MONASH University

Submission to the ACCC 2008 inquiry into the competitiveness of retail prices for standard groceries

7 March 2008

Mr Graham Samuel
Chairman
Australian Competition and Consumer Commission
GPO Box 5200
MELBOURNE VIC 3001

Submission via email

Dear Mr Samuel

We would like to bring to your attention some findings from a research project that we are undertaking regarding consumer perception and valuation of local food store choice. We are a team consisting of Prof Ian Clarke from Lancaster University, Malcolm Kirkup from Birmingham University, and myself, Prof Harmen Oppewal from the Department of Marketing at Monash University. Our team combines advanced expertise in retail and consumer choice analysis, as evidenced by an extensive set of publications in peer-reviewed journals. The Economic and Social Research Council (ESRC) in the UK is funding our project.

The UK Competition Commission recently drew on our work in their recommendations regarding their current grocery sector investigation. We held a public workshop and launched a Report in London last June, which was cited by the Commission. A copy of this Report is available for downloading on the CC investigation website, but we have attached a copy for your information. We suggest that the early findings it contains might be germane to your own investigation of the sector in Australia.

Our findings reveal that consumers value having multiple supermarkets in their local areas, prefer to have a variety of supermarket brands, and that smaller convenience type food stores add to consumer satisfaction with local retail provision regardless of the supply of supermarkets. Pricing proved to be an important component of whether or not consumers felt they had sufficient local choice.

Department of Marketing
Faculty of Business & Economics
P O Box 197, Caulfield East, Vic, 3145, Australia
26 Sir John Monash Drive, Caulfield, Vic, Australia
Telephone +61 3 9903 2653 Facsimile +61 3 9903 2900
Email enquiries.mkt@buseco.monash.edu.au
www.monash.edu.au
ABN 12 377 614 012 CRICOS provider number 00008C

For our study we collected survey data from some 1800 residents across three towns in the UK representing different levels of local grocery retail provision. The main data are currently being analysed and written up for publication. Unfortunately, our main findings and report will not be ready to meet the ACCC's deadline for inquiry submissions. Instead we therefore submit the report we submitted to the UK Competition Commission last June (attachment 1). We also submit a competitive refereed paper with first findings that has just been accepted for presentation to the prestigious European Marketing Academy Conference, which will be held in Brighton in the UK in May 2008. A copy of the paper is attached (attachment 2).

The report and conference paper present support for the statements above regarding consumer valuation of local store choice. We believe the study is relevant for the ACCC inquiry despite the differences between the Australian and UK retail and consumer landscapes. Firstly, the UK findings are based on consumers who, on average, are exposed to a greater number of store formats and retail companies than consumers in Australia (although our further analyses will also look into deprived areas); hence they give an indication of how satisfaction levels would increase if provision in Australia, where there are fewer operators, were to increase. Secondly, the findings are based on a novel choice experimental approach that controls for many factors that confound results obtained from traditional survey approaches. Our respondents were exposed to experimental conditions that varied in the level of retail provision from situations with only a single supermarket within 15 minutes travel distance, to situations where respondents would have access to up to eight supermarkets within this range. We believe that consumer preferences expressed in our experimental tasks represent genuine opinions and behavioural intentions. In addition to the reported experimental data we have data concerning actual shopping and satisfaction with actual levels of provision in the three towns. Analysis of this data is ongoing.

Once our results have been finalized we will be seeking funding for replicating and extending our study for the Australian context through a joint bid to the Australian Research Council and the UK's Economic and Social Research Council. Whilst such a study will be too late to inform the ACCC's present inquiry, we thought you should at least be aware of our current work and findings as potential evidence in your current investigation and also be aware of our intentions going forward.

Yours sincerely

Harmen Oppewal, PhD

Professor of Marketing
Director, Consumers and Retail Research Unit
Faculty of Business & Economics
Monash University
PO Box 197
Caulfield East, VIC 3145

Tel: 03 9903 2360
Email: Harmen.Oppewal@buseco.monash.edu.au
Consumers and Retail Research Unit website:
http://www.buseco.monash.edu.au/mkt/research/crru

Are consumers getting what they *REALLY* want?

