sector drawn out where relevant.

Nature of online growth to date

7.36   Interactive Media businesses have experienced significant growth over the past few years (web design or multi-platform design and publishing companies tended to report a doubling of turnover and employment year on year for the past 2-3 years). A large part of this is attributed to changing attitudes about the role of e-commerce among the customer base.

7.37   User behaviour and accessibility have changed, creating huge opportunities for Interactive Media businesses. The main changes that have occurred over the past three years that have created advantageous trading conditions are:

- Increased trust and familiarity with providing information online

- IT departments in customer organisations becoming more liberal, allowing greater access to the internet and relaxing firewalls

- Broadband

- The increasing regulations around e-commerce giving it credibility among the customer base

7.38   The public and not-for-profit sector are seen as key growth areas for the future; they are increasingly seeing e-commerce as a way of reducing costs or opening up new streams of business. However, one consultant expressed concerns about what this means for the sub-sector:

'The bulk of growth seems to emanate from publicly funded bodies, which is probably a bad thing because it shows that there's no real growth in the real market. It's easy for the government to pump money into this – as public money it's not really subject to market forces.'

Interactive media consultant

7.39   On the whole though, growth was seen as highly sustainable, as once a business has bought into being online the need to regularly update a website and / or the technology it uses provides ongoing business. Furthermore there are still sectors of industry where the potential of e-commerce is yet to be realised.

7.40   Businesses interviewed tended to provide clients with bespoke solutions and took a 'platform agnostic' approach – meaning that a client's objectives would determine the platform(s) used, rather than the business having off the shelf software solutions that they attempted to sell.

> *'Now we're providing much more sophisticated solutions which we were trying to sell to people 5 years ago but they didn't want to know then, they didn't get it, or if they did get it they'd have to sell it to 5 or 6 other people. Now the world wants it and we do not have to try and sell it...and there are a lot less people around who can do the whole lot.'*
>
> ***Small Interactive Media (multimedia production and consultancy) business***

7.41   As well as the growth in demand for providing other organisations with the capability to provide services or products online, an important part of the process of Interactive Media businesses is being able to market themselves online. Their customers have become increasingly happy and able (in terms of connectivity and software capabilities) to request quotes and submit specifications online, view portfolios, and edit their product.

7.42   YouTube is attributed with accelerating and supporting the use of video on the internet – another situation which is very advantageous to many Interactive Media businesses.

Opportunities and threats

7.43   Open source software was seen as an opportunity for businesses in the Interactive Media sub-sector. They had utilised certain software solutions, often adapting or improving these, in meeting client objectives. One example was the use of MOODLE – a course management system – which one business had taken and adapted for a client providing educational services.

7.44   Interactive Media businesses did not report using customer profiling software to monitor or track their own client base. However, being able to integrate customer profiling or tracking elements to their communications solutions for other businesses was seen as a significant benefit.

7.45   Innovative use of blogging, social networking sites and Youtube as marketing tools is a means of creating a favourable reputation. (Some of the businesses interviewed relied heavily on word of mouth recommendations; increased use of the internet means that geographical boundaries of customer base are expanding.)

7.46   An increasing sophistication of design and functionality of websites generally means that businesses are more likely to buy-in expert skills to be able to compete effectively online. In particular, key areas where there is increasing demand for web or multimedia design companies to provide support are:

- Search engine marketing to increase traffic to websites.

- Usability; customers are becoming less tolerant of poor quality or difficult-to-use websites.

Adapting to online trading

7.47   In their role of providing digital solutions to other organisations, Interactive Media businesses have seen changes occur in clients' attitudes towards e-commerce and resulting company structures.

7.48   One Interactive Media consultancy described the changes observed in clients' company structures as circular. Around 5 years ago clients would typically have just an individual, usually in the sales or marketing area of the business, who had responsibility for all things 'e'. This was followed by a phase where this function would grow, until a specialist e-commerce department was set up. This

however was fraught with difficulty, as there was little integration with the rest of the company, and often tensions arose. The most recent phase has seen some businesses taking a more holistic view, and e-commerce functions have been reintegrated into individual departments:

> *'Because the whole 'e' thing has been integrated back into each and every department then we can be talking to finance directors and HR directors, training directors, marketing directors and sales directors, and all of them have the whole thing – e-learning, e-commerce function – written into their job descriptions. It's no longer an add-on, it's no longer a specialist little niche area. It's become integrated into the way companies think and act and operate now.'*
>
> ### Small Interactive Media (multimedia production and consultancy) business

7.49   Small companies within the sub-sector tend to have relatively fluid roles (an MD of one consultancy was also a junior trainee cameraman). Historically, this has mainly been driven by the need for staff to be multi-skilled, in order to provide customers with bespoke, multi-platform solutions.

7.50   However, adapting to the growth generated by the adoption of e-commerce by a greater number of organisations and an increasing need for specialisation have led to some businesses introducing more defined roles within the company structure.

7.51   The use of freelancers or consultants was common, particularly when specialist programming skills were required. Interactive Media businesses have historically been staffed with creative, rather than technically-trained occupations, with the required technical development skills sought from outside. While a significant amount of outsourcing still occurs, there are some indications that businesses may be looking to strengthen their in-house technical capabilities. One small business has recently hired an expensive Head of Technology in order to bring more technical expertise in-house.

7.52   Where freelancers are used, they tend to be individuals who are used regularly and with whom a working relationship has been established. These freelancers are of high quality and easy to contract when the need arises.

7.53   There is an increasing specialisation in the technical skills required from freelancers, reflecting the increasing complexity of the solutions offered in response to market demand.

> *'If we've got a specific type of challenge we'll go to a specific type of programmer. We've probably got 3 or 4 different Flash programmers now that we call on – one is very good with graphics and animation, another does very complex games which cost a lot to commission, another does very simple games...and the fourth one is our main one...he can do Flash but he can also do other programmes as well.'*
>
> ### Small Interactive Media (multimedia production and consultancy) business

Current and future skills needs

7.54   Some skills have become or are becoming obsolete:

- Software development skills; some packages or languages become redundant

> *'A couple of people have left because they've been very specialised in one particular area and those areas, software development usually, have become redundant. Director, the Macromedia Suite, was the main one. They stopped supporting Director and the one programmer we had was Director through and through, he'd done it for about 10 years, and we tried to re-train him on Flash – he went on a couple of courses but just couldn't get it.'*
>
> ### Small Interactive Media business

- Less need for sales staff who travel around companies as portfolio is now displayed online and customers are happy to interact online

7.55   Smaller businesses within the sub-sector reported problems finding high calibre, experienced staff with high level technical skills. There was felt to be a very limited pool of potential recruits with the appropriate skills, and these tended to be monopolised by the big players in the sector (or outside of the sector) who could offer higher salaries. Smaller businesses adapted to this challenge by either retraining or multi-skilling existing staff where possible, or by recruiting younger staff and training them on-the-job.

> *'The biggest challenge is around resourcing, finding talent – the pool of talent is very thin. In the time we've been going more and more small outfits are coming online – they're bright people but they need the talent which tends to be with the big players.'*
>
> ***Small Interactive Media business***

> *'There's a lot of people now working within small web departments within traditional companies. The workforce in companies providing web building services, the building e-commerce side, that's probably not growing as fast as people who claim they work in those fields.'*
>
> ***Interactive media consultant***

7.56   Several businesses described how they had attempted to plug the need for experienced individuals by recruiting from outside the sub-sector (for example recruiting a TV Producer for a Web Producer role, or recruiting experienced Marketing Directors or Account Managers from outside the sector). Whilst this was felt to be successful in some cases, a need for conversion courses to train individuals in sector-specific technical expertise was identified.

7.57   It was felt that there is a mismatch between academia and industry with respect to programming and design skills. Closing this gap would go some way towards allowing smaller businesses to recruit graduates who were better prepared for work and required less retraining once recruited (and therefore allow them to compete more effectively with larger employers).

> *'[universities] haven't a clue what's going on in the real world – what they're teaching students has got nothing to do with what employers want to take on, with the odd exception. They're still teaching Director in a couple of universities round here.'*
>
> ***Small Interactive Media business***

7.58   The demand for more sophisticated websites with Web 2.0 design and functionality has led to a specialisation and fragmentation of job roles within the sub-sector. The relative fluidity of roles in Interactive Media businesses a few years ago is gradually being replaced with new team structures based around more distinct roles. Individuals in these roles are required to have an increased depth of 'hard' technical skills alongside an increased breadth of 'soft' skills (such as adaptability and problem-solving skills).

> *'The jack of all trades – I mean people who are used to doing designing, programming, everything – they have decreased, while specialists have increased. We get many more specialist roles and we don't expect people to step outside of their specialism'*
>
> ***Small interactive media business***

7.59   As observed in the computer games sub-sector, changes in the way users expect to interact online mean that the Interactive Media businesses' customers are shifting their focus from marketing products and services to entering into a dialogue with users.

> *'What Web 2.0 really means for businesses is that online trading really shifts from being about marketing / advertising to being about Public Relations…it's very much about conversations…I think the skills and techniques involved in Public Relations will become extremely important to online trading'*
>
> ***Interactive media consultant***

7.60   The occupations and skills that businesses are finding themselves increasingly in need of are:

- Search Engine Optimisation Specialists – this is seen as a growing area of expertise. Good candidates need both content and technical knowledge, marketing skills, and more generic skills such as problem-solving ('it's partly a science and partly an art').

- Fixed term customer service administrators – once a new website has been created for a client there is a need for someone to take phone calls and respond to problems or queries. At the end of this 3-6 months, the administrator may be moved to another project, or even taken on by the client. There were no difficulties reported in finding such staff.

- Usability specialists – this is predicted by some businesses to be the key challenge / focus of the future. This role requires a synthesis between design and programming skills, which is quite hard to come by at present.

- Usability testers – require an understanding of how the internet works and good communication skills.

- Online marketing – requires a diverse set of skills including web copywriting skills, promoting sites, knowledge of pay-per-click reports, customer tracking, and analytics. It's difficult to find one person with all of these and, as the role is relatively new, it is hard to know exactly what else might be beneficial.

7.61   Retraining existing staff in any new technical skills needed is common (partly in response to shortages in the external labour market, but it is also typical of an industry where keeping up with new developments in technology or software is integral to most job roles). This is seen as a relatively easy process in terms of teaching people camerawork, editing and simple programming skills. More difficult is training existing staff in design or specialist programming skills.

8 Financial Services Skills Council

Overview of sector and profile of interviews achieved

8.1 The Financial Services Skills Council (FSSC) is the Sector Skills Council for the financial services sector in the UK.

8.2 Interviews were conducted with eleven employers and one 'expert' in the sector.

8.3 The 'expert' interview was with the Association of Payment Clearing Services (APACS). This organisation oversees payment schemes that involve consumers making payments through the banking system such as direct debit, direct credit and cheque clearing. APACS is also involved in co-ordinating the banking industry's effort to combat fraud, such as online banking fraud, and it oversaw the introduction of 'chip and PIN'. They are currently involved in the launch of 'Faster Payments' and research into the feasibility of mobile banking.

8.4 Seven out of the eleven firms interviewed during the employer research stage were independent brokers specialising in mortgages and / or insurance broking. A further two interviews were with Independent Financial Advisers. The majority of these companies were both B2B and B2C, although two were B2C only, and the same number were B2B only.

8.5 The remaining two interviews were conducted with two major banks operating in the UK (and globally) who are involved in retail, commercial and investment banking, and insurance. The bank employees interviewed worked in different divisions within their respective organisations: one had a role overseeing digital security and the customer online experience, while the other was an online marketing manager in their bank's insurance division.

