

# Enhancing Customer Service Operations in E-Business: The Emotional Dimension

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## EXECUTIVE SUMMARY

*In today's increasingly competitive markets, greater emphasis is being placed on customer service as a means of achieving competitive advantage. Many organizations believe that e-business can provide opportunities to improve customer service operations by enabling them to get closer to the customer and enhance the organization-to-customer contact experience. However, use of the Internet fundamentally changes the nature of the customer contact experience. This article investigates this phenomenon from an operations management perspective, by examining the customer service encounter during the business processes of ordering and delivering in e-business. Empirical results from case research investigating eight companies that use e-business in their customer service operations are reported and discussed. The article concludes that unless the emotional aspects of customer service are considered alongside the functional, then barriers to enhanced customer service in e-business will not be overcome.*

*Keywords:* customer service; e-business; Internet; operations management

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## INTRODUCTION

In today's globalized and often saturated markets, it is difficult for organizations (service providers as much as manufacturers) in advanced economies to compete profitably on price alone. As such, many organizations now pursue differentiation (i.e., offering a product or service package that is perceived by customers to add value) and/or focus (i.e., targeting a

specific market segment that the organization is well placed to serve) as alternatives to pure cost-based generic strategies (Porter, 1980, 1985). Furthermore, many of these organizations see enhanced customer service as an indispensable part of such strategies. "They emphasize and capitalise on high levels of service to create a competitive edge" (Talley & Axelroth, 2001). Similarly, as Kardaras and Papathanassiou (2000) put it: "The move toward a service

economy is placing a greater emphasis on the importance of customer support as a source for distinguishing performance and competitive advantage.” The Internet and the associated information and communications technologies (ICTs) of e-business can provide almost limitless connectivity, between both organizations and individuals. Voss (2003) argues that “the advent of e-commerce has led to a rethink of the nature of customer service” as organizations can enhance their customer service operations by enabling them to get closer to the customer enhancing the organization-to-customer contact experience. Similarly, Zeithaml (2002) points out that “companies are using the Web to enhance communications with customers, to sell more products and services through an alternative channel, and to reduce the costs of interacting with customers.” Also, Wagner (1999) notes, “Smart Internet sellers are putting people back in the equation as competition increases the need to improve customer service.”

The ICTs of e-business are becoming ubiquitous due to their low cost and widespread availability. As such, their use seems unlikely to afford a competitive advantage of itself. As Porter (2001) argues, the Internet is “an enabling technology — a powerful set of tools that can be used, wisely or unwisely, in almost any industry and as part of any strategy.” The challenge for organizations of all kinds is how best to utilize Internet-based ICTs within their operations in order to enhance their customer service operations.

This article investigates the impact of e-business on customer service operations. It does so by taking an operations management perspective, examining the customer service encounter from the service deliverer’s point of view. It does this by

investigating customer service operations in eight companies that are using e-business in their ordering and delivery processes. The article opens by reviewing relevant literature to identify key aspects of the customer service encounter that will provide a basis for analyzing these operations in e-business. The results from the case studies are then reported and discussed. Some general conclusions are drawn about the likelihood of enhancing customer service through the use of e-business, the barriers to so doing, and what needs to be done to ensure that these processes can better serve customers. The article also points the way to future research that needs to be undertaken.

## LITERATURE

The widespread availability and subsequent adoption of the Internet for commercial use is generally referred to as e-business. Although there are a number of different definitions of e-business, its essence is captured by Poon and Swatman (1999), who argue that e-business is “the sharing of business information, maintaining business relationships, and conducting business transactions by means of Internet-based technology.” E-business transactions can occur between an organization and its customers, suppliers, and intermediaries in the supply chain. (Note: Unlike some authors — e.g., Chaffey, 2002 — we do not seek to distinguish between e-commerce and e-business, and use the terms more or less interchangeably.)