Initial Findings from a Major Survey of Consumer Satisfaction with their Local Selection of Grocery Stores

Report of early findings from a major new study by the Advanced Institute of Management Research (AIM)

Presented at a Workshop at
10am-1pm, 15th June 2007,
MIC Conference Centre
Euston Street, London

Professor Ian Clarke
AIM Senior Fellow & Chair in Strategic Management and Marketing
Lancaster University Management School
Bailrigg, Lancaster, LA1 4YX
i.m.clarke@lancaster.ac.uk
Tel: +44 1524 593909

Malcolm Kirkup
AIM Associate
Birmingham University Business School
m.h.kirkup@bham.ac.uk

Professor Harmen Oppewal
AIM International Visiting Fellow & Chair in Retail Marketing
Monash University, Melbourne, Australia
harmen.oppewal@buseco.monash.edu.au

Acknowledgements:

We are grateful for the financial support of the UK ESRC/EPSRC Advanced Institute of Management Research (AIM) in the preparation of this Report under grant number RES-331-25-0017 (Clarke).

Context of the Research

This brief Report provides a summary of the initial findings of a two-year study that has investigated the perceptions and satisfaction of consumers with the local grocery shopping facilities they have available. The Economic and Social Research Council and the Engineering and Physical Sciences Research Council jointly funded the study, through their initiative in the form of the Advanced Institute of Management Research (AIM). The central question we set out to address in the study is the extent to which consumers are satisfied with their local selection of grocery stores. The field research was carried out in March and April 2007 and the initial findings presented at an open Workshop held at the MIC Conference Centre in London on Friday 15th June 2007, which was attended by a cross-section of representatives of policy-makers, planners, retailers, consumer groups and academics.

This research was initiated and designed before the current Competition Commission inquiry into the grocery sector was announced, as an extension to our previous research (see Clarke et al., 2006; Jackson et al., 2006; Arentze et al, 2005; Oppewal and Koelemeijer, 2005). We brought forward the release of our initial results given the relevance of our research to the inquiry, which has 'local choice' as one its key themes. It is important to emphasise that our research has not been funded by any party with a direct stake in any particular agenda.

Copies can be downloaded at:
http://www.competition-commission.org.uk/inquiries/ref2006/grocery/index.htm

Aim and Objectives of the Research

Specifically, our aim was to explore, under different local conditions of socio-demographic composition, levels of accessibility to stores, and patterns of provision, what *assortment* of stores is necessary to achieve consumer satisfaction?

To achieve this aim, we set ourselves four principal objectives, to assess how different groups of consumers:

1. Perceive, value and use their *selection* of supermarkets;
2. Value and use *additions to/deletions from* their local retail facilities;
3. View the *relative role of large and small stores* in retail assortments; and
4. View the importance of the *brand of the store*, particularly for small outlets, in retail assortments.

We believe that our research is different in several respects. We offer a new perspective on choice – a way of moving from individual store choices to satisfaction with the assortment locally. We take the term 'local' to a consumer-focused neighbourhood level where real choice is experienced. We look beyond current behaviour and use of existing provision to perceived choice and ideal assortments. Finally, we develop insights into how and why consumers value their assortments of local stores, and which stores they prefer and will tend to use most.

We investigated these issues by developing a research instrument that examined:

1. Consumers' revealed choices and the frequency and spending patterns in terms of existing usage;

2. How they evaluate local assortments (e.g. based on access, range, price, etc);
3. How they perceive store brands (e.g. in terms of selection, quality, service etc);
4. How they evaluate realistic store assortment scenarios to tease out their preferred mix of outlets;
5. Respondent characteristics.

Study Areas & Research Design

Three research sites were chosen so as to highlight different local *competitive conditions*. We identified an initial shortlist of locations using the HHI index listing of postcodes in the 2000 Competition Commission Report, which ranked them by degree of local market concentration. We chose three locations to obtain a requisite variety of retail provision patterns that reflected concentration levels that were high (Milton Keynes, where Tesco dominates the local market); medium (Worcester); and low (Telford, where all of the four main brand supermarkets are operating). In addition to exploring the impact of different mixtures of retail brands and stores, the design enabled us to examine the potential effects of local domination. For example, in the three locations, Tesco respectively has 3 supermarkets and 12 convenience outlets (Milton Keynes); 2 supermarkets and 3 convenience stores (Worcester); and 1 supermarket and 1 convenience store (Telford).

Stratified sample

It is important to emphasise that our stratified sampling framework was designed to represent households living in a range of selected neighbourhoods, rather than being representative of the shoppers of given retail chains. This is an important distinction to bear in mind in the assimilation of our findings. We systematically chose multiple neighbourhoods for study on three dimensions: (1) those in both high, medium, and low deprivation neighbourhoods; (2) whether they had high, medium, or low levels of access to main party supermarkets; and (3) by overall level of local retail concentration (Milton Keynes, Worcester, and Telford in terms of high to low respectively).

How is local choice used?

