

MANAGING CUSTOMER BEHAVIOUR IN THE MULTICHANNEL E-BUSINESS ENVIRONMENT

Panos Louvieris

University of Surrey
Guildford GU2 7XH
United Kingdom

email: panos.louvieris@surrey.ac.uk

John Driver

University of Birmingham
Birmingham B15 2TT
United Kingdom

email: j.c.driver@birmingham.ac.uk

Jan Powell-Perry

University of Surrey
Guildford GU2 7XH
United Kingdom

email: j.powell-perry@surrey.ac.uk

ABSTRACT

Managing the dynamics of customer behaviour in the rapidly emerging multichannel eBusiness 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 eCommunications portfolio including their buyer behaviour dynamics. With reference to the hotel industry, this paper considers (a) the impact of Internet multichannel access on the customer decision making process; (b) how differences in buyer behaviour and loyalty level influence the relationship management process; and (c) the implications of effectively managing buyer behaviour and the provision of multichannel customer accessibility for competitive advantage.

INTRODUCTION

Managing the dynamics of customer behaviour in the rapidly emerging multichannel eBusiness environment is complex. In defining a firm's web presence, it is no longer adequate to concentrate on solely providing a PC-based web interface. Customers are adopting increasingly a variety of *Internet access devices* (IADs) [22], such as PC, WAP, iDTV, PDA, Voice, etc., in their *eCommunications Portfolio* (eCP) in order to suit their consumer information and transaction requirements for any number of situations. 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*. 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 [6][25][26] 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 payments [7] that can cause, what under other circumstances might be, a low involvement decision to become a complex one. Establishing 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 (a) the impact of Internet multichannel access on the customer decision making process; (b) how differences in buyer behaviour and loyalty level influence the relationship management process; and (c) the implications of effectively managing buyer behaviour and the provision of multichannel customer accessibility for competitive advantage.

MULTICHANNEL DRIVERS IN EBUSINESS

Currently the PC-Internet route dominates the eBusiness consumer market but there are now indications that the PC market is contracting as new IADs enter the market place [4]. Other channels, which include digital television and mobile telecommunications, will increase access to interactive means of entertainment and eBusiness. Driven by the UK Government's indicated intention to eliminate analogue television between 2006 and 2010, the number of households adopting digital television in the UK are estimated to be around the 80% level by 2008 [20]. Moreover, a European Internet survey conducted by NOP Research [22] found that 65% of Internet users also use a mobile phone and 9% 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 (2000) found that 22% of French Internet users declared an interest in the acquisition of a WAP handset, followed by Germany with 11% [22]. Further innovations in WAP technology are the forthcoming voice access eBusiness 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 we have presented a predominantly European perspective on the technological and consumer trends/drivers, it is evident from NOP Research's findings that in most cases consumers will typically include a PC, WAP phone and iDTV in their eCP. Consumers' choice and use of eChannel devices will be determined by situation and buyer behaviour type and is considered later in this paper.

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, etc.. 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 search and do not align well with non-routine buyer behaviour. Instead, a GPRS (General Packet Radio System) WAP phone, from vendors like BT Cellnet [20], allows hotels to offer customers wireless, broadband communications access to the hotel's website that is able to support complex decision making; this is especially true 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' eCP.

Concern over the security of electronic payments has been a major inhibitor to the growth of electronic commerce over the Internet [7]. The level of perceived risk associated with making payments over the Internet can make an otherwise low involvement purchase decision a complex one. Although, the perceived risks may be low for guests who routinely use familiar, reputable, branded hotel websites. Despite these concerns, the growth in hotel reservations over the Internet continues [15]. 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 [16].

A major driver of the multichannel eBusiness environment was the ratification the *eXtensible Markup Language* (XML) [24]. 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 presentational codes; hence, it may be used to display hotel information on a variety of eChannel device e.g. WAP, PDA, PC, etc. 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 independency of XML is a significant enabler because it satisfies the Open Systems criteria of interoperability and portability [21]; secondly, it provides superior future proofing of management's investment decisions concerning the deployment of hotel eBusiness applications.

CUSTOMER BEHAVIOUR

Managing the Dynamics of Buyer Behaviour

Customers' decision making processes are not homogeneous through time for any number of reasons e.g. lifestyle changes, economic reasons, substitute products, etc. Therefore, managing the dynamics of buyer behaviour in an interactive multichannel eBusiness environment becomes a strategic imperative.

