



Open Research Online

Citation

Doherty, Neil F. and Ellis-Chadwick, Fiona (2009). Exploring the drivers, scope and perceived success of e-commerce strategies in the UK retail sector. *European Journal of Marketing*, 43(9/10) pp. 1246–1262.

URL

<https://oro.open.ac.uk/24851/>

License

None Specified

Policy

This document has been downloaded from Open Research Online, The Open University's repository of research publications. This version is being made available in accordance with Open Research Online policies available from [Open Research Online \(ORO\) Policies](#)

Versions

If this document is identified as the Author Accepted Manuscript it is the version after peer review but before type setting, copy editing or publisher branding

Exploring the Drivers, Scope and Success of e-commerce Strategies in the UK Retail Sector

Key Words: E-commerce; Strategy; Marketing; UK retail sector.

Purpose of this paper

The purpose of this study is to develop a better understanding of the e-commerce strategies currently being deployed by the largest and most influential UK-based retailers. More specifically, our study seeks to empirically explore the scope of retailers' on-line strategies, the drivers for their adoption and perhaps most importantly the degree to which they are perceived to be successful.

Design/methodology/approach

The objectives of this research were addressed by using a quantitative research strategy, based upon a postal questionnaire survey of the UK's largest retailers. The research strategy produced a wealth of primary data, which was thoroughly analysed using a variety of multivariate, statistical techniques.

Findings

The study's findings suggest that retailers' level of Internet adoption is primarily influenced by the strength of management support behind the strategy and the perceived strategic fit of the initiative. By contrast, the key driver of perceived success is the degree to which the retailer has a portfolio of resources and capabilities that are well-suited to the on-going operation and effective management of a web-site.

Research limitations/implications

The major limitation associated with this study is with respect to the rather disappointing response rate of 10.0%. However, this level of response is similar to many previous surveys in this domain, and it is probably not surprising, given the highly sensitive nature of the data that we were seeking to collect.

Practical implications

The findings highlight that despite their close relationship, Internet adoption and e-commerce success are very different entities, and therefore the drivers of Internet adoption cannot be relied upon to deliver success. In particular, retailer managers must recognise that whilst their support and commitment may well be the impetus necessary to drive Internet adoption, success will only be achieved if they are able to invest in, and deploy, a suitable portfolio of resources and capabilities.

What is original/value of paper

This study makes a major contribution in a number of ways. Firstly, it provides an important update into the e-commerce strategies of UK-based retailers. More importantly, perhaps, it provides one of the first attempts to measure the perceived success of such e-commerce strategies, and the determinants of success. Finally, this paper provides the first objective comparison between the drivers of Internet adoption and e-commerce success, and delivers new insights into the relationship between Internet adoption and e-commerce success.

1. Introduction

For many years, it has been recognised that the Internet's power, scope and interactivity provide retailers with a unique opportunity to transform their customers' shopping experience [Amit & Zott, 2001; Dennis et al, 2004; Evanschitzky et al, 2004; Doherty & Ellis-Chadwick, 2006]. In particular, its ability to provide information, facilitate two-way communication with customers, collect market research data, promote goods and services and ultimately to support the online ordering of merchandise, provides an extremely rich and flexible new retail channel [Basu & Muylle, 2003]. In so doing, the Internet gives retailers a mechanism for: broadening target markets, improving customer communications, extending product lines, improving cost efficiency, enhancing customer relationships and delivering customised offers [Srinivasan et al, 2002]. Indeed, such a rich variety of potential rewards have driven the uptake of on-line shopping to the extent that it is estimated to be the fastest growing area of Internet usage [Forsythe & Shi, 2003]. Despite the Internet's apparent commercial potential, when the '*dot.com bubble*' burst in 2001, many of the electronic marketplace's pioneers were driven into insolvency, due to their unrealistic business models. However, electronic commerce is now enjoying a second period of significant – and probably more sustainable – growth, but it now tends to be the established retailers, rather than the '*dot.coms*' who are playing the more dominant role [Tankansen et al, 2002]. However, there is also much evidence that for many retailers success is proving to be rather more elusive, as web traffic does not always readily translate into improved turnover and increased profitability [Phan, 2004; Evanschitzky *et al*, 2004]. Against this backdrop, there is a pressing need for empirical studies that shed light on the on-line strategies currently being adopted by commercial organizations, the factors affecting their adoption and perhaps most importantly the degree to which they are perceived to be successful.

The research presented in this paper critically evaluates the on-line strategies being adopted by large UK-based retailers, the factors that affect their adoption and the degree to which they are ultimately successful. In so doing, it was envisaged that we would be able to identify those managerially actionable factors affecting the adoption and success of on-line strategies. The following section of this paper reviews the background literature for this study, before describing the research methods adopted, in section three. The research results are presented in a series of tables that are discussed in the fourth section, whilst their importance and implications are assessed in the concluding sections.

2 Conceptual Background and Research Objectives

This section aims to review existing literature with respect to the three constructs that form the study's primary focus, namely the drivers, scope and success of e-commerce strategies. However, as two of these constructs [drivers and scope] have been jointly addressed in a number of previous

studies [Doherty *et al*, 2003; Gibbs & Kraemer, 2004; Wymer & Regan, 2005], they will be reviewed together. In critically reviewing the literature, the motivations and academic justification for this research will be established.