***Main shop* –** We found that supermarket usage for ‘main’ shopping activity across our study towns broadly reflects the store footprints of each retailer. Whilst overall 41% of the shoppers used Tesco for their main shop; 19% used ASDA, 11% used Sainsbury; and 10% used Morrison. ASDA was more prominent in Telford where they have two stores (used by 47%), and Tesco was the dominant ‘main shop’ in Worcester (54%) and Milton Keynes (55%). Overall, our findings highlighted the fact that most shoppers used a *portfolio* of supermarkets rather than just one store or brand, with 96% of customers using 3 or more supermarkets.

In addition, our research shows that the proportion of consumers using a car for their main supermarket shop was high (73%) and similar across the 3 towns. In some neighbourhoods car usage for main shopping was as high as 90%.

***Top-up shopping* –** The picture in terms of top-up shopping activity is also revealing. In our survey, 16% of shoppers reported that they did not engage in top up shopping at all, a high proportion (58%) used *two* stores, of which virtually all used a combination of 1 supermarket and 1 small store for top-up shopping, and another 23% had a wider portfolio of stores for this activity.

Taken together, these findings indicate most consumers relied on 3 or more supermarkets for their main shop, and used *both* supermarkets and small stores for top-up shopping, underlining the significant overlap and the existence of one market for groceries.

***Frequency of shopping* –** we found that over 68% of shoppers did their main grocery shop around once per week, and almost a third did some top-up shopping on a weekly basis, with as many as 78% carrying out top-up shopping at least once per week.

Internet shopping – our study confirmed the picture suggested by other studies, that around 7.3% of households engaged in internet shopping for groceries. As we will show, households overall did not perceive that the availability of internet services contributed much value to the local store assortment.

Does local store variety matter?

We assessed variations in satisfaction with local choice within each neighbourhood by asking respondents to express their degree of satisfaction with the assortment of stores they had available on a 5-point Likert scale, and subsequently converted these to an index of satisfaction (minimum 0, maximum 100%). We found very significant differences in satisfaction *between* towns as well as *within* towns. Across all the different neighbourhoods studied, the highest level of satisfaction was 96% and the lowest was 41%, with distinct differences between Telford (78%), Worcester (53%), and Milton Keynes (62%). Later in the Report, we highlight the reasons for these underlying differences in satisfaction.

Below, we characterize these effects overall with reference to two extreme examples of neighbourhoods from our study, which illustrate how and why local choice is affected by the level of provision, geographic distribution and local access to main stores, as well as by variety in provision, and the characteristics of residents themselves.

Arleston (Telford): Satisfaction rating 96%. Satisfaction here was the highest of our study sites, even though the level of neighbourhood deprivation is average. Located in western Telford, the neighbourhood is close to a main Tesco supermarket, and centrally placed relative to a wide variety of key stores (Sainsbury, ASDA, Morrisons, Aldi and Netto). Residents' satisfaction with their assortment can be explained through our four main discriminatory variables (see below): perceived variety of choice and competition (79%), perceived access to quality and healthy food (89%), perceived availability of low price stores (90%); and perceived good access to the stores they want (80%). Thus, whilst significant proportions of shoppers undertake a main shop at Tesco (41%) and Morrisons (41%), they felt highly satisfied with the variety of different formats, stores, and brands, and were able to shop locally in small stores. Top-up shopping here was the lowest of our study areas (53%).

St. Johns (Worcester): Satisfaction rating 48%. Satisfaction in this neighbourhood was one of the lowest across our study areas. Located on the west side of the town, the St. Johns neighbourhood again had average levels of deprivation, but differed in that most stores in close proximity are small stores (except for a Co-op Market Town store), and all major supermarkets are on the opposite eastern side of the River Severn. The significantly lower level of satisfaction can partly be explained with reference to perceptions of variety of competition and choice (47%) – there is no ASDA or Morrison in the town and the nearest Sainsbury and Tesco stores are some distance away. Residents did not feel they had access to sufficient choice of quality and healthy food (55%), nor did they feel they had adequate access to low prices (42%), or good financial or physical access to stores they wanted to use (56%). Probably because of these perceptions, apart from trips to the Tesco stores (40%) and Iceland in the town centre (20%), the frequency of top-up shopping more than once a week was high (84%).

Why does satisfaction with choice vary locally?

Our analysis shows that consumer satisfaction with the mix or assortment of food stores locally can be explained statistically with reference to four composite variables:

1. The perception that they have "Plenty of Choice and Competition";
2. The perception that they have "Choice of Healthy and Quality Food";
3. The perception that they "Pay Lower Prices"; and
4. The perception that it is "Easy to get to Better Stores".

