

Managing customer behaviour dynamics in the multi-channel e-business environment: Enhancing customer relationship capital in the global hotel industry

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ABSTRACT

KEYWORDS: customer behaviour, e-business, multi-channel, relationship

Managing the dynamics of customer behaviour in the rapidly emerging multi-channel e-business environment is complex. Establishing an enduring and profitable dialogue with a customer requires that online relationship management applications can accommodate the channel variety in the customer's e-communications portfolio, including their buyer behaviour dynamics. With reference to the global hotel industry, this paper considers the impact of Internet multi-channel access on the customer decision-making process; how differences in buyer behaviour and loyalty level influence the relationship management process; and the implications of effectively managing buyer behaviour and the provision of multi-channel customer accessibility for competitive advantage.

INTRODUCTION

The hotel industry is dominated by small outlets with mixed ownership, management and franchise relationships. As such, it can be likened to the retail industry, which has achieved a fairly high degree of standardisation in the supply of technology solutions in similar circumstances. Thus this paper is aimed at the global hotel industry. Managing the dynamics of customer behaviour in the rapidly emerging multi-channel e-business environment is complex. In defining a hotel's Web presence, it is no longer adequate to concentrate on solely providing a PC-based web interface. Customers are increasingly adopting a variety of Internet access devices (IADs),¹ such as PC, WAP, iDTV, PDA, Voice and so forth, in their e-communications portfolio (ECP) in order to suit their consumer information and transaction requirements for any number of situations. In this respect, the hotel industry is a good example of a well-established industry that is facing transformation of its marketing operations as a result of emerging channel-enabling technologies. Thus managers who want to gain a competitive edge by conducting business over the Internet must give serious consideration to how they plan their Web-based customer decision support services and segmentation strategy across multiple channels to enhance their customer relationship capital. Although in general terms the global hotel industry is reported as being dissatisfied with the technology options available to meet its needs, there are some pockets of leadership.² For example, Scandic Hotels is the first hotel chain in the world to implement and provide its customers with WAP-based technologies. To foster loyalty regular guests are provided with a WAP-enabled device on which to access reservations and other information.

To date models of buyer behaviour employed on the Web have been biased towards extensive problem solving, following the traditional sequence through the learn (cognitive), evaluate (affective) and purchase (conative) stages of the hierarchy of effects model.³⁻⁵ This is often at the expense of neglecting alternative buyer behaviours

commonly encountered in the traditional marketing literature. Much of this has been attributed to the information intensity of Web pages and concerns over the security of online electronic payments⁶ that can cause what under other circumstances might be a low-involvement decision to become a complex one. Furthermore, the traditional assumption of consumer purchasing psychology that specific products can satisfy discrete consumer needs is challenged, as companies are advised to define their customers in terms of their fundamental life intentions.⁷ This can be seen as a new aspect of consumerism that requires a much more powerful way of communicating with customers to acquire a rich and thorough knowledge of their consumer behaviour. Establishing such an enduring and profitable dialogue with a customer requires that online relationship management applications can accommodate the channel variety in the customer's ECP, including their buyer behaviour dynamics.

With reference to the hotel industry, this paper considers the impact of Internet multi-channel access on the customer decision-making process; how differences in buyer behaviour and loyalty level influence the relationship management process; and the implications of effectively managing buyer behaviour and the provision of multi-channel customer accessibility for competitive advantage.

METHOD

Procedure

The methodological approach adopted is scenario development.^{8,9} Scenario-based approaches have been employed effectively in the planning and development of information systems.¹⁰⁻¹⁵ This approach is highly appropriate in situations where the purpose is to develop a flexible information architecture or flexible information systems environment.¹⁶ In the research context, Reynolds¹⁷ describes scenarios as 'sketches of plausible or possible futures, which are intended to demonstrate threats and opportunities'. He cites the work of Kahn and

Wiener,¹⁸ who have successfully developed scenarios based upon intuition when there are scant data available.

