Adoption and motivational factors for online grocery shopping in the UK.

Abstract

Following upon the results of previous qualitative research (Authors, 2005), the objective of this paper is to confirm the role of situational variables in the adoption process of online grocery shopping. Situational variables and life events in particular (e.g. having a baby, health problems) emerge as the trigger for starting online grocery shopping for two clusters. However, the adoption of e-grocery shopping seems to be re-evaluated frequently and consequently post-adoption evaluation appears crucial to the decision of whether to continue with or to drop internet grocery shopping.

Keywords: e-grocery shopping; cluster analysis; situational variables

Preferred track: new technologies and e-marketing

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Introduction

According to Mintel (2003), the UK "*has arguably the most developed online grocery retail market in the world*", with more than 1.3 million people shopping for groceries online (Daily Record, 2004). However, online grocery purchases are estimated to account for only 2% of the total UK grocery market (justfood.com, 2006). The online grocery sector in the UK can therefore be considered still at the early stages of the adoption process.

The results of previous qualitative research[1] (Authors, 2005) suggested that the online mode of shopping for groceries may be discretionary: it may be abandoned when a particular trigger disappears or because consumers are unhappy with service, but equally, it may be restarted as changing life events create new triggers. Online grocery shoppers were found to never cease completely to shop in traditional grocery stores, at least for some products. Switching between the two modes of shopping hence appears to be the norm, with one form of shopping taking the upper hand on the other, depending on the situation. Following from the results of the qualitative research, a large scale quantitative survey has now been conducted to validate the findings of our earlier study and confirm the role of situational variables in spurring the commencement or the termination of online grocery buying.

Theoretical background

Our research rests on motivational theories and the adoption of innovations.

The process of adoption

The general literature on the process of innovation adoption is well known. Robertson (1967) classifies innovations as continuous, dynamically continuous and discontinuous. Crucially, discontinuous innovations not only involve the adoption of a new product, but also cause buyers to significantly alter their behaviour patterns. Using Robertson's typology, shopping online for groceries would be classified as a discontinuous innovation, because the behaviour pattern of selecting grocery items online is considerably different from personally choosing items on display on a supermarket shelf. This is particularly relevant for fresh produce such as meat, fish, fruit and vegetables, which are rich in sensory attributes (e.g. Morganosky & Cude, 2000; Geuens, Brengman & S'Jegers, 2003). The changes in behaviour patterns that mark discontinuous innovations suggest that the process of adoption for these innovations may be lengthier and possibly more problematic than for continuous or dynamically continuous innovations.

Furthermore, consumers' perceptions of the characteristics of an innovation affect its rate of adoption (Mahajan, Muller & Bass, 1995, quoted in Verhoef & Langerak, 2001). According to Rogers (1983), the five characteristics of relative advantage, compatibility, complexity, divisibility and communicability influence the rate of adoption of an innovation. In the context of the adoption process of online grocery shopping, Verhoef and Langerak (2001) investigated the effects of perceived relative advantage, compatibility and complexity on consumers' intentions to purchase groceries online. Their research showed that consumer perceptions of the relative advantage and compatibility of electronic grocery shopping positively influenced the intention to adopt online grocery shopping. Perceived convenience emerged as a potentially decisive factor in determining consumers' perceived relative advantage and compatibility of electronic grocery shopping. Moreover, as expected, consumers' perceptions of the complexity of electronic grocery shopping had a negative influence on their e-grocery intentions.

Shopping Motivations

The study of the motivational determinants of shopping behaviour is at least half a century old. Amongst the earlier studies, Stone (1954) identified four orientations or motives for