Decision Process Stages	Internet Access Device	eBusiness Application	Scenario Comment
Need Recognition	iDTV	Banner advertising, URL on TV advertisement	Family thinking about their annual holiday
Information Search	PC	eDistribution Hotel and Travel intermediaries (e.g. travelweb.com), NTO websites, Hotel websites (e.g. 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 the 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 i.e. permission marketing)
--------------------------	-------------------	---	--

FIGURE 1. BUYER BEHAVIOUR EXAMPLE FOR A FAMILY BOOKING HOTEL ACCOMMODATION

Any evaluation of online buyer behaviour should take into account the variety of IADs available to the customer via their eCP and the possible corresponding interaction options with B2C Hotel eBusiness applications that this creates. However, managing the dynamics of buyer behaviour is complicated further because (a) customers can employ a different IAD at *any* stage of the decision making process, and (b) choice of device to use is influenced by situational factors. With reference to the rudimentary five-stage decision model used to characterise *complex decision making* [6], Figure 1 demonstrates one possible scenario of the process. In this example we consider the decision process for a family booking hotel accommodation. The customer eCP has been restricted to three devices (PC, WAP and iDTV).

As this example shows, a key success factor for Hotel eBusiness 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. It means the Hotel eBusiness application is able to resume the conversation from where the customer left off.

Customer Relationship Management and Personalisation

Personalisation is at the heart of customer relationship management. Maintaining seamless conversations will require that customer facing hotel eBusiness applications can adapt the B2C interface in real-time to accommodate a full range of buyer behaviours.

Maintaining a customer relationship is primarily concerned with establishing a sustainable relationship between the firm and its customers i.e. loyalty. Building loyalty requires an understanding of the customer purchasing decision type [2] and their relationship stage which may be defined by their position on the loyalty ladder [9][19]. 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 synchronously.

Loyalty Level	Decision Type		
	Extensive Problem Solving	Limited Problem Solving	Routine Problem Solving
Suspects	Complex Suspects		
Prospects			
Customer			
Client			
Advocate			Habitual Advocates

FIGURE 2. DECISION-LOYALTY TYPE MATRIX
 (Source: Adapted from Louvieris & Driver, 2001 [16])

Likewise, once the hotel is in an interactive 'one-to-one' online relationship with the customer, which will require the automated recustomising of content, then decision-loyalty

type becomes a key (re)segmentation variable for web marketing. This sensitivity to changes in customer behaviour takes into account the customer's level of involvement [2][13], product type and brand loyalty, including cognitive style [10][11]. This will allow cybermarketers to engage a much richer variety set of loyalty related buyer behaviours than the rudimentary, high involvement, hierarchy of effects decision model [6][14] typically referred to in the contemporary eBusiness management literature [3][5][12][18][20][23][25][26].

The strategic significance of correctly identifying and targeting customer's decision-loyalty type is that it allows the hotel company to plan a customised relationship migration strategy that focuses resources on building a high value customer relationship. Referring to Figure 2, *Complex Suspects* and *Habitual Advocates* represent the two extremes on the decision-loyalty type matrix. The goal of a *migration algorithm* (a server-side intelligent agent application) would be to migrate the customer towards the profitable *habitual advocate* position on the matrix; this being the ideal position for securing maximum lifetime value [17].

B2C hotel eBusiness applications that include automated seamless switching and multichannel accessibility, we have argued, will increase situational correspondence [1][8]; however, the content demands of particular buyer behaviours in the personalisation process will be constrained by the eChannel 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. Namely, within the emerging multichannel eBusiness transaction environments, eChannel *device type* (i.e. channel segmentation) must be considered concomitantly with *decision-loyalty type* (i.e. behaviour segmentation) in order to deliver an effective and differentiated segmentation strategy.

CONCLUSION

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

The provision of effective customer decision support web services requires that a hotel's B2C eBusiness interface engages a much richer set of buyer behaviours than the commonly applied hierarchy of effects model often referred to in the eBusiness 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 multichannel eBusiness environment, this in itself is still not enough. Given the technology adoption trend towards customers owning a portfolio of eChannel devices, hotels must also be able to accommodate access to their online services from any eChannel device within a customer's eCP if they are to maximise customer retention and remain competitive in the future. Successful marketing in the multichannel eBusiness 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, we assert that delivering interactive customer web services across multiple channels that coincide with customers' decision-loyalty type and choice of eChannel device type will be a key success factor in maximising hotels' relationship capital.

