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Exploring the drivers, scope and perceived success of e-commerce strategies in the UK retail sector

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Abstract

Purpose – The purpose of this study is to explore empirically the relationship between the scope of the e-commerce strategies currently being deployed by the largest and most influential UK-based retailers, 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 on a postal questionnaire survey of the UK's largest retailers. The research strategy produced a wealth of primary data, which were thoroughly analysed using a variety of multivariate, statistical techniques.

Findings – The study's findings suggest that the scope of the retailers' e-commerce strategies is strongly associated with the strength of management support behind the strategy and its perceived strategic fit. By contrast, the perceived success of their strategies is most strongly associated with the degree to which the retailer has deployed a portfolio of appropriate resources and capabilities, in support of its online operations.

Research limitations/implications – The major limitation associated with the study is with respect to the rather disappointing response rate of 10 per cent. However, this level of response is similar to many previous surveys in this domain, and it is probably not surprising, given the commercially sensitive nature of the data. Moreover, the extensive phone-based follow-up of non-respondents has provided an important reassurance that any resultant bias is likely to have only a modest effect on the results.

Practical implications – The findings highlight that, despite their close relationship, the scope of an e-commerce strategy and its success are rather different entities, and therefore the factors that affect the scope of adoption cannot be relied on to deliver success. In particular, retailer managers must recognise that, while their support and commitment may well be the impetus necessary to deliver a wide-ranging strategy, its ultimate success may be dependent on their ability to deploy a suitable portfolio of resources and capabilities.

Originality/value – The study makes a major contribution in a number of ways. It provides one of the first attempts to measure the relationship between the drivers, scope and perceived success of e-commerce strategies, and, in so doing, it delivers an objective comparison between those factors that affect the scope and the success of e-commerce strategies. Moreover, important new measures of e-commerce scope and success have been developed and deployed.

Keywords E-commerce, Marketing, Marketing strategy, Retailing, United Kingdom

Paper type Research paper



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 (O'Keefe *et al.*, 1998; Dennis *et al.*, 2004; Evanschitzky *et al.*, 2004; Doherty and 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 and 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 online shopping to the extent that it is estimated to be the fastest growing area of internet usage (Forsythe and 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. 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 "pure-plays" who are likely to play the more dominant role (Min and Wolfenbarger, 2005). 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, 2002; Evanschitzky *et al.*, 2004).

Against this backdrop, there is a pressing need for empirical studies – such as the one presented in this paper – that shed light on the factors that affect the scope of an e-commerce strategy, and perhaps most importantly the degree to which it is perceived to be successful. In tackling this issue, we were hoping to identify those managerially actionable factors that affect the scope and success of online strategies. In terms of the paper's structure, the following section reviews the background literature for this study, before describing the research methods adopted, in section 3. 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 many previous studies (Doherty *et al.*, 2003; Gibbs and Kraemer, 2004; Wymer and 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 online 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). 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).

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 online retailing (Teo and Tan, 2002; Wymer and 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, internet adoption levels are influenced by:

- the relative advantages of trading online (Hart *et al.*, 2000);
- the organisation's geographical location (Weltevreden and Atzema, 2006);
- the appropriateness of a company's knowledge and resources (Lee and Brandyberry, 2003); and
- the internet's capacity to complement traditional stores (Weltevreden, 2007).

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 consumer's attitudes and reactions to a variety of different elements of the retailer's 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 online (Wolfenbarger and Gilly, 2003). More recently, Goode and Harris (2007) have investigated the impact that the consumer's perception of online reputation, reliability, site design and security might have on their overall satisfaction with a particular web site. Other researchers have sought to perform detailed studies of the role that the consumer's experiences of single aspects of the retailer's online offerings, such as

“e-tail store image” (Wilde *et al.*, 2004), “store layout” (Vrechopoulos *et al.*, 2004) or “store loyalty” (Rafiq and Fulford, 2005) 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 online retailers, to determine the extent to which they perceive their online 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 on the benefits of online 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 studies 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 days 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 online, 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 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:

- to derive a number of distinct factors that are likely to affect the scope and success of an e-commerce strategy;
- to explore the nature of the relationship between each of the derived factors and the resultant scope of the e-commerce strategy;
- to explore the nature of the relationship between each of the derived factors and the resultant level of e-commerce success; and
- to evaluate the relationship between the scope of the e-commerce strategy and its perceived success.

