Online and Store Patronage: A Typology of Grocery Shoppers

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Abstract

Purpose: Grounded on approach/avoidance behaviour theory, this study develops a typology of grocery shoppers based on the concomitant perceived advantages and disadvantages of shopping online and in store for a single cohort of consumers who buy groceries in both channels.

Methodology: A survey design was employed using a sample of 871UK shoppers who had purchased groceries online and offline. The survey instrument contained items that measured the perceived advantages and disadvantages of grocery shopping online, and items relating to the perceived advantages and disadvantages of grocery shopping in traditional supermarkets. Items were selected from the extant literature and subjected to content and face validity checks. Cluster analysis was used to develop typologies of online and offline grocery shoppers. The inter-relation between the two typology sets was then examined.

Findings: The results of the research provide several insights into the characteristics, perceptions and channel patronage preferences of grocery shoppers. In particular, profiling e-grocery shoppers on the basis of their concomitant perceptions of shopping online and in store suggests that the choice of whether to shop online or in store may be driven not by the perceived advantages of one channel versus the other, but by the desire to avoid the greater disadvantages of the alternative. These perceptions differ somewhat between different consumer groups.

Originality/value: This study makes a noteworthy contribution to the Internet and general shopping literature by providing a profile of grocery shoppers based on their concomitant and often conflicting perceived advantages and disadvantages of shopping online <u>and</u> their perceived advantages and disadvantages of shopping in traditional supermarkets. The use of a single cohort of consumers overcomes the bias in previous studies that employ separate cohorts of online and offline shoppers and reveal important insights into the complex perceptions and behaviours of multi-channel grocery shoppers.

Keywords: grocery shopping; store patronage; approach and avoidance behaviour; shopper typologies; multi-channel shopping; cluster analysis.

1

Introduction

Online grocery shopping in the UK is growing rapidly (around 13% per year in 2014 and 2015) and generates £8.6 billion in sales (Mintel, 2016). Nonetheless, online grocery sales accounted for only 5.5% of all UK grocery sales in 2015 (Mintel 2016). In comparison, general online purchases in 2014 accounted for 11.4% of all retail sales, at a value of £38 billion (Mintel, 2015). Studies of grocery shoppers' attitudes and behaviour offer potential reasons for the relatively small size of the online grocery market. While supermarket shopping is commonly perceived as a chore (e.g., Roberts *et al*., 2003), evidence from both academic and industry studies suggests that buying groceries online is not universally considered a better alternative to shopping in store, because of factors related to the reliability, speed and cost of the service provided by online grocers (Hand *et al*., 2009; Mintel 2016). Over a third of UK consumers have either tried online grocery shopping but then abandoned it, or have no intention of shopping online for groceries; only 23% of UK consumers do all or most of their grocery shopping online (Mintel, 2016). The variety of grocery store formats available to consumers provides choice, and ensures that there is a store format to suit every type of grocery shopping trip; Reutterer and Teller (2009), for example, found that different store formats were preferred for major as compared to fill-in grocery shopping trips.

Researchers (e.g., Hand *et al*., 2009) have highlighted the erratic pattern of online grocery shopping's adoption, triggered by circumstances, rather than by a cognitive elaboration and rational adoption process. Due to its contingent nature, the adoption of online grocery shopping is often discontinued when the initiating trigger ceases or if the service provided does not meet expectations. Reverting back to the in-store mode of grocery shopping is easy because most online shoppers never cease completely to shop in stores; the online mode of shopping is complementary to store shopping, rather than substitutive (Burke, 2002). This start/stop pattern of online grocery shopping adoption, along with persistent switching behaviour between store and online shopping (and vice-versa) highlight the unpredictability of consumer patronage choices and the uncertainties faced particularly by pure-players such as Ocado and Amazon Fresh in the UK, and Netgrocer, Peapod, Amazon Fresh and Fresh Direct in the US.

An extensive body of research has examined consumers' motivations to shop (in general) online versus in store, with ensuing typologies of 'internet shoppers' versus 'store shoppers' (e.g. Fenech and O'Cass, 2001; Goldsmith and Goldsmith, 2002; Sénécal *et al*., 2002; Bhatnagar and Ghose, 2004; Ganesh *et al*., 2010). To a lesser extent, research has focused on consumers' motives for purchasing groceries online rather than in store (e.g. Verhoef and Langerak, 2001; Geuens *et al*., 2003; Roberts *et al*., 2003;), with Rohm and Swaminathan's (2004) study providing a typology of 'e-grocery shoppers' as compared with 'supermarket shoppers'. However, with the exception of Cervellon *et al*. (2015) this body of research has compared the characteristics and perceptions of separate samples of online and of store shoppers. The increasing

evidence of the contingent and situational approach to grocery shopping (Schröder and Zaharia, 2008; Picot-Coupey *et al.,* 2009), whereby individual consumers habitually switch between the online and the offline channel, highlights the shortcoming of considering 'online shoppers' as separate from 'traditional retail shoppers'. Indeed, Schröder and Zaharia (2008) remark that it is misleading to distinguish between a 'store oriented behaviour' and 'non-store oriented behaviour', since there is evidence that consumers '*choose where to make their purchase based on which channel is best suited to satisfy their motives*' (p. 462). Furthermore, Ganesh *et al.* (2010) found more similarities than differences between brick-and-mortar and click-and-mortar shoppers.

A second limitation of existing studies is that typologies of shoppers have been established mostly on the basis of the positive motives for adopting a particular shopping mode (e.g. Rohm and Swaminathan, 2004; Prasad and Aryasri, 2011;Mehta *et al.*, 2014), with little attention to the perceived disadvantages, barriers or concerns. Yet in the general context of Internet shopping, consumers often hold mixed views: the same people who are positive about Internet shopping are also negative (Jarvenpaa and Todd, 1997).

The discussion above highlights that more research is needed to understand consumers' perceptions of the relative advantages and disadvantages of buying groceries online and in store. Given that the initial decision to buy online is driven by situational factors (Hand *et al.*, 2009), but subsequent choices regarding which channel to use reflect the balance between advantages and disadvantages of each channel (Picot-Coupey *et al.*, 2009 and Schroder and Zaharia, 2008), we further the understanding of grocery shopping behaviour by exploring the effect of the concomitant perceived advantages *and* disadvantages of shopping online *and* in store for a single cohort of consumers who buy groceries in both channels. Grounded on approach/avoidance behaviour theory (e.g. Mehrabian and Russell, 1974; Foxall, 1990; 2010), we investigate the net effect of approach and avoidance behaviours created by these perceived advantages and disadvantages in shaping grocery shoppers' channel choices. The outcome is a profile of grocery shoppers and of their store choice behaviour reflecting the inter-relation between the perceived advantages and disadvantages of shopping online and of shopping in store.

Shopper typologies
General shopper typologies
Following seminal work by Stone (1954) and Tauber (1972) consumer researchers have long sought to establish shopper typologies on the basis of shopping motivations, psychological orientations towards the act of shopping and the outcomes expected from the shopping activity (e.g. Bellenger and Korgaonkar, 1980; Westbrook and Black, 1985; Williams *et al.*, 1985; Reid and Brown, 1996; Reynolds *et al.*, 2002; Arnold and Reynolds, 2003; see also Mehta *et al.,* 2014 for a review of shopper typology studies). As shopping

evolved and retail store formats diversified, researchers have examined the continued applicability of these general shopper typologies and found that different (bricks and mortar) retail formats are patronised by mostly common shopper types (e.g. Reynolds et al., 2002; Ganesh *et al.*, 2007). More recently, researchers have switched focus to multichannel shopping behaviour and sought to develop typologies of multichannel shoppers. For instance, Konuş *et al.* (2008) developed a typology of multichannel shoppers on the basis of their attitudes towards use of the online, catalogue and offline (store) channel for information search and for purchase of a variety of goods and services. They identified three multichannel shopper types; multichannel enthusiasts, store-focused shoppers and uninvolved shoppers. While this study undoubtedly makes a contribution to our knowledge of multichannel shopping, the conclusions are based on overall perceptions of the utility of each channel for search or for purchase, rather than on specific channel evaluation or behaviour.