Consumer perceptions on these four dimensions of choice can also be explained. In our initial analysis, we concentrate on trying to explain differences in levels of satisfaction with reference to our two extreme locations: Telford and Milton Keynes. Here we only report the most significant results. Our analysis identifies:

The effect of Deprivation. We did not find a direct correlation between simple deprivation and dissatisfaction with choice – possibly because of the interplay of other factors. However, one significant observation revealed that consumers in specifically deprived neighbourhoods in Telford were actually more satisfied with choice than affluent consumers. A possible explanation for this is the availability and prominence of a number of discounters in the area and the prominence of two extensive and price-focused ASDA stores.

The effect of Proximity to Supermarket. Our results showed that consumers close to a main supermarket had higher levels of satisfaction, and in Telford we found that elderly residents were particularly sensitive to being close to a main store.

The effect of Car Availability – We found that consumers with a car were more satisfied with their local store assortment, and this effect was greater in Milton Keynes than in Telford, possibly because residents of Milton Keynes, where the market is more concentrated, need to get access to a wider variety of stores to be as satisfied.

Key effects on Perceptions of Choice

The most significant underlying influences on our four perceptions of choice dimensions were:

1. ***Effects on "Perceived Competition and Choice"*** – we found that consumers in Telford felt they had more competition and choice, with a key influence on this being the

availability of a car. However, we also found that perceptions were affected by the proximity to a store. Importantly, we noted that elderly consumers who are deprived and geographically remote from stores had the lowest perceptions of choice.

2. ***Effects on "Perceived Choice of Quality and Healthy Food"*** – our results showed that Telford is perceived as having a better choice of locations to buy quality and healthy food, reflecting the influence of lower levels of retail concentration. Moreover, those closer to a supermarket perceived they had better choice.

3. ***Effects on "Paying Lower Prices"*** – our results demonstrated that shoppers in Telford perceived they were paying *lower* prices as a result of the additional variety of retail provision, whereas shoppers in Milton Keynes felt that they were paying *higher* prices.

4. ***Effects on "Easy Access to Better Stores"*** **–** in Milton Keynes, our results showed that consumers perceived they had difficulty in getting access to better stores, especially if they were further away and without a car. The elderly without a car perceived access to be particularly difficult, even when they were close to a supermarket, because of the constraining effect of poor mobility.

What is the 'Ideal' Local Store Assortment?

Our research involved approximately 1800 household-level personal interviews, each of which lasted around 25 minutes. Part of the questionnaire asked respondents to complete a series of stated-preference tasks. Respondents were required to evaluate alternative store assortments presented on a series of cards, with the mix of stores being varied systematically across the sample in terms of stores available within 5 minutes; within 15 minutes (edge of town); within 15 minutes (towards town); and internet home delivery (the latter was assumed to be offered by Tesco).

These experiments firstly enabled us to estimate the particular contribution to consumer satisfaction made by individual store brands located within a 5-minute radius (see Figure 1). Two important features stand out: (1) a Tesco supermarket is considered to offer greater value to our respondents than Sainsbury; (2) the presence of a small store is clearly valued as part of a store assortment; but (3) it does not appear to matter to consumers who operates these small local stores, be it a Tesco Express convenience outlet, small brand store, or a hypothetical Sainsbury convenience store.

The experiments also enabled us to estimate the perceived value of the four main supermarket brands and other operators (including Aldi and Lidl and Waitrose) located at 15 minutes (Figure 2). Across our sample, Tesco is clearly perceived to offer greater value compared to other main supermarket brands, followed by ASDA, Morrison and Sainsbury. Note that a Tesco Express c-store at 15 minutes is of negligible value to consumers. Internet availability has virtually no effect on satisfaction with local choice, suggesting the majority of consumers do not see it as a substitute for store-based availability.

In Figure 3, we provide some significant estimates of the effects of different *combinations* of stores. We highlight three types of effect:

a) ***Brand duplication*** – the figure highlights the marginal effect of, for example, additional Tesco stores, suggesting that consumers perceived that additional stores from an existing retailer operating in their town added progressively less value to the assortment;

b) ***Brand substitution*** – the impact of an additional supermarket by another operator at the very local level (within 5 minutes travel time) leads to only a marginal increase in perceived value to the consumer;

c) ***Brand synergies* –** certain brands, however, are shown to have a synergistic effect on each other in terms of their impact on consumer satisfaction. The most noticeable was the effect of the joint presence of a Sainsbury and Aldi or Lidl. For our respondents, satisfaction with an assortment was far higher if the combination of these stores was present, reflecting the complementarity of these two stores' offerings to consumers.