[1] presented at EMAC in 2005

shopping: economic/price; ethical; personalising/service; and apathetic. A combination of personal and social motives was found by Tauber (1972) to underlie shopping behaviour. On these premises, an extensive body of research has focused on developing a typology of shoppers, both in general (e.g. Bellenger & Korgaonkar, 1980; Darden & Ashton, 1974; Ezell & Russell, 1985; Westbrook & Black, 1985; Williams, Slama & Rogers, 1985) and in relation to internet shopping in particular (e.g. Brown, Pope & Voges, 2003; Childers, Carr, Peck & Carson, 2001; Fenech & O'Cass, 2001; Rohm & Swaminathan, 2004; Sénécal, Garbi & Nantel, 2002). Of particular interest to our study is Rohm and Swaminathan's (2004) typology, based upon their predominant shopping motivations, which classifies online shoppers into: convenience shoppers, variety seekers, balanced buyers and store-oriented shoppers,. Convenience shoppers, variety seekers and balanced buyers were found to exhibit a high propensity to shop online, but with varying purchase frequencies, depending upon the product category and in relation to their main shopping motivation. Contrary to expectations from previous research (e.g. Corbett, 2001), time saving did not appear to motivate consumers to shop online, possibly because of the time taken to receive the goods. However, Morganosky & Cude (2000) noted that convenience was a particularly relevant motive when there were situational constraints such as ill health or the presence of small children in the household. This suggests that situational factors may also be important in the study of online shopping motivations. Indeed, Gillett (1976) found that in-home shopping was often motivated by specific needs or circumstances, such as avoiding an extra trip to pick up a needed item. Yet, Belk's (1975) observation that situational variables have gone largely unheeded in consumer behaviour research still applies today.

Aims of the study

For e-grocery shopping to develop and the process of adoption to continue, it is important to understand not only what motivates consumers to start shopping online for groceries, but also the extent to which their online shopping experience encourages them to continue, or cease, shopping online. Our research focuses on this area: online grocery shopping motivations and the triggers for starting or stopping online grocery shopping. Specifically, we focus on situational variables since they have generally been neglected in motivational studies (e.g. Belk, 1975; Gillett, 1976), although there is evidence that they may be important in triggering the adoption of e-grocery shopping (Morganosky & Cude, 2000). Following upon the results of our exploratory qualitative research (Authors, 2005), our objective is to confirm the role of situational variables in the adoption process of online grocery shopping. We also investigate the motivations for choosing a particular e-grocery service provider.

Research Design

The research involved an initial qualitative stage (see Authors, 2005). In this second stage, a postal survey was used to quantify and amplify the findings from the focus groups. The design of the questionnaire was informed by the qualitative findings, using Qualrus to facilitate access to the data. The resulting questionnaire covered a wide range of issues such as the frequency of shopping online for groceries, the reasons for choosing a particular provider and attitudes towards grocery shopping in general and online. Twenty statements regarding motivations to start buying groceries online and eighteen questions regarding reasons for stopping doing so were derived from the qualitative research. Respondents were asked to evaluate each statement against a 5 point scale where 1 denoted not applicable/no influence, 2 = weak influence, 3 = moderate influence, 4 = strong influence and 5 = very strong influence. The analysis of these statements as specific triggers in the decision to start or to stop shopping online for groceries is the main focus of this paper.

After piloting with 40 respondents, the final questionnaire was posted to a sample of 5,000 names, randomly extracted from a commercial list of online grocery shoppers. 1,320

questionnaires were returned (a response rate of 26%); of these, 1,128 were valid (had ever used the internet for grocery shopping). Over 50% of respondents had started to buy groceries online within the last three years; 65% had last shopped online for groceries in the last month or more recently.

Results

The role of situational variables

Of the 1128 responses we received, 908 completed the motivation questions. We subjected these 908 responses to hierarchical cluster analysis using Ward's method in SPSS to determine if there were identifiable groups of grocery shoppers in terms of the decision to begin buying online. The increases in the agglomeration coefficient suggested that there were five clusters, however, these were found to overlap considerably. Results of the three cluster solution are presented here as these give the clearest picture. To determine whether differences between the clusters were significant, we used an effect size measure, eta^2, which can be derived from ANOVA results as the ratio of the sum of squares between groups to the total sum of squares. We used this measure in preference to performing one-way ANOVAs as our large sample size rendered the ANOVA test too sensitive (differences in responses too small to be of practical use were found to be statistically significant). The larger the value of eta^2, the greater the difference between the clusters; as a rule of thumb, 0.01 is a small effect, 0.06 is a medium effect and 0.14 can be considered a large effect (Cohen, 1988). The mean scores for each of our twenty statements for each cluster are given in Table 1 below.