In-store grocery shopping
Supermarket shopping is often considered as time consuming and tiring, a chore, frustrating, un-enjoyable and stressful, particularly when the stores are crowded (Buttle and Coates, 1984; Aylott and Mitchell, 1998; Roberts *et al.*, 2003). Many consumers associate more stress with grocery shopping than with any other forms of shopping (Aylott and Mitchell, 1998), consider it as a chore almost as bad as going to the dentist (Corral, 1999) and which always takes longer than expected (Picot-Coupey *et al.*, 2009). Buttle and Coates (1984) noted that food purchasing is not even considered by consumers as a form of 'shopping', although in practice it is the most common. Instead, grocery shopping is perceived by many people as an unavoidable, boring necessity and as a necessary evil (Buttle and Coates, 1984; Geuens *et al.*, 2003).

Although online grocery shopping offers an alternative to the boredom and stresses of supermarket shopping, the latter is preferred by some consumers because of its perceived superiority in terms of functional, experiential and social aspects (Geuens *et al.*, 2003). Functional aspects include the ability to find bargains and the time saving resulting from combining grocery shopping with other chores. At the same time, social aspects are also valued, for instance the fun of being part of a crowd and watching other shoppers (Mehta *et al.,* 2014), shopping with family members and meeting friends (Roberts *et al.*, 2003; Prasad and Arysari, 2011), as well as experiential and recreational elements (e.g. browsing for new products and impulse purchases) (Rohm and Swaminathan, 2004; Mortimer, 2012).

In-store grocery shopper typologies
With the notable exception of Mortimer (2012) who applied gender theory to the development of a typology of male grocery shoppers, most typologies of grocery shoppers use as their basis the psychological characteristics of shoppers and their shopping motivations. Table A1 in Appendix provides a summary of the in-store grocery shopper typologies discussed below.

Two early studies used store attribute preference and store image to profile female supermarket shoppers (Darden and Ashton, 1974) and grocery shoppers in general (Williams *et al.*, 1978). Williams *et al.*'s four consumer types vary on a continuum with regards to their involvement with the level of price or customer service (or both) offered by grocery stores. Similarly, Darden and Ashton's seven clusters differ in the importance attributed to the quality and price of products, the availability of trading stamps, the service and the location of stores. Interestingly, both studies identify a segment of 'apathetic' grocery consumers (the largest in Darden and Ashton's paper) who are disengaged from the process of shopping, a finding reflected in many general shoppers typologies (e.g. Stone, 1954; Westbrook and Black, 1985; Reynolds *et al.*, 2002; Ganesh *et al.*, 2002; Konuş *et al.,* 2008; Ganesh *et al.*, 2010). Moreover, both studies link the preference for different grocery store attributes and the level of involvement with price or customer service to consumers' shopping orientations, buying styles, or shopping motives. Indeed, many typologies of food/grocery shoppers are based upon consumers' attitudes to time and shopping or upon their shopping motives (e.g. Chetthamrongchai and Davies, 2000; Morschett *et al.*, 2005; Mortimer, 2012).

Jayasankaraprasad and Kathyayani (2014) developed a typology of Indian grocery shoppers on the basis of shopping motivations and then profiled the resultant shopper types on their usage of four grocery store formats to relate shopping motivation to cross-format shopping. They uncovered some differences in cross-format patronage between their shopper types but primarily, they found that all four retail formats were patronised by all shoppers, suggesting that shopping motivation is not the main driver of retail format choice. However, their motivation measures related to shopping in general and not specifically to grocery shopping, whereas Mehta *et al.*'s (2014) study of Indian grocery shoppers found that motivations to shop at hypermarkets versus traditional stores differed. Nilsson *et al.* (2015) also researched grocery store formats and examined Swedish grocery shoppers' use of supermarkets and convenience stores for major and for top-up shopping trips. Contrary to their expectations, they found heterogeneity of in-format shopping behaviour with convenience stores being used by some shopper types for the main shop and supermarkets being used by other shopper types for top-up shopping trips.

Online grocery shopping
Roberts *et al.*, (2003) suggested that avoiding the negative aspects of supermarket shopping is a major perceived advantage (and an important determinant) of online grocery shopping. For instance, according to Verhoef and Langerak (2001) consumers perceive the reduction of the physical effort of grocery shopping, as an important advantage of buying grocery online (see also Hansen, 2006). Busy consumers also consider electronic grocery shopping as a means of reducing the time pressure associated with traditional in-store shopping. The reduction of the physical effort associated with grocery shopping and time saving (see also Burke, 1997; Roberts *et al.*,

2003) are closely related to convenience. Indeed convenience, in all its aspects, emerges as a major perceived advantage of online shopping in general and as a decisive factor for online grocery shopping in particular (e.g. Morganosky and Cude, 2000 and 2002; Verhoef and Langerak, 2001; Geuens *et al.*, 2003; Roberts *et al.*, 2003;Ramus and Nielsen, 2005). Greater variety and the opportunity to find good deals are further advantages of e-grocery shopping (Roberts *et al.*, 2003), along with avoiding impulse buying and invasive sales people (Ramus and Nielsen, 2005).

However, Verhoef and Langerak (2001) noted that inconveniences (e.g. waiting for deliveries) can offset the perceived advantages of electronic grocery shopping in comparison to traditional in-store shopping. Concerns over the security of transactions and privacy, perceived complexity, not being able to personally judge the quality of products, delivery charges, the inability to use coupons and to take advantage of promotions (better prices in store) and the lack of social contact are amongst the most frequently mentioned disadvantages of online grocery shopping (e.g. Morganosky and Cude, 2000; Verhoef and Langerak, 2001; Roberts *et al.*, 2003; Ramus and Nielsen, 2005). The loss of the experiential and recreational aspects of grocery shopping (no impulse buying, no social aspect), the inconvenience when not all items (e.g. fresh produce) are bought online or are received (e.g. missing items or unsuitable substitutions), the lack of personal service and even the stress associated with waiting for a delivery also seen by some consumers as disadvantages of e-grocery shopping (Ramus and Nielsen, 2005).

Online grocery shopper typologies
The most comprehensive typology of e-grocery shoppers was developed by Rohm and Swaminathan (2004), who compared two separate samples of online and offline grocery shoppers on the basis of their shopping motives and developed a typology of shoppers in each shopping context. From the sample of online grocery shoppers, four underlying motives for shopping online (or not) were uncovered: overall convenience, physical store orientation (i.e. desire for immediate possession of goods and social interaction), information use in the planning and shopping task, and variety seeking (across retail alternatives and product types and brands). When profiled on the basis of these shopping motives, four clusters of online grocery shoppers were identified: 'balanced buyers', 'convenience shoppers', 'variety seekers' and 'store-oriented shoppers'. 'Variety seekers' and 'balanced buyers' were the two largest segments (41% and 33% respectively) and, apart from the variety seeking dimension, differed from each other only in the intensity of their underlying motives for shopping online. 'Balanced buyers' showed the highest propensity to shop online, followed by 'convenience shoppers', the smallest of the groups. Finally, the 'store-oriented' shopper scored low on all factors, except for physical store orientation. Accordingly, their propensity to shop online was also the lowest. The sample of offline grocery shoppers revealed four underlying shopping motives (physical store orientation, shopping adventure and experience, impulse shopping, time saving) and three consumer clusters: 'time-conscious',

'functional' and 'recreational' shoppers. The use of separate samples of online and offline shoppers and the limited consideration for the disadvantages for shopping on the Internet or in store are major limitations of Rohm and Swaminathan's study.