Conclusions

1. Our principal conclusion highlights the contributions of different retail stores to consumer satisfaction with their local selection of grocery stores. Whilst a Tesco supermarket had the greatest contribution overall (across consumers, neighbourhood types and possible assortments), the local assortment was more attractive where there was requisite *variety* in store mix. For example, consumers in our study were more satisfied if their local area had one Tesco and one ASDA, than if they had two Tesco stores and no ASDA. Some stores were particularly valued if they were jointly present with another store (e.g. Sainsbury and Aldi/Lidl) while other stores added very little value when they were added to an assortment (e.g. having a second supermarket within 5 minutes travel).

2. The presence of a <u>small</u> store within a local (5 minute) assortment is <u>significantly</u> valued but it makes little difference (in terms of relative contribution) whether it is operated as a Tesco Express, Independent, or other multiple chain. The presence of a Tesco supermarket did not seem to affect the valuation of a local Tesco Express.

3. It is important to note that while our research clearly identified the importance of 'variety' within a local store assortment (i.e. multiple brands as well as small and large stores) this does <u>not</u> imply that every consumer will only be satisfied when they have equal access to all the main party stores within 5 minutes of their home. Variety can be achieved in many different ways and different store format solutions, and access does not necessarily have to mean 'proximity' or access by car. Access encompasses public and other means of transport and delivery that can all be enhanced and improved to impact on satisfaction with store assortment provision. Our research shows that one particular group – the elderly – have particularly low perceptions of choice and are likely to benefit the most from steps taken to improve access.

4. The "local" picture of retail choice provision is very different and more extreme than is found at the national or regional level. Our research found that different supermarkets dominated in different neighbourhoods. In Milton Keynes, for example, in some neighourhoods as many as 90% of households used Tesco as their main

supermarket but in other neighbourhoods ASDA and Morrisons achieved high levels of share of local 'main supermarket' expenditure.

5. There is as much variation in satisfaction within towns as between towns. This highlights that satisfaction masks significant local disadvantage where particular consumers are challenged by local or personal circumstances. The implication is that if policy-makers and planners are serious about protecting consumer satisfaction from detrimental effects of competition, they will need to 'drill down' analysis to the neighbourhood / intra-urban level. A comparison of locations highlighted important examples. Arleston (Telford) showed high satisfaction with four main supermarkets and a healthy selection of complementary stores. Residents in St. Johns (Worcester) had substantively less choice and showed much lower levels of satisfaction.

6. Consumer satisfaction does not depend simply on proximity to a particular supermarket, or to a large supermarket, or to a particular brand of retailer, but depends on a local combination of these factors as well as on levels of mobility; age of respondents and level of affluence. These factors also influenced the perceptions of prices, variety, and availability of, and access to, quality and healthy food that underlie variations in satisfaction.

7. Our research reaffirms the importance of a local focus when examining and investigating local competition and choice issues, which needs to: adopt a consumer-centred neighbourhood approach; incorporate an evaluation of variety of provision in terms of brands, formats, store sizes, and locations; and assess the needs of particularly vulnerable groups where perceived access is demonstrably different to the theoretically-driven benchmark of access to a certain number of stores within a certain distance.

References

ARENTZE, Th., OPPEWAL, H., & TIMMERMANS, H.J.P. (2005) A multipurpose shopping trip model to assess retail agglomeration effects. *Journal of Marketing Research*, 42 (February), 109-115.

CLARKE, I., HALLSWORTH, A., JACKSON, P., DE KERVENOAEL, R., PEREZ DEL AGUILA, R. & KIRKUP, M. (2006) Retail restructuring and consumer choice 1: Long-term local changes in consumer behaviour: Portsmouth, 1980-2002. *Environment & Planning A,* 38**,** 25-46.

COMPETITION COMMISSION (2000) Supermarkets: A report on the supply of groceries from multiple stores in the United Kingdom, Volume 1: Summary and Conclusions. London, The Stationary Office.

JACKSON, P., PEREZ DEL AGUILA, R., CLARKE, I., HALLSWORTH, A., DE KERVENOAEL, R. & KIRKUP, M. (2006) Retail competition and consumer choice 2: Understanding consumer choice at the household level. *Environment and Planning A,* 38**,** 47-67.

OPPEWAL, H. & KOELEMEIJER, K. (2005) More choice is better: Effects of assortment size and composition on assortment evaluation. *International Journal of Research in Marketing*, 22 (1), 45-60.