In this particular case, the situation relates to a flexible and dynamic customer decision support system that automatically changes to reflect the buyer behaviour dynamics of the online hotel customer in the multi-channel e-business environment. In other words, one is using scenario development to model the requirements of a flexible information system environment for the hotel industry as a possible future within the multi-channel e-business environment. The purpose is to fuse the hitherto separated (or largely undeveloped) connections between the consumers' expanding technological portfolio and their various mental and behaviour states with the strategic choices of the business. By seamless accommodation hotels must attempt to fulfil consumers' desires and expectations in the short run if they are to enhance their likelihood of repeat connectivity in the future. This is conceptualised and illustrated through discussion of cross-tabulation examples. Scenario development is therefore the appropriate foundation for analysis and discussion, given the novelty of the technology, its still evolving adoption into hotel systems and, to date, the relative lack of consumer ability and inclination to experience fully enhanced capabilities of the type proposed here.

MULTI-CHANNEL DRIVERS IN E-BUSINESS

The PC-Internet route still dominates the e-business consumer market, but there are now indications that the PC market is contracting as new IADs enter the marketplace.^{19,21} Other channels, which include digital television and mobile telecommunications, will increase access to interactive means of entertainment and e-business. Driven by the UK government's indicated intention to eliminate analogue television between 2006 and 2010, the proportion of households adopting digital television in the UK is estimated to be around the 80 per cent

level by 2008.²¹ Moreover, a European Internet survey conducted by NOP Research²² found that 65 per cent of Internet users also use a mobile phone and 9 per cent of UK Internet users were likely to acquire a WAP-enabled mobile phone or PDA in the next 12 months. Similarly, the Euro.Net survey in 2000 found that 22 per cent of French Internet users declared an interest in the acquisition of a WAP handset, followed by Germany with 11 per cent.²³ Further innovations in WAP technology are the forthcoming voice-access e-business applications which employ voice interfaces to WAP-enabled devices. Voice access provides another powerful electronic distribution option and may reduce the reliance on browsers for surfing the Web.

Although this paper has presented a predominantly European perspective on the technological and consumer trends/drivers, it is evident from NOP Research's findings²⁴ that in most cases consumers will eventually include a PC, WAP phone and iDTV in their ECP. More recently, research conducted by Forrester Research²⁵ indicates that more than 5 million US households will migrate to mobile and high-speed broadband networks by 2006, reinforcing an international trend towards consumer ECP ownership. The implications for the hotel industry are clear, and enhanced communication with customers as part of hotel customer relationship management (CRM) strategies can already be seen. For example, Six Continents Hotels has several thousand subscribers to its wireless websites, from which customers can already access a hotel directory, confirmations, itineraries and loyalty accounts.²⁶

The major thrust of the present approach is to explore the importance of the B2C response capability to the particular form of communication initiated by the customer. For the hotel, the capability to match consumer requirements in terms of technological compatibility (Six Continents Hotels worked to ensure that its wireless websites can work on multiple platforms) is a prerequisite for a sensitive and appropriate response in line with additional consumer characteristics. These are extensive and var-

ied but are neither homogeneous across consumers nor necessarily constant through time. A full conceptualisation, however, would entail almost the totality of consumer behaviour theorisation, segmentation implications and the strategic choices of firms. Nevertheless, a matching of consumer requirements and hotel information provision is possible to a certain degree, and with the adoption of appropriate processes learning to improve response should follow. In this abbreviated approach the authors categorise certain features of consumers' situation and behavioural types and relate these to the features of the technology.

Acknowledging that customers, through their personal ECP, may have multiple modes of access to the Internet increases the complexity of managing interactive customer relationships for hotels with a Web presence. Not only must hotel cybermarketers focus on hotel product and customer decision making, but attention must also be given to the type of IAD that may be required to service specific buyer behaviours. Hotel marketing communications are constrained by IAD attributes, with many mobile devices such as pagers, palmtop computers and WAP phones having small text-only screens, limited keyboards, limited memory, low bandwidth capability and so forth.

Concern over the security of electronic payments has been a major inhibitor to the growth of electronic commerce over the Internet.²⁷ Despite these concerns, the growth in hotel reservations over the Internet continues.²⁸ Moreover, the next-generation Internet will provide enhanced security features embedded in the Internet protocol (IPv6) that will allay many of the security concerns that customers may have with conducting Web-based transactions using mobile and non-mobile IADs.²⁹

A major driver of the multi-channel e-business environment was the ratification of the extensible markup language (XML).³⁰ XML is a significant technological development because it facilitates the generation of device-independent content. XML is concerned with the tagging of content rather than the stylistic and device-specific presen-

tational codes; hence, it may be used to display hotel information on a variety of e-channel devices (WAP, PDA, PC, etc). The theory is that, when an IAD client makes a request over the Internet for a hotel's Web page it also sends a pointer (uniform resource indicator) — that is, a Web address — to indicate where its device profile may be found. Once the server knows the capability of the device, contained in the device profile, the appropriate version of the content is generated and made available to that device.³¹ By these means access to hotel information and its retrieval, the storage and sharing of information and electronic transmission are all enhanced. Information content can be reused, combined in new ways and presented in different formats and media. XML explicitly (re)defines documents and their structure so that a wider range of device-specific browsers can then display the documents. The device independence of XML is a significant enabler because it satisfies the open systems criteria of interoperability and portability;³² secondly, it provides superior future proofing of management's investment decisions concerning the deployment of hotel e-business applications.