2.1 The Drivers and Scope of E-commerce Strategies

Prior studies of the on-line strategies adopted by retailers have embraced a wide variety of different perspectives. For example, many researchers have explored the ways in which the Internet offers contrasting strategic opportunities, to traditional retail formats, which can be used to help establish how retailers can unlock its potential [Hart *et al*, 2000, Levenburg, 2005]. The likely growth and dispersion of online markets has also attracted significant attention from researchers [Pavitt, 1997, Ellis-Chadwick *et al*, 2002]. Another significant strand of research has sought to explore the likely economic impact of online markets, and how internet-based electronic marketplaces might affect pricing and competition [Wood *et al*, 2005; Zhoa, and Cao, 2004]. Furthermore, opportunities created by changing channel relationships are another aspect of the Internet's potential which has been explored, particularly in terms of the effect of changing power structures within the supply chain as power shifts towards the consumer [Priluck, 2001]. Finally, as online shopping has grown, the Internet's potential to transform or even replace physical retail operations has been debated [Burt and Sparks, 2003; Ring and Tigert, 2001].

To date, the adoption of the Internet amongst retailers has been characterised by a high degree of variability. Whilst some retailers have been relatively aggressive, developing sophisticated web-sites that target a wide range of markets with extensive product portfolios, others have been far more timid either developing small scale, experimental applications or completely ignoring the Internet's potential altogether [Ellis-Chadwick *et al*, 2002]. Consequently, a number of researchers have sought to explore the factors that might explain the differing levels of adoption, witnessed with respect to on-line retailing [Teo & Tan, 2002; Zhu *et al*, 2003; Wymer & Regan, 2005]. Indeed, it has been suggested that there are a variety of factors that have a significant affect on the level and extent to which retailers use the Internet as a channel to market. For example, the Internet's capacity to deliver tangible economic gains [Vijayasarathy and Tyler, 1997]; the relative advantages of trading online [Hart *et al*, 2000]; the fit between company product and target market [O'Keefe *et al*, 1998] and the appropriateness of a company's knowledge and resources [Lee and Brandyberry, 2003] have all been found to influence adoption levels.

2.2 The Success of E-commerce Strategies

Whilst a significant amount of research has focused upon the success of e-commerce strategies, it has typically adopted a customer-centric orientation: that is it aims to measure the consumers' attitudes and reactions to a variety of different elements of the retailers' strategic positioning, as manifested through the design of their web-sites. Indeed, a multitude of studies have now been conducted that explore the impact of a variety of independent variables, such as ease of use, perceived control, interactivity, and shopping enjoyment on a range of different dependent variables, such as perceptions of site quality, customer loyalty and intention to continue shopping on-line [Wolfenbarger and Gilly, 2003]. More specifically, Szymanski and Hise [2000] investigated the impact that the consumers' perception of convenience, merchandising, site design and security might have on their overall satisfaction with a particular web-site. In a similar vein, the antecedents of customer loyalty, such as service quality, trust, value and satisfaction, have also been investigated [Harris and Goode, 2004; Rafiq and Fulford, 2005]. Other researchers have sought to perform detailed studies of the role that the consumers' experiences of single aspects of the retailers' online offerings, such as '*e-tail store image*' [Wilde *et al*, 2004] or '*store layout*' [Vrechopoulos *et al*, 2004], might have on their shopping behaviour.

By contrast, the literature with regard to the perceived or actual effectiveness of retailers' web strategies appears to be considerably less extensive. There are a reasonable number of case studies of the success and failure of e-commerce initiatives [Golden *et al*, 2004; Duffy, 2004; Lunce *et al*; 2006], but few researchers have attempted to survey on-line retailers, to determine the extent to which they perceive their on-line offerings to have been successful. One important piece of empirical work that has been conducted with respect to such benefits has been conducted by Zhuang and Lederer [2003]. However, their study focuses primarily upon the benefits of on-line retailing, and does not therefore also explore the determinants of success.

2.3 Critique of Literature and Research Objectives

The recently published works addressing adoption factors both specifically within the retail sector, and more widely within the e-commerce domain, provide evidence to suggest that there are a number of different factors affecting Internet adoption. However, this body of literature can be criticised in a number of key areas. For example, whilst a number of factors – such as management support, competitive pressures and technical infrastructure - are frequently cited, there is still much variability between studies. Consequently, there is a need for more studies in this domain, particularly ones which are very tightly bounded, so that the influences of country, sector and organisational size can be more effectively understood. Moreover, most existing studies can be criticised for adopting fairly simplistic dependent variables, to determine whether or not

organisations have adopted e-commerce. In the early day of electronic markets, when many organisations had yet to develop a web presence, such measures could be defended. However, in the current situation where the majority of organisations have already gone on-line, more sophisticated measures, which establish the scope and intensity of an organisation's engagement with the Internet, are required. Finally, and most significantly, existing studies can be criticised, because they focus almost exclusively on the factors that affect adoption, rather than the factors that might ultimately influence a web-site's commercial success.