Figure 1 - Local Store Assortment (5 minutes) - Individual Store Contributions

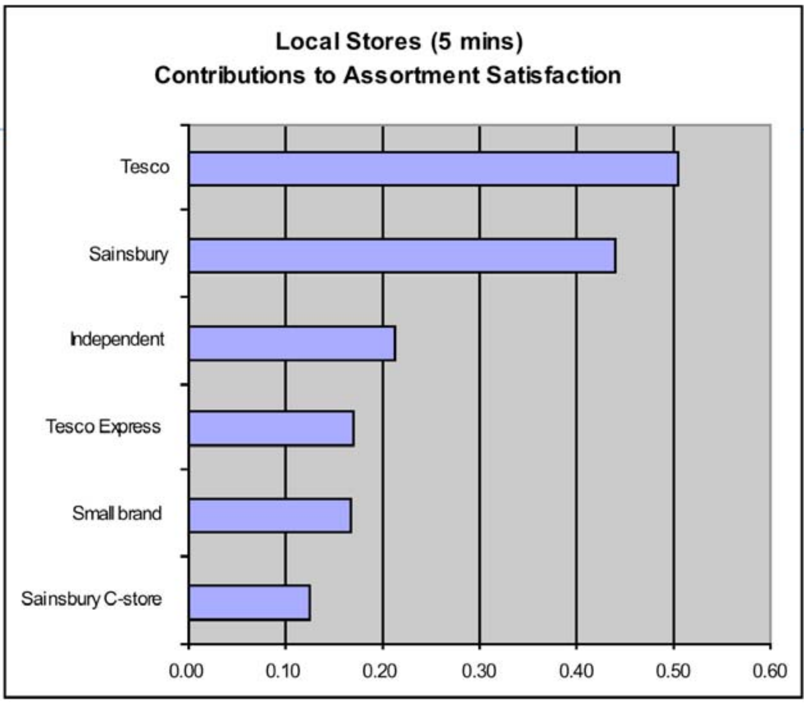


Figure 2 - Local Store Assortment (15 minutes) – Individual Store Contributions

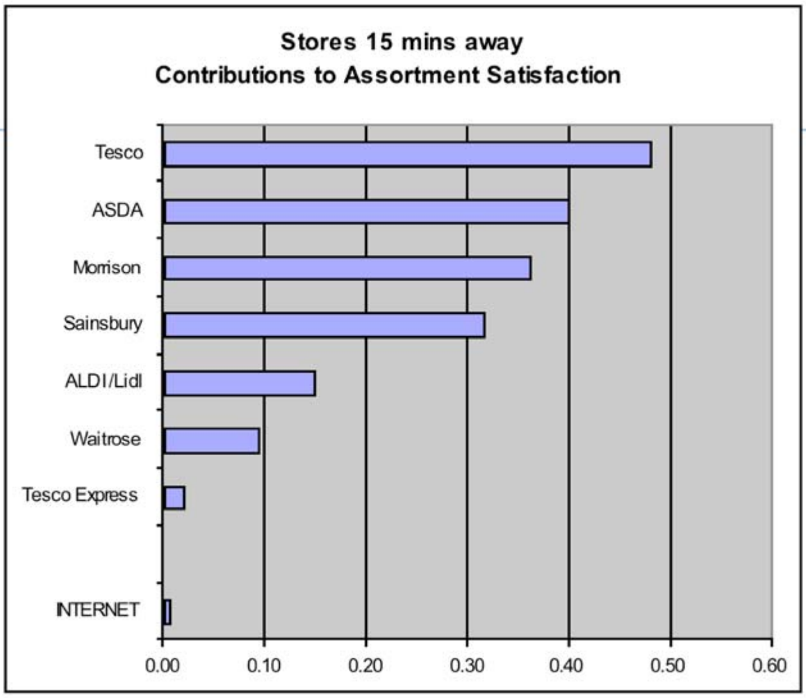
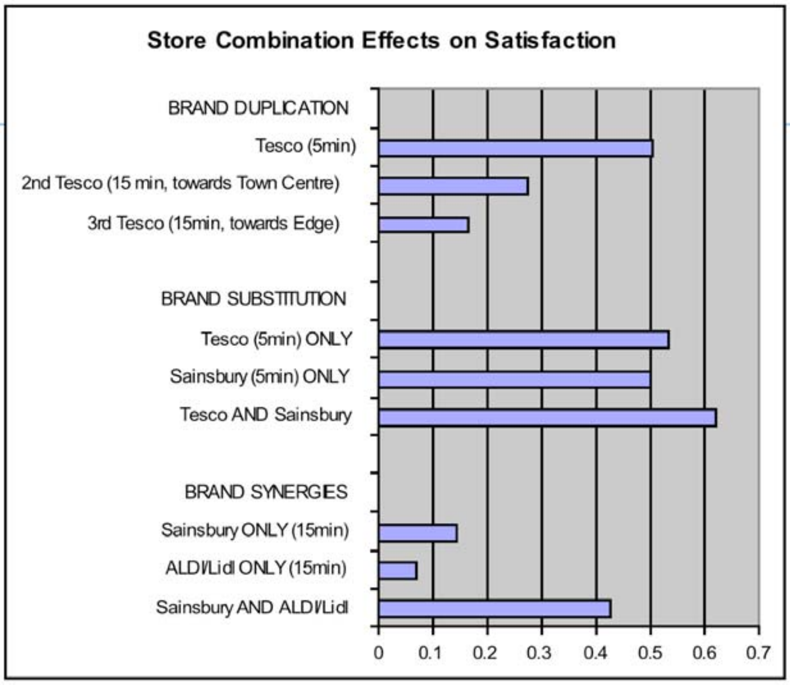