The academic discipline of operations management views organizational activity as a series of business processes that transform resource input into outputs of goods and/or services within an operating system — for producing physical goods or deliver-

ing services (Slack, Chambers, & Johnston, 2001). Operations management literature typically distinguishes between two elements of the operations system: *structure* — the physical aspects, especially the nature, extent, and scope of its technology; and *infrastructure* — the way in which the operations system is managed (Hayes & Wheelwright, 1984). In customer service operations, it is the customer who is transformed; the service delivery system changes the customer's physical and/or psychological state. Service operations management writers characterize customer service operations as a series of contacts between the customer and the service delivery system (e.g., Johnston, 1987; Shostack, 1984). Great emphasis is placed on the design and management of those points in the delivery system in which the customer interacts directly with the service deliverer, often termed "moments of truth." Existing models of customer service operations are primarily predicated on a face-to-face or at least voice-to-voice encounter with the customer. Assessing the quality of the service within these encounters is typically problematic, as many aspects are highly subjective in nature. Of Parasuraman, Zeithaml, and Berry (1985)'s 10 dimensions of service quality, only one focuses on the tangible elements of service delivery, whereas the other nine are all intangibles (reliability, responsiveness, competence, courtesy, credibility, security, access, communication, and understanding the customer). Customer service operations must satisfy customers' psychological needs as much as their physical needs. As such, they are reliant as much upon the staff as the technology of the delivery system.

However, the use of the Internet in e-business fundamentally changes the nature of the organization's contact with its

customers. They now interact with a computer screen rather than a human being. The service deliverer has no control over any other physical elements of the service delivery system. The entire customer encounter takes place within the confines and constraints of the customers' ICT. Most service operations management literature is predicated on service delivery systems with real rather than virtual customer encounters. As yet there have been few attempts to consider the impact of Internet-only encounters on the management of service operations. Furthermore, as Westbrook and Peterson (1998) point out, most of the extant service literature is "grounded and tested on theory rooted at the retail customer level." There is a relative paucity of literature that attempts to engage customer service issues from the perspective of organizational customers within the supply chain. Considering customers only as individual consumers in e-business is remiss, as the value of B2B (business-to-business) online transactions far outweighs that of B2C (business-to-consumer) online transactions. For example, the most recently available official UK figures estimate Internet sales to households to be around one-fifth of the total (ONS, 2001).

It seems clear that the use of the Internet-based technologies that constitute the online environment requires a reconsideration of elements of customer service in e-business. Bitner, Brown, and Meuter (2000) argue that technology makes the service encounter more complex, and the need for more research into the way that technology interacts with the company, its employees, and customers has already been noted by other researchers (e.g., Parasuraman & Grewal, 2000).

In developing their WEBQUAL instrument for assessing e-business Web

sites, Barnes and Vidgen (2002) adapt Parasuraman et al.'s (1988) well-known SERVQUAL instrument to evaluate the quality of customer interaction with the Website, while adding additional questions on usability and information quality.

However, like SERVQUAL, WEBQUAL assesses the customer-service delivery system interaction from the customer's perspective. From the service provider's perspective, it may be more enlightening to follow Walsh and Godfrey (2000) in simply distinguishing between the *functional* and the *emotional* as the dimensions of customer service in e-business. These two terms seem to equate to the hard/soft, structure/infrastructure, tangible/intangible dichotomy of the off-line world. In this vein, Parasuraman et al.'s (1985) 10 elements of service can be recast in accordance with their impact on the customer service encounter. Arguably, *reliability*, *responsiveness*, *competence*, *access*, and *tangibles* seem to relate to the functional dimension. In the Internet environment, these are tangible rather than intangible elements, which can be assessed elements using objective rather than subjective performance measures. For example, Voss (2003) demonstrates how responsiveness can be determined.

In the online service encounter, these elements are primarily technology dominated and determined. They facilitate communication and information dissemination and gathering. They particularly rely upon the ICT hardware and software available to the customer, and the design and maintenance of the Web site. On the other hand, *courtesy*, *communication*, *credibility*, *security*, and *understanding the customer* seem more related to the emotional, as they are human dominated and determined. These remain intangible elements that can

only be assessed subjectively by the customer.