CUSTOMER BEHAVIOUR

Managing the dynamics of buyer behaviour

Customers' decision-making processes are not homogeneous through time for any number of reasons, including lifestyle changes, economic realities, substitute products and so forth. Therefore, managing the dynamics of buyer behaviour in an interactive multi-channel e-business environment becomes a strategic imperative. However, before examining online buyer behaviour it is pertinent to reflect first on the impact of the Internet on the global B2C market.

Alford³³ claims that the surface has only been scratched, with online leisure bookings representing less than 1 per cent of the total travel market in 1999. However, the actual *value* of transactions from consumers influenced by the Internet is more significant, as

consumers often research online and purchase offline. Alford³⁴ estimates this at US\$80bn. Further estimates suggest that online travel spend would grow from its 1996 figure of US\$0.3bn to US\$8.9bn by 2002.³⁵ Currently the European online travel market is growing more rapidly than that of the USA. Jupiter MMXI estimates the European online travel market will be worth more than €20bn by 2006.³⁶ Britain is the biggest online travel market in Europe, with almost 6 million unique visitors to travel sites in January 2002. Finally, the World Tourism Organization Business Council³⁷ confirms the trend towards online buying, predicting that worldwide the numbers of Internet buyers (including buyers purchasing via PC/IAD and mobile) will treble by 2005.

Returning to the question of online buyer behaviour, any attempt at evaluation should take into account the variety of IADs available to the customer via their ECP and the possible corresponding interaction options with B2C hotel e-business applications that this creates. This is illustrated by the following. Hotels, or their appointed intermediaries, when planning look-and-book content for, say, small-screen, non-graphic WAP phones must bear in mind these are not necessarily conducive to extensive information search³⁸ and do not align well with non-routine buyer behaviour. Instead, a GPRS (general packet radio system) WAP phone, from vendors such as BT Cellnet,³⁹ facilitates wireless, broadband communications access to a hotel's website that is able to support fuller information for prospective customers/guests, where images play an important role in the booking decision. For loyal customers who book regularly, text WAP may suffice. Therefore hotels will need to include in their customer databases their customers' ECPs.

However, managing the dynamics of buyer behaviour is complicated further because customers can employ a different IAD at any stage of the decision-making process; choice of device to use is influenced by situational factors; they conform to different categories of consumer behaviour; and additional factors such as sensitivity to perceived risk may be overlaid on any of the models.

With reference to the rudimentary five-stage decision model used to characterise complex decision making,⁴⁰ Figure 1 demonstrates one possible scenario of the process. This example considers the decision process for a family booking hotel accommodation. The customer ECP has been restricted to three devices (PC, WAP and iDTV).

The example shows an essentially high-involvement approach to arrive at a well-founded decision. Effort is expended at each stage, and there is perseverance in the matching of information to evolving notions of wants based on the set of attributes that emerges from the decision process. This is in stark contrast to an alternative approach where there is minimal effort expended. This could represent a low-involvement, relatively routine decision using pre-set criteria to minimise decision effort. The information search is primarily a screening process to achieve satisfying rather than optimised criteria.

The matching of the performance of the hotel's e-capability to these polar types is critical. The process of connectivity and information access can so easily be terminated in frustration if the site is ill-suited in response to specific, stylised consumer requirements. Moreover, in either case the disjointed acquisition of information in a 'conversation' which occurs through time (with or without actual disconnections and the possible change of IAD) can easily influence the type of decision process too — the extreme possibilities being perhaps 'abort connection' and 'heroic perseverance'. Thus a key success factor for hotel e-business applications is the capability to maintain a seamless conversation through time and across a customer's ECP as well as personalising content that matches the customer's decision type and loyalty level.