8.6 Nine out of the eleven firms interviewed comprised less than fifty employees, one of which was a sole trader. The banks interviewed both fell into the 500+ employees category. The difference in sub-sector and size between the bank and the financial advisory firms means that there are fundamental differences between the two groups in terms of depth of involvement in e-commerce, what adaptation to e-commerce entailed, and the type of opportunities (and threats) e-commerce had brought.

8.7 Due to the size and global position of the banks interviewed, they play a key part in shaping the growth of online banking and indeed e-commerce generally within the UK. When dealing with security issues or functionality, the banks interviewed not only seek to address the issues facing their own company e.g. protecting their own customers from online fraud, but seek to address these issues within the financial sector as a whole, and therefore for all sectors engaged in online sales which require a financial transaction.

Nature of online growth to date

8.8 Growth within the sector has been steady over the past three years, and firms interviewed anticipated that this increase would only continue. As well as customer demand there is a business driver to move online. As online transactions are more cost effective, and websites are a more efficient way of reaching a larger number of people, there is an internal impetus for most large companies to move as much of their business as possible online. Both large banks stated that e-commerce strategy was central to their overall business strategy.

8.9 One bank estimated that in the UK 4000 people move to online banking each day, with more payments being generated across the internet than any other channel. APACS estimate that there are over 17 million people actively banking online in the UK, representing around two thirds of active internet users.

8.10   Also, the demographic make up of internet users is becoming more representative of the UK population as a whole. In terms of online management of finances within the UK; 2007 saw the largest growth in usage amongst the older age segments (aged 45 and upwards).

8.11   It is reported that over the past few years the number of people buying insurance online has increased 10% each year. For motor and home insurance, online is the main sales channel already, and within a few years it is thought that the vast majority of general insurance will be bought online.

8.12   The cost of providing banking services has also reduced as the physical branch network is no longer absolutely necessary, and there is no physical movement of cash, cheques and application forms. Now a wide range of services can be provided entirely online, and banking licences are easier to obtain.

8.13   This financial services market has therefore become on the whole more 'crowded'. Some of the major supermarkets have entered the market and have been able to convert the trust which consumers have in their brands to help build their own successful financial services businesses. Although these companies are not currently banks in their own right, they have their banking facilities provided via banks such as Royal Bank of Scotland, so it is not inconceivable that they will apply for banking licences of their own in the future.

8.14   Currently, large banks do not perceive the supermarkets to be in direct competition, as these new market entrants do not provide the full range of banking services they traditionally offer, and often focus on a specific market sector. In the UK, as customers do not pay for banking, they are thought to be unlikely to close their traditional bank account, but just to use these new offers as extras, e.g. for a loan.

8.15   Indeed these providers are seen as offering a new route for more established banks to access new customers. One of the banks makes full use of these alternative online brands for selling insurance products by developing 'white label' versions of its products. These are sold through third party arrangements, whereby the vendor will buy the product and then resell it with their own branding attached.

8.16   Pure play internet-only banking brands, such as Smile and Cahoot, have also been set up (often by existing banks themselves). These brands provide an online service only, aiming to offer customers better interest rates, the trade-off being no branch network. Again the banks interviewed did not perceive these brands to be in direct competition with more traditional models, as they do not provide a 'full service' in terms of customer support or the range of products available. Large banks and insurers also now recognise that their own, established brand can be a more successful way to move online than creating a new brand.

8.17   The banking sector has not been affected by smaller companies entering the online market in the way that many other sectors have been. Since banking is a difficult industry to start out in (due to regulations and the amount of sector knowledge required), and customers want solidity, an established reputation, and the option of going into a branch to be available, even if they do not use it.

> *"It's the difference between deciding to buy a CD from a dodgy website and actually deciding to do your banking with somebody you've never heard of before. So when it comes to your money, to your salary, to your savings, then people tend to get very conservative, there tends to be a lot of inertia and that's perfectly understandable. Nobody necessarily wants to take risks with their livelihood."*

8.18   PayPal is probably the only exception here, but on the whole banks have welcomed it, seeing it as testing out new areas which they themselves may move into once the channel is better established.

PayPal's visibility also reaches out to new audiences and encourages them to transact online, building confidence in online banking in the process.[6]

8.19   Large banks are continuing to increase the range of online services available for customers as they see customers becoming more comfortable with transacting online. While most already enable customers to manage their bank accounts online, to transfer money between their own account and the accounts of other people, to pay household bills online, and to make online purchases, some are now adding higher value products and 'straight through' decisions for products such as loans and mortgages.

> *"There has been a very steep growth curve, rapid take up. In the early days the most people would do was look at balances, then maybe a standing order. The more adventurous ones would pay some little bills. Now they are doing everything, there is greater sophistication among people."*

> *"It's all driven by people sitting down in front of their screens . . . they want to know now. They don't just want to send off a form in the post and then maybe hear about it two weeks later, they want to know within a minute while they're sitting there, before they get bored and wander away - 'Have I been approved for that mortgage?'"*

8.20   Indeed, offering the ability to apply for (and receive) a loan online is seen as creating an environment in which the customer will be more at ease than in a face-to-face situation. It eliminates potential embarrassment on the part of the applicant, and ensures the financial situation of the customer is fully understood and that payments are therefore appropriate.

8.21   Besides extensive online consumer offering, most banks also market and sell their insurance products online. One of the banks interviewed did this via its B2B and B2C insurance websites, as well as through its main banking website. Along with the other bank interviewed, this bank aims to stimulate growth of online purchasing of its products through offering reduced prices for purchasing some products online.

8.22   Behind the scenes, many large companies use internet based tools and applications for global companies. This lends itself to collaboration and common development.

8.23   The financial advisory firms interviewed were small enterprises (under fifty employees) and operated within a local, rather than national market. This market is crowded and the majority of firms stated that they gained new business through word of mouth recommendation or through repeat business, rather than via online channels.

8.24   The level of e-commerce growth varied among the financial advisory firms. At the most 'basic' end of the spectrum two firms had not set up websites, although they did carry out research online and liaise with provider firms. At the most 'advanced' end of the spectrum one firm now conducts approximately 85% of client work online, compared with 5% by telephone and 10% face to face. For the majority of firms, face to face meetings were still the predominant method of service delivery (especially for those with a 'mixed' client base comprising some clients with little computer access). 20% of one firm's client correspondence was conducted online, with the majority conducted offline and face to face.

8.25   One of the firms provided asset financing services solely for the hire, purchase and leasing of construction machinery. They stated that their clients were increasingly going online to research and compare the prices of the machinery they intended to buy. As 90% of construction machinery is

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[6]In May 2007 Pay Pal was granted a banking license under the EU

financed, within their sector client meetings and the end sale of products are predominantly conducted offline, as this builds trust and they find their customers want this face to face contact.

8.26   The general consensus among the financial advisory firms about e-commerce was that it is inextricably linked to day-to-day working:

> *"e-commerce is a fact of life nowadays. It can increase efficiency and make the admin. side a lot easier. Nearly all research and acquisition of information is done online, but our service to the client remains face to face."*

8.27   The extent to which e-commerce is central to business strategy varied between the financial advisory companies. Some felt that e-commerce is an integral part of their business, allowing them to process a higher volume of work than they were able to previously. One firm commented:

> *"To get an answer from the providers used to take three days with paper – now it is instant. It is so much quicker than the post which is unreliable. Now we are able to process more business with instant agreement".*

8.28   The smaller financial advisory firms had not embraced the concepts of Web 2.0, nor did their websites form part of a business growth strategy. Company websites were either interactive (used to host online interactive documentation that clients could fill in online) or else they provided basic information and further contact details about the firms. These were firms which were not aiming to expand their business.

8.29   The attitude towards e-commerce of business partners / providers used by small firms also had an impact on the centrality of e-commerce to the business strategy. One insurance broker firm stated that ideally e-commerce would be more central, but that their key partner / provider does not have an online offering, as they believe that the complexity of the products they sell requires a dialogue between financial advisory firms and Lloyds' underwriters.

8.30   The extent of online banking amongst the UK population as a whole would suggest that there is a greater opportunity for financial advisory firms to further integrate an e-commerce element into their customer service delivery.

Opportunities and threats

8.31   In a wider context, greater opportunities for online trading will be afforded in the near future. From May 2008 the processing time for online transactions will be reduced, allowing payments to move between bank accounts in near real time, rather than the current three day period. This will have a wide range of implications, including greater flexibility to enable trading online and a greater volume of transactions being processed.

8.32   APACs are also currently undertaking a feasibility study into making online payments via mobile phones. Telephone banking already allows transactions to be made in locations and at times that are convenient to the person making the transaction. Enabling online banking through mobile phones has the potential to increase the flexibility and simplicity of this process further still.

8.33   One of the larger banks is cautious though, feeling that the push is coming from mobile vendors, but that the market is not yet ready. They think the next significant development which customers will buy into will be NFC (near field communication, the ability to swipe like an Oyster card) for mobile phones. Customers would pay for travel by touching their phone, be able to get their balances through it, top up pay as you go, and order a mini statement.

8.34   Customer service opportunities were identified by the larger companies, who are continually investigating ways of improving both the service they offer to customers online by advanced functionality and clearer design, as well as integrating online and offline channels to present a smoother service, informed by greater knowledge of customer behaviour.

> *"You try and provide a consistent experience from the customer point of view, so if you access [the bank] through the internet or for the phone or you walk into a branch then the experience should be as similar as possible."*

8.35   Not only service but also sales can be tailored to individual customers' circumstances as technology advances. Large companies are already seeing that being able to offer appropriate products and use relevant language is allowing them to market themselves to a wider audience. Previously, online banking and the bank's website (illustrating products, interest rates etc) were separate, but now they are fully integrated so customers can be logged in while browsing other products.

> *"We have become more tuned to the needs of different audience groups. Attitudes and behaviours differ. The sales journey will be highly tuned to their particular attributes and characteristics."*

8.36   Few further e-commerce opportunities were mentioned by financial advisory firms interviewed, including those that perceived themselves to be using e-commerce as fully as possible.

8.37   Setting up or improving websites was mentioned as a potential future opportunity. However, one firm questioned how sound an investment improving the interactivity of their website would be considering how small the firm is:

> *"How would clients find our website even if we did get an online quote facility? We are not on any search engines and we would not do this as it is simply too costly."*

8.38   A firm that did not have a website stated that, if they wanted to grow their business, the network they are part of would set up and maintain a website for them. As the firm did not intend to expand its business, it felt a website was unnecessary. Although small companies appreciate that a web presence could help them gain new customers, there is also a realistic understanding that it is not enough to encourage many to change their traditional business models. To a large extent these firms aim to develop their online presence only to the extent that it will be in line with other firms in their market.

8.39   In terms of the threats posed by e-commerce, the dramatic growth in numbers of price comparison websites has had a large impact on the sector. Some analysts think that these comparison sites may start to dominate the online channel, with more customers turning to these instead of search engines to direct them to well known brands. Accordingly, marketing strategies are addressing these issues by offering discount rate products for set time periods via comparison sites to attract customers.

8.40   The larger companies segment their customers into types, whose purchasing strategies range from price shopping to buying in brand to somewhere in between, using a mixed channel purchasing approach (researching using one medium and buying via a second).

> *"Those who like to see lots of different prices in one place will continue to use them, and those who are more brand-driven will purchase through our own website. There has been a decreased ability to compare offline, so online is becoming more preferable."*

8.41   However, being able to highlight these differences in service could potentially be a problem in the future. One of the banks is planning to offer their own version to negate this threat.