The interplay between the functional and emotional aspects of customer service are likely to have an impact on the success of the customer's online encounter with the organization. If the functional factors operate effectively, then so can the emotional. Similarly, where the emotional factors operate well, customers may be more tolerant of functional (i.e., technical) problems. However, many firms seem to use ICT merely to address and enhance functional elements. As Domegan (1996) points out, "Most firms are using information technology in customer service to deal with routine paperwork activities, e.g., accurate billing" and that "such use either increases the efficiency of activities and/or reduces costs." Yet, effective engagement with the emotional elements of customer service also seems likely to affect customers' willingness to interact, goodwill, positive feedback, loyalty, and so forth. Furthermore, online customer service is a two-way dynamic between customer and service provider. As Laudon and Traver (2002) point out, online customer service is "more than simply following through on order fulfillment; it has to do with users' ability to communicate with a company and obtain desired information in a timely manner." Equally, companies are reliant on information provided by customers in order to improve and enhance their service. Such information can be captured through the use of customer relationship management (CRM) systems, FAQs, chat rooms, intelligent agents, automated response systems, and the like, that companies can use to encourage customer interaction. Such tools can be used not only to enhance functional linkages between producers and customers, but also to strengthen emotional link-

ages. In the virtual as much as the real world, achieving high levels of satisfaction in customer service operations still holds the key to realizing a sustainable competitive advantage. In e-business, this seems likely to depend on how organizations use technology to enhance their customer service operations as part of their business strategy.

## RESEARCH METHODOLOGY

This research aims to investigate how organizations might create a competitive advantage through the use of Internet-based ICTs to enhance customer service. To do this, the business processes of order fulfillment and delivery were studied in organizations engaged in e-business. The main objective is to identify current emerging practice. It should be noted that this study focuses on the service encounter from the organisation's perspective, and no attempt was made to assess it from the customer perspective. Like much initial e-business research, this study is exploratory and primarily descriptive in nature. This is perhaps unavoidable, for as Christensen and Sundahl (2001) note, at the earliest stages of research, "the best that researchers can do is to observe phenomena, and to carefully describe and record what they see."

The level of detail required for such a study is almost certainly best achieved through a case study approach. A case study is "an objective in-depth examination of a contemporary phenomenon within some real-life context where the investigator has little control over events" (Yin, 1994). Qualitative case studies also have the advantage of facilitating a contextual "understanding of actions and meanings" (Bryman, 1988). Research in operations

management (OM) has a strong quantitative tradition. However, recent years have witnessed a greater variety in the choice of both research subjects and methods. Many OM researchers have argued for more qualitative case study work (e.g., McCutcheon & Meredith, 1993; Meredith, 1998). However, Voss, Tsikriktsis, and Frohlich (2002) note their greater use in Europe compared to the U.S.

Data gathering in this study was principally effected via semi-structured interviews with relevant company executives. For the smaller companies, the managing director (in the cases of Clothingco and E-Accounting) or other relevant director (in the cases of Legalco and Shareco) was interviewed. For the larger companies, managers with responsibilities for e-business operations were interviewed (two each in the cases of Rebankco and Metalco, and one each in the cases of Equipco and Creditinsure). The interviews, which were conducted in 2001 and 2002, were typically between one and two hours duration. This enabled relevant and interesting issues to be explored in some depth, as they emerged. Questions were based on a theoretical framework that focuses attention on the organisation's business processes, its supporting information systems, and its business context (Barnes, Hinton, & Mieczkowska, 2002). Interviews were recorded for subsequent transcription. A grounded theory (Glaser & Strauss, 1967) approach to data analysis was adopted using a coding method that followed Dey (1993), by developing categories, by iterating between codes based on the theoretical framework and those suggested by the data. Interview data was supplemented by company documentation. All interviews were conducted at company premises, which enabled valuable additional contextual data to be collected through observa-

tion. Subsequent phone, e-mail, and letter contacts with interviewees also provided further data. Although limited in scope, this use of multiple sources served to enhance understanding and improve the validity of the interview data. The findings from each case were then compared in cross-case analysis to “deepen understanding and explanation” (Miles & Huberman, 1994). The analysis particularly focussed on identifying and distinguishing between the functional and the emotional dimensions of customer service in e-business.