More recently, Cervellon *et al*. (2015) used a single sample of French grocery shoppers to examine the relationship between overall shopping orientation and an aggregate measure of channel attractiveness. However, a key objective of their research was to profile grocery shoppers in terms of their attitude to sustainable and ethical grocery shopping practice rather than to investigate multichannel grocery shopping.

Finally, Campo and Breugelmans' (2015) longitudinal study of online and offline grocery shoppers recognises that many grocery shoppers are inherently multichannel. They focus on examining how consumers allocate category level expenditure across grocery shopping channels, and how this changes over time as a result on online purchasing experience. Their resulting grocery shoppers' segmentation provides insight into channel use by product category, but not into the underlying drivers of and barriers to channel usage. Table A2 in Appendix summarises the online grocery shopper typologies reviewed above.

The review of the literature highlights that there is still a gap in our understanding of how multichannel grocery shoppers view channels relative to one another, and how this drives their channel patronage decisions. Our study aims to fill this gap.

Approach/ avoidance behaviour theory

Given that grocery shoppers can and do use the online and the store channel, albeit in varying degrees, we seek to develop our understanding of the complex interrelation of perceived channel advantages and disadvantages and resulting response in terms of channel choice behaviour.

Approach/avoidance behaviour theory provides a suitable lens through which to examine the response to the perceived advantages and disadvantages of different channels; this theory derives from the environmental psychology domain and posits that individuals respond to an environment either positively by approaching it or negatively by avoiding it. Approach/avoidance theory has been used to evaluate emotional responses to an environment (see for example Mehrabian and Russell, 1974; Penz and Hogg, 2011), and also to examine behavioural responses such as store patronage (Donovan and Rossiter, 1982; Bitner, 1992). While an individual's response to any environment is categorised as either approach or avoidance, these states are not fixed and are determined by the specific situational context; the positive/negative valence of drivers of approach/avoidance behaviour is determined by context (Elliot, 2006). Thus, the theory allows for grocery shoppers' choice (approach) of one channel in one situation, and its rejection (avoidance) in favour of the other channel in a different situation.

Importantly, the theory also implies that behaviour (e.g. choice of grocery channel) may be motivated not only by the expected positive outcomes of the behaviour itself (approach), but also by the attempt to avoid the perceived greater disadvantages of the alternative behaviour(s) (avoidance) (Penz and Hogg, 2011). Buying online because of its advantages would be an approach type of behaviour, yielding positive reinforcement every time the advantages of shopping online are experienced and producing subsequent repeat-behaviour . Contrary to approach behaviour, avoidance behaviour provides a 'negative' type of reinforcement (see Foxall, 1990): further behaviour of the same kind (buying groceries online) is repeated in order to continue to avoid the disadvantages of the alternative behaviour (shopping in store). Logically, the positive reinforcement arising from approach behaviour should be stronger in inducing repeat behaviour of the same kind than the 'negative' reinforcement resulting from avoidance behaviour. Consumers who buy groceries online because of the advantages of doing so should be motivated to continue to shop online more often than consumers who buy online just to avoid supermarkets, but with little appreciation of the specific advantages of shopping online.

We posit that channel choice is the outcome of a complex balance whereby the perceived advantages and disadvantages of each channel are weighed up by shoppers; the net result of this is channel approach or avoidance behaviour. By considering the conflicting perceived advantages and disadvantages of the same cohort of consumers who shop online and offline, we build on Penz and Hogg's (2011) earlier research which used separate cohorts of online and offline shoppers to compare the determinants of approach/ avoidance behaviour in either channel.

Our overall research aim, therefore, is to address the limitations of extant grocery shopping research by developing a typology of multichannel grocery shoppers using approach/avoidance behaviour theory to frame the concomitant and conflicting perceived positive and negative characteristics of shopping online and in store. Our research question is: are shoppers homogeneous or heterogeneous in their perceptions of the advantages and disadvantages of grocery shopping channels? Our research objectives are:
1. To develop a typology of multichannel grocery shoppers based on a single sample of consumers who shop online *and* in-store.
2. To develop a typology of multichannel grocery shoppers based on the concomitant perceived advantages *and* disadvantages of shopping online *and* in store.
3. To examine the purchase behaviour of each shopper type, online and in store.

Method

Instrument design

A list of items delineating the perceived advantages (approach) and disadvantages (avoidance) of grocery shopping both online and in traditional supermarkets was created from the extant literature (Ezell and Russell, 1985; Kau *et al.*, 2003; Ramus and Nielsen, 2005; Roberts *et al.*, 2003; Robinson *et al.*, 2007). The respective lists of advantages and disadvantages items were then evaluated for content and face validity by the authors, resulting in elimination of redundancies. Four focus groups with grocery shoppers were also used to ensure that the list of advantages/ disadvantages would be complete and up-to-date. Items generated from the literature were found to reflect the current perceptions of grocery shoppers and no additions were necessary. The final instrument contained: (a) 15 items that measured the perceived advantages and disadvantages of grocery shopping online; (b) 8 items relating to the perceived advantages and disadvantages of grocery shopping in traditional supermarkets. All items were measured on a five-point Likert-type scale, anchored at 'Strongly Disagree' and 'Strongly Agree'. These twenty three items and their source are reported in Table A3 in the Appendix. These items formed the core of a questionnaire which also measured the recency, frequency and share of total grocery spend for both supermarkets and the online channel.

Data collection

The population for this study is adults who can potentially shop for groceries offline and online in the UK. The sample was drawn from a commercial list of UK shoppers who had purchased groceries online and offline. The questionnaire was mailed to a sample of 5,000 names, randomly extracted from the list. A postal survey was preferred to an online survey for several reasons. As Bryman and Bell (2015) note, response rates for online surveys tend to be lower than for comparable postal surveys (see also Grandcolas *et al.*, 2003 and Lozar Manfreda *et al.*, 2008). An e-mail survey risks introducing additional sampling error as the e-mail inviting participation in the survey may be blocked by spam filters (Malhotra and Birk, 2007). In our study, 1327 questionnaires were returned (a response rate of 27%, in line with comparable postal surveys, e.g. Dillman, 2007); of these, 1128 were valid (had ever used the internet for grocery shopping). Of the 1128 valid respondents, 871 had completed all the questions and were therefore usable. To assess the sample's representativeness, we used the Mosaic geodemographic classification system provided by Experian plc to compare the profile of our respondents with that of the UK population having access to the internet (i.e. able to shop for groceries both online and offline). In common with other geodemographic classifications, Mosaic uses data from census and other sources to profile small neighbourhoods on the basis of the demographic and socio-economic characteristics of the neighbourhood's population. As Table 1 shows, our respondents mirror closely this population which suggests that our sample is representative and not affected by non-response bias.

Table 1: Mosaic profile of sample respondents

Mosaic Group	Sample		Population with internet
	Number	%	%
A – Symbols of Success	106	12	14
B – Happy Families	131	15	16
C – Suburban Comfort	138	16	16
D – Ties of Community	131	15	15
E – Urban Intelligence	70	8	9
F – Welfare Borderline	29	3	4
G – Municipal Dependency	41	5	3
H – Blue Collar Enterprise	75	9	8
I – Twilight Subsistence	19	2	2
J – Grey Perspectives	68	8	6
K – Rural Isolation	56	7	7
Total	864[a]	100	100

[a]Seven respondents could not be Mosaic coded due to errors in the recording of their postcodes

Over 50% of respondents were relatively new to buying groceries online, having started within the last three years; 65% had last shopped online for groceries in the last month or more recently. Significantly, when asked to indicate the proportion of total spend on groceries allocated to online, supermarkets, and other stores, respondents allocated 46% to internet grocery shopping, 41% to supermarkets and 13% to 'others stores'. Since the proportion of grocery shopping in 'other stores' is relatively small, for the rest of this paper 'supermarkets' and 'others stores' are considered together.