> *"Price comparison sites are trying to attract customers away from our website. There would be 20-40 different companies on these sites, so the likelihood of them choosing us is diminished. Once we offer this on our own website we could attract business from the comparison websites."*

8.42   For financial advisory firms, the market becoming too 'price focussed' was also perceived to be a threat. Financial advisory firms felt that this was detrimental to the quality of service that customers receive, as larger firms were generally able to provide lower quotes, but unable to provide the same level of service as small firms.

8.43   Security risks were thought to be a significant threat by all companies interviewed, especially in terms of customer perceptions of the volume of online fraud.

8.44   As the banks interviewed are global players, they have systems in place to protect their customers and are involved in making the web more secure for carrying out transactions generally. One of the banks is particularly involved in sector–wide security for the banking industry. On a day to day basis the bank also undertakes anti-fraud measures itself, such as having a team in place that searches for phishing e-mails, and then seeks to shut down the websites from which they originate. Another team monitors 'risky' payments made by its customers, a 'rules engine', which identifies how many of the 200 'risk rules' transactions are breaking, and allows risky transactions to be stopped before money has left the bank.

8.45   Barclays, Natwest and the Royal Bank of Scotland are currently rolling out portable PIN security devices (Barclays' device is the 'PIN Sentry'). Other banks and building societies, such as Nationwide, will also be rolling out their version of the device later in 2008. This device works by consumers slotting their bank card into it and then entering their PIN into the device's keypad. The device then generates a numeric passcode (which is different for every transaction), so two layers of security (the PIN and passcode) are put in place for every transaction.

8.46   The cost of updating technology related to e-commerce, such as website maintenance, software updating and IT consultant fees, was also cited as a threat posed by e-commerce for smaller companies.

Adapting to online trading

8.47   Within the financial services market as a whole, the growth in online banking (together with telephone banking) has led to a restructuring of High Street banks with the number of bank branches decreasing. One bank interviewed stated that it had not decreased its branch network by a large amount; instead it had retrained branch staff, enabling them to *'have a more varied interesting job'*. Processing transactions, which was previously managed in branches, had for the most part been moved to service centres, many abroad, meaning that branch staff focus more on customer relations and products which the bank offers. Online, browser based applications in the branch mean that staff can learn online and on the intranet.

8.48   The larger banks did indeed report increases in staff responsible for online activities. Both of the large companies had built up a separate online team, including in-house software developers, web designers and customer experience designers. Security is also dealt with in-house, although by a separate team.

8.49   Larger companies have become more streamlined, with online services no longer treated as a separate division, but as one of a number of channels which interconnect with the core banking services underneath. On the customer-facing side most banks are moving towards a multi-channel strategy, and on the internal, back end they have an integrated structure end to support all the channels.

8.50   Amongst the small financial advisory firms interviewed, changes to the workforce due to e-commerce have been minimal. One of the IFA firms stated that, although their workforce had remained almost the same, across the network staff numbers have increased by 20%. As the firms interviewed all comprised fewer than fifty members of staff, the potential for restructuring was minimal. Firms agreed that e-commerce had enabled them to handle a greater volume of work. They had either retained the same number of staff (whilst increasing the volume of work they could process) or expanded slightly (in order to take on an even greater volume of work and grow the business). Firms that had expanded had recruited more administration staff and more brokers. Only one firm had reduced the number of staff a result of admin. increasingly being carried out online

Current and future skills needs

8.51   Three steps were identified to enable a business to offer online financial services: first, an advance in technology; second, new developments being made robust and secure; and finally, customer willingness to use the features. All these have created demand for skills – first in hardware and software to support new websites, and in web design and architecture; second in security specialisms (such as biometrics, phishing, etc.); and finally in customer services, marketing and ensuring the customer journey is as straight forward as possible.

8.52   Despite awareness of skills shortages in the market, the banks interviewed had not generally found recruitment problematic, as they offer competitive packages and remuneration.

8.53   As day to day transactions move online, customer relations and product knowledge is more essential for branch-based staff than understanding processes e.g. cheques are now processed digitally rather than manually.

8.54   As more products are offered online, more staff who are able to make decisions will be needed.

> *"You need a lot of people who are not the people who you might regard as call centre drones acting to a script, but people who are empowered to make decisions . . . there's going to be more of a requirement for a much deeper skills base."*

8.55   Both banks interviewed mentioned marketing as an area in which re-skilling was required. Online marketing requires a more flexible and 'continuous' approach, which does not lend itself to outsourcing as easily as traditional print marketing. As in most sectors, banks use a system of 'test and learn' for online marketing, whereby subtle changes to text or imagery on the bank's website or online adverts are made. The number of click-throughs (i.e. the number of times a particular link is selected) are then monitored in order to assess which imagery / text is the most attractive. Sector and product knowledge is vital, but this needs to be alongside technical knowledge and understanding of online marketing.

8.56   One bank stated that the number of staff in roles combining IT and marketing has increased by 25% over the last two years. The 'constant pressure' in the market place has resulted in this combination being hard to find.

8.57   A new role has developed for customer experience experts (responsible for analysing the route a customer takes through a website, and finding new ways to increase sales by placing relevant products in front of them at the right time). Positions crossing over customer service and IT also include security managers, whose responsibility it is to ensure that the customer is not 'jumping through hoops unnecessarily', while still being secure.

8.58   There has also been greater demand for those who can integrate internal and external systems, a task requiring high level IT skills. Correspondingly, as internet based IT skills are in demand, those that used to maintain old 'mainframe' style computer systems need to re-skill.

8.59   Large financial institutions develop, design and manage their websites in-house. They, therefore, compete with IT firms and smaller interactive agencies for skilled workers, and do not follow the route of most other sectors in outsourcing at least some part of the processes. Investing in training for these teams leaves financial institutions open to the risk that staff (with the highly valued combination of sector knowledge and technical skills) will leave or be poached by other firms. Therefore there is probably greater investment in retention in this sector than in any other.

8.60   One bank reported problems filling marketing positions in certain geographical areas. It resolves this issue by using freelancing marketing professionals when needed. One of the banks interviewed also takes on temporary marketing advisers at peak times of activity such as Christmas.

8.61   In terms of security, new teams are often set up with staff responsible for finding and then closing down phishing e-mails and fake websites. Others monitor risky payments, dealing with payments that are picked up as potentially fraudulent by 'rules engines'. To set up and manage these teams, financial institutions need people who understand how websites could be attacked.

8.62   Most new recruits are already competent in the required fields, although banks state that they then undertake to bring them up to the level which they require.

8.63   Employees are expected to keep up to date with technology. Re-skilling in general has been a simple process for the banks interviewed. One of the banks stated that it has in place an internal 'university campus' in which training can be carried out for technical skills, customer skills and product selling skills. Both classroom based teaching and online tutorials are used to teach employees new skills.

8.64   The small financial advisory firms stated that e-commerce skills were not needed per se, as: *'IT Literacy is par for the course',* and brokers or administrators recruited would have gained the necessary IT skills as part of gaining their qualifications. Training staff to use new software or systems was not perceived as problematic; firms generally expected their employees to undertake a certain amount of self-training to familiarise themselves with new systems.

8.65   The 'traditional' skills (communication and customer relations skills) were mentioned as being the key skills for financial advisory roles. It was even felt by some that often *'a lot of people are too focused on IT'*.

8.66   Financial advisory firms' approach to online trading reflected to a large extent that of the providers whose products they re-sell. This had engendered some uncertainty among the Financial Advisors, faced with some reticent providers and some engaging at different rates. Due to this initial inconsistency among provider firms, one of the firms interviewed felt that they have had *'to learn as we go along and play it by ear.'*

8.67   The small financial advisory firms interviewed employed a mixture of freelancers and external companies to deal with IT and software issues. Initially when installing new software, the financial advisory firms used the software providers both to train staff to use the new software, and as a support service when software problems arose. The network that one of the IFA firms belonged to organised provision and maintenance of their IT systems, website, software, and data security measures.

8.68   IT consultants were also employed occasionally by small firms, either to solve problems, or to carry out website maintenance when necessary.

8.69   Ensuring data security through putting in place and maintaining sufficient anti-virus and firewall software was one area which small firms consistently outsourced.

9   Skillsmart Retail

Overview of sector and profile of interviews achieved

9.1   Skillsmart Retail is the Sector Skills Council for businesses in the retail industry. The 291,000 businesses that fall under its footprint generate a turnover of nearly £280 billion a year. Three million people are employed in retail, which makes it the largest private sector employer in the UK.

9.2   The businesses interviewed for this study range from very large, well-established retailers that operate multiple stores across the UK (as well as some international sites) to very small single-site retailers who have been trading for only a year.

9.3   In terms of sub-sectors, businesses operating in the grocery, department store, clothing, electrical and interiors sub-sectors were covered by the study.

9.4   The majority of the businesses interviewed had added an online channel to an existing offline business between four and ten years ago. However, a couple of the businesses were 'pure-play' (existing only online).

Nature of online growth to date

9.5   In general the emergence of online trading during the late 1990s has resulted in growth for most retailers. Some of the negative factors triggering the dotcom crisis of 2000 – inappropriate infrastructure, low internet penetration, sceptical consumers – have now been improved due to retailers deploying ever more sophisticated online distribution logistics; broadband usage constantly rising among the public; and a rise in consumer confidence in internet security.

9.6   Online retail revenues are now steadily increasing and the entire online retail market in the UK is estimated to be worth about £45 billion. This is up from £20 billion three years ago according to IMRG (Interactive Media in Retail Group), but internet sales are still only a small proportion of the overall market. Retailers have to be 'multi-channel' so that the customer can access the retailer whenever and wherever they want. This means that, as a rule, online business is just a part of the overall business strategy.

9.7   After travel sales, the online sales in retail make up the greatest volume of online sales, with the clothing/footwear/accessories sub-sector seeing the greatest growth.

9.8   The online presence of supermarkets that have entered into non-grocery sales has had a detrimental effect on other retail sectors, such as music and clothing.

9.9   Growth in online consumer spending has been described as "impressive" and "substantial" by the two large scale retailers who both operate multi-channel distribution networks. For example, for one

grocery chain, online growth rates have been 10% over the past three years, as opposed to 5% like-for-like growth in stores, and rates are expected to increase up to 20% growth per annum.

9.10   A leisure and shopping centre reported a steady growth of 30% in online transactions and expects this rate to rise up to 50% in the future. However, when compared with the traditional offline sales in their branches, the proportion of sales conducted online and the number of customers who buy online is still very small.

9.11   Clothing retailers report that their "web sales have soared". One medium-sized clothing retailer, who exclusively trades online, reported that revenue growth is doubling every year. As a measure of success, this company recorded a million customer hits on its website per month six months ago; this has now risen to a million hits per week. Growth in fashion sales is driven mainly by the Christmas sales, and this online retailer did not suffer from a slightly lower sales performance this year like many High Street clothing stores.

9.12   On the other hand, businesses with a local customer base, such as a specialist interiors retailer and some electrical retailers, reported only moderate growth in overall sales and even smaller growth in online sales. The share of online purchases is minimal, typically around 1% or 3%. This was attributed to customers preferring to browse and compare prices online first, before visiting a local store to make the purchase after viewing the physical product.

9.13   Expectations of future online growth are mixed and vary by the type of products available, rather than by size of business (in terms of number of employees). One large grocery retailer saw significant and sustainable growth opportunities for the next five years, which will be determined by the type and range of products and services offered online, rather than growth in sales. Retailers recognise the potential for expanding internet penetration and customer confidence as the basis for online growth.

9.14   On the other hand, having established its online channel only recently, a luxury department store was more cautious about projected online growth. One fashion retailer maintained that there will be a saturation point eventually, but growth is expected to continue for a while as "Generation Xers" are more likely to buy online.