As access to the organizations was a prerequisite for this study, a major criterion for case selection was willingness on the part of the companies to provide sustained access for interview purposes. The eight case companies constitute, in essence, a convenience sample, and one not intended to be representative in a statistical sense. Unlike quantitative research, which uses statistical inference to generalize from a sample to a larger population, qualitative research relies on logical inference. As Yin (1994) points out, “Case studies are generalizable to theoretical propositions and not populations.” Where there is more than one case, replication logic can be used to generalize more widely. It is difficult to generalize from a limited number of cases. However, their findings can offer a basis for subsequent testing using quantitative methods, as part of the “normal cycle of research” in which explanation can be built from description, which can in turn be tested as part of an iterative theory building process (Meredith, Raturi, Amoako-Gympah, & Kaplan, 1989).

## RESULTS

This section provides a brief description of the empirical findings from each of

the eight case companies included in this study. Pseudonyms are used for all case companies, and some case details are disguised to protect company confidentiality. The companies encompassed manufacturers (metal goods and industrial equipment) as well as service providers (clothing retailing, retail banking, financial management, legal services, share-trading and credit insurance). There were examples of both B2B and B2C markets being served.

**Clothingco** is a small company that sells specialist clothing, mainly aimed at the older customer, as well as those who may have requirements that few other suppliers can meet. It began life as a mail order business in 1999, but very quickly perceived that the Internet could be a major new business channel to help reach customers who find it difficult or undesirable to visit retail stores that can supply these types of products. The company still retains its printed catalogue alongside its online operations, and customers can order online, by phone, or by post. Because of some initial inappropriate technology choices, there are problems in integrating customer information received from different channels, and data has to be manually re-integrated into the company’s information systems. Because its suppliers do not use electronic ordering, Clothingco finds it difficult to monitor supplier stocks (e.g., due to supplier stock shortages or discontinued lines), so it sometimes finds that it cannot supply its customers as quickly as it would like. Use of its online shopping facility enables Clothingco to respond rapidly and individually to every e-mail received and track all communication with individual customers.

Although the company itself has some problems with functionality due to inadequacies in some aspects of its technology, this is restricted to its internal business pro-

cesses. Adoption of e-business has enabled the company to achieve considerable improvements in the functional dimension of customer service. In particular, it can now offer improved access and responsiveness to those customers that choose to buy over the Internet. Clothingco also seems to be trying to improve the emotional dimension of customer service. At a basic level, its online catalogue enables its Web site visitors to look into a virtual shop window, hopefully thereby stirring some positive emotions. The company is trying to deepen its relationship with its customers, by targeted marketing initiatives in the form of personalized e-mails and letters. However, at present the customer base is too small to afford very much in the way of reliable information about customer behavior and purchasing patterns. Like many online traders, Clothingco is aware that some customers are nervous about ordering and paying online. They hope that such security fears can be allayed as successful transactions build customer confidence.

**Rebankco CMO** is the central mortgage office of a large retail bank. Previously, customers applying for a loan needed to visit their local branch office to complete an application form manually, which would then be posted to CMO. Alternatively, customers could telephone their details directly to CMO, whose operators would complete an online application form for them. As part of Rebankco's move to Internet banking, it is now attempting to move some of its mortgage services online via its Web site. However, this only has a 'call me' button to trigger a telephone call to the customer from the central mortgage office. While this is a primitive use of the technology, it is conceivable that customers may like this personal response. Rebankco CMO does accept online appli-

cations from one of its subsidiaries (a recently acquired competitor). Because of internal information systems integration problems, all applications, however received (online, by telephone, or by post), must be manually re-keyed by the bank's operators into its own systems. These technological problems do not currently have high priority in Rebankco because of other business investment requirements.