Data analysis and results
First we present factor analysis results on the perceived advantages and disadvantages of shopping online for groceries, and then the results for the perceived advantages and disadvantages of shopping for groceries in a supermarket. Secondly, we present cluster analyses results relating to the online shopping advantages and disadvantages and to the supermarket shopping advantages and disadvantages. Finally, we cross-tabulate the online clusters with the supermarket clusters.

Factor analysis: advantages and disadvantages of online grocery shopping
Construct validity was assessed with the guidelines outlined by Churchill (1979), Anderson and Gerbing (1988) and Bagozzi *et al.* (1991). Scale reliability was assessed by computing Cronbach's alphas (1951). The factor structure was first examined through principal components analysis using Varimax rotation, and items with low communalities or substantial cross loadings were eliminated sequentially from the analysis. The results suggested a five- factor solution.

A confirmatory factor analysis (Anderson and Gerbing, 1988; Fornell and Larcker, 1981) was then employed to further assess the factor structure, using AMOS. All items were significant and loaded strongly on their intended construct and the composite reliability of the scales exceeded .70 in line with the commonly accepted rule of thumb

10

(Fornell and Larcker, 1981). Although the chi-square statistic was significant (χ^2 = 336.93.28, df =79, p<.001), other fit statistics indicated an acceptable measurement model (GFI = .952, CFI = .946, SRMR = .0496, RMSEA = .061). Convergent validity was assessed by average variance extracted (AVE) with all values above the benchmark of .50 (Fornell and Larcker, 1981). Details of the resulting factors and relating items along with the coefficient alphas and statistics are provided in Table 2.

Table 2- Advantages/disadvantages of online grocery shopping: scale item measurement properties

	Cronbach's α	Composite reliability	CFA item loading	Sq multiple correlation	AVE
ADVANTAGES					
Convenience	.764	.776			.526
It is quick			.818	.669	
Shop when you want to			.667	.445	
Convenient			.681	.464	
Trial Ease	.751	.753			.509
Find information about prices			.707	.501	
Can try new products			.828	.686	
It is modern			.584	.341	
DISADVANTAGES					
Service concerns	.750	.760			.518
Deliveries can be late			.781	.610	
Deliveries may not arrive			.775	.601	
Products can be missing from order			.586	.343	
Search Concerns	.756	.750			.502
Products are hard to find			.770	.593	
You have to know what you want			.736	.541	
There is not enough product information			.610	.373	
Technology Concerns	.826	.828			.620
Internet shopping is not secure			.658	.433	
Internet shopping is too slow			.887	.786	
Internet shopping is too complicated			.800	.640	

Items loading on the first factor, 'Convenience' refer to attributes such as speed and flexibility. The second factor 'Trial Ease', relates to the ability to easily obtain prices and try out new products; the third factor, 'Service Concerns' refers to issues surrounding late or missing deliveries, and the fourth factor 'Search Concerns' relates to the difficulties faced by consumers in locating products and information online. The final factor, 'Technology Concerns' refers to perceived problems of speed, security and complexity in Internet usage by online grocery shoppers.

Factor analysis: advantages and disadvantages of supermarket shopping
The same scale purification approach described above was also applied to the advantages and disadvantages of supermarket shopping measures. The exploratory factor analysis of the initial 12 items indicated a three-factor solution after four items

were omitted. The confirmatory factor analysis showed all items to load highly on their intended construct. The chi-square statistic was significant (χ^2 = 40.82, df = 17, p< .01), however other fit statistics indicated an acceptable measurement model (GFI = .993, CFI = .989, SRMR = .028, RMSEA = .040).

Details of the factors and relating items along with the coefficient alphas and relevant statistics are provided in Table 3.

Table 3 - Advantages/disadvantages of supermarket grocery shopping: scale item measurement properties

	Cronbach's α	Composite reliability	CFA item loading	Sq multiple correlation	AVE
ADVANTAGES					
Impulse	.709	.743			.503
Can get better prices			.514	.264	
Don't have to plan ahead			.656	.430	
Get ideas in the store			.903	.816	
Multi-tasking	.828	.830			.709
Can go to the pharmacy at the same time			.872	.760	
Can do other things such as dry cleaning at the same time			.811	.657	
DISADVANTAGES					
Time Consuming	.737	.760			.521
It takes a long time			.728	.530	
There are always crowds			.861	.742	
Supermarkets are too big			.541	.293	

The first factor 'Impulse' relates to the advantages of impulse shopping, such as being able to see in-store offers, browse for ideas and not plan ahead. The second factor, 'Multi-tasking' concerns the ability to do other things while grocery shopping, such as visit the pharmacy or the dry-cleaners. The final factor, 'Time Consuming', relates to the time investment required to shop in a grocery store.

Cluster analyses: advantages and disadvantages of online grocery shopping and of supermarket grocery shopping
A multi-stage approach to cluster analysis was adopted. First, a hierarchical cluster analysis using Ward's method was applied to the five online grocery shopping factor scores (Convenience, Trial Ease, Search Concerns, Service Concerns and Technology Concerns) and the three standardised supermarket shopping factor scores (Impulse, Multi-tasking, Time Consuming) obtained from the EFA described above. To determine the number of clusters, measures of cluster homogeneity (Root Mean Square Standard Deviation and semi-partial R squared) and measures of cluster heterogeneity (Partial R squares) were examined (for more detailed discussion of these measures, see e.g. Sharma and Kumar, 2006). On the basis of the inflection points in semi-partial R squared and in R squared, a four cluster solution for supermarket shopping was suggested. For online shopping, the results are a little less clear cut, with root mean

square standard deviation and R squared showing no indication; there is however an inflection point in semi-partial R squared at three clusters. Results are reported in Table 4.

Table 4 – Number of clusters

	Supermarket			Online		
	Root Mean Squared SD	Semi-Partial R squared	R squared	Root Mean Squared SD	Semi-Partial R squared	R squared
1	1.000	0.179	0.000	0.739	0.237	0.000
2	0.947	0.151	0.179	0.662	0.138	0.237
3	0.816	0.070	0.427	*0.584*	*0.047*	*0.375*
4	*0.764*	*0.048*	*0.497*	0.561	0.039	0.422
5	0.859	0.096	0.331	0.536	0.035	0.461
6	0.598	0.014	0.693	0.571	0.026	0.496
7	0.762	0.036	0.544	0.577	0.024	0.522

These results were used as initial seeds for a k-means cluster analysis. This process identified three online shopper groups of similar size, labelled as: (a) *Converted*, (b) *Concerned Convenience Seekers*, and (c) *Fearful*, as presented in Table 5 and illustrated in Figure 1. The four supermarket shopper groups obtained were labelled as: (a) *Supermarket Loathers*, (b) *Impulse Shoppers*, (c) *Apathetic Shoppers* and (d) *One Stop Shoppers*, as presented in Table 6 and illustrated in Figure 2. These clusters only partially reflect the shopper types described in previous literature.

Table 5 - Cluster centroids based on online shopping advantages and disadvantages

Online Shopping Advantages & Disadvantages	Cluster means[a]				
	Converted	Concerned Convenience Seekers	Fearful	F-value*	Sig.
Advantages					
Convenience	0.4254	0.5677	-0.8469	336.233	.0001
Trial Ease	0.7400	-0.6081	-0.2612	206.817	.0001
Disadvantages					
Search Concerns	-0.8860	0.7077	0.1580	295.795	.0001
Service Concerns	-0.2702	0.0927	0.2529	23.462	.0001
Technology Concerns	-0.1963	-0.6093	0.7787	260.643	.0001
Cluster size (n)	273	258	340		
Percentage of respondents	31 %	30 %	39 %		

[a] The values represent mean standardised factor scores. The original variables were measured on a 1-5 Likert-type scales.