Against this backdrop, an extensive research study was initiated that sought to explore the e-commerce strategies being initiated amongst UK-based retailers, in terms of their drivers, scope, and ultimately their success. More specifically, the objectives of our study were as follows:

1. To derive a number of distinct factors that are likely to affect the adoption of the Internet.
2. To explore the nature of the relationship between each of the derived factors and the resultant level of Internet adoption.
3. To explore the nature of the relationship between each of the derived factors and the resultant level of e-commerce success.
4. To evaluate the relationship between the level of adoption of the Internet and the perceived success of e-commerce initiatives.

It was envisaged that by addressing these four objectives, important insights into how retail organisations should approach the task of developing an Internet strategy might be generated. Furthermore, the experiences of retail companies in the UK would allow comparisons to be made with studies from a variety of other countries and sectors. The following sections of this paper describe and discuss the primary research that was undertaken to explore the four research objectives.

3. Research Method

It was felt that a questionnaire-based study should be used to investigate the research objectives, as this approach is best suited to the generation of results, which are generalisable in terms of their host population [McGrath, 1992]. The aim of this section is to review the process by which the questionnaire instrument was developed, validated and ultimately targeted and distributed.

3.1 Design of the Internet Retailing Questionnaire

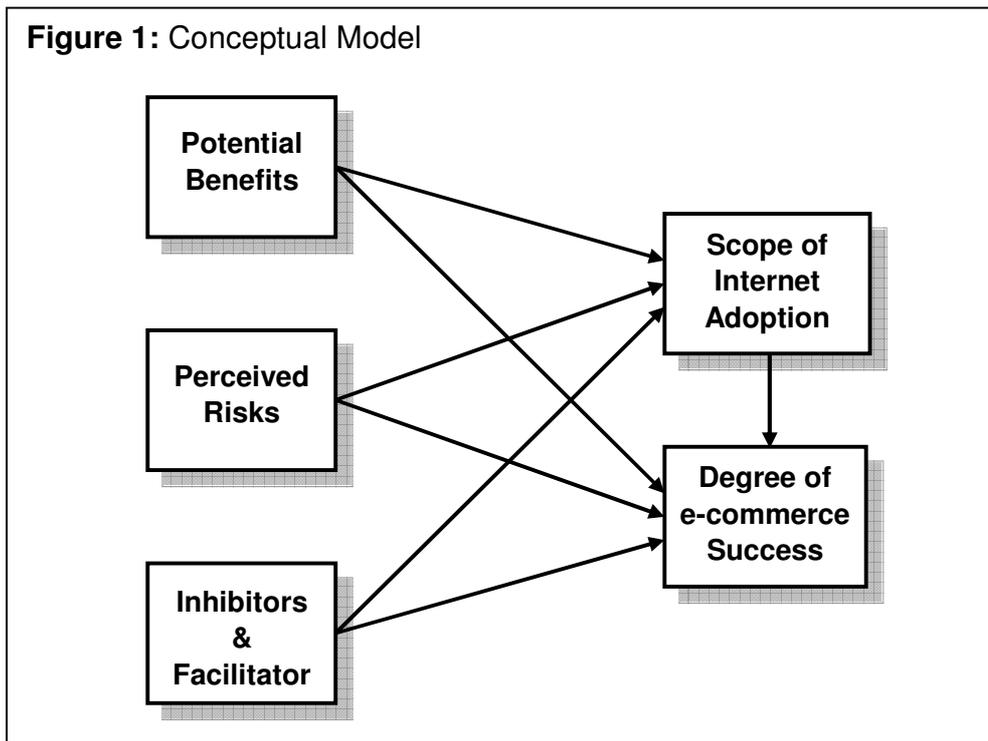
In order to address the four research issues highlighted in section 2 it was necessary to develop a series of measures that would adequately describe an organisation's level of Internet adoption and the factors that had influenced it. To maximise the reliability and validity of the research instrument,

and to strongly embed the research within the existing literature, each of the initial questions were derived from the literature. The research questionnaire was then further developed through an iterative process of review and refinement, and it was ultimately divided into four major sections, each of which is briefly reviewed below:

- 1. Respondent classification:** The first section was designed to record the organisation's product activity sector, channel mix, and its size. Moreover, respondents were asked to provide a profile of their target customers, in terms of occupational grouping, age range and gender.
- 2. Drivers of e-commerce strategies:** In order to understand the factors that influence retail organisations to implement a particular form of Internet strategy, respondents were asked to critically consider those drivers that might have influenced this decision. More specifically, the section on potential drivers was divided into three sub-sections: inhibitors / facilitators, potential benefits and perceived risks. Each driver was operationalised using a seven-point Likert scale, which respondents' used to indicate their level of agreement / disagreement to the proposition that a particular driver had been influential. The set of measures was derived from the rich body of existing literature [Doherty *et al*, 2003; Gibbs & Kraemer, 2005; Wymer & Regan, 2005]. Tables A1 – A3, in Appendix A, which are used to present the results of the factor analysis, also explicitly identify each of the item measures.
- 3. Scope of e-commerce strategies:** To explore the range of Internet activities being deployed, each responding retailer was asked to detail the scope of their Internet activities, based upon prior studies of web-site content [Elko, 2000; Basu & Muylle, 2003; Dennis *et al*, 2004] Accordingly, respondents were asked to evaluate the extent to which they had implemented each of a number of common on-line retailing activities, such as on-line sales, order tracking or facilities for returning customers [see appendix A4]. Each measure was operationalised using a 7-point Likert scale, ranging from '*no activity planned*', through to '*already fully active*'.
- 4. Success of e-commerce strategies:** One of the most important and novel aims of our study was to assess the extent that UK-based retailers judged their portfolios of web-based offerings to be successful. To this end, a series of item measures [see appendix A5], operationalised using 7 point Likert scales, was derived from the literature [Mirchandani and Motwani, 2001; Wilson-Jeanselme and Reynolds, 2005].