Figure 3 - Local Store Assortment – Combination Effects on Satisfaction



Consumer Satisfaction with Store Variety at the Local Level: An Experimental Analysis

Submitted for presentation to the European Marketing Academy Conference,
Brighton, UK, May 2008

Harmen Oppewal (Monash University)
Ian Clarke (Lancaster University)
Malcolm Kirkup (Birmingham University)

Abstract

Increasing levels of concentration in the grocery sector have led to concerns about consumer welfare and choice. This paper focuses on consumer satisfaction with local provision and investigates how satisfaction varies with the local mix of grocery stores. Experimental store mix scenarios were presented to residents in selected urban areas in the UK. The principal findings are that having more stores, a variety of brands and a small local store in the assortment results in significantly higher satisfaction ratings. The findings give strong support for retail planning policies aimed at preserving store brand variety at the local level.

Keywords: Retailing, consumer behaviour, retail planning, grocery shopping, assortment evaluation, local store choice

Track: retailing, channel management and logistics

1. Introduction

There is growing international concern with levels of corporate concentration in the retail sector and its effects on consumer welfare and choice. It has been demonstrated both in the US (Nayga & Weinberg, 1999) and the UK (Clarke, Hallsworth et al, 2006) that such concentration can lead to significant variation in the experience of consumers, and substantive inequalities in provision. For example, successive Competition Commission investigations into the grocery sector in the UK have identified significant areas of concern where local competition was either inadequate or did not provide adequate access to competitively priced and good quality food (Competition Commission, 2000; 2007). The debate over retail concentration has, therefore, increasingly led to recognition that the geographic market for the supply of groceries is local and regional rather than national (Cotterill, 1997; Clarke, 2000). The consumers' view of choice is also local, framed by their social situation, mobility, and provision (Jackson, Clarke et al, 2006) . It is therefore now common practice for grocery retailers to take into account the extent to which they face competition, and the identity of their competitors, in different local markets.

In this context, a key issue for retailers and policy-makers is how increased retail concentration, and the local dominance of a single retail brand, might affect consumers' perception of the value of their local store mix, or 'assortment' of stores. How do consumers perceive and value the range of food stores available in their local areas? How do they value different assortments of stores, store formats, retail brands and store locations? What combination of retail outlets provides greatest satisfaction to different groups of consumers?

To help answer these questions we draw on the construct of 'assortment' from elsewhere in the retail literature, where it has been shown that the size and composition of the mix of products within a store can positively improve consumer perception of the value of the store as a whole (Oppewal & Koelemeijer, 2005). We utilise and develop the concept of assortment *beyond* the store and apply it to the mix of different retail outlets in the wider retail environment. The concept of local store assortments potentially provides planners and regulators with a highly relevant perspective to address the problems associated with high levels of retail concentration, and may help them to maximise welfare and equity for their consumers in particular locations.

This paper therefore develops hypotheses regarding consumer evaluation of local store 'assortments' and tests the hypotheses in an experimental survey among shoppers in the UK. The paper first briefly reviews the literature on store access and assortment evaluations and then presents the main hypotheses. This is followed by a description of the data collection method and findings. The paper concludes with a brief discussion of the results.