Figure 1 – Online shopping clusters: perceived advantages & disadvantages
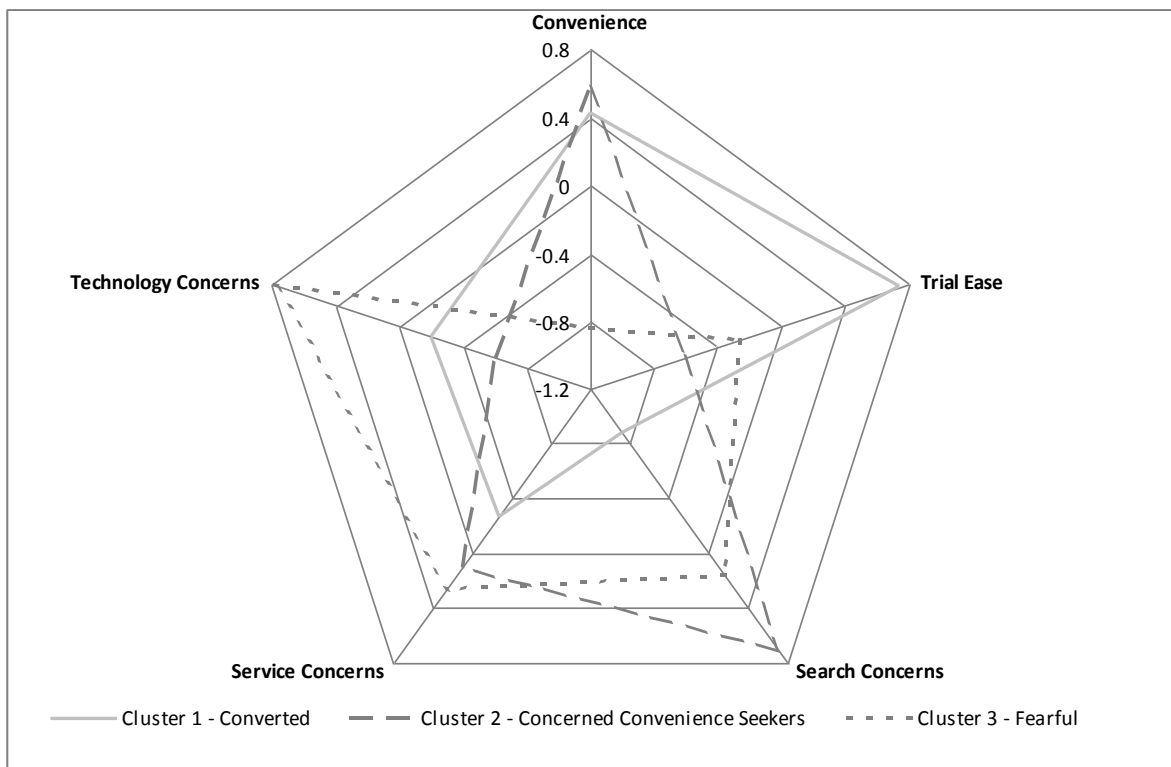
Table 6 - Cluster centroids based on supermarket shopping advantages and disadvantages

Supermarket Shopping Advantages & Disadvantages	Cluster means[a]					
	Supermarket Loathers	Impulse Shoppers	Apathetic Shoppers	One Stop Shoppers	F-value*	Sig.
Advantages						
Impulse	-0.9061	0.7190	0.0356	0.8908	304.918	.0001
Multi-tasking	0.0040	-0.8709	0.2971	0.7643	145.086	.0001
Disadvantages						
Time consuming	0.5002	0.1510	-1.023	0.5459	217.022	.0001
Cluster size	250	224	252	145		
Percentage of respondents	29%	26 %	29 %	17 %		

[a] The values represent mean standardised factor scores. The original variables were measured on a 1-5 Likert-type scales

Figure 2 – Supermarket shopping clusters: perceived advantages & disadvantages
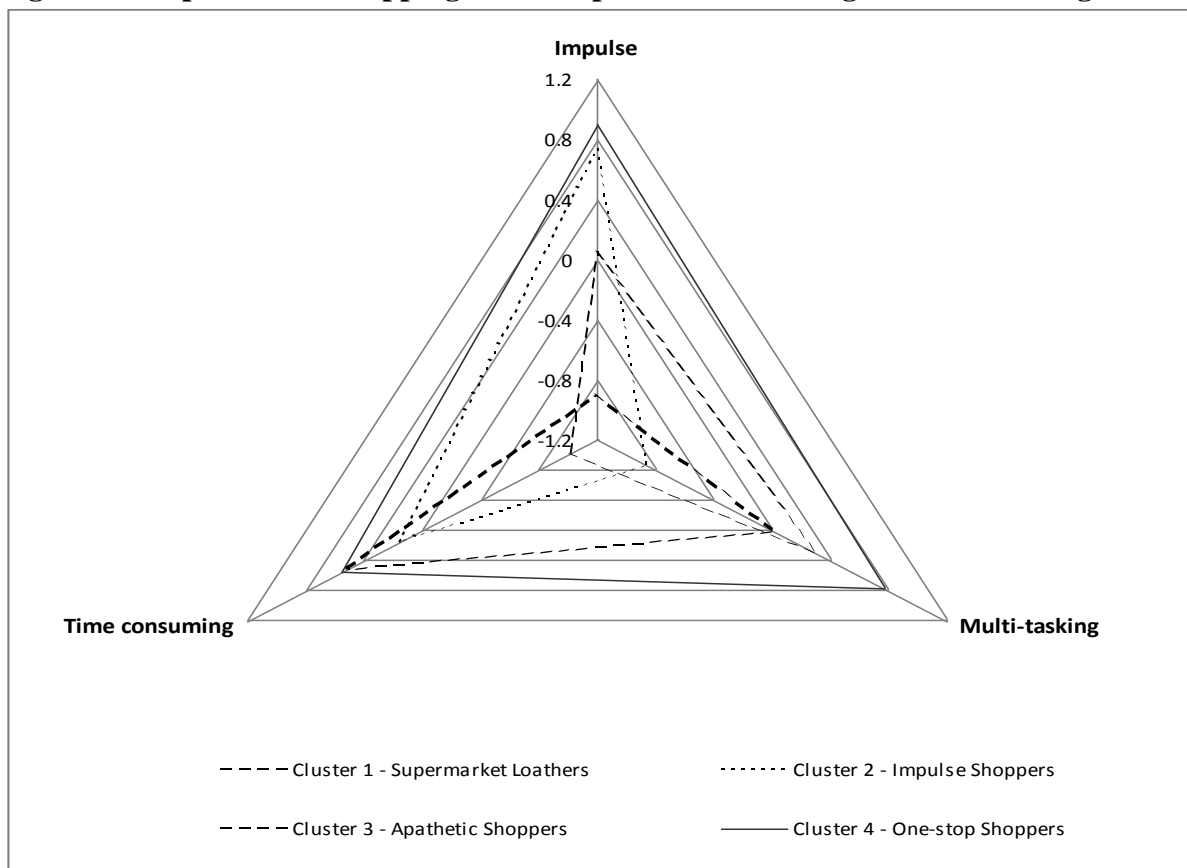
Grocery shoppers profile

As the same consumer sample was profiled first on the basis of perceived advantages and disadvantaged of online shopping, then on the perceived advantages and disadvantages of supermarket shopping, the degree of association between membership of individual online and offline clusters could be identified. To do this we performed cross-tabulation of the two sets of clusters. The results are reported in Table 7.

Table 7 - Cross tabulation of clusters

Supermarket Clusters		Online clusters			Total
		Converted	Concerned Convenience Seekers	Fearful	
Supermarket Loathers	n (%) Adj. residual	121 (44%) 6.9	78 (30%) 0.7	51 (15%) -7.2	250 (29%)
Impulse Shoppers	n (%) Adj. residual	54 (20%) -2.7	78 (30%) 2.0	92 (27%) 0.7	224 (26%)
Apathetic Shoppers	n (%) Adj. residual	68 (25%) -1.8	57 (22%) -2.9	127 (37%) 4.4	252 (29%)
One Stop Shoppers	n (%) Adj. residual	30 (11%) -3.0	45 (18%) 0.4	70 (21%) 2.5	145 (17%)
Total		273 (100%)	258 (100%)	340 (100%)	871 (100%)

A chi-square test shows a significant association between supermarket cluster membership and online cluster membership (chi-square = 75.1, d.f. = 6, p= 0.000). Almost half (44%) of the *Converted* online grocery shoppers are *Supermarket Loathers*. The *Converted Supermarket Loathers* spend over 60% of their monthly grocery budget online, although they still shop as frequently in store as they do online (see Table 8).