CUSTOMER RELATIONSHIP MANAGEMENT AND PERSONALISATION

Personalisation is at the heart of CRM. Maintaining seamless conversations will re-

Buyer behaviour example for a family booking hotel accommodation

Figure 1

Decision process stages	IAD	E-business application	Scenario comment
Need recognition	iDTV	Banner advertising, URL on TV advertisement	Family thinking about their annual holiday
Information search	PC	E-distribution hotel and travel intermediaries (eg travelweb.com), NTO websites, hotel websites (eg andbook.com)	Parents visit a number websites to find a suitable family hotel. Some websites have hotel pictures and virtual tours
Evaluation	iDTV	iDTV browser facility (history file)	Family reviews and evaluates options in the TV room.
Purchase	WAP	Known hotel website with WAP interface	Parent uses WAP phone to book hotel during train journey on the way to work
After-purchase behaviour	PC iDTV WAP	Hotel CRM personalisation engine that can manage conversations seamlessly across customer's ECP	Hotel and family engage in electronic dialogue (frequency of hotel-initiated conversations agreed with parent, ie permission marketing)

quire that customer-facing hotel e-business applications can adapt the B2C interface in real time to accommodate a full range of buyer behaviours. What is particularly important is the design of the site to enable the consumers to explore in a way that makes sense to them. In other words, customer, rather than producer, orientation should be pre-eminent in the site's design. The clutter of graphics, with their longer download time and often indifferent quality, should be strictly discretionary. The consumer should be able to 'fast track' through the site and have simple ways to return to previous 'pages', they should be in control. The recognition that the experience of the site itself as a part of the 'product' is influencing the style and mode of decision making is crucial. This takes the design of information provision from the 'take-it-or-leave-it' school to a referential adaptation to consumer need as reflected in their overt behaviour in the site itself; in a word, personalisation.

Through time maintaining a customer relationship is primarily concerned with establishing a sustainable relationship between the firm and its customers, utilising features of behaviour and requirements that can be encapsulated in the concept of loyalty. Once the hotel is in an interactive 'one-to-one' online relationship with the customer, matching needs will require the automated, synchronous recustomising of content and the ability to do this will depend on knowledge of decision-loyalty type. This key (re)-segmentation variable *ideally* takes into account the customer's level of involvement,^{41,42} product characteristics, cognitive style^{43,44} and codification of brand loyalty, including position on the loyalty ladder.^{45,46} However, with operational difficulties in determining this conceptual base, emphasis will initially be placed on learning from experience. Exploiting early indications from contact made to an evolving pattern of Web information in the site can lead to a refine-

ment of its structure to match consumers' requirements better. This can be categorised, and knowing where an online customer is positioned on the decision-loyalty type matrix (Figure 2) will determine the nature of the *personalised* Web page content to be presented and the prime patterns of subsequent offerings within the site.

This is a substantial development from the often dominant conceptions derived from the high-involvement, hierarchy-of-effects decision model^{47,48} featured in the e-business management literature.⁴⁹⁻⁵⁷

Utilising customers' decision-loyalty type allows the hotel company to develop a customised relationship 'migration strategy' that focuses resources on building a high-value customer relationship. The goal of a migration algorithm (a server-side intelligent agent application) is to migrate the customer from cell 1 (complex suspect) towards the profitable habitual advocate position on the matrix; this being the ideal position for securing maximum lifetime value.⁵⁸ Hence the decision type is changing from extensive to routine problem solving, as the customer loyalty relationship develops from suspect through to advocate. Appropriate management of all e-contacts is likely to follow and lead to returns that cumulatively exceed the value of initial loyal customers.

The strategic decisions for the hotel in relation to e-business concern the structure of the site (including the design of intelligent agents and its general responsiveness) as a first stage in the management of prospective and emerging customer relationships, whether

directly at first hand or through intermediaries. As has been argued, these decisions need to take into account the evolving complexity of the technology and the channel mix potential that it offers. Response to the IAD needs to be appropriate. Furthermore, the variety of customer behaviour cannot be subsumed in a generalised managerial conception where one model of the site is deemed suitable for all, because negative customer experiences and feelings can lead to an 'exit decision' which is only a click away. Forethought and site investment are critical to a customer relationship, including its very formation. The site must have enough tolerance round key parameters to accommodate various consumer requirements and behaviour. In essence the different cells in Figure 2 necessitate different configurations and information. The ability of XML to contribute to this process can hardly be underestimated. Essentially the site must be able to respond to the type of IAD, not least by showing the customer the structure of the information open to that device in accordance with its device profile.