Although, arguably, most of Rebankco's problems with functionality primarily affect its internal operations, it also seems likely that they also impact its customer service operations — not least because customers accessing the bank's services via its Web site are likely to expect to submit their application online, rather than have to do so over the phone. The bank does seem to have a clear view of the importance of customer service and is willing to develop its online processes. For example, it is making efforts to make its application process more responsive by using electronic process for property valuation and credit verification. However, because Rebankco retains multi-channel access for its mortgage applicants (they can complete a paper application at a branch, by phone, or on the Web site), there seems to be a greater possibility for error or loss of information in the handling of customer applications. This risks a worse level of functionality in customer service. There is little or no indication that Rebankco has recognized the emotional dimension to customer service, and it is not possible to detect any deliberate actions being taken to address these issues in the online environment.

**Metalco** is a major European metals producer serving a specialist market of relatively few customers. It has developed an industry portal in conjunction with a number of its European competitors. The por-

tal is a one-stop shopping facility offering multiple products to users, specifiers, and buyers by facilitating access to all the participating companies' Web sites. Its intention is to enable all the participating companies to compete more effectively with rival producers in other parts of the world, and discourage use of products made from alternative materials.

Metalco's own Web site provides customers with a wide range of facilities. They can make enquiries, request and receive quotations, place orders, receive acknowledgments, test certificates, despatch notes and invoices, register order queries and complaints (whether these concern the quantity or quality of goods despatched), and track and trace their orders in the manufacturing process. The company hopes its Web site will offer an improved service to its customers, adding value for its customers, thereby encouraging customer loyalty. Although cost reduction remains vital in its highly competitive global markets, Metalco hopes its Web-based services will differentiate itself from its competitors by maximizing customer access to information.

The main focus of Metalco's efforts to improve customer service through its Web site is clearly on functionality, seemingly aimed particularly at improving reliability, responsiveness, and access. However, its online actions may also be addressing some aspects of the emotional dimension. Its own Web site certainly improves the level of communication with its customers, and the information that can be captured seems likely to improve its understanding of customers. Also, the industry portal may well provide additional credibility and an improved sense of security to customers.

**e-Accounting** is a small financial management company established early in

2000 as a dot.com. The company acts as an outsourced finance and accounting function for its clients, who are mostly SMEs (small and medium-sized enterprises), often technology or service based. It also provides some financial consultancy services. Although originally conceived as an entirely online model, e-Accounting has had to become a clicks-and-mortar operation, because so many of its clients wanted to retain face-to-face dealing. This appears to be partly in response to post-crash scepticism about dot.coms, but more specifically because some prospective clients were very wary of supplying accounting information online. Technology and integration also have been, and remain, key issues. The company's own internal systems are not yet fully integrated because it has been unable to find an appropriate software package. There are also external integration problems because many of its clients' banks have inadequate or incompatible software and technology platforms.

e-Accounting appreciates that legacy systems and the costs of changing them are a considerable expense and investment of time and training for its clients. As such it recognizes that it needs to work with the available systems, in tandem with its clients. Being a small business itself, it can empathize with clients about their own particular needs and concerns, particularly having to work with severe financial constraints. The way forward lies both in finding the right technological solution, and making the investment commitment to that solution. Despite the problems with technical functionality that e-Accounting experienced both internally and externally, it seems that the emotional dimension has presented the biggest problems to using the Internet to enhance customer service. Customers' concerns seem to centre on the



credibility and security of an online-only accounting service provider. As such, in order to address these concerns (and stay in business), e-Accounting was forced to move to a clicks-and-mortar model.