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, and in so doing, the study would be responding to Schibrowsky *et al.*'s (2007) call for more strategically focused research in this domain. 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 (Hair *et al.*, 1997). 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

To address our four research objectives, it was necessary to develop a series of measures that would adequately describe the drivers, scope and perceived success of retailers' e-commerce strategies. 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 was derived from the literature, as described below:

- (1) *Respondent classification* – The first section was designed to capture background information with respect to a responding organisation's activity sector and its size, as summarised in Table I.
- (2) *Drivers of e-commerce strategies* – To understand why retailers implement a particular form of internet strategy, respondents were asked to critically consider those drivers ("inhibitors/facilitators", "potential benefits" and "perceived risks") that might have influenced this decision. Each driver was derived from the extant literature (Doherty *et al.*, 2003; Gibbs and Kraemer, 2004; Wymer and Regan, 2005), and operationalised using a seven-point Likert scale, which respondents used to indicate their level of agreement/disagreement. Tables II-IV, which are used to present the results of the factor analysis, also explicitly identify each of these item measures.

	Percentage
<i>Activity sector</i>	
Clothing	23
Mixed	9
Furnishing	9
Grocery	9
Electrical	8
DIY	6
Jewellery	6
Other	30
<i>Size (no. of staff)</i>	
<500	63
500-2,000	22
2,000-5,000	10
>5,000	5

Table I.
Profile of responding organisations

Item measures	Factors				
	Customer suitability	Management support	Strategic fit	Resources/capabilities	
Level of funding available for development of internet				0.521	
Senior management's level of commitment		0.821			
Web design skills of company personnel				0.808	
Suitability of company's technological infrastructure				0.818	
Suitability of company's logistical infrastructure				0.752	
Availability of appropriate human resources available				0.735	
Senior managers' vision of the internet's usefulness		0.756			
Suitability of product range for internet retailing			0.602		
Level of access to the internet of target customers	0.917				
Level of computer literacy company's target customers	0.933				
Other retailers, particularly competitors, online activities			0.759		
Levels of internet awareness of target customers	0.919				
Suitability of customers for internet retailing	0.865				
The increasing size and maturity of online marketplace			0.644		
Alignment of e-commerce activity with corporate strategy			0.560		
Outsourcing functions not available within company			0.556		
Eigenvalues	5.816	1.277	1.332	2.572	
Mean values	4.65	4.3	4.5	3.8	

Table II.
Item measures, factors and loadings for inhibitors/facilitators

- (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 and 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 online retailing activities (see Table V), using a seven-point Likert scale ranging from “no activity planned”, through to “already fully active”.
- (4) *Perceived success of e-commerce strategies* – One of the most important and novel aims of our study was to assess the extent that retailers judged their portfolios of web-based offerings to have been successful. To this end, a series of item measures (see Table VI), operationalised using seven-point Likert scales, was derived from the literature (Mirchandani and Motwani, 2001;

Table III.
Item measures, factors
and loadings for potential
benefits

Item measures	Factors		
	Market development potential	Cost reduction potential	Customer relationship opportunities
Low set up costs of online operation		0.912	
Reduction in future investment in fixed location stores			0.561
Low running costs for the operation of the internet		0.870	
Increased trading hours (i.e. 24 hours a day, 365 days a year)	0.672		
The flexibility to personalise the company's offering			0.826
Increased access to global consumer markets	0.814		
The potential to market a wider product range	0.679		
A new means of collecting richer customer information			0.618
Improved quality of communication with customers			0.777
The opportunity to develop customer relationships			0.803
Eigenvalues	1.726	1.088	3.374
Mean values	4.4	4.1	4.1

Table IV.
Item measures, factors
and loadings for
perceived risks

Item measures	Technical concerns	Factors	
		Cost concerns	Channel drawbacks
High cost of running online and off-line operation		0.935	
Concerns about the internet's technical reliability	0.832		
High cost of the logistical support of online sales operation		0.823	
Consumers' perceived shopping preferences			0.808
Concerns about the impact of web site problems on brand			0.560
Concerns about online security	0.879		
The internet's inability to convey sensual information			0.882
Eigenvalues	3.079	1.114	1.294
Mean values	4.5	4.1	4.3

Table V.

Item measures, factors and loadings for e-commerce scope

Item measures	Factors	
	Online sales	Online marketing
Provision of product information	0.623	
Collection of market research information		0.721
Ordering of goods online	0.917	
Payment for of goods online	0.910	
Post purchase – confirmatory e-mail	0.900	
Post purchase – order tracking	0.720	
Personalised promotions/offers		0.827
Registration facilities for returning customers	0.605	
Targeted promotion of goods and services		0.850
Eigenvalues	5.611	1.067
Mean value	4.2	3.5

Table VI.