Hotel companies wanting to participate in interactive electronic markets will need to consider redesigning their customer interfaces in order to make their online services coincide with customer booking intentions. Capturing buyer intentions is not only concerned with getting to the customer first; it also depends on how high-value customer data are used interactively to personalise the buyer experience, which is fundamental to the development of an interactive customer relationship marketing strategy. But this presumes knowledge of the device profile associated with the IAD a customer is using.

Time spent on site acts as a proxy to indicate the value to the customer of some combination of involvement in the (hotel) product and tolerance of the site itself. These composites permit many interpretations. For instance, for those sufficiently involved and inclined to book, ample reward from the site experience potentially adds value to the product by increasing anticipation and desire. Equivalent time once spent, however, if

Figure 2 Decision-loyalty type matrix

Loyalty level	Decision type		
	Extensive problem solving	Limited problem solving	Routine problem solving
Suspects	Complex suspects		
Prospects			
Customer			
Client			
Advocate			Habitual advocates

Source: Adapted from Louvieris and Driver (2001)

deemed inappropriate by the less involved, could detract from the product, leaving the composite to be rejected. Site management seeks to provide 'virtuous combinations' to match heterogeneous consumer requirements. This mainly depends on the presentation within the site.

In the short run the hotel product is largely immutable, but perceptions of its attributes are intimately linked to the communication efficacy of the site. Ascertaining the trade-offs between the site experience and the inherent benefits of the product is potentially an exercise in conjoint analysis. As an intermediate step, server site-side agents should respond to patterns of usage and determine the relative frequencies, particularly of those prior to affirmative action (booking, etc) and rejection. The sequencing of access to site attributes, including information, emotional reinforcement and the points where site and product decisions occur, is critical information in the attempt to build up a consumer typology. Thus by linking site, behaviour and outcome data, information is generated that in turn would be supplemented by input from realised bookings and from any earlier occasions of access.

B2C hotel e-business applications that include automated seamless switching and multi-channel accessibility, it has been argued, will increase situational correspondence;^{59,60} however, the content demands of particular buyer behaviours in the personalisation process will be constrained by the e-channel device type used by the customer. For example, voice access to a hotel website for a complex suspect who wants to see pictures of the hotel's facilities is inappropriate, but may be entirely suitable for the habitual advocate who has a minimal information search requirement and just wants to book. This has important ramifications for a hotel's online segmentation strategy: within the emerging multi-channel e-business transaction environments, e-channel device type (ie channel segmentation) must be considered concomitantly with decision-loyalty type (ie behaviour segmentation) in order to deliver an effective and differentiated segmentation strategy.

KEY IMPLICATIONS

The authors believe that a new approach is needed to steer the development of customer-centric systems that will meet the needs of the global hotel industry as it develops within a multi-channel e-business environment. Therefore hotels may wish to consider the following imperatives:

- alignment of hotel channel portfolio with that of its customers' ECPs
- website (re)design to provide information that is device-dependent and exploits the potential afforded by the unique attributes of a range of IADs
- website (re)design to accommodate the complex information requirements of changing consumer decision behaviour through customised content delivery.

CONCLUSION

Managing for competitive advantage in the multi-channel e-business environment means that managers involved with ICT investment decisions must explicitly pay attention to how they manage the B2C e-business interface from a combined behavioural and technological perspective.

The provision of effective customer decision support Web services requires that a hotel's B2C e-business interface engages a much richer set of buyer behaviours than the commonly applied hierarchy-of-effects model often referred to in the e-business literature and witnessed on hotels' websites. Hence, the decision-loyalty type matrix is a valuable framework for managing changes in buyer behaviour. Where a customer is located on the matrix determines how dialogue content should be (re)customised for each customer interaction/conversation. Yet, for the multi-channel e-business environment, this in itself is still not enough. Given the technology adoption trend towards customers owning a portfolio of e-channel devices, hotels must also be able to accommodate access to their online services from any e-channel device within a customer's ECP if they are to maximise customer retention and remain competitive

in the future. Successful marketing in the multi-channel e-business environment requires that hotels do take into account the socio-technical nature of buyer behaviour, where the customer's ECP is integral to the buyer behaviour process. Finally, from a segmentation strategy perspective, the authors assert that delivering interactive customer Web services across multiple channels that coincide with customers' decision-loyalty type and choice of e-channel device type will be a key success factor in maximising hotels' relationship capital.