The relationships to be explored amongst these constructs are presented in our conceptual model [see figure 1].

Figure 1: Conceptual Model



3.2 Questionnaire validation and targeting

Before widely distributing a survey, it is important to subject it to extensive testing and validation to establish its potential effectiveness and to avoid mistakes in questionnaire design [Hague, 1987]. The initial validation of the research instrument consisted of a series of pre-tests. A target group of ten appropriate individuals, including subject specialists, academic experts and retailers, were given draft copies and asked to critically review, and where appropriate complete the questionnaire. After completion, de-briefing interviews were conducted. Individual questions were discussed to eliminate ambiguities, identify missing response categories and to check the validity of the content. After this round of interviews a number of changes were made to enhance the wording and structure of individual questions and layout of the questionnaire.

Having developed and tested the research instrument, it was necessary to establish an appropriate sampling frame to target the UK's leading retailers. Consequently, we chose to target this study, at those UK-based retail organisations that have an annual turnover in excess of £5 million, to ensure that all the most influential retailers were included. The FAME Directory, which provides a comprehensive list of, and significant details about all UK-based commercial organisations, was used to construct the sampling frame, and ultimately 1168 organizations were identified which met our inclusion criteria.. In common with previous studies [Doherty et al, 2003; Teo & Tan, 2002], it was anticipated that the individuals most likely to be able to provide full and meaningful responses to our questionnaire would be senior marketing executives. Consequently, we decided to target the

survey at the 'Marketing Director', of each organisation in the sampling frame. In the vast majority of instances we were able to target them by name, but in the remaining cases the questionnaire was simply addressed to the 'Marketing Director'. After a round of follow-up mailings and telephone calls to encourage responses, the survey ultimately generated 104 useable replies, and the return of 82 questionnaires marked 'addressee not known', giving an overall response rate of 9.6%.

4. Research Results

This section presents a discussion of the research results relating to the four specific research objectives proposed earlier.

4.1 Data reduction through the Identification of factors

Given the high number of variables, as identified in the variable sets presented in Appendix A, factor analysis was used to establish whether this data could be consolidated into a smaller number of distinct factors. Factor analysis is a means of summing information contained in a large number of variables into a smaller set of new composite factors, with a minimum loss of information [Hair *et al*, 1997]. To simplify interpretation, independent factor analyses were run on each of the five variable sets. The ratio of the number of variables to the sample size is an important prerequisite for factor analysis success. Hair *et al*, [1997] suggest that the minimum for an acceptable ratio is at least five observations for each variable included in the analysis. In this study, the ratios of responses to variables were all comfortably over this threshold, ranging from 6.5:1 [inhibitors and facilitators], through to 14.9:1 [potential risks]. Furthermore, it was established that the measure of sampling adequacy (MSA) scores, for each factor, as measured using the KMO & Bartlett's test of sphericity, were all well within tolerance. Consequently, it was confirmed that factor analysis was an appropriate tool to use in these circumstances.

Principal components factor analysis, with a varimax rotation, was the chosen method for the factor analysis, as it is easier to interpret the results Hair *et al*, [1997]. The application of the 'Scree' test and a review of the 'Eigen' values were used to determine the most statistically significant number of factors for each of the variable sets. Ultimately, a total of fourteen factors were identified from the five variable sets, each of which was given a factor name, which was chosen to best represent the nature of its constituent items. The factor names, loadings, and associated 'Eigen' values, for all variable sets are presented in Appendix A. Having successfully isolated and named fourteen distinct factors, it was also important to test their validity and reliability. The internal reliability of each factor was, therefore, examined using Coefficient 'alpha'. Ideally, alpha scores should exceed 0.70, although scores of 0.60 and above are acceptable

[DeVellis, 1991]. In this instance, twelve of the factors can be classed as '*ideal*' (factors: 1, 3-4 & 6-14), whilst the remaining two can be classed as '*acceptable*' (factors: 2 & 5).

4.2 The relationship between the drivers and scope of Internet adoption

The relationship between the ten derived factors, which represent the drivers of Internet adoption, and the two factors that measure the scope of Internet adoption was explored using a multiple regression analysis. Multiple regression analysis was deemed appropriate, as the data met the assumptions for a regression analysis and the ratio of independent variables to cases was 10.4:1, which comfortably exceeded the threshold value of 5:1 [Hair et al, 1998]. A '*stepwise*' regression approach was adopted, to allow the contribution of each independent variable to be assessed iteratively. As can be seen from the results of this analysis [table 1], a highly significant regression model could be found to explain both the adoption of the Internet in support of on-line sales, and its level of adoption for the purpose of on-line marketing. In the case of the analysis for on-line sales, '*strategic fit*' was found to be the most significant variable, as its explanatory power was found to be three times greater than the other three variables in the equation: '*cost concerns*', '*market development potential*' and '*management support*'. The results of the regression analysis that treated on-line marketing as its dependent variable was rather easier to interpret, as it included just two independent variables, namely '*management support*' and '*customer relationship potential*', both of which were highly significant, and offered very similar levels of explanatory potential.