Table 8 - Cluster profiles by grocery spend and shopping frequency

Monthly Total Grocery Spend %								
Online Clusters	**Converted**		**Concerned Convenience Seekers**		**Fearful**		*Total*	
Supermarket Clusters	**Online**	**Offline**	**Online**	**Offline**	**Online**	**Offline**	**Online**	**Offline**
Supermarket Loathers	63	37	58	42	40	60	*57*	*43*
Impulse Shoppers	53	47	54	46	32	68	*45*	*55*
Apathetic Shoppers	45	55	40	60	31	69	*38*	*62*
One Stop Shoppers	50	50	51	49	29	71	*41*	*59*
Total	*55*	*45*	*52*	*48*	*33*	*67*	46	54
Main Grocery Shop Frequency (no. times in last 4 weeks)								
Online Clusters	**Converted**		**Concerned Convenience Seekers**		**Fearful**		*Total*	
Supermarket Clusters	**Online**	**Offline**	**Online**	**Offline**	**Online**	**Offline**	**Online**	**Offline**
Supermarket Loathers	2.07	2.18	2.01	4.77	2.41	7.16	*2.16*	*4.70*
Impulse Shoppers	1.55	3.01	1.54	2.87	0.84	9.90	*1.31*	*5.26*
Apathetic Shoppers	1.14	3.72	1.22	6.81	0.92	6.36	*1.09*	*5.63*
One Stop Shoppers	1.77	7.21	1.69	3.39	0.72	4.86	*1.39*	*5.15*
Total	*1.63*	*4.03*	*1.62*	*4.46*	*1.22*	*7.07*	*1.49*	*5.19*

Even shoppers who loathe supermarkets have not converted to buying all of their groceries online. Furthermore, a third (31%) of the *Converted* are *Impulse Shoppers* or *One Stop Shoppers* (Table 7), who also appreciate the advantages of shopping in store. Perhaps even more surprisingly in Table 7, a quarter of the *Converted* are *Apathetic* shoppers who not only are indifferent towards supermarket shopping (Table 6), but also spend the least online as a percentage of their monthly grocery spend and are the most infrequent online shoppers (Table 8). As shown in Table 8, even the *Converted* online shoppers rely on shopping in store for over 40% of their grocery requirements and shop in store more often than they shop online, perhaps for top-up-shopping. However, the online/ offline grocery shopping patronage behaviour of *Converted* online shoppers is also determined by the extent to which they dislike supermarkets, whether

they appreciate some of the advantages of shopping in store (shopping by impulse and one stop shopping) and are apathetic towards grocery shopping anyway.

The *Supermarket Loathers* account for 30% of the *Concerned Convenience Seekers*, and the proportion of *Apathetic Shoppers* is very similar to that within the *Converted* group (Table 7). What distinguishes the *Concerned Convenience Seekers* from the *Converted* are not only their search and service concerns about online grocery shopping, but also their greater appreciation of the advantages of shopping in store: in total, almost 50% of *Concerned Convenience Seekers* are either *Impulse* or *One Stop Shoppers.* Nonetheless, the *Concerned Convenience Seekers* are behaviourally very similar to the *Converted* (see Table 8), in terms of the proportion of their monthly grocery budget allocated to online shopping and to stores and also in terms of their patronage frequency of either channel, although surprisingly some very different sub-groups (*Supermarket Loathers* and *Apathetic*) tend to shop considerably more frequently in store.

Finally, the *Fearful* online shoppers differ from the *Converted* and from the *Concerned Convenience Seekers* not only because of their heightened level of concern towards buying groceries online, but also because they are polarised between those who are *Apathetic* store shoppers (37% in Table 7) and those who appreciate the advantages of shopping in store: *Impulse Shoppers* and *One Stop Shoppers* together account for almost half (48%) of the *Fearful*. Not surprisingly, when it comes to allocating their grocery budget to shopping online or in store, the *Fearful* prefer to shop in store. Even though the minority of *Fearful* who are *Supermarket Loathers* shop online with a frequency similar to other supermarket loathers, they shop much more frequently in store and allocate a much greater proportion of their total monthly grocery spend to stores (see Table 8).

Fearful online shoppers and *Apathetic* supermarket shoppers show many similarities; 37% of *Fearful* online shoppers are *Apathetic* supermarket shoppers, and 50% of *Apathetic* supermarket shoppers are *Fearful* online shoppers (see Table 9). When it comes to grocery shopping online or in store their behaviour is very similar, including the fact that they are the most likely people to have stopped online grocery shopping altogether, as shown in Table 9. This suggests that to continue to shop online, consumers need to be motivated to do so, in addition to not being worried of the negative consequences of internet shopping.

Table 9 - Online grocery shopping recency

Online Clusters	Converted			Concerned Convenience Seekers			Fearful			*Total*		
Supermarket Clusters	Within last month	3-12 months ago	No longer shop online	Within last month	3-12 months ago	No longer shop online	Within last month	3-12 months ago	No longer shop online	Within last month	3-12 months ago	No longer shop online
Supermarket Loathers	82	17	1	82	18	0	59	37	4	*77*	*22*	*1*
Impulse Shoppers	78	20	2	73	26	1	44	46	11	*63*	*33*	*5*
Apathetic Shoppers	60	37	3	63	34	4	47	41	12	*54*	*38*	*8*
One Stop Shoppers	77	23	0	77	21	2	45	49	6	*62*	*35*	*4*
Total	*74*	*24*	*2*	*74*	*25*	*2*	*49*	*43*	*8*	*64*	*32*	*5*

We compared the geodemographic profiles of the online and the supermarket shopping clusters, using the Mosaic system supplied by Experian plc., to investigate the relationship between cluster membership and demographic/socio-economic characteristics (see Tables A4 and A5 in Appendix). While the geodemographic profile of each shopping cluster broadly mirrors that of the sample (and of the population), we found some differences in profiles. The *Converted* online shoppers are drawn disproportionately from Mosaic groups with high concentrations of families with children (e.g. groups B and H). *Supermarket Loathers* are drawn disproportionately from Mosaic groups with older and poorer populations (e.g. groups G, I and J). The most affluent suburban shoppers (group A) are evenly represented across all shopping clusters, but the most affluent urban shoppers (group E) are disproportionately represented in the *Impulse Shoppers* and *One Stop Shoppers* clusters.

By examining the inter-relation between the perceived advantages and disadvantages of shopping online and in-store we have obtained a profile of grocery shopper types which provides greater insights than the typologies in the extant literature based on separate cohorts of online and grocery store shoppers (e.g. Rohm and Swaminathan, 2004; Campo and Breugelmans, 2015) (see Table A1). For instance, Convenience Shoppers and Experienced Online Grocery Fans had been identified by Rohm and Swaminathan (2004) and by Campo and Breugelmans (2015) respectively. The evidence presented here adds greater detail and indicates that appreciating the convenience advantage of online grocery shopping and the dislike of store shopping can compensate for some of

the disadvantages (concerns) of shopping online: on average, the store patronage behaviour of the *Converted* and of *Concerned Convenience Seekers* is similar. Yet, the convenience of online shopping and the dislike of store shopping are not enough to deter consumers from buying groceries in store, even more so since the opportunity of buying on impulse and of 'one stop shopping' are advantages that only shopping in store can provide.