REFERENCES

- (1) Strong, C. (2000) 'WAP it to me say Internet users', Internet Surveys, NOP Research Group, www.nop.co.uk/survey/.
- (2) Hotel Technology — Next Generation (2002) 'A Path to Achieving Next-Generation Technology for the Hotel Industry', white paper, HTNG, Chicago, IL, 29th June.
- (3) Engel, J. F., Blackwell, R. D. and Miniard, P. W. (1990) 'Consumer Behaviour', 5th edn, Dryden Press, London.
- (4) Willcocks, L. and Sauer, C. (2000) 'Moving to E-Business', Random House, London.
- (5) Zellweger, P. (1997) 'Web-based sales: Defining the cognitive buyer', *Electronic Markets*, Vol. 7, pp. 10–16.
- (6) Ernst & Young (2000) 'Global Online Retailing', Special Report, January, Ernst & Young, p. 12.
- (7) Nohria, N. and Leestma, M. (2001) 'A moving target: The mobile commerce customer', *Sloan Management Review*, Spring, Vol. 42, No. 3, p. 104.
- (8) Schoemaker, P. J. H. (1995) 'Scenario planning — A tool for strategic thinking', *Sloan Management Review*, Winter, Vol. 36, No. 2, pp. 25–40.
- (9) de Geus, A. (1988) 'Planning as learning', *Harvard Business Review*, March–April, pp. 70–74.
- (10) Galliers, R. D. (1993) 'Towards a flexible information architecture: Integrating business strategies, information system strategies and business process redesign', *Journal of Information Systems*, Vol. 3, pp. 199–223.
- (11) Wilson, B. (1984) 'Systems: Concepts, Methodologies and Applications', 2nd edn, John Wiley, Chichester.
- (12) Checkland, P. (1981) 'Systems Thinking, Systems Practice', John Wiley, Chichester.
- (13) Hutchinson, A. (1997) 'E-commerce: Building a model', *Communications Week*, 17th March, www.connectuk.org/homepage.asp?areaid=66.
- (14) Levinson, M. (2000) 'Don't stop thinking about tomorrow', *CIO Magazine*, January 1, www.cio.com/archive/010100/stop.html.
- (15) Wassenaar, A. and Gregor, S. (2001) 'E-business strategy formulating and forming: new wine in old bottles?', in 'Global Cooperation in the New Millennium', conference proceedings of the Ninth European Conference on Information Systems, Bled, Slovenia, June, pp. 1242–1253.
- (16) Galliers, ref. 10 above.
- (17) Reynolds, J. (2000) 'E-commerce: A critical review', *International Journal of Retail and Distribution Management*, Vol. 28, No. 10, pp. 417–444.
- (18) Kahn, H. and Wiener, A. J. (1967) 'The year 2000. A framework of speculation on the next 33 years', cited in Reynolds, *ibid*.
- (19) Jung, T. H., Louvieris, P. and Oppewal, H. (2002) 'Channel management strategy in the e-commerce environment: A portfolio management approach', in Wöber, K. W., Frew, A. J. and Hitz, M. (eds) 'Information and Communication Technologies in Tourism 2002', Springer-Verlag, New York, pp. 17–26.
- (20) Boxell, J. and Heavens, A. (2000) 'Acer cuts forecasts blaming world PC slowdown', *Financial Times*, 24th October, p. 29.
- (21) Retail and Consumer Services Foresight Panel (2000) 'Clicks and Mortar', DTI, London.
- (22) Strong, ref. 1 above.
- (23) *Ibid*.
- (24) *Ibid*.
- (25) Forrester Research Inc (2002) 'Consumers shifting to wireless at home', www.forrester.com/Research/.
- (26) Hotels Technology Supplement (2002) 'What does wireless mean for the hotel industry?' *Hotels*, June, p. 82.
- (27) Ernst & Young, ref. 6 above.
- (28) Louvieris, P. and Dean, G. (2000) 'Hotel integrated supply and demand services: Next generation e-business systems and Services', www.mercury.surrey.ac.uk/data/lspac/delivery/smss/infinmgt.
- (29) Louvieris, P. and Driver, J. (2001) 'New