The role of e-commerce strategy in overall business strategy

9.15   E-commerce is undeniably gaining weight as a significant additional distribution channel for established retailers, but the importance of online trading for the overall business strategy varies depending on the size, product portfolio and target audience of retailers.

9.16   Online strategy is obviously essential for pure-play retailers, with no offline branches at all. One major advantage for these retailers is the speed with which they can get products to the market, going directly from the warehouse to the customer, while retailers with High Street stores need more time to fill their shelves and maintain stock. However, pure-play retailers maintain that not having any physical stores can reduce their overall market share, as they cannot compete with the High Street shops in terms of enabling direct consumer access to the products (they cannot touch or see the products).

> *"Online trading is definitely growing; we will keep investing. A High Street presence is still always needed."*
>
> **Medium sized fashion retailer**

9.17 The online operations of some large retailers were originally somewhat fragmented and more of an add-on to the overall business strategy, but lately e-commerce has been introduced as a core growth aim, which is supported by new dedicated e-commerce departments.

9.18 By contrast, developing e-commerce is not a priority for some large retailers. For example, a luxury department store, which started a limited online range of beauty and fashion goods only 6-8 months ago, has found that customers for luxury goods prefer to see the product physically before buying. There is a strong personal service element to these sales, which cannot be replicated online.

9.19 Some of the smaller retailers appear to use e-commerce mainly as an advertising tool, deploying website content in order to let prospective customers look at their products. Only a tiny fraction of customers actually buy online, and for one small furniture retailer online trading is *"hardly part of the business";* most clients come into their store to purchase products they have seen earlier online. However, the respondents reported that having a website is "important".

The varying strategies adopted

9.20 While e-commerce strategies can have various degrees of importance to retailers, they all have to address a series of key challenges when moving their business online. The most important strategic decisions include:

- Determining who the target audience is

- Which products to put on offer online

- How to organise the distribution to the end customer

- How to overcome some of the obstacles and competitive forces within the online retail market

9.21 Most retailers emphasise convenience shoppers and the younger age group as the key customer segments to be targeted with online marketing efforts, as it is thought that this generation is more technology savvy and feels more confident with purchasing products online. But socio-economic customer segmentation also plays a role in online business, for example, the online business strategy of one fashion retailer targets mainly the 16-34 year olds who are fashion aware and "want something for the weekend". These customers have enough disposable income to spend between £50 and £65 per visit because they tend not to have mortgages.

9.22 One luxury department store sees online sales more as an option for people who are buying outside normal shopping hours, or as an extended customer facility, rather than an alternative to their existing stores. Small retailers specialising in niche products tend not to differentiate their online audience from their traditional customer base, aiming for a mid to high range customer segment and marketing their specialist product offering, as distinct from the mass market approach of larger competitors.

9.23 The grocery retailer that services a general mass customer base, reported that most of its online customers do their bulk grocery shopping online, and then use the physical stores for purchasing ready meals or off-the-counter special offers.

9.24 In terms of product offering and online pricing, most companies generally match their online offering with what is available in their stores. A small interiors retailer offers about 75% of its furniture products available online, and at the same price as in store; only with smaller products are customers charged the extra postage and packaging. The online offering of the grocery chain also

includes everything that is available in its stores, and it is now exploring an additional online offering of non-food brands and products too large for store shelves, to be delivered locally. The only exception among the businesses interviewed was a luxury department store, whose e-commerce operation is still in its infancy and only includes women's beauty products and fashion accessories, but is planning to launch more products in the future.

9.25   Addressing some of the shortcomings of the infrastructure bottlenecks that haunted the first wave of online experiments in the late 90s, employers reported that the main strategic issue is to ensure an appropriate distribution network, rather than just having a fancy website. One major retailer now distributes online through its own stores and through a third party distributor. It is common for most retailers to use the Royal Mail or other postal services for smaller, irregular volumes of online merchandise.

9.26   Online retailers in general have to grapple with a series of strategic obstacles related to many customers still preferring the traditional in-store shopping experience. Being able to see the product and browse more easily, and the spontaneity and instant gratification of holding a new purchase in their hands remains important for some. Smaller retailers in particular have to fend off fierce competition from their larger counterparts, who can offer cheaper prices to a mass online market due to their bulk stock purchasing power, and who also offer more facilities in their stores, such as a crèche or a coffee shop, which add to the customer experience.

> *"As an independent supplier, we cannot compete on price. We have to find a niche, specialising in certain sections of the market, offering new products that the chains don't sell."*
>
> ***Small electrical retailer***

9.27   To counteract these obstacles and to enhance the online shopping experience, some retailers feel that the innovation lies in IT and web design features, such as using a zoom/rotate tool to view products close up. Other possibilities include virtual changing rooms, or wandering around in a virtual store while chatting to friends.

> *"We constantly have to innovate and create shopping environments that appeal to the online customer, and online communities similar to Facebook, so we look to be like a friend offering advice on fashion"*
>
> ***Medium sized exclusive online fashion retailer***

Opportunities and threats

9.28   Most retailers emphasised the communication and advertising opportunities that e-commerce offers to their efforts in advancing their brand image (although it is essential to maintain positive brand images across channels) and targeting customers with bespoke messages. Online trading also represents a new source of valuable insights into customer behaviour and preferences that can be generated quickly and at a low cost from the recorded online transactions.

9.29   Many retailers voiced concerns about increased competition and more aggressive pricing as customers are now able to compare products online within seconds. There is also a worry about potential cannibalisation of their own in-store sales through online trading.

9.30   The costs and management of transport infrastructure and distribution logistics were mentioned as other major challenges, whether complex logistics for the larger retailers or simply an increase in courier services for the smaller ones.

9.31   Overall, internet security remains one of the most frequently mentioned threats to e-commerce.

9.32   One small retailer appeared cautious about future opportunities regarding its own e-commerce operations, and has only limited ambitions which include adding links on suppliers' websites to

increase traffic to their website. The greatest opportunity for these retailers lies in the targeted e-mail communications that web-based customer profiling offers.

9.33 Similarly, by exploiting new search engine optimisation tools and pay-per-click campaigns, small retailers can compete for website traffic with larger employers in a way that has not been possible historically (in terms of having a High Street presence or traditional advertising capabilities).

9.34 Some large employers see increased means of communication and public relations as major opportunities for online trading, e.g. e-invites for events, newsletters and product information.

> *"The website is a great way for us of gathering customer e-mail and mobile phone numbers. Being able to contact customers by e-mail or text, we're looking at somewhere between 5p and 10p per person, whereas if we were to contact people with old fashioned mail it would be 29p postage plus the envelope and printing costs – it's a massive cost saving for us!"*
>
> ***Leisure and shopping centre***

9.35 In addition to this, creating local relationships by linking smaller-sized local branches through the e-commerce strategy and mobilising their brand ethos is one of the key opportunities identified by a large grocery retailer. Delivery in local areas is not administered through central warehouses and local produce can be marketed more quickly to the consumer, so there is a brand linkage within the community which the retailer looks to reproduce online.

9.36 Considering potential threats stemming from e-commerce, around half of our interviewed companies were very confident and did not perceive any negative consequences at all. However, some retailers did report a worry about internet security, including viruses, ID fraud and also data protection issues that could have a negative impact on their business.

9.37 The main threat for smaller or pure-play retailers comes from shops with a very established High Street brands which are now trading online and use their purchasing power to undercut independents.

> *"The market is now more mature. Supermarkets are using their purchasing power and have fewer overhead costs, so they can cross-subsidise their online offering. The bigger High Street stores will still be there in the future, but there are bound to be casualties among the smaller businesses.*
>
> ***Small electrical retailer***
>
> *"There is a monopoly of larger retailers; they are squeezing out the smaller players and it gives the customer less choice."*
>
> ***Small electrical retailer***

9.38 At the same time, one pure-play fashion retailer has responded to this threat by **considering** the opportunities for capturing customer traffic on the High Street, for example by putting internet pods in its shops for customers to order online while they are out shopping. This approach has been successfully followed by large High Street names such as Argos who have are increased the number of self-service terminals they offer due to the major success, availability, uptime and usage of the current kiosks.[7]

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[7] Retail Technology Newscast, 17th August 2007: *More Argos kiosks to be rolled out across existing stores*

Adapting to online trading

9.39   As retailers introduce and expand their e-commerce operations, they need to ensure that appropriate human resources and organisational structures are in place to meet the challenges posed by the need to introduce ever more complex marketing and distribution systems. Our research indicates a tendency for retailers to adapt gradually to the online business and to develop their existing workforce through targeted training, rather than acquiring skills through drastic recruitment drives.

9.40   For e-commerce start-ups, the new demands of doing business online mean hiring their staff according to certain e-commerce requirements from the outset. Smaller retailers appear not to make any substantial changes in their workforce, but hire external help on an ad-hoc basis whenever needed.

9.41   The department store with its very limited online offering said that e-commerce has not affected staff levels or make-up at all. Sales growth and changing consumer taste for luxury goods meant that more staff had to be hired and trained for certain specialist areas, e.g. wine courses and others requiring specific product knowledge. Employers in the electrical sub-sector maintained that the core skills remain the same even after introducing an online channel, with only a limited degree of necessary recruitment or upskilling to be done.

9.42   Some retailers see the introduction of e-commerce as a further step in the technological rationalisation of work processes, which may imply a reduction in the numbers of certain types of staff.

> *"We are trying to reduce the workforce and use technology to improve communication and information. This is one of the negative impacts of online trading, as the overall need for staff will definitely decrease in the future."*
>
> ***Small electrical retailer***

9.43   Larger retailers, such as the grocery chain, report that on a central, head office level there has certainly been more recruitment of staff into online trading related functions and more demand for analytical roles dealing with complex online variables and a wealth of data, from consumer purchasing behaviour to distribution logistics. The grocery retailer specified that on a store management level there was little change, as the company incorporated the online role into the existing store model. On an operational level there was more demand for product pickers in the warehouses and delivery drivers, the latter tending to be older workers who were willing to do part-time work and combine driving with doing other tasks in the branch.

9.44   Just like the extent of human resources adjustment, most retailers reported only a very limited degree of organisational change that resulted from the introduction of online trading. This is mostly due to the slow and gradual implementation of e-commerce that did not require any significant restructuring.

9.45   Adapting to online trading has not been difficult at all for the department store, which at the moment uses its existing warehouse resources and personnel to operate the online offering without the need to restructure.

9.46   In fact, one pure-play fashion retailer reported having a similar structure to any other High Street clothes retailer, like Topshop, with departments such as IT, HR and Finance being geared to support its central business objectives and operations.

9.47   While online trading appears not to have caused any major restructuring among the retail companies we interviewed, there may be some necessary changes within existing IT teams in the future as

more selections are being put online. This may mean simply expanding IT capabilities for other companies.

9.48   The minimal volume of online sales for some retailers means that the expenditure and resources they commit to their online sales and services offering are still quite moderate, and no new teams have been set up as yet.

9.49   By contrast, a couple of retailers with a more established online offering have recently introduced a new e-commerce department to oversee online operations as part of the core business strategy and growth objectives.

9.50   It was common for retailers to experience minor complications in the setting-up phase of their e-commerce operations, which mostly concerned technical aspects of the online business, such as setting up their websites and administering online payments and order shipments.

9.51   The grocery retailer started its online operations ten years ago and it grew its e-commerce business in a piecemeal fashion, which allowed the company to experiment with different delivery models (central in-house, local store-based delivery, and external warehouse-based distribution). As a consequence, it was able to train and prepare most of its own staff along this process, with no complications reported during the setting up phase.

9.52   By now, even the small furniture retailer and the luxury department store, which faced some difficulties during the initial implementation of their e-commerce ventures, appear very confident about the running and maintenance of their online operations.