Consistent with existing typologies of grocery shoppers (see Table A1) the results presented above demonstrate the existence of widespread apathy towards grocery shopping. In addition, we have found that the opportunity to shop online does not seem to have alleviated such apathy. For the *Apathetic* grocery shoppers, their apathy affects their online behaviour much more than their store patronage behaviour. Apathy, combined with the disadvantages (concerns) associated with online shopping result in greater reliance on store shopping and higher degree of defection from shopping online.

Discussion

Our research makes a contribution to the multi-channel and general shopping literature by providing a profile of grocery shoppers based on their concomitant and often conflicting perceptions of the advantages and disadvantages of shopping online <u>and</u> in traditional supermarkets, and their relating approach and avoidance behaviours (Mehrabian and Russell, 1974; Foxall, 1990; 2010). Our findings are important both from a theoretical and from a practical standpoint.

From a theory standpoint, the profile of grocery shoppers on the basis of their perceived advantages and disadvantages of shopping online <u>and</u> their perceived advantages and disadvantages of shopping in traditional supermarkets suggests a complex mental balancing process. We suggest that, for most individuals, shopping online or in store appear to be the outcome of weighing up the combination of positive and negative channel characteristics. Approach behaviour occurs as a result of the expected advantages from a particular choice; avoidance behaviour results when channel choice is fully or partially motivated by the desire to avoid the disadvantages expected by the grocery shopper from the alternative channel.

Overall, the *Converted* shoppers' decision to purchase groceries online exemplifies approach behaviour, motivated by the expected advantages of shopping ease and convenience and positively reinforced by the attainment of such advantages. At the same time, when the *Converted* who are *Supermarket Loathers* shop online, they do so also to avoid the perceived aversive consequences (length of time) of shopping in store. This group of shoppers combines approach and avoidance behaviours, purchasing groceries online not only because of the convenience and ease advantages of doing so, but also in order to avoid the negative consequences (time) of shopping in store. Our findings indicate that even in the case of the *Converted* online grocery shoppers who are *Supermarket Loathers*, the combination of approach and avoidance behaviours

are not sufficient to deter shoppers from patronising stores, at least for a portion of their grocery requirements; even these most committed online shoppers (the *Converted Supermarket loathers*) never cease to shop in traditional grocery stores. This is consistent with extant research (e.g. Hand *et al.*, 2009) showing that the adoption of online grocery shopping is triggered by circumstances and is often discontinued when the initiating trigger ceases. Hence it is not surprising to find that also the other sub-groups of *Converted* online grocery shoppers, the *Impulse* or *One Stop Shoppers*, continue to buy in store for almost half of their grocery requirements, since for these consumers online and store approach behaviours coexist. Finally, for the group of *Converted* online grocery shoppers who are *Apathetic*, it seems that avoidance behaviour affects online shopping more than store shopping and this group of consumers is very vulnerable to switching back to shopping in store, where in fact they shop more regularly than online. This is not great news for online grocery providers, since these shoppers are seemingly rather indifferent, in terms of purchase frequency and spend, also when it comes to buying online. Apart from being the lightest shoppers online, they the most likely to defect from online shopping to store shopping.

For many *Concerned Convenience Seekers*, online and store approach behaviours also coexist and, for some, avoidance behaviour (of supermarkets) also applies. These shoppers, therefore, display concomitant conflicting perceptions towards shopping online and in store. Overall, although these consumers score highly on the perceived disadvantages of online grocery shopping in terms of search concerns, this does not appear to translate into significant avoidance behaviour of online shopping in favour of store shopping. This can be inferred by the fact that the online/ offline grocery shopping behaviour of the *Concerned Convenience Seekers* is overall very similar to the behaviour of the *Converted* in terms of recency and frequency of shopping online versus in store and of the proportion of grocery spend allocated to each channel.

In addition to approach and avoidance, we also find evidence of escape behaviour (Foxall, 1990); this appears to be dominant for the third cluster, the *Fearful*, particularly if they also are *Apathetic* towards grocery shopping. The *Fearful* have the strongest tendency of all to abandon online grocery shopping, particularly if they are also *Apathetic*. For them, the choice of where to purchase their groceries is mainly determined by the desire to escape the disadvantages of shopping online, while at the same time there is not strong approach behaviour to shopping in store: they are *Apathetic* shoppers. Foxall (1990) defines as 'escape commodities' '*those which offer relief from acute discomfort*' (p. 134) but are not otherwise sought: for instance an aspirin for the removal of toothache. This seems to be the case for *Fearful Apathetic* shoppers who want to escape from the worry of shopping online and buy grocery in store only to satisfy the biological necessity of buying food, but would rather avoid grocery shopping all together. Many existing typologies identify a group of *Apathetic* supermarket shoppers who are indifferent to both the disadvantages and the advantages of supermarket shopping (e.g. Darden and Ashton, 1974; Williams *et al.*,

1978 in Table A1). A new insight into *Apathetic* supermarket shoppers is that they are seemingly rather uninterested in terms of purchase frequency and spend also when it comes to shopping online.

In conclusion, shopping online versus in store seems to be the outcome of the relative strength of approach, avoidance and escape behaviours. The relative strength and occurrence of such behaviours differs between different consumer groups and relates to their respective perceived advantages and disadvantages of grocery shopping online <u>and</u> their perceived advantages and disadvantages of grocery shopping in traditional supermarkets. These insights into the varied characteristics of online grocery shoppers have been made possible by the profiling of the same cohort of consumers. The research results also highlight the severe limitations of previous research which used different consumer cohorts and focused on the motives for shopping either online or in store.

Managerial implications

From a practical standpoint, this study provides additional insights on reasons why online grocery shopping has not developed as fast as other internet retail markets.

In the context of the erratic character of the adoption of online grocery shopping (Hand *et al*., 2009) and in the light of the findings of the present study, offline retail managers should focus their attention in making the shopping experience more pleasurable, for example by reducing the waiting time at checkouts and ensuring that in-store facilities are high quality.

Particularly for pure-play online grocery retailers such as Ocado in the UK and Peapod, Netgrocer, Fresh Direct and Amazon Fresh in the US, the finding that even loathing supermarkets is not enough to induce shoppers to always buy groceries online is particularly troublesome. To be sustainable, such pure-play online retailers are likely to need to differentiate themselves from supermarkets and grocery outlets in terms of service, product range and quality.

Online retail managers should communicate positive and compelling reasons to shop online in order to stimulate approach behaviour, while also stressing the disadvantages of store shopping, inducing avoidance behaviour. Even for the *Converted Supermarket Loathers*, approach and avoidance behaviour stimuli should be provided in parallel, but with an emphasis on the former, since the avoidance of supermarkets does not, in itself, yield a positive type of reinforcement directly related to shopping online. One can avoid supermarkets by shopping in traditional open air markets and/ or small independent shops.

Furthermore, in order to retain their concerned or even fearful online grocery customers and to avoid escape behaviour, managers should make a more concerted

effort to tackle directly the concerns and the perceived disadvantages still associated with online grocery shopping. Relevant best practice come from pure-play grocery retailers such as the UK's Ocado who are constantly devising new initiatives aimed at ensuring the reliability of their deliveries, at promoting their special offers and at providing better choice to the consumers, and Amazon Fresh who offer same day delivery and 1-hour slots.

The geodemographic profiling of shopping clusters shows that there is a relationship between cluster membership and demographic/socio-economic characteristics. There is scope for retail managers to use such information to target communications to shoppers based on their channel choice behaviour, either to reinforce existing channel preferences or to incentivise specific channel use.

Limitations and Future Research

This research was based on a sample of UK grocery shoppers, and therefore results may not be generalisable to other countries where grocery shopping provision and behaviours may not be directly comparable. Our survey response rate of 27%, while acceptable, allows for non-response bias.

Future research could adopt an experimental design to determine the best way to stimulate approach behaviour for different cohorts of consumers with characteristics corresponding to the clusters identified in this study. In addition, longitudinal research could track cluster membership over time, and provide insight into the stability or evolution of shoppers' channel patronage.