Item measures, factors and loadings for e-commerce success

Item measures	Factors	
	Cost benefits	Marketing benefits
Low set-up costs of online operation	0.939	
Low running costs for the operation of the internet	0.898	
Increased trading hours (e.g. 24 hours a day, 365 days a year)		0.625
Access to a wider range of customers (e.g. global markets)		0.761
The potential to market a wider product range		0.783
The opportunity to capture a richer customer information		0.772
Reduction in future investment in fixed location stores		0.731
A means to improve the quality of customer communications		0.680
The flexibility to personalise the company's offering		0.747
The opportunity to develop enhanced customer relationships		0.803
Eigenvalues	1.295	5.519
Mean values	4.3	3.8

Wilson-Jeanselme and Reynolds, 2005). It is important to note that respondents were not asked to provide hard financial measures of success, such as profitability, as this information would have been far too commercially sensitive.

The relationships to be explored amongst these constructs are presented in our conceptual model (see Figure 1).

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,

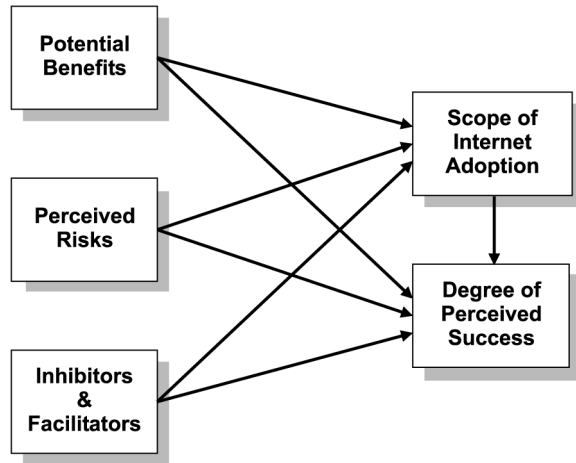


Figure 1.
Conceptual model

including subject specialists, academic experts and retailers, were given draft copies and asked to critically review the questionnaire. After completion, debriefing interviews were conducted, which resulted in a number of enhancements to 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, as listed in the FAME Directory, that have an annual turnover of over £5 million. Ultimately 1,168 organisations were identified which met our inclusion criteria. In common with previous studies (Doherty *et al.*, 2003; Teo and Tan, 2002), it was anticipated that the most appropriate respondent was likely to be the Marketing Director, and so each was targeted by name. After a round of follow-up mailings, the survey ultimately generated 104 useable replies and 82 questionnaires returned as "addressee not known", giving an overall response rate of 9.6 per cent.

Given the relatively low response rate, a set of telephone-based interviews was conducted to ensure that the respondents to the survey were not systematically different from the non-respondents. A random selection of 155 non-respondents were telephoned and asked to comment on whether they had received the questionnaire, and to explain their subsequent course of action. In the majority of cases (78.7 per cent), the reason for non-response (such as "company policy", "respondent too busy" or "personal policy") did not indicate any systematic bias in attitude to the internet. In a further 12.3 per cent of the cases, the respondent was found to be ineligible because either: "the organisation was no longer trading" or "the individual had left the company". Finally, as only 9 per cent of the interviewees intimated that they had not responded because of their personal or company attitude to the internet, it can be concluded that if there was any non-response bias, its effects are likely to be fairly negligible.

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 Tables II-VI, 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, using principal components factor analysis with a Varimax rotation, as it is easier to interpret the results (Hair *et al.*, 1997). The application of the scree test and a review of the eigenvalues were used to determine the most statistically significant number of factors for each of the variable sets. Ultimately, a total of 14 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, eigenvalues and means values for all the variable sets are presented in Tables II-VI. The validity and reliability of each factor was also tested using coefficient α . Ideally, α scores should exceed 0.70, although scores of 0.60 and above are acceptable (DeVellis, 1991). In this instance, 12 of the factors can be classed as “ideal” (factors 1, 3, 4 and 6-14), while the remaining two can be classed as “acceptable” (factors 2 and 5).

4.2 The relationship between the drivers and scope of e-commerce

It can be seen from mean values presented in Table V that the sample of respondents generally perceived the scope of their online sales operations to have been more fully developed than that of their online marketing. To explore the determinants of these differing levels of adoption, a multiple regression model was constructed, incorporating the ten derived drivers of e-commerce, and the two scope of e-commerce factors. 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 exceed the threshold value of 5:1 (Hair *et al.*, 1997). 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 VII), a highly significant regression model could be found to explain both the adoption of the internet in support of online sales and its level of adoption for the purpose of online marketing. In the case of the analysis for online 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, i.e. cost concerns, market development potential and management support. The results of the regression analysis that treated online 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.