Current and future skills needs

9.53   Designing and rolling out e-commerce schemes has increased the demand for appropriate technical personnel and skills in the first place, but online trading has also placed new requirements on the marketing and customer service aspects of many retail businesses. Overall, most retailers felt that these skills were relatively easy to acquire – either through in-house training or external recruitment – but staff retention can be difficult for certain technical occupations.

"It's all about retail, even if it's selling online. There may be bigger differences around the terminology, the technicalities and online usability, and you have to understand the online customer journey, but a lot of skills are the same; the merchandising skills are the same online as you would have in a store"

9.54   Regarding the technical skills required for the online operations of the larger retailers, the **main specialist skills needed are currently IT-related,** and can be grouped into four broad categories:

- Design of the web portal as the online 'shop window' of the retailer, including web-based graphic design, user features, web advertising, and the use of programming languages e.g. java, web logic, web spheres

- Front line administration of online customer transactions, including secure payments, electronic billing, cancellations and refunds; also related to this theme is the design of online customer service and on-demand assistance templates

- Logistics and distribution, including back end systems, online stock management, warehouse administration, just-in-time delivery, demand predictions, and central purchasing

- Data analysis, including complex online data mining and statistical analysis, creating business intelligence from purchasing patterns, and trends in customer preferences

9.55 Retailing companies reported that generic IT skills, such as managing operating systems or designing systems architecture, continue to be in high demand. Irrespective of the impact of online trading, there is an overall trend across all occupational groups for staff to become more and more computer literate and master the most basic IT skills.

9.56 Most of the new tasks and processes associated with online trading could be covered by existing teams within the retailers interviewed. Overall, there were no extraordinary additions or changes to the existing workforce. Most retailers were able to train their established teams to meet the emerging online skills needs through bespoke training programmes, including courses in web design and online data handling.

9.57 That said, on a more strategic level, retailers reported some targeted recruitment of new staff into the head offices for a limited number of new positions to oversee the online marketing strategy and customer service aspects of their e-commerce operations.

9.58 Marketing and retail experts were among the key positions that the online fashion retailers sought to fill in a recent recruitment drive. This was driven by the imperative to innovate their website content, and make it more interactive and appealing to customers. Advanced graphic interfaces also imply that the company increasingly uses fashion designers, hair and make up stylists and photographers to improve the photos that are on display on their website.

9.59 In general, retailers did not have great difficulties in finding appropriate candidates for any of their vacancies. However, the bigger challenge appeared to be staff retention, particularly with regards to their technical specialists. Some large retailers reported that it can be difficult to keep highly qualified staff, as *"they are the type who want to be at the cutting edge of technology",* indicating that staff turnover may be higher amongst this well trained and more mobile section of the workforce.

In-house or outsource?

9.60 The research investigated the extent to which retailers tended to build their online capabilities in-house or hire external consultants as a way to buy in skills and resources to sustain their e-commerce operations. Outsourcing is widely practised in many industry sectors, delivering solid economic benefits to businesses, but the moving of key functions and processes to lower cost countries will have an impact on the domestic workforce and the skills that employers demand. It is thought that outsourcing and increasing automation of processes in retail may lead to a reduction of overall employment levels and to a shift towards more precarious employment (low paid, part-time, temporary) for the less qualified workforce.

9.61 Against this background, the research found that the use of external consultants amongst the retailers we interviewed was actually rather limited and appeared to happen only sporadically, whenever a specific or fast turn-around requirement arose. Most companies seem to prefer to grow their talent in-house, and reported only minimal changes to their existing workforce. However, all but one retailer interviewed did hire external help from time to time, particularly relating to IT and research tasks.

- The biggest area of work for external consultants is providing technical expertise and know-how, for example in designing IT architecture or setting up web sites. Some large retailers pay an external company to maintain a website and outsource all IT operations.

- One large retailer had its central IT operations outsourced to a large IT services provider for some time, but now runs all the systems itself.

- Freelancers or consultants are now hired by retailers with an established online offering, mainly to perform research into the online market or for specific projects that look into how the online market works internationally and how companies work in different countries. Consultants are brought in to help with data analysis and generating business intelligence, as well as occasional consulting on product development.

9.62   Efficiency gains achieved through increased automation of processes can have negative effects on staff levels internally, but automation may also reduce the extent of work that has historically been outsourced by retailers. For example, the grocery retailer reported that one of the advantages of online trading is that it provides a more efficient and automatic measure of shelf availability of products. Before going online it had to create complex and costly measures of what is available on the shelves including mystery shopping exercises conducted by independent agencies. Now that the retailer has sophisticated online data tools at its disposal many of these tasks are done automatically.

Future skills needs

9.63   Turning to future skills demand, online trading seems to impact mostly on the specialised technical or 'hard' skills, to meet the demands of constantly evolving internet technologies.

9.64   On the whole, pure-play retailers emphasised a similar mix of generic and job-specific skills that appear to be in demand by traditional retailers and indeed other industry sectors in the UK.

9.65   Considering **generic, non-technical skills** first, most retailers pointed out the imperative of basic commercial awareness and business competencies. Typically, respondents said that the crucial skills for the future will be very similar to the current ones, namely customer engagement, analytical competencies, communication skills and selling ability.

> *"The biggest point is communication skills, confidence and a can-do attitude, with basic computer skills to be confident on the in house systems."*
>
> ***Luxury department store***

9.66   **Management skills** (fast decision-making, negotiating and influencing effectively, managing fast paced change) combined with business acumen and people relationship skills were also highlighted.

9.67   For pure-play businesses, traditional **customer services skills** appear to be less in demand, as most customer communication is done via e-mail and runs from pre-established templates. However, there is a need for increased **written** rather than **oral** communication skills.

9.68   As internet technologies continue to evolve, it is important for retailers to update the **technical skill-sets** of their workforce. Major technical skills in demand will be linked to occupations such as IT programmers, database administrators, infrastructure architects, and PC and phone network specialists (traditionally the domain of the e-skills UK workforce and historically outsourced by retailers).

9.69   However, technically trained IT specialists will need to be in tune with the overall business objectives. Some retailers emphasised that the need to ensure speed to market of new products and services demands that future candidates are, not only technically proficient, but also aware of the overall online market trends and the specific products and customers of the company.

10   People 1ˢᵗ

Overview of sector and profile of interviews achieved

10.1   People 1ˢᵗ is the Sector Skills Council for the hospitality, leisure, travel and tourism industries. The type of businesses which fall within this sector range from small businesses with a localised market e.g. a bar or restaurant to large-scale multinational companies e.g. gambling or hotel chains. Most of the companies in the sector are established offline businesses which have added an online channel, although there is a significant minority of recently established pure play companies.

10.2   For the purposes of this research, we have considered companies within the sector under four sub-sectors: (1) hotels and accommodation providers, (2) travel, (3) events and (4) gambling. A substantial amount of the commentary in this section was based upon desk research, with depth and further understanding supplied by a range of employers across the first three of the sub-sectors above who agreed to be interviewed. We were, unfortunately, unable to secure interviews with any gambling organisations.

10.3   A large European online travel company and the Remote Gambling Association were interviewed as 'experts' for this sector.

10.4   In the accommodation sub sector we spoke to two small-sized hotels/restaurants which operate in both national and local markets, along with a large hotel chain with over 5,000 employees. Online trading for these employers was relatively limited - i.e. it was only possible to make bookings online.

10.5   In the travel sub-sector we spoke to a traditional, large-scale holiday coach touring company with 3,000 employees, a micro-sized coach touring company and a micro-sized motorcycle touring company. We also spoke to a small overseas property development company (which dealt in properties for holiday lets). There was evidence of stretch in the online offerings of the sub sector, which included products such as travel insurance (which was not offered offline).

10.6   In the attractions and events sub-sector we spoke to an optical illusion exhibition, a mobile disco disc jockey (both of whom were sole proprietors) and an industrial heritage visitor attraction site. The online offering of these businesses was relatively limited, being largely restricted to a marketing / information function.

10.7   All businesses surveyed were established offline before they began to trade online, and continue to trade via other channels. The majority operate only in the UK marketplace, although small firms such as the coach tour operator and the industrial heritage site have ventured into trade with the international market since going online.

Growth in online trading

10.8   Online trading within the sector has seen rapid growth over recent years, with the travel sector in particular accounting for a very high proportion of all online sales in the UK. ABTA estimates that 20% of package holidays are bought online, and this is a continually increasing proportion of the market. There is particular growth in the sector in the budget hotel market, and a significant proportion of trade for this sub-sector is conducted online (one of our businesses spoke about 80% of bookings for the budget hotel market being conducted online).

10.9   The gambling industry has arrived at its current trading position from practically nothing at the turn of the millennia. Gaming and gambling online trading is still regarded as a relatively untapped market but continuously growing, with this growth facilitated by improved technology and faster broadband access; industry experts predicted that profits will grow by 20% each year for the next five years.

10.10   In the survey sample, it was clear that the online channel has become integral for many businesses (with one tour provider describing e-commerce as the lifeline of the business). However not all firms in the sector had signed up to the online revolution, whether because the (perceived) nature of their offer worked against a move online or because of a lack of resources or buy-in to e-commerce.

10.11   Many products and services offered in the sector are generally a luxury purchased by customers on an occasional basis and as such are threatened by impending recession (although it is worth noting that the budget side of the sector believe a recession would actually benefit them). Notwithstanding recessionary forces, there is perceived to be considerable capacity for further expansion. It was particularly noted that financial concerns over transacting online had decreased considerably, removing one of the key potential obstacles to new and increased growth. Similarly, new technological advances (faster broadband) have transformed both the way in which companies in the sector sell their offer online and the way in which customers buy it; it has become possible for customers to download videos of hotels, restaurants or other destinations and/or to take virtual tours, where before they would have needed to register to receive an offline video / DVD brochure (i.e. a slower process, with far greater cost implications).

10.12   In terms of tourism and guided tours, a key impact of online trading is that it makes it much easier to market to overseas customers.

10.13   Some companies in the sector have added a website as a reactive measure, feeling that they needed to do so to stay abreast of the competition, but without really thinking what the website could do for them or how it might fit into existing strategies and practices.

10.14   For some companies, the scale of their operations is such as to limit the potential for online expansion. For example, the family-run hotel and restaurant has a limited number of beds and a limited number of covers in the restaurant. The business has a loyal (local) client base for the restaurant and is happy to continue to serve this market without stretching to new markets. Indeed, there was a perception that in appealing to new markets, there was a risk of alienating existing customers.

10.15   There remain some corners of the market which are expected to remain impervious to the penetration of online trading. Some companies perceived that the nature of their offer, which was geared towards niche experiences, was such that the customers would always need an element of "real-world" (offline) contact (face-to-face or by telephone) to reassure them that their requirements were understood and would be met. For instance, expanding into some niche markets can prove tricky, particularly where the customer can have very specific wants and they may be spending a substantial amount of money. Whilst some niche travel agents have websites, such as backpacker agent STA Travel, few holidays are thought to be booked online as the nature of the trip means that customers often prefer to be advised by someone in person. Smaller businesses such as tour operators and hoteliers, where customers will eventually come into contact with staff when 'consuming' their purchased product, have also cited fear of losing the 'personal touch' and communicating the feel of a small family business as a downside of online trading.

> "The internet doesn't lend itself at the moment to niche areas that well, or expert areas. So a completely tailor made, luxury holiday probably won't happen on the internet for a long time, because a lot of personal service is required."
>
> **Hospitality and travel sub sector, 250+**

10.16   Among the (very small) firms interviewed in the attractions and events sub sector, e-commerce was in its infancy and limited to particular products and services. Some small successes had been achieved through online trading which the companies hoped to build on further but elsewhere e.g. the optical illusion exhibition there was much less positivity about online trading which was perceived not to offer many opportunities beyond a website informing (potential) customers about the services on offer.