Table 1 - Factors influencing decision to start e-grocery shopping

	Cluster 1	Cluster 2	Cluster 3	
	Mean	Mean	Mean	Eta^2
no car	2.1722	2.4516	1.6000	0.02
no time to shop	**3.0727**	2.0000	**3.3917**	0.09
got PC for first time	1.4360	1.5484	1.2417	0.007
got internet connection	1.7235	1.9484	1.5167	0.009
got broadband	1.7441	1.6581	1.6083	0.002
Recommendation	1.8025	1.6968	1.6250	0.003
started working	1.3223	1.1032	1.1833	0.01
changed job	1.3191	1.0452	1.0583	0.02
changed working hours	1.4787	1.1935	1.3250	0.01
changed family circumstances	1.5608	1.7355	**3.9917**	0.3
Health problems	1.2749	**4.2839**	1.3750	0.62
mobility problems	1.1659	**4.3806**	1.3000	0.73
had a baby	1.1422	1.0774	**4.1750**	0.68
moved house	1.2433	1.2194	1.7917	0.04
got a pet	1.0948	1.1935	1.0583	0.005
avoid shopping with children	1.6193	1.3226	**3.8750**	0.32
avoid shops	2.4123	2.2000	2.5667	0.005
shopping too tiring	2.0774	**3.2387**	2.1333	0.09
wanted more convenience	3.3365	3.1419	3.6750	0.01
wanted more flexibility	3.0521	2.7871	3.3333	0.01

Cluster 1("no reason") n= 633; Cluster 2 ("health") n=155; Cluster 3 ("kids") = 120; total, 908

Convenience and flexibility were fairly important to all three clusters (mean ≈ 3). With the exception of convenience, flexibility and no time to shop, Cluster 1 recorded low means on every statement. This cluster is the largest of the three we found, with 633 respondents, and

would seem to represent a "no real reason" cluster, whose members are either unable to explain what motivated them to start or their motives were not included in our survey. An alternative explanation may lie in the distribution of the responses to each question; some were distinctly bimodal, suggesting that some were very important to a few people, but unimportant to the majority. The second and third clusters are more clear-cut. Health problems (mean = 4.28), mobility problems (mean = 4.38) and shopping being too tiring (mean = 3.23) had the strongest influence on the second Cluster. The third Cluster records high means for changed family circumstance (mean = 3.99), having had a baby (mean = 4.17) and avoiding shopping with children (mean = 3.87).

As mentioned, our survey also contained 18 questions regarding respondents' reasons for stopping buying groceries online. The 460 valid responses to these questions were also subjected to hierarchical cluster analysis, and a 3 cluster solution was again preferred on the grounds of ease of interpretation (see Table 2). As before, we found one Cluster recording low means on every variable (a similar cluster was found when the number of clusters was increased). Preferred to shop in stores (mean = 3.49), found better prices in store (mean = 2.59) and preferred to have social contact when shopping (mean = 2.15) were important to stopping Cluster 2. Members of this cluster could be more closely identified with hedonic shoppers, rather than utilitarian shoppers (see Childers, Carr, Peck & Carson, 2001). Problems with internet orders (mean = 3.78), problems with internet deliveries (mean = 3.49) and concerns about product quality (mean = 3.17) were important to stopping Cluster 3.

Table 2 - Factors influencing decision to stop e-grocery shopping

	Cluster 1	Cluster 2	Cluster 3	
	Mean	Mean	Mean	Eta^2
stopped working	1.3605	1.1322	1.0943	0.02
changed job	1.1416	1.1074	1.1509	0.00
changed working hours	1.2189	1.1074	1.2264	0.005
did not have internet connection	1.4034	1.2562	1.3302	0.003
got a car	1.4421	1.0992	1.1226	0.04
moved house	1.3262	1.0496	1.2453	0.02
new store opened nearby	1.2017	1.6612	1.4245	0.05
preferred to shop in stores	1.5150	**3.4876**	2.3302	0.37
problems with internet orders	1.3777	1.5702	**3.7830**	0.53
problems with internet deliveries	1.2318	1.4215	**3.4906**	0.49
internet connection too slow	1.2961	1.3388	1.7642	0.04
internet shopping too complicated / difficult	1.2103	1.2727	1.5849	0.04
family circumstances changed	1.7382	1.2810	1.3962	0.03
found better prices in store	1.2790	**2.5950**	1.9057	0.21
concerned about product quality	1.4077	1.9917	**3.1698**	0.28
concerned about internet security	1.1459	1.4628	1.7170	0.08
delivery charges too high	1.9571	2.7107	2.6604	0.06
preferred to have social contact when shopping	1.3262	2.1570	1.4245	0.12