When comparing the drivers for the scope of an online sales strategy with those for online 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 for online sales and online marketing differ. A significant web presence for online sales requires the retailer to believe that such a

Table VII.
Results of multiple
regression analysis

Constant (α)	β_1 , first variable (coefficient)	β_1 , second variable (coefficient)	β_1 , third variable (coefficient)	β_1 , fourth variable (coefficient)	β_1 , fifth 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)	Online sales (0.595)***	
- 0.704	Management support (0.499)	Customer relationship openings (0.494)			Online 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)***

Notes: Stepwise regression; all beta coefficients are significant at the 5 per cent level; *** significant at the 0.001 level

venture will fit well with their wider corporate strategy, whereas the online marketing capability is being driven by the organisation's belief about the site's potential to deliver enhanced customer relationships.

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

A novel element of this study is the measurement of the perceived success of e-commerce strategies, and it can be seen from the mean values, presented in Table VI, that retailers generally perceive their web operations to have been more successful in terms of the delivery of cost benefits rather than the realisation of marketing benefits. A multiple regression was conducted to investigate the relationship between e-commerce drivers and these two measures of e-commerce success. As can be seen from the results of this analysis (Table VII), a highly significant regression model could be found to explain both the success of the strategy, in terms of cost benefits, and its success, in the form of marketing benefits. In the case of the analysis for cost benefits, "resources/capabilities" was found to be the most important, in terms of its explanatory power, with "cost reduction potential", "cost concerns", "channel drawbacks" and "strategic fit" all also having important roles to play in determining the extent of the cost benefits realised. In the case of the 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 in determining the extent of both 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, which 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 the scope and success of e-commerce strategies*

The final area in which we envisaged making a contribution to the literature was with respect to the relationship between the scope of internet adoption and the extent to which the initiative is perceived to have been a success. The results of the correlation analysis (Table VIII) suggest that there are significant associations ($p = 0.001$) between all four of the dependent variables that were used in our regression analyses.

	Online sales	Online marketing	Marketing benefits	Cost benefits
Online sales		0.660***	0.567***	0.537***
Online marketing	0.660***		0.575***	0.503***
Marketing benefits	0.567***	0.575***		0.510***
Cost benefits	0.537***	0.503***	0.510***	

Note: ***Significant at the 0.001 level

Table VIII.
Correlation analysis of relationships between scope and success factors

The results of these analyses suggest that organisations that have made significant progress in the development and operation of an online sales capability will also have been very active in respect of their online 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 the scope of e-commerce adoption and its perceived success: the most successful online 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 retail marketing literature by providing one of the first empirical studies of the factors that affect e-commerce success and then comparing these with the antecedents of the scope of the retailers' e-commerce strategies. With regard to the determinants of success, it has been found that although the drivers of cost- and marketing-oriented benefits differ, both are strongly associated with the retailer's resources. Not only must the retailer be able to deploy a portfolio of resources and capabilities that are well-suited to their internet operations, they must also be able to fund it appropriately, as cost concerns have been shown to exert a negative influence on success. By comparison the scope of internet adoption is more strongly associated with the strength of management support behind the strategy and the perceived strategic fit of the initiative. Moreover, the finding that there is a very strong, positive association between the scope of 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.

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 factors that affect the scope of a strategy 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 the scope and success of e-commerce 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 a number of important new item measures have been developed and tested, which might be usefully incorporated in future research. In particular, the novel conceptualisation and operationalisation of our two dependent constructs – e-commerce scope and e-commerce success – could be applied within both retail-specific studies as well as more widely within the ongoing study of the adoption, usage and diffusion of the internet.

In common with all research into the adoption of innovative technology, within the organisational context, this study contains a number of inherent limitations. In particular, we were rather disappointed with the survey's response rate, although the follow-up interviews did provide some reassurance that any effects of non-response bias should be fairly minimal. However, the level of response is perhaps not surprising

given the commercially sensitive nature of some of the questions. A further limitation relates to the adoption of the survey format, which 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 organisation, might have different perceptions of these very complex issues. Indeed, there is 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 multivariate 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 quantitative studies, perhaps targeting different populations, to ensure that our findings do not suffer from bias, as well as follow-up, qualitative studies, to help confirm the direction of causality. Indeed, we are currently planning a follow-up, qualitative study 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 senior management commitment, strategic fit and the deployment of appropriate resources and capabilities can all have a role to play in the scope 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 and within a variety of countries to identify areas of commonality and variation in terms of the drivers of e-commerce scope and success.

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