10.17   Size has a large impact on business's online activities and abilities to maximise the potential of e-commerce. For instance, the one small hotelier said that less than 1% of its business is done online, whereas the large hotel chain conducts 80% of its trade online, and has grown by 50% in the past five years. At the same time, some of the smaller companies interviewed were among the most heavily geared to online trading; of the small coach tour operator, small property developer and micro-sized motorcycle tour operator, 90%, 75% and 60% of their trade is conducted online respectively.

10.18   The profile of a company can have an effect the success of its e-commerce. It is arguable that having a recognisable brand makes customers more likely to trade online with such a company; for instance - in the gambling sub-sector – it is thought less likely that a customer would place a bet with a company whose brand they did not recognise and for a new business to compete on the same level as an established online gambling website now would be very difficult. Furthermore, if a company caters for a niche market but is not high profile on a general level (such as the industrial heritage site which offers products of interest to salt mining enthusiasts) there can be a similar impact.

Opportunities and threats

10.1   Online trading has helped organisations to experiment with new products and to offer existing products and services to new markets.

10.2   For instance, in the online gambling industry games can be continuously adapted and new ones introduced; if a game proves unpopular, it can instantly be removed from the website and a different, more profitable one can take its place, with very little time and money lost.

"I think the internet has helped me with [selling new products], because I wouldn't have felt comfortable just sticking them in a brochure…the internet has allowed me to try out new ideas."

Employer, motorbike tour operator, 1-49

10.3   T   tal photos and videos of events on the internet – which he could not have done if the business was not online.

10.4   Businesses which may have traditionally been perceived by customers as having a particular clientele have been able to promote themselves to a broader market. For instance, the large tour operator which previously targeted its offer at the retirement market is now finding an increasing proportion of its clients in the 45 – 60 year old bracket, and is also appealing more to business people since it added its online arm.

10.5   In the gambling sub-sector, women make up a considerably larger proportion of the online customer base than they do of the offline market. It is thought that this is because women often find traditional gambling venues such as bookmakers and casinos to be unattractive, intimidating venues. (From a different angle, the smoking ban is reported to have led other gamblers to have abandoned betting shops and casinos for online alternatives.)

10.6   As there is international access to all websites, online trading has opened up the global market to UK-based businesses. Such is the impact of this that some UK gambling websites have up to 10 language options.

10.7   This internationalisation has also impacted heavily on all other parts of the sector. This seems to impact the larger, more recognisable brands such as Lastminute.com or the large hotel chain. However, smaller businesses – particularly those which offer a niche product - have also been able to benefit from accessing international markets. The industrial heritage site which has been selling specialist products on its online store since its set-up 18 months ago has sold some of these to customers as far afield as Japan and the USA, markets which would have been well outside its reach before it launched its website.

10.8   Online trading means that there is scope to not only reach new customers but to reach all customers more frequently and therefore increase their profit margins. That websites can be accessed 24 hours a day means that customers are able to purchase a product at any time, and may perhaps purchase this product more often because it is of unlimited availability.

10.9   Online trading can help to improve staff and business capacity, particularly in smaller businesses: for instance, a hotel booking being made online means that a receptionist does not need to take a phone call to do this, therefore saving time. However there is concern that, whilst investing in online technology could streamline businesses and cut overhead costs, it is not as inexpensive as it may initially have been thought and requires sophisticated technological knowledge:

> "The beauty of the internet is that it is easy to get to market, but it is not as cheap as everyone thinks, because clearly everybody thinks that I will just stick a website up there, the hosting is nothing but actually to generate traffic, to get the right customers to your website is not a cheap business at all, and if you want to build anything sophisticated then the costs start mounting."
>
> **Hospitality and travel sub sector, 250+**

10.10   [text obscured] be especially difficult, because the cost is such that its success relies on the skills, knowledge and time capacity of one individual, who is frequently a novice when it comes to IT and websites. If not done properly, despite being expensive and time-consuming, it can prove worthless.

10.11   The implications of poor technology – such as slow processing time or errors on pages – is that quite often, according to respondents, customers will not return to the company (either on or offline) and will instead visit a competitor's website.

10.12   Improved online security has removed online fraud as an obstacle to successful online trading. Interestingly, all felt that online fraud is now an issue of the past, and customers are no longer deterred by security concerns from purchasing online. Gambling websites have systems in place which are as sophisticated as those used by online banking or financial services firms. Such an improvement in online security has served to boost consumer confidence in making more transactions.

10.13   It is questionable whether online trading has levelled the playing field for smaller businesses within the sector. A lack of brand loyalty is a feature of the online economy within the sector. The nature of

shopping on the internet means that customers are very quickly able to price check the offers made by a number of players, with the cheapest option usually winning out. Bigger companies can afford to offer price guarantees that smaller companies cannot match.

10.14   Some respondents reported that it is increasingly common for their rivals to undercut their prices or imitate their products in turn:

> "I find new entrants into the market place merely repeating agendas [for tours] that I was doing 4, 5, 6 years ago, and branding them as their own tours. I get frustrated by that…but [if I was a competitor] it's obviously easier to go where someone else has been before, knowing that it will probably work."
>
> **Employer, motorcycle tour operator, 1-49**

10.15   be unfoundedly critical and damaging to the reputation of businesses, particularly for businesses which are small and whose brands are not widely recognisable.

10.16   Another challenge for small businesses competing with larger rivals is that they find it impossible to meet the level of technological sophistication that bigger rivals can achieve, who can ensure that their website is continuously updated, fast and easy to negotiate. This was highlighted as a particular concern for small hotel and touring businesses.

10.17   Regulations can be something of a minefield for companies; whilst it can be straightforward for companies to place links on their website or take a payment from a customer, this can be ridden with complications. This is a particular issue for the online gaming and gambling industries when operating in the international market. For example, if a UK-registered site took a bet from a US citizen based in the USA, it would be breaking US law. Whilst it would be legal in the UK to take the bet, because of the extra-territorial application of their laws the UK site would be prosecuted by US authorities. Regulations can also be problematic for tour operators which are not registered with the FSA and want to have travel insurance links on their website. This signals a need for businesses to keep informed of regulations and what they can legally do online.

Adapting to online trading

10.18   To varying extents, adjusting to online trading has required a change in the workforce for all companies we spoke to. For larger companies where their online arm was reasonably established and they offered most of their offline offerings online, new roles and (in some cases) teams have been established, but at the other end of the spectrum, smaller businesses and in particular sole proprietorships have not necessarily altered their workforce in size, but have incorporated the necessary skills required for dealing with online trading into one, existing job role.

10.19   In addition to business size, changes to a company's workforce are also largely dependant on the stage of the company's current online offering. For instance, many micro-sized companies such as the optical illusion exhibition do not offer booking facilities online, and only sell a few products online. In contrast, a small holiday tour operator conducts 90% of its business online and offers more products online than offline. Hence the difference between these offerings is a marked and this determines the skills set required by company staff.

10.20   In terms of new roles that are required as a result of online trading, these centred on IT and web specialisms. For instance, a rapidly growing holiday tour operator has identified the need to create a specialist role which will manage the e-commerce side of the business, and has recently recruited staff in IT and web roles, and related roles in marketing and e-finance. However, due to the recent growth in this business through e-commerce, this has also meant that an increase in staff across the

board has been required in order to meet customers' needs; in addition to the recruitment of staff with technical skills, staff with non-technical skills (such as administrative officers and tour guides) have also been employed.

10.21   Whilst there has been a demand for new skills and roles for some businesses, conversely there has been a shedding of staff with a particular skill set which is no longer required to the same extent as prior to the introduction of online trading. For instance, the large hotel chain that we spoke to has experienced a 50% growth in the last three years, and now 80% of its business is conducted online. As a result, there has been a decline in the number of call centre booking staff (some of whom will have been retrained to deal with online queries instead). Although not explicitly mentioned by respondents, this implies that the importance of good literacy skills amongst this type of staff would increase.

10.22   In terms of restructuring as a result of online trading, this has not been required by businesses where e-commerce is a lesser used channel than other offline means. However, in companies such as the large-scale coach touring company where online trading has experienced rapid growth, restructuring has been essential. In this case, this has involved two measures: the shuffling of existing staff and recruitment of new staff to form a specific IT/web department, and the merging of call centre, marketing and product staff into one team. The benefits of the latter is that marketing, product and call centre staff can work together and across off and online trading channels; cross channel working and training staff to do this is a common feature of company restructuring to cope with online trading.

10.23   It is worth pointing out that, whilst companies are moving into online trading from an offline position and restructuring accordingly, there have been very few transitions for pure play online businesses to establish an offline channel. This is particularly true for companies such as Lastminute.com, an established online brand with strong brand recognition which is reluctant to move into offline trading because they do not have the knowledge or expertise, and it would require a significant change in infrastructure. Interestingly though, Lastminute.com do have High Street, offline stores elsewhere in Europe.

10.24   A complication for some businesses in adopting an online trading strategy can be that growth of their online trade can reach such a volume that it is impossible for their current IT system to cope. This is a problem currently faced by large-scale coach touring company, whose IT system is struggling to deal with the number of bookings being made on its website. A balance of ensuring that your company's IT system can cope with an increase in online trade, but without investing too much time and money in developing the IT system without knowing the demand for its use is there, is a difficult one to strike, and deters sole proprietorships and micro-sized businesses from expanding their online offering (such as the optical illusion exhibitor who has an online store, but does not wish to allow bookings to be made online).

10.25   Several respondents commented on how the online customers' outlook differs from the offline customer. That e-commerce can be experienced 24 hours a day has required companies to ensure customers' needs are met throughout the day, not just on a 'nine-to-five' basis. This is particularly the case for large companies which are pure play online and whose products are consumed online; gaming and gambling websites often have call centres which are permanently staffed.

10.26   Online customers also want things to happen instantaneously and increasingly expect websites to be at the peak of technological advances. The introduction by large companies of new generation web 2.0 sites, which fuse IT and interactive media skills, have heightened customers expectations of how a website should look and perform.

10.27   This shift in customer expectations has placed new demands on companies, and has meant that a high standard of technology and quality of customer service is required from companies and it is this which is often a barrier to some companies (particularly sole proprietorships), who do not feel they

have the means to rise to this challenge. If expensive technology is bought in, it needs to be maintained, and small companies said they were concerned about the resource implications of this.

Current and future skills needs

10.28 Of the employers we spoke to, it seems that only large scale companies, or small companies whose businesses have seen rapid online growth, have felt it necessary to recruit new staff to grow the online aspect of the business. As mentioned previously, the type of skills required to do this is dependent upon their current stage of online offering, and smaller companies (sole proprietorships and small companies) generally built the e-commerce role into an existing one.

10.29 The rapid growth of some sub sectors has resulted in a severe shortage of sophisticated technical skills for very large companies. The main skills that are needed include computer programming, data management, web and graphic design and security, and for companies with advance web 2.0 websites, interactive media. Where there are individuals with certain desirable skill sets, there are so few that they are very expensive to employ (as are the recruiters who identify them) and can to some extent 'name their price'. This means that only certain companies can afford them, resulting in less profitable or smaller-sized companies being priced out of the market.

10.30 Due to a shortage in certain skills, businesses have been forced to look further afield to plug specific technical skills gaps. It has been reported that it is not uncommon for employees to be 'poached' by one sector from another. When companies are seeking to identify new staff, their ability to develop successful e-commerce take precedence over their sector background. Furthermore, some businesses are looking overseas to fill these skills gaps. In the gambling and gaming industry, the supply of technical skills has declined to such an extent that one company has set up a computer programming academy in Estonia, where they train Estonian graduates. This means that the company will then be equipped with the necessary skills it requires, but this also means that skills are being sought and developed outside the UK workforce.