- frontiers in cyberssegmentation: Marketing success in cyberspace depends on IP address', *Qualitative Market Research*, Vol. 4, No. 3, pp. 169–181.
- (30) W3C (1998) 'XML 1.0 Recommendation', February, www.w3.org/TR/REC-xml.
- (31) W3C (2000) 'Mobile access activity statement', November, www.w3.org/mobile/activity.
- (32) Robson, W. (1997) 'Strategic Management and Information Systems', Pitman, London.
- (33) Alford, P. (2000) 'E-business models in the travel industry', *Travel and Tourism Analyst*, No. 3, pp. 67–86.
- (34) *Ibid.*
- (35) *Ibid.*
- (36) *Ibid.*
- (37) World Tourism Organization Business Council (2001) 'E-business for tourism', World Tourism Organization, Madrid.
- (38) Jung *et al.*, ref. 19 above.
- (39) Retail and Consumer Services Foresight Panel, ref. 21 above.
- (40) Engel *et al.*, ref. 3 above.
- (41) Assael, H. (1987) 'Consumer Behavior and Marketing Action', 2nd edn, Kent, Boston, Mass., pp. 80–107.
- (42) Krugman, H. E. (1965) 'The impact of television advertising: Learning without involvement', *Public Opinion Quarterly*, Autumn, pp. 349–356.
- (43) Foxall, G. (1999) 'Consumer decision-making process, involvement and style', in Baker, M. J. (ed.) 'The Marketing Book', 4th edn, Butterworth-Heinemann, Oxford, pp. 109–130.
- (44) Guildford, J. P. (1980) 'Cognitive styles: What are they?', *Educational Psychological Measurement*, Vol. 40, pp. 715–735.
- (45) Fletcher, K. (1995) 'The evolution and use of information technology in marketing', in Baker, M. J. (ed.) 'The Marketing Book', 3rd edn, Butterworth-Heinemann, Oxford, pp. 333–357.
- (46) Payne, A. (1995) 'Relationship marketing: A broadened view of marketing', in Payne, A. (ed.) 'Advances in Relationship Marketing', Kogan-Page, London.
- (47) Engel *et al.*, ref. 3 above.
- (48) Lavidge, R. J. and Steiner, G. A. (1961) 'A model of predictive measurement of advertising effectiveness', *Journal of Marketing*, Vol. 25, October, pp. 59–62.
- (49) Zellweger, ref. 5 above.
- (50) Bickerton, P., Bickerton, M. and Pardesi, U. (1996) 'Cybermarketing: How to Use the Superhighway to Market Your Products and Services', Butterworth-Heinemann, Oxford.
- (51) Butler, P. and Peppard, J. (1998) 'Consumer purchasing on the Internet: Processes and prospects', *European Management Journal*, Vol. 16, No. 5, pp. 600–610.
- (52) Chaffey, D. (2001) 'Optimising e-marketing performance — A review of approaches and tools', in 'Business Intelligence and E-Marketing', proceedings of the IBM Workshop, December, Warwick, UK.
- (53) Hoffman, D. and Novak, T. P. (1996) 'Marketing in hypermedia computer-mediated environments: Conceptual foundations', *Journal of Marketing*, Vol. 60, No. 3, pp. 50–68.
- (54) O'Keefe, R. M. and McEachern, T. (1998) 'Web-based customer decision support systems', *Communications of the ACM*, Vol. 41, No. 3, March, pp. 71–78.
- (55) Retail and Consumer Services Foresight Panel, ref. 21 above.
- (56) Rowley, J. (2001) 'Remodelling marketing communications in an environment', *Internet Research: Electronic Networking Applications and Policy*, Vol. 11, No. 3, pp. 297–308.
- (57) Turban, E., Lee, J., Warkentin, M. and Chung, H. M. (2002) 'Electronic Commerce 2002: A Managerial Perspective', Prentice Hall, Upper Saddle River, NJ.
- (58) O'Conner, J. and Galvin, E. (1997) 'Marketing and Information Technology: The Strategy, Application and Implementation of IT in Marketing', Pitman, London, p. 88.
- (59) Ajzen, I. and Fishbein, M. (1977) 'Attitude-behavior relations: A theoretical analysis and review of empirical research', *Psychological Bulletin*, Vol. 84, pp. 888–918.
- (60) Fishbein, M. and Ajzen, I. (1975) 'Beliefs, Attitude, Intention and Behavior: An Introduction to Theory and Research', Addison Wesley, Reading, MA.