**Legalco** is a London-based dot.com, providing online legal advice and services, set up by lawyers concerned to make the law more accessible and affordable. Its Web site hosts some free legal information. It also offers a fixed-price e-mail legal advice service for matters such as employment, family, motoring, housing, and accident law. It sells personalized legal documents (such as wills, tenancy agreements, etc.) via the Web site. Use of the Internet facilitates 24-hour access to Legalco's services, albeit at a basic level. The Web site also acts as a conduit to other legal services, for both individuals and companies. It can provide a range of pre-packaged, fixed-priced legal packages (e.g., conveyancing, divorce proceedings including face-to-face consultations, court representation, etc.). Most clients choose to pay a single annual fee that allows them to call upon a pool of legal services as required. Most of these services are provided by law firms that are local to the clients. Legalco block purchases legal services from law firms across the UK and works closely with them to ensure the quality of their provision.

As a well-funded dot.com start-up, Legalco was able to develop its own bespoke information systems, which, although subsequently modified in light of greater customer knowledge, have provided a high level of functionality. In fact, for a dot.com start-up, Legalco appears to have remarkably few problems with this dimension of customer service. Its online model also attempts to address the emotional dimension as well, for example by offering initial anonymity to clients who may be reluctant or

nervous in their initial approach for legal assistance. Its increased level of understanding of its customers gained from its Internet operations has enabled it to experiment with its customer service operations in order to improve its offering. It is also experimenting with how best to seek feedback from customers about their experience, using follow-up e-mails and phone calls.

**Shareco** is a London-based share dealer, primarily trading stocks in small and medium-sized companies. Originally the company offered only telephone-based trading, mostly to corporate institutional clients. It introduced its own Web site to facilitate online dealing, aimed primarily at small private investors. Its corporate clients continue to deal mostly by phone. Shareco believes online trading might attract investors from around the world. It sees private investors as a potentially high growth market that can be best served by online trading where it can create 'stickiness' through both familiarity with and ease of use of the technology. To be commercially successful, online trading will need to achieve high volumes, as private investor trades are generally low margin business.

All business, whether obtained through conventional or electronic channels, is handled by its traders operating in its dealing room. The heavy investment in IT made for online trading has facilitated significant efficiency gains, particularly in back-office operations, which support its low-cost online model. Shareco seems to have had few problems with the functionality dimension of customer service. However, it seems to have done little to address the emotional dimension.

**Equipco** manufactures a range of industrial equipment used mostly in fluid

processing applications. Its products are technically complex, its customers geographically dispersed, and it sells primarily through local intermediaries who can offer the level of expertise necessary to ensure that customers order the most appropriate equipment for their requirements. Previously, its intermediaries made enquiries and placed orders via letter, fax, or e-mail. Company engineers would advise on product selection using paper-based product performance data. These processes of equipment selection, quotation, and order entry have now been replaced by a Web-based software tool. This is installed on a personal computer, normally that of the intermediary, although some customers have also installed it. Thus, the software tool supports Equipco's intermediaries, ensures the best technical solutions, and reduces lead times and costs.

A separate e-business tool supports the sale of spares in a similar fashion, displaying real-time data on price and availability, and speeding up the entire order cycle by invoicing electronically. As a small company in its industry, Equipco believes it cannot compete on price alone. It hopes its use of e-business will differentiate it from its competitors through service enhancement. It aims to be a service leader in an industry that is making increased use of e-business. It sees e-business as a means of locking-in customers and distributors to its Web-based processes, thereby raising the barriers to exit. The use of online technology to support its distributors has certainly improved the functional dimension of customer service, providing customers with improved reliability, responsiveness, competence, and access, and ultimately perhaps more appropriate products. However, it is perhaps through its decision to enhance rather than replace the role of its distributors that it has successfully addressed the

emotional dimension. The distributors' use of the software seems to enhance communications with and its understanding of its customer, while increasing Equipco's credibility and security with its customers.

**Creditinsure** provides business credit insurance, including debt collection and other related services. Creditinsure has incorporated the use of e-business into its existing operations to become a clicks-and-mortar business. It wants to use e-business to enhance its customer service processes. It has developed a Web-based communication tool whereby applications for credit insurance can be transmitted and agreed electronically. The Web site is also used as a marketing device for the company's other services (e.g., debt collection). Creditinsure allows its customers access beyond its Web site, thereby opening up some of its internal information systems so that there is greater visibility of information to customers, for example through the document and messaging system. This meant that communications, which had previously been for internal consumption only, could now be viewed by external customers. Use of the Web site has undoubtedly improved the functional dimension of customer service, increasing reliability, responsiveness, and access for its customers.