REFERENCES

- [1] Ajzen, I. and Fishbein, M. "Attitude-Behavior Relations: A Theoretical Analysis and Review of Empirical Research", *Psychological Bulletin*, 84, pp888-918, 1977.
- [2] Assael, H. *Consumer Behavior and Marketing Action*, 2nd edition, Kent, Chapter 4, pp80-107, 1987.
- [3] Bickerton, P., Bickerton, M. and Pardesi, U. *Cybermarketing: How to use the Superhighway to market your products and services*, Oxford: Butterworth-Heinemann, 1996.
- [4] Boxell, J. and Heavens, A. "Acer cuts forecasts blaming world pc slowdown", *Financial Times*, October 24, p29, 2000.
- [5] Butler, P. and Peppard, J. "Consumer Purchasing on the Internet: Processes and Prospects", *European Management Journal*, Vol.16, No.5, pp600-610, 1998.
- [6] Engel, J.F., Blackwell, R.D. and Miniard, P.W. *Consumer Behaviour*, Dryden Press, 1990.
- [7] Ernst and Young (Special Report). *Global Online Retailing*. January, p12, 2000.
- [8] Fishbein, M. and Ajzen, I. *Beliefs, Attitude, Intention and Behavior: An Introduction to Theory and Research*, Reading MA: Addison Wesley, 1975.
- [9] Fletcher, K. "The evolution and use of information technology in marketing", In Baker, M.J. (editor), *The Marketing Book*, 3rd edition, Butterworth-Heinemann, pp333-357, 1995.
- [10] Foxall, G. "Consumer decision making process, involvement and style", In Baker, M.J. (editor), *The Marketing Book*, 4th edition, Butterworth-Heinemann, pp109-130, 1999.
- [11] Guildford, J.P. "Cognitive Styles: What are they?", *Educational Psychological Measurement*, 40, pp715-735, 1980.
- [12] Hoffman, D. and Novak, T.P. "Marketing in Hypermedia Computer-Mediated Environments: Conceptual Foundations", *Journal of Marketing*, 60 (3), pp50-68, 1996.
- [13] Krugman, H.E. "The impact of Television Advertising: Learning without Involvement", *Public Opinion Quarterly*, Autumn, pp349-356, 1965.
- [14] Lavidge, R.J. and Steiner, G.A. "A Model of Predictive Measurement of Advertising Effectiveness", *Journal of Marketing*, Vol.25, October, pp59-62, 1961.
- [15] Louvieris, P. and Dean, G. *Hotel Integrated Supply and Demand Services: Next Generation eBusiness Systems and Services*, <http://www.mercury.survey.ac>, 2000.
- [16] Louvieris P. and Driver J. "New Frontiers in Cybersegmentation: Marketing Success in Cyberspace Depends on IP Address", *Qualitative Market Research: An International Journal*, Vol.4, No.3, pp169-181, 2001.
- [17] O'Conner, J. and Galvin, E. *Marketing & Information Technology: The Strategy, Application and Implementation of IT in Marketing*, London: Pitman, p88, 1997.
- [18] O'Keefe, R.M. and McEachern, T. "Web-based Customer Decision Support Systems", *Communications of the ACM*, Vol.41, No.3, March, pp71-78. 1998.
- [19] Payne, A. Relationship Marketing: a broadened view of marketing. In A.Payne (editor), *Advances in Relationship Marketing*, London: Kogan Page, 1995.
- [20] Retail and Consumer Services Foresight Panel. *Clicks and Mortar*, DTI, 2000.
- [21] Robson, W. *Strategic Management and Information Systems*, London: Pitman, 1997.
- [22] Strong, C. *WAP it to me say Internet Users*, Internet Surveys, NOP Research Group, <http://www.nop.co.uk/survey/>, 2000.
- [23] Turban, E., Lee, J., King, D. and Chung, H.M. *Electronic Commerce: a Managerial Perspective*, New Jersey: Prentice Hall, 2000.
- [24] W3C. *XML 1.0 Recommendation*. February, <http://www.w3.org/TR/REC-xml>, 1998.
- [25] Willcocks, L., Sauer, C. and Associates. *Moving to E-Business*, London: Random House, 2000.
- [26] Zellweger, P. "Web-based sales: Defining the Cognitive Buyer", *Electronic Markets*, 7, pp10-16, 1997.