10.31 In large companies, or small companies whose businesses have seen rapid online growth, individuals are needed who are qualified and experienced enough to manage internal IT and web operations, and commission external IT work. These are particularly important to companies which are in the process of developing an IT department.

10.32 Where new skills have been needed for existing job roles (which has happened to some roles in all employers we spoke to), existing staff have not been made redundant, but retrained. Larger companies such as the large coach tour operator were able to retrain staff in-house via their dedicated IT department, but much smaller companies (such as the mobile disco disc jockey) have been able to receive training from their IT support provider. The attitude of business' that we spoke to is that their staff are valued, and merely in need of a 'skills top-up' as their whole job description has not changed.

10.33 In terms of non-technical skills, respondents generally agreed that online marketing and, to a lesser extent, project management skills are not in such short supply as particular technical skills.

10.34 A challenge for companies which have added an online channel to their existing offline offering is ensuring their non-technical staff can work across all channels. As mentioned previously, the large-scale coach touring company had successfully merged call centre, product and marketing staff into one team, in order that they work across channels, including online, telephone, postal and face-to-face. In addition, for some traditional offline roles such as customer service, staff now require different training than they previously needed. For instance, whilst traditionally they may have dealt with queries around payments, now they also need to be trained to deal with more specific IT queries like, "I was playing and the screen froze, what happened?" Hence companies need to ensure their existing staff can work across all channels successfully.

10.35   Due to the globalisation of some online markets, there is an increasing emphasis on staff who can speak languages other than English, particularly in customer service roles. For example, online UK gambling companies' call centres must be staffed by individuals who can speak a foreign language.

10.36   Freelancers and consultants – mainly of the technical variety – are required by all companies to some extent (including the large hotel chain which established its website in the 1990s). Across the board, it seems true that when companies initially set up an online channel, the initial work – such as building and developing the website – is outsourced by all businesses. After this initial set up, however, the majority of businesses then manage the website and e-commerce internally. However, sole proprietorships, micro or some small companies generally employ an IT support company to provide IT maintenance and support.

10.37   The level of outsourced IT consultancy which is required is largely dependant on the size and online offering that a business has. For instance, Lastminute.com requires some high level computer programmers when it wants to make complex changes to its vast website, or when the large coach holiday operator wants to buy in very specialist online marketing expertise, they may recruit a consultant. However, there have been some instances where micro-sized companies have also bought in the skills of freelancers, such as the motorbike tour operator who employed the skills of a Search Engine Optimiser (SEO) to increase the hits his website achieved.

10.38   Regarding the future skills needs of the sector, businesses will need to maintain existing skills in the workforce e.g. customer services, but also develop new ones, like web development and online marketing. Whilst non technical skills such as online marketing are becoming more commonplace, some technical skills such as those needed by computer programmers are still in short supply, suggesting that steps need to be taken to encourage the number of graduates that enter the field to increase.

10.39   Heightened customer expectations of websites – perpetuated by the introduction of 2.0 websites – has caused respondents across the board to believe that web designers and developers and interactive media specialists will face increasing pressure to produce increasingly interactive, high performing websites with additional features. For businesses whose websites are not yet at this advanced stage, the task will be to improve the existing site's functionality and navigation.

10.40   For businesses who have complex websites and make a large number of financial transactions though them, such as in the gaming and gambling sub sector, the challenge may come when businesses merge or are taken over, which will require a merging of their online systems. It is likely that systems will not be compatible, and individuals with web design, computer programming, online finance, data management and security skills will be required to work together to overcome such a difficulty.

10.41   What has become particularly evident throughout the People 1st research is that, even with large companies, there is (or has been) a lack of knowledge of IT, skills needed and the benefits of online trading. It seems that being knowledgeable about online trading and how to optimise its potential needs to be recognised as a skill in itself.

11 GoSkills

Overview of sector and profile of interviews achieved

11.1 Go Skills SSC covers employers in the following key sub-sectors:

- Taxi and private hire

- Bus industry

- Coach industry

- Rail operators

- Tram operators

- Aviation

11.2 The research achieved a good spread of interviews by sub-sector, size and geographical reach, including:

- Two interviews with two of the largest London-based Taxi Firms, who both offer business to business (B2B) and business to customer (B2C) services and who employ fewer than 500 people (excluding drivers).

- Several interviews with companies in the coach and bus sub-sectors, ranging from small local coach companies providing a number of services within their local area, to large nationally operating companies providing a number of bus and coach routes throughout the UK.

- One interview was conducted with a major rail operator which runs and maintains trains throughout the UK, and also operates a national coach service.

- Within the aviation sub-sector an interview was achieved with one of the largest European airline companies, which operates flights within the UK, Europe and to destinations across the world. Another was conducted with a government funded specialist education institution, established in 2005, which provides further and higher education courses specifically on the aviation industry (originally to a student base drawn from the local area but it is increasingly attracting international students).

General trading conditions

11.3   For the majority of businesses in the sector the market is seen as highly competitive.

11.4   The business of both taxi firms is mainly concentrated in London and both are in direct competition with each other. This is a highly competitive market; licensing legislation has increased the number of private hire firms operating in the market. One of the taxi firms commented *'Instead of three businesses tendering for accounts, there are now twenty three'.*

11.5   In recent years the train operator has increased market share in short distance routes but lost market share for long haul routes. There has been a growth in the rail travel market and increased competition from rail operators.

11.6   The regional coach companies operate within a local, rather than national market, and within their immediate areas these companies face little competition. However, for companies also aiming to provide regional services, the market is highly competitive, particularly during the peak season.

11.7   The market that the nationally operating coach / bus companies operate in is again highly competitive. However, this market has grown within the past three years, despite the rise in fuel costs. One of the bus companies interviewed felt that an increased interest in environmentally friendly travel had resulted in people perceiving buses as an environmentally friendly way to travel.

11.8   The airline sector is a highly competitive market, due to the global nature of the business. Full service airlines compete with other such airlines for long haul flights. However within the short haul air travel market, 'no-frills' airlines such as Easyjet and Ryanair increasingly dominate the market. These 'no-frills' airlines, set up within the last decade, have experienced rapid growth through offering lower priced tickets than the 'traditional' airlines. In doing so they have had a huge impact on the aviation market, as the full service airlines have been forced to reduce their ticket prices. The decrease in ticket prices within the aviation market has, in turn, led to an increase in customer numbers and to the number of airline routes increasing.

Nature of online growth to date

11.9   All sub-sectors have experienced some growth in their e-commerce function in the last three years, although the extent of the e-commerce offering to date varies. The companies that operate nationally or internationally have online ticket retailing in place, whereas most regional / local coach companies interviewed do not have the facilities for customers to purchase tickets via their website. All expect their online services to continue to expand steadily.

11.10   Both taxi firms have had an online element for the past five years. For both firms their online element is in addition to the offline element of their business (customer booking via call-centre). Offline booking is still the preferred option for the majority of customers. The ease of using a telephone booking system is, therefore, a barrier to many customers using the online system. One of the firms commented: *'It is so quick and easy to book over the phone that it is still the preferred method unfortunately'.*

11.11   One taxi firm estimated that 3% of their business is done online (5% within their corporate customer segment).The firm aims to increase this to 30%-40%. The other taxi firm estimated that on a daily basis approximately 35% of their bookings were done online and that 30% of their customers had access to their online booking system.

11.12   Amongst the bus and coach firms, one of the regional coach firms has recently introduced an online booking system (in 2007). Customers can either purchase tickets online or offline (through their shop). It estimates that 20% of purchases are done online and 80% offline. The other two local / regional coach firms do not operate these systems. People can e-mail the company, via its website, in order to give details of the booking they wish to make. A member of the sales team will then call the person to give them a quotation.

11.13   The rail operator has been providing online services for seven to eight years and has experienced consistent year on year growth of approximately 10%, with a considerable step up in online ticket sales and predicted continued growth in this area (although the end of a franchise in seven years limits the lifespan of this growth). In order to encourage usage of its online ticket retailing system, this company sells online tickets for a lower price than the equivalent tickets are sold through its call centres or ticket centre.

11.14   The airline company interviewed has the most well developed e-commerce function within the sector. Within the last ten years its online services have moved from the provision of a basic website to online ticket retailing, and a variety of customer services such as checking and specifying flight details to online-check in. Related holiday services, such as hotel information and booking and travel insurance purchasing, are also available via its website. Customer demand, both in terms of ticket purchasing and control over their overall travel experience, has also driven growth within the airline's e-commerce function:

> *'Our customers have been asking us to have more control and having an e-commerce site enables them to have much more control than they would have had ten years ago. We believe that is an important development within the industry as a whole.'*

11.15   The education institution uses its website as a means of marketing itself to attract a wider student base. When the institution was established it was expected that its students would be drawn from the local areas. However, the website has also enabled it to attract international students.

11.16   All sub-sectors use their website as a means of providing customers with service information. Customers of the taxi firms can track their taxi en route to collection. One firm allows customers to access links to affiliate taxi companies both in the UK and abroad. These could be used to arrange taxi collection from destination country airports when on holiday.

11.17   All of the coach firms use their websites as means of providing their customers with information about their services. The level of detail of the information posted on their website differs, ranging from providing bus timetable and coach service information, to providing information on tariffs and details of coach holidays offered.

11.18   The train operator's website provides timetable information, up to date information on the running of services, journey planning information, and information about its trains' onboard facilities.

11.19   In addition to customer information, three of the companies in the sector also provide information services for staff via their website. One of the national coach operators provides an intranet service through which coach drivers can communicate with each other and with management.

11.20   The taxi firms provide the most extensive staff information online. Drivers can review their payment account online and make business improvement suggestions. At one of the taxi firms drivers can review their carbon emissions online (as this firm is working with Carbon Footprint to reduce carbon emissions).

E-commerce and overall business strategy

11.21   All firms stated that e-commerce is central to their business strategy, as it has had a positive impact on both the customer experience and on their ability to grow or develop their business in future.

11.22   All firms felt that their e-commerce service is vital to developing their relationship with customers. Arguably, having an e-commerce function is most crucial to the airline interviewed. As this airline has such a large amount of customers (customers that are distributed throughout the world), it describes its website as 'core' to the company. The airline feels that its website has allowed it to become 'more global' than it was a decade ago:

> *'Whereas ten years ago someone would need to go into a travel agent at particular times of day in a particular geographical location in order to make a booking, now, as long as there is an airport that our company flies to nearby, they can simply go onto the internet and make a booking.'*

11.23   Customer demand had also driven the taxi firms interviewed to develop their e-commerce functions. Although at present offline booking is still the main way in which customers access services offered (especially B2C customers), e-commerce is still an important part of overall business strategy, especially within their B2B/corporate markets.

11.24   The coach and bus companies echoed these views. They also highlighted that e-commerce services are now expected by a highly internet-proficient society.

> *'Now, especially for young people who are used to using the internet, it is something that is taken for granted. It is essential that companies have it.'*

11.25   Local and regional firms within the coach and bus sub-sector felt that developing their e-commerce function would allow them to compete with firms much larger than themselves:

> *'In future the internet will play a key role in competing effectively against our major rivals. The way in which we utilise our e-commerce capabilities will determine how profitable and successful we are.'*

11.26   All firms involved in coach and bus private hire also felt that e-commerce was crucial to the efficient running on a day-to-day basis. One company commented:

> *'When I joined the company, it would usually take a month before an event could be organised. Now, with the advent of e-mails, it takes an afternoon. This has had a knock on effect on the entire organisation and the way in which we operate.'*

11.27   E-commerce was also viewed by the coach and taxi firms as being essential to attracting new business. The taxi firms claimed that their websites attract new customers, and one of the firms interviewed has recently increased its call-centre by 45 staff to accommodate the increased business that the website has attracted (approximately 65%-70% of new business comes through their website).