Cluster 1 ("disinterested stopper"), n = 233; Cluster 2 ("prefer offline"), n = 121; Cluster 3 ("internet problems"), n = 106; total 460

Discussion

The results of the first cluster analysis suggest that, besides increased convenience and flexibility, the main motives for starting e-grocery shopping lie beyond the retailers' control and relate more to shoppers' personal circumstances. However, the potential customers who would fall in Clusters 2 and 3 are targetable, for example, through parenting magazines.

Consistent with our qualitative research (Authors, 2005), the key finding from the cluster analysis is the importance of situational variables in the decision to start buying groceries online. Situational variables and life events in particular (e.g. having a baby, health problems) have emerged as the trigger for starting online grocery shopping for two clusters.

The importance of situational variables in triggering the adoption decision is significant for several reasons. Firstly, as noted in the literature review (e.g. Belk, 1975; Gillett, 1976), situational variables have not received much attention in the study of consumer behaviour. In the context of the adoption of innovation, situational variables have at most been considered as potential barriers to adoption even for people who would have been potential innovators. For instance, Engell and Blackwell (1982, p. 394) noted: "*An individual may possess a trait of innovativeness but not actually be an adopter of the product. Situational variables may prevent the person from adopting (trying and liking) the product*".

Furthermore, our findings here and in the qualitative study (Authors, 2005) indicate that, at least in some circumstances, the adoption of innovations may not follow the rational process postulated in the relevant literature (e.g. Rogers, 1983). E-grocery shoppers do not seem to undertake a pre-adoption evaluation of the characteristics of the innovation in terms of relative advantage, compatibility and complexity (e.g. Verhoef and Langerak, 2001), before deciding whether to start shopping for groceries online. Rather, their decision is determined by the change in needs derived from the new situation or circumstance.

With regards to reasons for stopping to buy groceries online, at least some of the triggers, i.e. those relating to the quality of the service offered (stopping Cluster 3), are controllable by retailers. Other e-grocery shoppers (stopping Cluster 2) seem to find the whole experience of shopping online inferior to the experience of shopping in stores and have therefore stopped purchasing groceries online. Our finding that many consumers revert to the traditional mode of supermarket shopping whenever they are dissatisfied either with specific or with general aspects of the online experience, suggests that the process of diffusion of the e-grocery innovation by no means follows a smooth and continuous path. The adoption decision seems to be re-evaluated frequently and consequently post-adoption evaluation appears crucial to the decision of whether to continue with or to drop the innovation. This is consistent with Gillett's (1976) suggestion thirty years ago, that in-home shoppers are not a captive market.

Reverting back to the traditional mode of shopping is easy because most consumers never cease completely to shop in traditional stores. This finding suggests that the offline and online modes of grocery shopping are complementary rather than substitutive. Results also indicate that the reliability of the service provided, both in terms of delivery and the price, quality and range of the goods on offer, is a crucial factor for loyalty to a website, indicating that dissatisfaction with any of these aspects may trigger the termination of e-grocery shopping.

Managerial implications

These findings have important implications for e-grocery providers. Firstly, while situational factors are beyond a marketer's control, they could be used as a basis for marketing communications content and target advertising, for instance, by using magazines directed at new parents or a promotion in conjunction with estate agents for people who have recently moved. Existing providers should concentrate on service quality issues, particularly in terms of delivery and should consider improvements to websites to make the online grocery shopping experience easier, more stimulating and rewarding for customers. This is very important, as it suggests that the decision to shop online is frequently re-evaluated, creating tangible opportunities for conversion by online providers. E-grocery providers should also monitor use frequency identifying drop outs and actively targeting them with promotional offers. Finally, incentives to start, or restart, online grocery shopping should be offered, with targeting based on different life events, for example, the birth of a child or a health crisis.

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