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Appendices

Table A1: A comparison of grocery shopper typologies

Research study	Purpose of study	Typology base	Methodology and number of segments	Cluster names
Darden and Ashton (1974)	Segmentation of US supermarket grocery shoppers based on store attribute preferences	Quality and Price of products, Availability of trading stamps, Service, Location of stores	Hierarchical cluster analysis 7 segments	Apathetic Demanding Quality Fastidious Stamp preferer Convenient location shopper Stamp hater
Williams *et al.* (1978)	Segmentation of US grocery shoppers based on shoppers' involvement with price policy and customer service policy	Store image evaluation: Price, Advertising, Quality, Convenience Involvement	Cluster analysis 4 segments	Apathetic Convenience Price Involved
Chetthamrongchai and Davies (2000)	Segmentation of UK food shoppers based on attitudes to shopping and to time	Attitude to shopping and time	Cluster analysis 4 segments	Apathetic but regular Time pressured convenience seekers Convenience seekers Hedonist
Morschett *et al.* (2005)	Examination of German grocery shoppers to test the effect of shopping motives on perception of store attributes and on attitude to retailer	Shopping motives	Cluster analysis 4 segments	One-stop shoppers Time-pressed price shoppers Dedicated quality shoppers Demanding shoppers
Prasad and Aryasri (2011)	Examination of Indian grocery shoppers to test the effect of shoppers' demographic, geographic and psychographic characteristics on store format choice	Motives for adopting a particular store format	Cross-tabulation 5 Segments	Hedonic Utilitarian Autonomous Conventional Socialisation
Mortimer (2012)	Segmentation of Australian male primary grocery shoppers based on evaluations of store and product attributes	Store and product attribute evaluations	Cluster analysis 4 segments	Apathetic Convenience/ busy Equitable Economic/ budget
Jayasankaraprasad and Kathyayani (2014)	Examination of Indian grocery shoppers' cross-format shopping motives	Cross-format shopping motives Shopping motives Social and local shopping motives	Hierarchical and k-means cluster analysis Five cross-format shopping types	Economic shoppers Convenience Price promotional Hedonic Social
Mehta *et al.* (2014)	Segmentation of Indian hypermarket shoppers based on shopping motivation	Motivations to shop in hypermarkets	k-means cluster analysis 4 segments	Utilitarian Maximisers Enthusiasts Browsers
Nilsson *et al.* (2015)	Examination of Swedish grocery shoppers to investigate the relationship between shopping trip type, store format choice and demographic characteristics	How they shop (major v top up) Where they shop (store format)	Cross-tabulation 5 segments	Planning suburban Pedestrian Social shoppers City dwellers Flexibles

Table A2: A comparison of online grocery shopper typologies

Research study	Purpose of study	Typology base	Methodology and number of segments	Cluster names
Rohm and Swaminathan (2004)	Segmentation of US online grocery shoppers based on shopping channel use motivations	Consumers' motives for purchasing groceries online and consumers' motives for shopping in store	Ward's method cluster analysis 4 online segments 3 in-store segments	*Online grocery shoppers:* Balanced buyers Convenience shoppers Variety seekers Store-oriented shoppers *Store grocery shoppers:* Time-conscious Functional Recreational
Campo and Breugelmans (2015)	Examination of Belgian multichannel grocery shoppers to measure product category allocation by channel and the effect of online buying experience on category/channel allocation	*Acquisition utility online v offline:* Assortment Price Promotion In-store stimuli *Transaction utility online v offline:* Purchase risk Shopping convenience	Share in category spending (SCS) 4 segments	New online grocery fans Experienced online grocery fans Online grocery sceptics Occasional online grocery shoppers
Cervellon et al. (2015)	Examination of French grocery shoppers to investigate the effect of shopping motivation on grocery channel choice	Shopping orientation Channel attractiveness	Baysan Information Criterion (BIC) 6 segments	Supermarkets and hard discounts focused Online consumers Proximity segments Supermarket and hypermarket focused Hypermarket focused City stores and hard discount focused

Table A3 - Measurement items used in the research

Advantages and Disadvantages of Grocery Shopping Online	
Items	**Source**
It is quick	Kau et al. (2003)
Shop when you want to	Ramus & Nielsen (2005)
Find information about prices	Kau et al. (2003)
It is convenient	Ramus & Nielsen (2005)
Can try new products	Ramus & Nielsen (2005)
It is modern	Ramus & Nielsen (2005)
Deliveries can be late	Robinson et al. (2007)
Deliveries may not arrive	Robinson et al. (2007)
Products can be missing from order	Ramus & Nielsen (2005)
Products are hard to find	Robinson et al. (2007)
You have to know what you want	Robinson et al. (2007)
There is not enough product information	Roberts et al. (2003)
Internet shopping is not secure	Kau et al. (2003)
Internet shopping is too slow	Ramus & Nielsen (2005)
Internet shopping is too complicated	Ramus & Nielsen (2005)
Advantages and Disadvantages of Grocery Shopping in Supermarkets	
Items	**Source**
Can get better prices	Ramus & Nielsen (2005)
Don't have to plan ahead	Ramus & Nielsen (2005)
Get ideas in store	Ramus & Nielsen (2005)
Can go to the pharmacy at the same time	Ezell & Russell (1985)
Can do other things such as dry cleaning at the same time	Ezell & Russell (1985)
It takes a long time	Roberts et al. (2003)
There are always crowds	Roberts et al. (2003)
Supermarkets are too big	Robinson et al. (2007)

Table A4 – Mosaic geodemographic profiles of online shopping clusters

Mosaic Geodemographic Group	Online Shopping Clusters						Total	
	Concerned Convenience Seekers		Fearful		Converted			
	N	%	N	%	N	%	N	%
A Symbols of Success	39	15	48	14	19	7	106	12
B Happy Families	36	14	44	13	51	19	131	15
C Suburban Comfort	35	14	59	17	44	16	138	16
D Ties of Community	38	15	57	17	36	13	131	15
E Urban Intelligence	24	9	30	9	16	6	70	8
F Welfare Borderline	6	2	13	4	10	4	29	3
G Municipal Dependency	10	4	15	4	16	6	41	5
H Blue Collar Enterprise	19	7	21	6	35	13	75	9
I Twilight Subsistence	5	2	8	2	6	2	19	2
J Grey Perspectives	23	9	20	6	25	9	68	8
K Rural Isolation	21	8	22	6	13	5	56	6
Total[a]	258	100	340	100	273	100	871	100

[a]Seven respondents could not be Mosaic coded due to errors in the recording of their postcodes

Table A5 – Mosaic geodemographic profiles of supermarket shopping clusters

Mosaic Geodemographic Group	Supermarket Shopping Clusters									
	Supermarket Loathers		Impulse Shoppers		Apathetic		One Stop shoppers		Total	
	N	%	N	%	N	%	N	%	N	%
A Symbols of Success	31	12	26	12	31	12	18	12	106	12
B Happy Families	37	15	32	14	42	17	20	14	131	15
C Suburban Comfort	39	16	35	16	47	19	17	12	138	16
D Ties of Community	34	14	33	15	36	14	28	19	131	15
E Urban Intelligence	14	6	24	11	14	6	18	12	70	8
F Welfare Borderline	8	3	11	5	6	2	4	3	29	3
G Municipal Dependency	15	6	10	4	11	4	5	3	41	5
H Blue Collar Enterprise	25	10	13	6	24	10	13	9	75	9
I Twilight Subsistence	6	2	4	2	8	3	1	1	19	2
J Grey Perspectives	25	10	16	7	16	6	11	8	68	8
K Rural Isolation	14	6	17	8	16	6	9	6	56	6
Total[a]	250	100	224	100	252	100	145	100	871	100

[a]Seven respondents could not be Mosaic coded due to errors in the recording of their postcodes