However, it may well have helped address some aspects of the emotional dimension. Whilst allowing customers to access its internal communication systems may have resulted in some loss in the frankness of internal communication, Creditinsure believes that the resulting greater transparency will achieve greater customer satisfaction by improving communications and enabling it to capture information that will improve its understanding of its customers. This greater openness may also improve its credibility with customers. However, Creditinsure is aware

that it must proceed with caution in its use of the Internet, as many clients are reluctant to move to e-business in what is a very conservative industry. It hopes to draw these reluctant customers into greater use of e-business through 'customer-friendly' applications, thereby hoping to address the courtesy, credibility, and security aspects of the emotional dimension.

There are, however, other concerns about how e-business will fit with ongoing and developing corporate strategy. The company is particularly concerned about how e-business will affect the role of its intermediaries, primarily insurance brokers, who currently account for 80% of its business. Although its Web site enables Creditinsure to go direct to its clients, bypassing its brokers if required, the company is unsure whether to adopt such a disintermediated business model. If it retains its intermediaries, its online services and communications need to be developed and tailored for these different users. The disintermediation debate acknowledges that customer service is not only about achieving an appropriate level of functionality, but also about addressing the emotional dimension of contact with customers.

## DISCUSSION

In all the cases except one, the companies each had a clear strategy for their use of e-business in customer service. Only Rebankco CMO seemed to have no clear objective for its use of e-business, other than as part of a wider adoption of online working throughout the company to improve efficiencies. The other companies were either aiming to penetrate targeted market segments (Clothingco, Shareco, Legalco and e-Accounting) or to defend

existing market segments (Metalco, Equipco and Creditinsure). All these companies would claim to offer a product/service package that was in some way differentiated through its online customer service operations. All saw e-business as a means of adding value for their customers in order to access new online markets, or to increase the loyalty of existing customers and raise exit barriers.

The companies varied in their use of e-business within the customer contact process. Clothingco, Rebankco CMO, and Metalco used e-business as an additional channel. Shareco used it as their only channel for the targeted market segment. Legalco and e-Accounting used it as a gateway to both their online and their face-to-face offerings. Equipco used e-business to enhance the role of its intermediaries with its end-customers. Creditinsure seemed to be using it as part of a gradual process of disintermediation.

The use of e-business in customer service operations seemed to have improved the functional dimension of customer service in most of these cases, with clear apparent improvements in reliability, responsiveness, competence, and access. Rebankco CMO's case is again the exception. Although their Web site offers some potential for improving access to the service by customers, the absence of real interactivity seems more likely to frustrate than satisfy a typical online visitor.

However, the companies' approach to the emotional dimension of customer service offers some marked contrasts. Rebankco CMO and Shareco seem to have done little or nothing to address this dimension. In contrast, the online models adopted by Clothingco, Metalco, Legalco, and Creditinsure seem to address some of aspects of the emotional dimension of cus-

tomer service for their respective customers. Clothingco's product displays and personalized support services improve communications and credibility with customers, and display customer understanding. Metalco's extensive range of Web services enhance communications, credibility, customer understanding, and security. The anonymity offered to clients by Legalco addresses potential concerns about credibility and security. Creditinsure has improved credibility and communications by allowing customers access to its internal communication systems.

The cases of Equipco and Creditinsure raise some interesting issues about the role of intermediaries in the customer service process. One of the benefits often claimed for e-business is that it will disintermediate the supply chain, thereby getting producers closer to the ultimate consumers of their products. However, by enhancing rather than replacing the role of its distributors, Equipco has arguably strengthened, rather than weakened, the emotional dimension of customer service. Creditinsure's initial and somewhat tentative moves towards disintermediation, on the other hand, threaten to disrupt its existing customer service operations to the detriment of the emotional aspects of customer service.