Table 1: Results of Multiple Regression Analysis

Constant [α]	$\beta_1 = 1st$ Variable [coefficient]	$\beta_2 = 2^{nd}$ Variable [coefficient]	$\beta_3 = 3rd$ Variable [coefficient]	$\beta_4 = 4th$ Variable ; [coefficient]	$\beta_5 = 5th$ Variable [coefficient]	Dependent Variable [R^2]
-3.568	Strategic fit [0.904]	Cost concerns [-0.288]	Market development potential [0.316]	Management support [0.241]		On-line Sales [0.595]***
-0.704	Management support [0.499]	Customer relationship openings [0.494]				On-line Marketing [0.362]***
0.283	Resources / capabilities [0.440]	Cost reduction potential [0.225]	Channel drawbacks [-0.461]	Cost concerns [-0.368]	Strategic fit [0.382]	Cost benefits [0.585]***
-2.085	Customer relationship potential [0.512]	Resources / capabilities [0.228]	Market development potential [0.247]	Cost concerns [-0.177]	Customer suitability [0.210]	Marketing benefits [0.607]***

*** significant at the .001 level

When comparing the drivers of Internet adoption for on-line sales with those for on-line marketing, it is interesting to note that only '*management support*' significantly influences both: it can be inferred that retailers are unlikely to embark upon an Internet strategy unless senior managers are fully

committed to the initiative. It is also instructive to explore where the drivers of Internet adoption differ. A significant web presence for on-line sales requires the retailer to believe that such a venture will fit well with their wider corporate strategy whereas, the on-line marketing capability is being driven by the organisations' belief about the site's potential to deliver enhanced customer relationships.

4.3 The relationship between e-commerce drivers and the success of e-commerce strategies

A multiple regression was also conducted to investigate the relationship between e-commerce drivers and the success of e-commerce strategies. As can be seen from the results of this analysis [table 1], a highly significant regression model could be found to explain both the extent of the success enjoyed in terms of cost benefits and the success that was realised in the form of marketing benefits. In the case of the analysis for cost benefits, the '*resources / capabilities*' was found to be the most important, in terms of its explanatory power, with: '*cost reduction potential*' '*cost concerns*', '*channel disadvantages*' and '*strategic fit*' all also having important roles to play in determining the extent of the cost benefits realised. In the case of analysis of the determinants for marketing benefits to be realised, the most important variable, both in terms of its significance and the strength of its explanatory power, was the perceived ability of the Internet to facilitate more effective '*customer relationships*'. However, four other independent variables were also found to have had a significant influence on the realisation of marketing benefits, namely '*resources / capabilities*', '*market development potential*', '*cost concerns*' and '*customer relationship potential*'. The key role of '*resources / capabilities*' can be seen both in determining the extent of cost and marketing benefits, which is perhaps not surprising, as no major strategic initiative is likely to survive without being supported by an appropriate mix of human, financial and physical resources. The rather more surprising driver, that was also common to both regression models, was the '*cost concerns*' factor: a retailer will only enjoy a high degree of success if they are not burdened with significant doubts about the financial security of their venture.

4.4 The Relationship between levels of Internet adoption and the resultant success of e-commerce strategies

The final area, in which we hoped to make a contribution to the literature, was with respect to the relationship between the level of Internet adoption, and the extent to which the initiative is perceived to have been a success. The results of the correlation analysis [table 2] suggest that there are significant associations [P=0.001] between all four of the dependent variables that were used in our regression analyses.

Table 2: Correlation Analysis of Relationships between Adoption and Success Factors

	On-line Sales	On-line Marketing	Marketing Benefits	Cost Benefits
On-line Sales		0.660 ^{***}	0.567 ^{***}	0.537 ^{***}
On-line Marketing	0.660 ^{***}		0.575 ^{***}	0.503 ^{***}
Marketing Benefits	0.567 ^{***}	0.575 ^{***}		0.510 ^{***}
Cost Benefits	0.537 ^{***}	0.503 ^{***}	0.510 ^{***}	

*** significant at the .001 level

The results of these analyses suggest that organisations that have made significant progress in the development & operation of an on-line sales capability will also have been very active in respect of their on-line marketing functionality. Moreover, it has been shown that the successful realisation of cost benefits is likely to be accompanied by success in the delivery of marketing oriented benefits. However, probably the most important of the results relates to the close association between Internet adoption and e-commerce success: the most successful on-line operators will be those who have developed and implemented the most comprehensive and sophisticated web-sites.

5 Discussion: Contribution, Implications and Limitations

This wide-ranging empirical study makes a number of important contributions, to the retailing literature. In so doing, this study exhibits a number of novel features: it is one of the first survey-based studies to employ a sophisticated and comprehensive measure of Internet adoption, and it is one of very few to explicitly attempt to measure the perceived success of the retail community's web offerings. Moreover, it is unique in that it explores the antecedents of perceived success as well as adoption, and then goes on to provide an innovative appraisal of the relationship between Internet adoption and e-commerce success.