11.28   One of the taxi firms commented on the importance of the website*: 'When people are looking to tender for a new account, they do look at our website and it does make a difference. Hopefully when they see it they view us as being very professional and that we have large scale aspirations.'* One of the regional firms has attracted customers from America and Canada through its website; this business would not have been won without the presence of the website.

11.29   Although all companies said that they would place considerable emphasis on developing their e-commerce function in the future, almost all also aimed to maintain their other service channels. Within the aviation sub-sector, some airlines provide all of their ticket retailing via their website.

However, the airline interviewed will continue to provide multi-channel service. Although an entirely online offering means that airlines exist that would not have had the capital to operate offline a few years ago, the airline interviewed feels that an entirely online offering would mean that customer service is of a lower quality. It will therefore continue to provide services such as ticket booking through its call centres and through travel agents, to allow customers a choice of channel.

11.30   The smaller regional bus companies felt that the makeup of their current customer base means that they will not move to providing services entirely online. Currently some coach firms use a system where people can make a quote request via the website, in which they specify the details of their booking. A member of the firm's sales team then telephones the enquirer to provide them with a quote. These companies felt that the interaction with potential customers was crucial to them converting enquiries into firm bookings.

11.31   However, one of the national coach companies did envisage that the addition of an online element will be accompanied by the phasing out of an offline channel of business. They feel they will need to introduce an online booking element to their business in the near future. This may also be accompanied by the phasing out of ticket selling shops as online purchasing of tickets becomes more prevalent.

11.32   E-commerce was also felt to be central to business strategy by firms as a means of reducing internal costs (rather than just increasing sales), with online services helping to streamline processes and reduce company costs in some areas. As online booking is 'self-service', staff resources are not taken up by this process. Also, by implementing systems, such as pay information being available to staff online, admin. resources are not taken up posting and processing this information to staff.

Opportunities and threats

11.33   There are three main areas of opportunity that e-commerce presents to employers in the passenger transport sector:

- Growth in terms of geographical reach or market share

- Improvement to the customer experience of services

- Employee services / training opportunities

11.34   In terms of business growth, the taxi firms plan to achieve a greater national and international growth of the business through e-commerce e.g. further integration with affiliated companies to allow customers planning a holiday to access services in their destination country. One of the regional coach firms plans to establish a separate arm of the businesses, and a separate website for the schools market. They will use their contacts and create an integrated service providing journey planning information and additional services to schools.

> *'We are now competing much more directly with bigger coach operators and protecting our market share in a way that we didn't think was possible five years ago.'*

11.35   The airline mentioned that increasing their global spread of customers will be achieved through their e-commerce function, as this has enabled them to *'reach people now in a way that we were unable to do perhaps ten years ago.'*

11.36   Improving the customer experience was also mentioned as an opportunity. For the taxi firms this could entail giving the customer more information e.g. taxi tracking and traffic information and more control of their journey. The coach firms mentioned improving the customer experience by providing more information e.g. bus routes, holiday information.

11.37 Employee related services were also mentioned by the coach and taxi firms. One of the taxi firms is considering adding a driver training section to their website. This will integrate their training manual with opportunity for drivers to view training videos online (drivers only receive a day of training for taxi systems currently). One of the coach firms plans to put driver NVQ test information on their staff website and other documentation such as online job application forms.

11.38 Using online services as a recruitment tool was also mentioned by some businesses as an opportunity presented by e-commerce. Firms aimed to develop their online recruitment further in future. The airline interviewed was the most advanced in terms of its usage of online recruitment and only provides application forms online. One of the taxi firms interviewed is about to undertake its first online recruitment campaign. It will use Monster.co.uk to direct applicants to recruitment information on its website. The bus and coach companies that operate on a national level also saw online recruitment as a much more cost effective way to recruit better candidates. One company stated:

> *'E-commerce has increased the number of people that apply to our business for all sorts of roles because they can apply online, rather than the traditional way of filling out a form. The quality of candidate hasn't improved necessarily though. If the quantity goes up though, then the number of quality candidates must go up as well.'*

11.39 Online marketing opportunities were mentioned as a key opportunity by the smaller regional coach companies, which were less well developed in terms of e-commerce and were not planning to develop this aggressively in the near future. One of the smaller regional coach firms is developing the idea of encouraging clients to use the website to advertise corporate events which they are booking coaches for. The education institution interviewed felt that online marketing was essential to attracting more international students: *'If someone in India wants to learn about air transport, he or she will look to the UK as one of the places to go because we have a fully developed air transport system that is highly sophisticated.'*

11.40 E-commerce was felt to only present a small number of threats to the transport sector. Increased competition was the key threat mentioned by all firms. Due to the internet, more firms are able to compete for business via their websites (both in terms of taking bookings through their website and in terms of using their website as an advertising tool to attract customers).

11.41 Within the airline sub-sector the 'no-frills' airlines such as Easyjet and Ryanair have little or no offline presence and, as such, are able to operate at lower costs than the full-service airlines. These new entrants have increased the competitiveness of the market through providing reduced price tickets, meaning that the full-service airlines have also had to reduce ticket prices. As well as dominating the short-haul market, the no-frills airlines are currently expanding into the long-haul market, increasing the competitiveness of the market still further.

11.42 Internet Search Engines were also mentioned in connection with the threat of general competition on the internet. Although having a website allows a company to attract new customers, if the website is not listed near the top of search results of search engines, this severely decreases the effectiveness of advertising online. One of the regional coach firms commented that: *'If you're looking specifically for us you'll find us, but if you just put in coach hire in Britain we're about 20 pages down.'*

11.43 The need to invest in new e-commerce technology was a potential threat mentioned by both taxi firms and a coach operator. Competitors (especially new entrants to the market) possessing better technology are felt to be a particular threat. This can lead to large investments being necessary to upgrade systems: one taxi firm is about to spend £4.5million on a new booking, dispatch and billing system, so that services will be equal to new entrants to the market.

11.44 A regional coach and holiday company also commented that they had to spend £15K on software when setting up their online booking system. They perceived this as an essential long term

investment, but expensive in the short term as they were still experiencing 'teething problems' with the system. There was felt to be a pressure to keep up to date with e-commerce developments. This was perceived to be more of an issue by the larger national companies interviewed. One such coach company commented: *'Our competitors clearly have access to the same opportunities and not doing it would be a threat.'*

11.45   Security was mentioned as an e-commerce issue that needed to be addressed by the larger nationally and internationally operating companies. As the regional and local companies experience few or no online transactions (due either to a small customer base, or not incorporating an online purchasing element into their website), security was perceived as a lesser issue to these firms. For the nationally and internationally operating firms, putting in place online data protection systems had required a significant investment.

Adapting to online trading

11.46   All of the regional and local coach firms and one of the national coach firms stated that changes to the workforce as a result of adding an online element to their business have been minimal.

11.47   That said, some businesses report having had to take on additional resource. Two of the larger coach firms had recruited additional drivers as a result of the business expanding, and one of the taxi firms had recruited 45 more call centre staff due to the increase in business brought in by the website. A train operator reported that e-commerce has led to a slight increase in the workforce, as well as an increase in part-time working, flexible working hours, and to a temporary increase in IT projects such as website development. There has also been a slight increase in web support within call centres.

11.48   Amongst the other firms, across the sub-sectors, existing staff had been trained to use the new systems. Initially training programmes had to be arranged for taxi firm staff using the booking system. Call centre staff at a rail operator company were trained to provide web support for customers experiencing problems with online services. Across the sub-sectors, staff have become multi-skilled due to the addition of an e-commerce function. One coach firm stated that:

> *'Before we had staff that did ticket sales. We now have staff that are customer experienced focused, with the idea that they can sell the customer a ticket online by using the website, but they are also trained to highlight other aspects of the service to the customer, so the customer is more aware of the opportunities open to their experience online.'*

11.49   The airline has trained customer service staff to use the website fully, in case they need to resolve problems customers have with the website. Staff training has also involved encouraging staff to use the company's intranet site *'for sharing ideas and experiences',* and as a means for staff to teach themselves new skills so that they can be continuously learning new skills whilst working for the airline.

11.50   For larger companies, retraining existing staff in online systems was common. One of the national coach operators felt that retraining staff is straightforward as long as management takes care to motivate staff: *'We tell employees that they are not being re-trained but that they are being trained in another skill. Re-training gives the impression that what they knew yesterday is redundant and useless, whereas they are actually walking away from training with two skills'.*

11.51   For the smaller passenger transport companies, adding an online offering had not, so far, entailed major restructuring. The smaller local coach companies still predominantly have a repeat business customer base and therefore their usage of e-commerce had not yielded a growth in business that would require restructuring yet. Another benefit of e-commerce for these firms is that: *'e-commerce*

has enabled multitasking, which means that managers have taken on expanded job roles, but they are not necessarily doing more'.

11.52　Companies operating nationally or internationally mentioned that e-commerce had brought about the challenge of customer demand for a '24/7' service. This has meant that companies have restructured, or are in the process of restructuring, so that staff will be available to provide customer support for a much wider period throughout the day.

11.53　The rail operator had created a new web based team of around 30 call centre staff to respond to customer problems with online services.

Current and future skills needs

11.54　Two broad skills needs were identified across the passenger transport sector as a result of e-commerce development:

  ▪ Technical skills such as IT and web-design – needed to develop, implement or manage new e-commerce technology.

  ▪ Updated management skills – due to the new ways of working that e-commerce has brought about.

11.55　A need to recruit specialised IT staff is mentioned by firms across the sector. This has been done either on a temporary basis or on a permanent basis. For example, one of the taxi firms needed to recruit programmers for the initial set up of its systems. It commented that it took longer than expected (2-3 months) to recruit a programmer. *'With regards to the market there are not as many of them around as there used to be. I approached agencies because it is a specialised role and eventually found one.'*

11.56　The regional coach companies who planned on expanding their online presence said that they would need to recruit IT staff in the near future, but only planned to recruit one member of staff who would have a number of IT related roles.

11.57　One of the regional coach companies mentioned that future skills needs were driven by further technological advances in the coach and bus transport market. Within the next 3-5 years it is anticipated that technology will be available to allow customers to access real time travel information. It is predicted that transport will become more flexible, with bus and coach routes fitting flexibly around passengers. This firm stated that they would recruit according to what skills needs the new technology required (but was unable to identify exactly what these would be at present).

11.58　New types of people management skills were the second area of new skills required due to e-commerce. In particular, flexible working practices such as greater opportunities for employees to work from home have created new challenges. A national coach company commented:

> *'Technology and e-commerce is giving people freedom to work independently, but we have to find a way of managing that freedom that on the one hand empowers the individual to work more effectively and efficiently while on the other gives them the ability to grow with the company and feel part of a group.'*

11.59　Some large, nationally operating employers reported needing to bring in consultants or freelancers on occasion to deal with the challenges of e-commerce. One train operator felt there was a demand for people to set up and make changes to the systems and to project manage. The company does have marketing and IT specialists in house but at peak times it will hire in consultants who are IT or design specialists. Also, staff with particular hardware or language skills, software development

skills, web design skills, and security and data management skills, were bought in and managed by the in house team.

11.60   The nationally operating bus company also felt that freelancers would be needed in future to fill temporary gaps in a small number of roles: *'Where it will take a very long time to actually train someone to develop particular IT skills that are very specific, we will probably buy or hire a freelancer so that we don't lose time.'*