It is generally recognized that many consumers have security concerns about purchasing online. Clothingco's experiences are typical of Internet traders having to allay purchasers' concerns about releasing credit card details, the credibility of unseen retailers, whether their orders will be fulfilled, product returns, and so on. This issue is generally felt to affect B2C markets. However, the case of e-Accounting illustrates that this issue can also apply in

B2B markets, albeit in the SME sector. E-Accounting appears to have initially failed to understand the concerns that its potential customers had over online security and credibility. Fortunately, this issue was soon recognized, and by offering off-line as well as online service, the future of the company seems to have been secured.

With regard to barriers to the increased use of e-business in customer service operations, Clothingco, Rebankco CMO, and e-Accounting offer examples of functionality being impaired by inadequate or inappropriate technology. This might occur internally, or between the company and its suppliers, as well as between the company and its customers. This seemed likely to lead to similar emotional barriers being raised, thereby preventing the enhancement of customer service. Clothingco, Metalco, e-Accounting, Legalco, Equipco, and Creditinsure offer examples of companies that have gone some way to address the emotional dimension of online customer service to a lesser or greater extent. At a basic level, this relied on good Web site design. However, at a deeper level this also required the Web site to offer a greater degree of interactivity, and enable customers to access a wide range of online information retrieval and communication services. This in turn relies on the Web site having a high degree of technical functionality. The relationship of online with face-to-face and telephone-based services also seems to impact on the customer service encounter. All of the case companies enable customers to interact with them through a mix of media if necessary. Assessing this was beyond the scope of this research, but it seems a topic worthy of further investigation.

## CONCLUSION

The advent of e-business seems to offer considerable scope for organizations to gain a competitive advantage by enhancing their customer service operations. The Internet enables service providers to communicate and interact with their customers, both directly and via their supply chain intermediaries, more often, more fully, and more intimately than ever before. The evidence from the case companies in this study demonstrates that the technology of e-business provides great opportunities to enhance the functional dimension of customer service, particularly with respect to reliability, responsiveness, competence, and access. It seems to be relatively easy to overcome functional barriers to the increased use of e-business to enhance customer service operations. Only one of the companies studied (Rebankco CMO) seems not to have made effective use of the available Internet technologies in this respect.

Enhancing customer service operations to maximize the value added for customers also seems to require action to address the emotional dimension as well as the functional dimension. The cases of Clothingco, Rebankco CMO, and e-Accounting illustrate that the emotional dimension can be adversely affected if inadequate or inappropriate technology impairs Web site functionality. However, it seems to be relatively easy to overcome the functional barriers to enhancing customer service operations. It seems as if firms find it more difficult to take action with regard to the emotional dimension. Examples of companies that have been trying to address one or more aspects of the emotional dimension are offered by the cases of Clothingco (communications, credibility, and customer

understanding), Metalco (communications, credibility, customer understanding, and security), and Legalco (credibility and security). Equipco has enhanced the emotional dimension of service with its customers by strengthening its links with its supply chain intermediaries. Interestingly, e-Accounting had to address the issues of credibility and security by offering an off-line service alongside its online offering. Thus, the major conclusion from this research is that it does not seem possible to enhance customer service operations in e-business to full effect if the emotional dimension is neglected.

It is important to take note of the limitations of the empirical research on which this article is based. Firstly, its generalizability is restricted due to the limited number of cases that were undertaken. Clearly it would be dangerous to try to draw general conclusions from such a small number of companies in one national context at one point in time. It is also important to note that customer service operations were only considered from the providers' perspective. As such, it needs to be complemented by an assessment from the customers' perspective if a richer and more complete understanding is to be achieved.

As it is a relatively new phenomenon, it is perhaps understandable that many aspects of e-business have not received the full attention of academics. This is particularly true of customer service, which remains an under-researched area. As such there is considerable scope for further study, and it is hoped that this article may point the way to this.

## NOTE

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