In terms of the study's findings, it is probably the comparison of the drivers of Internet adoption and e-commerce success, where the most significant contribution is made: whilst the retailers' level of Internet adoption is primarily influenced by the strength of management support behind the strategy and the perceived strategic fit of the initiative, the key driver of success is the degree to which the retailer has a portfolio of resources and capabilities that are well suited to the on-going operation and effective management of a web-site. Moreover, the finding that there is a very strong, positive association between Internet adoption and e-commerce success is very important, as it suggests that a significant level of e-commerce success will only be registered once a comprehensive and sophisticated web-site has been deployed. The study's findings also make important contributions to the wider Internet diffusion literature, as the use of perceived success as a dependent variable has rarely been used in this context before.

These findings offer a number of important implications for managers within the retail sector. More specifically, managers should be aware of the subtle differences between the drivers of adoption and determinants of success: it might be best to launch e-commerce initiatives only when the strategic circumstances are favourable and when they enjoy the full support of the management team, whilst the chances of a successful outcome are more likely to be influenced by the development and deployment of appropriate resources and capabilities. The close relationship between Internet adoption and e-commerce success should also be of interest to retail managers, as this indicates that success is unlikely to stem from half-hearted or partial strategies of Internet

adoption. The findings of this study should also be of interest to the researcher, as it has identified and validated many new variables, which might be usefully incorporated in future research. In particular, the novel conceptualisation and operationalisation of our two dependent constructs - Internet adoption and e-commerce success - could be applied both within retail-specific studies, as well as more widely within the on-going study of the adoption, usage and diffusion of the Internet.

Research into the adoption of innovative technology, within the organisational context, is an ambitious undertaking, and therefore contains a number of inherent limitations. In particular, we were rather disappointed with the survey's response rate. However, this is perhaps not surprising given that we were asking some fairly sensitive questions, particularly those relating to a web-site's success. Moreover, the adoption of the survey format restricted the range of issues and constructs that could be investigated. There is also potential response bias associated with the '*single-informant*', as different managers, even within the same organization, might have different perceptions of these very complex issues. Indeed, there is also no guarantee that all the questionnaires were completed by the same class of respondent – namely Marketing Directors - as in some instances the questionnaire might have been passed on to a colleague for completion. A final potential limitation relates to the use of multi-variate statistical analyses, which can demonstrate association, but not causality. Consequently, whilst the study provides many interesting and novel insights, these limitations do highlight the need for further studies to be conducted employing different methods, and perhaps targeting different populations. Indeed, we are currently planning a series of follow-up interviews to help interpret, extend and contextualise the findings, and to explicitly explore the direction of causality.

6 Concluding Remarks

This empirical study has applied rigorous statistical methods in the development of a taxonomy of distinct and meaningful factors that have been used to explore the drivers, scope and success of e-commerce strategies, within the UK, retail sector. More specifically, the results suggest that that senior management commitment, strategic fit and the deployment of appropriate resources and capabilities can all have a role to play in the level of Internet adoption, and its ultimate success. Such insights are of particular importance at this period of time, when many organisations are still developing or extending their web presence. Whilst the findings will be of most significance to those organisations operating within the UK retail sector, it is likely that they will also be of interest to companies in other countries that have still to establish a significant web presence. Finally, given that the Internet is an increasingly important, highly dynamic and global phenomenon, it is important that a variety of follow-up studies are conducted. In particular, it is important that similar studies are

conducted in a range of sectors, within a variety of countries to identify areas of commonality and variation, in terms of the factors influencing Internet adoption.

References

- Amit, R. and Zott, C. (2001) "Value Creation in E-business", *Strategic Management Journal*, 22 6/7, pp 493-520.
- Basu, A and Muylle, S (2003) "Online support for commerce processes by web retailers" *Decision Support Systems*, Vol. 34, No. 4, pp. 379-395
- Burt, S. and Sparks, L. (2003), "E-commerce and the retail process: a review", *Journal of Retailing and Consumer Services*, Vol. 10 No.5, pp.275-86.
- Dennis, C., Merrilees, W. & Fenech, T. (2004) *E-retailing*, Routedledge: London.
- DeVellis, R.F. (1991), "Scale Development: Theory and Applications". *Sage Publications*. London.
- Doherty, N.F., Ellis-Chadwick, F.E. and Hart, C.A. (2003), "An Analysis of the Factors Affecting the Adoption of the Internet in the UK Retail Sector", *Journal of Business Research*, Vol. 56, No. 11, pp 887-897.
- Doherty, N. F., Ellis-Chadwick, F. (2006), "New Perspectives in Internet Retailing: A review and strategic critique of the field, *Journal of Retail and Distribution Management*, Vol. 34, No. 4/5, pp. 22-36.
- Duffy, D. (2004) "Multi-channel marketing in the retail environment", *Journal of Consumer Marketing*, Vol 21, No 5 pp. 356-359.
- Ellis-Chadwick, F.E., Doherty, N.F. and Hart, C.A. (2002), "'Signs of Change? A Longitudinal Study of Internet Adoption in the UK Retail Sector", *Journal of Retailing and Consumer Services*, Vol. 9 No.2, pp 71-80.
- Elko, E. (2000), "The content and design of web sites: an empirical study" *Information and Management*, Vol. 37, No. 3, pp. 123-134.
- Evanschitzky, H.; Gopalkrishnan, R.; Hesse, J. and Dieter, A. (2004), "E-satisfaction: a re-examination", *Journal of Retailing*, Vol. 80, pp 239-247.
- Forsythe, S.M. and Shi, B. (2003) "Consumer patronage and risk perceptions in Internet shopping", *Journal of Business Research*, Vol. 56, pp. 867-875.
- Gibbs, J.L.; Kraemer K.L. (2004) "A Cross-Country Investigation of the Determinants of Scope of E-commerce Use: An Institutional Approach" *Electronic Markets*, Vol. 14, No. 2, , pp. 124-137.
- Golden, W.; Hughes, M. and Gallagher, P.(2004) "Online retailing: evidence from Ireland" *Journal of end-user computing*. Vol 15, No 3 pp. 32-44
- Hague, P. (1987). "Good and bad in questionnaire design". *Industrial Marketing Digest (UK)*, Vol.12, No. 3, pp. 161-170.
- Hair, J.; Anderson, R.; Tatham, R. and Black, W. (1997), "Multivariate Data Analysis", Prentice Hall, New Jersey.
- Harris, L. and Goode, M. (2004), "The Four Levels of Loyalty and the Pivotal Role of trust: a Study of Online Service Dynamics", *Journal of Retailing* Vol.80 No.2, pp. 139 – 158.
- Hart, C.A., Doherty, N.F. and Ellis-Chadwick, F.E., (2000) "Retailer Adoption of the Internet: Implications for Retail Marketing", *European Journal of Marketing*, Vol. 34 No.8, pp.954-974.
- Lee, S. and Brandyberry, A. (2003), "The e-tailer's Dilemma" *ACM SIGMIS Database*, Vol. 34 No.2.
- Levenburg, N. (2005), "Delivering Customer Value Online: /analysis of Practices, Applications and Performance", *Journal of Retailing and Consumer Services* Vol.12 No.5, 319-331.
- Lunce, S.; Lunce, L.; Kawai, Y. and Balaundrum, M. (2006) " Success and failure of pure-play organisations: Webcan versus Peapod, a comparative analysis" *Industrial Management & Data Systems*, Vol. 106, No. 9., pp. 1344-1358.

- McGrath, J. (1982), "Dilemmatics: The Study of Research, Choices & Dilemmas", in, McGrath, J., Martin, J. & Kulka, R. eds, *Judgement Calls in Research*, Sage Publications, Beverly Hills, CA., pp.69-102.
- Mirchandani, D and Motwani, J. (2001) "Understanding Small Business Electronic Commerce Adoption: An Empirical Analysis," in *Journal of Computer Information Systems*, 41(3), pp. 70-73, 2001.
- O'Keefe, R., O'Connor, G., and Kung, H. J (1998), "Early adopters of the Web as a retail medium: small company winners and losers", *European Journal of Marketing*, Vol. 32 No. 7/8, pp. 629-643.
- Pavitt, D. (1997), "Retailing and the super highway: the future of the electronic home shopping industry", *International Journal of Retail Distribution and Management*, Vol. 25, No. 1, pp. 38-43.
- Phan, D. (2002) "E-business development for competitive advantage: a case study" *Information and Management*, vol. 40. pp. 581-590.
- Priluck, R. (2001), "The Impact of Priceline on the Grocery Industry", *International Journal of Retail Distribution and Management*, Vol.29, No.3, pp 127- 134.
- Rafiq, M. and Fulford, H. (2005) "Loyalty transfer from offline to online stores in the UK grocery industry, *International Journal of Retail Distribution and Management*, Vol. 33, No. 6, pp. 444-460.
- Reynolds, N.; Diamantopoulos, A. and Schlegelmilch, B. (1993), "Pre-testing in questionnaire design; A review of the literature and suggestions for further research". *European Business Management School, University of Wales*.
- Ring, L. and Tigert, D. (2001), "The decline and fall of Internet Grocery Retailers" *International Journal of Retail Distribution and Management*, Vol. 29 No6. , pp. 264- 271
- Srinivasan, S., Anderson, R., and Kishore, P.(2002), "Customer Loyalty in e-commerce: an Exploration of its Antecedents and Consequences", *Journal of Retailing*, Vol. 78 No.1, pp. 41-50.
- Szymanski, D. and Hise, R.(2000), "e-satisfaction: An Initial Examination", *Journal of Retailing*, Vol. 76 No.3 , pp. 309-322.
- Tankansen, K.; Yrjola, H and Holmstrom, J. (2002), " The way to profitable Internet grocery retailing – six easy lessons", *International Journal of Retail Distribution and Management*, vol. 30, No. 4, pp. 169-178.
- . Teo, T.S.H and Tan, J. S. (2002) "Senior executives' perceptions of business-to-consumer (B2C) online marketing strategies: the case of Singapore" *Internet Research*, Vol. 12, No. 3 pp. 258 – 275.
- Vijayasarathy, L. and Tyler, M (1997), "Adoption Factors and Electronic Data Interchange use: A Survey of Retail Companies". *International Journal of Retail Distribution and Management*, Vol. 25 No.9, pp.286-292.
- Vrechopoulos, A. O'Keefe, R. Doukidis, G. and Siomkos, G. (2004), "Virtual Store Layout: An Experimental Comparison in the Context of Grocery Retail", *Journal of Retailing* Vol. 80 No.1, pp.13-22.
- Wilson-Jeanselme, M. and Reynolds, J. (2005) "Growth without profit: explaining the Internet transaction profitability paradox", *Journal of Retailing and Consumer Services* Vol. 12, No. 3, pp. 165–177.
- Wilde, S.J., Kelly, S.J. and Kelly, J. (2004) "An exploratory investigation into e-tail image attributes important to repeat to Internet savvy customers", *Journal of Retailing and Consumer Services*, Vol. 11, pp 131-139.

- Wolfenbarger, M. and Gilly, M (2003) "etailQ: Dimensionalizing, Measuring and Predicting e-tail Quality", *Journal of Retailing*, Vol.79 No.3, pp.183-198.
- Wood, C. Alford, B. Jackson, R, and Gilley, O. (2005), "Can Retailers get Higher Prices for "end-of-life Inventory through Online Auctions?", *Journal of Retailing* Vol.81 No. 3, pp. 181-190.
- Wymer, S. and Regan, E. "Factors Influencing E-commerce Adoption and Use by Small and Medium Businesses", *Electronic Markets*, Vol.15, No. 4, pp. 438-453.
- Zhao, H and Cao, Y (2004), "The Role of e-tailer Inventory Policy on e-tailer Pricing and Profitability", *Journal of Retailing*, Vol.80 No.3, pp. 207- 219.
- Zhuang, Y. and Lederer, A. (2003) " An instrument for measuring the business benefits of e-commerce retailing", *International Journal of E-commerce, International Journal of Retail Distribution and Management*, Vol. 7 No. 3, pp. 65-99.
- Zhu, K.;Kraemer, V. Xu, S. (2003) "Electronic Business adoption by European firms: a cross country assessment of the facilitators and inhibitors" *European Journal of Information Systems*, Vol. 12, No. 4, pp. 251-268.

Appendix A: Results of the Factor Analyses

Table A1: Factors and Loadings for Inhibitors / Facilitators.

Item Measures	Factors	Customer suitability	Management support	Strategic fit:	Resources / capabilities
Level of funding available for retail development of Internet					.521
Senior management's level of commitment			.821		
Web design skills of company personnel.					.808
Suitability of company's technological infrastructure					.818
Suitability of company's logistical infrastructure					.752
Availability of appropriate human resources available					.735
Senior managers' vision of the usefulness of the Internet			.756		
Suitability of product range for Internet retailing				.602	
Level of access to the Internet of target customers		.917			
Level of computer literacy company's target customers		.933			
Other retailers' on-line retail activities, particularly competitors				.759	
levels of Internet awareness of target customers		.919			
Suitability of customers for Internet retailing		.865			
The increasing size & maturity of on-line market place				.644	
Alignment of e-commerce activity with corporate strategy				.560	
Outsourcing of functions not available within the company				.556	
Eigen Values		5.816	1.277	1.332	2.572

Table A2: Factors and Loadings for Potential Benefits.

Item Measures	Factors	Market development potential	Customer relationship opportunities	Customer relationship opportunities
Low set up costs of on-line operation			.912	
Reduction in future investment in fixed location stores				.561
Low running costs for the operation of the Internet			.870	
Increased trading hours e.g. 24 hours a day 365 days a year		.672		
The flexibility to personalise the company's offering				.826
Increased access to global consumer markets		.814		
The potential to market a wider product range		.679		
A new means of collecting richer customer information				.618
Improved quality of communication with customers				.777
The opportunity to develop customer relationships				.803
Eigen Values		1.726	1.088	3.374

Table A3: Factors and Loadings for Perceived Risks.

Item Measures	Factors	Technical concerns	Cost concerns	Channel drawbacks
High cost of running on-line and off-line operation.			.935	
Concerns about the Internet's technical reliability		.832		
High cost of the logistical support of on-line sales operation.			.823	
Consumer's perceived shopping preferences				.808
Concerns about the impact of web-site problems on brand name				.560
Concerns about on-line security		.879		
The Internet's inability to convey sensual information				.882
Eigen Values		3.079	1.114	1.294

Table A4: Factors and Loadings for Internet Adoption.

Item Measures	Factors	On-line sales	On-line Marketing
Provision of product information.		.623	
Collection of market research information			.721
Ordering of goods on-line		.917	
Payment for of goods on-line		.910	
Post purchase - confirmatory email		.900	
Post purchase – order tracking		.720	
Personalised promotions / offers			.827
Registration facilities for returning customers		.605	
Targeted promotion of goods and services			.850
Eigen Values		5.611	1.067

Table A5: Factors and Loadings for E-commerce Success.

Item Measures	Factors	Cost benefits	Marketing benefits
Low set up costs of on-line operation		.939	
Low running costs for the operation of the Internet			.625
Increased trading hours e.g. 24 hours a day 365 days a year			.761
The flexibility to personalise the company's offering			.783
Increased access to global consumer markets			.772
Reduction in future investment in fixed location stores		.898	
The potential to market a wider product range			.731
A new means of collecting richer customer information			.680
Improved quality of communication with customers			.747
The opportunity to develop customer relationships			.803
Eigen Values		1.295	5.519