2. Literature review and hypotheses

This study focuses on consumer satisfaction with assortments of stores at the local level. The locality as an entity and access to services and stores are of direct relevance to consumers' perception of well-being, vulnerability and quality of life

(Baker, Gentry & Rittenburg, 2005). Despite retail planners having displayed a long standing interest in store access and provision, and several studies having looked into measuring access based on physical distribution measures (Guy 1983; Limanond & Niemeier, 2003; Talen & Anselin, 1998), only a few academic studies seem to have directly looked at how the local *mix* of food stores influences consumer satisfaction, or well-being. Previous studies have investigated the effects of shopping centre store mix on consumer preference and choice (e.g., Oppewal, Timmermans & Louviere, 1997) and have looked at how consumers actually use different stores to combine their purchases into multipurpose shopping trips (e.g., Dellaert, Borgers, et al, 1998; Messinger & Narasimhan, 1997) but none of these studies have addressed consumer satisfaction with the total portfolio, or assortment, of available stores. An exception is the work by Jackson et al., who in a rich, qualitative study conducted in-depth interviews, observation and a longitudinal analysis to understand consumer perceptions of local choice (Jackson, Perez del Aguila, et al, 2006) and found substantial variation in how consumers perceive and value local provision.

Assortment studies have shown that the size and composition of the mix of products within a store can positively impact store perceptions regardless of the actual preference for the available options (Oppewal & Koelemeijer, 2005). Apparently the mere availability of more options provides consumers with extra benefits (unless the number of options becomes too large and overwhelming--e.g. Iyengar & Lepper, 2001). Similarly, the availability of multiple stores in a locality presents consumers with multiple advantages. Having multiple stores within a single category provides a 'backup', for example against stock outs, and it facilitates price and quality comparisons, hence reducing consumer purchase risks (Kahn & Lehman, 1991). The presence of multiple stores also provides convenience due to opportunities for multipurpose shopping, either within or between categories (e.g. Arentze, Oppewal & Timmermans, 2005). In addition, consumers may perceive prices to be lower if there is sufficient local competition. They may also feel that having more stores makes them less captive to one or a few local operators.

In sum, consumers will be more satisfied with their local assortment of stores if the number and variety of available store brands and formats increases. Thus, we hypothesize:

H1. Consumers are more satisfied with their local store mix if there are more grocery stores.

H2. Consumers are more satisfied with their local store mix if there is a greater variety of brands and formats.

3. Method

3.1 Sample and procedure

To test our hypotheses this study adopted a stated preference approach. Consumers in neighbourhoods with varying levels of grocery provision and varying levels of socio-economic status in the UK were interviewed about their grocery shopping and presented with hypothetical but realistically defined store mix descriptions. They were asked to indicate their preference for neighbourhoods with such store mixes. The experimentally designed variations in available store mixes allowed assessing the contribution of the variety of small and large stores, and the variety of store brands, to the consumers' overall evaluations of the hypothetical neighbourhoods. The interviews were conducted face-to-face by trained interviewers. The present paper reports results obtained from 307 interviews conducted in one town in the English Midlands.

3.2. Experimental design

Respondents were presented with a series of show cards describing experimentally designed store mixes. The cards were designed to describe provision at three types of locations: a "local parade at 5 minutes travel", a location "at 15 minutes travel but near the town centre", and another location "at 15 minutes but located in another direction, towards the edge of town". These three locations were fixed across conditions and were selected to represent the most typical geographical choice set configuration for residents, where many would indeed have one or a few stores nearby and a wider selection of stores at a further distance. Selecting this base configuration allowed independent manipulation of the presence or absence of identical store brands at different locations as well as estimation of pair-wise interactions for any combination of stores. Alternative methods of systematically varying the distance for brands/formats were explored but either led to vastly larger designs and/or the presence of many unrealistic and less relevant profiles.

The following 8 store names or formats were selected to appear across the three possible locations. The 5 minute local parade had 3 possible store options: 1) an independent family-owned small store, 2) a Tesco supermarket and/or 3) a Sainsbury supermarket. At the 15 minute edge of town location the options were: 4) a Tesco supermarket, 5) a Tesco branded small store (Tesco Express) and/or 6) an ASDA supermarket. Finally at the 15 minute location towards the centre of town the options were: 7) a Morrison supermarket, 8) a Tesco supermarket, and/or 9) a Somerfield supermarket. The Somerfield supermarket was the constant alternative; hence, all store mix effects are estimated against a situation where consumers only have access to a single Somerfield supermarket at 15 minutes travel time, and no other food stores within a 30 minutes travel distance.

A 2^8 presence/absence design (Louviere, Hensher, & Swait, 2000) was used to create 64 different store mix scenarios. Respondents received two scenarios each and rated each scenario in terms of how satisfied they would be if this were the mix of grocery stores accessible from their neighbourhood, using a 5 point rating scale (1= very unsatisfied; 5= very satisfied with this mix of stores). Additional questions were asked but the current paper focuses on the analysis of these satisfaction ratings.

4. Findings

The satisfaction ratings were analysed using multiple regression. Eight dummies were used to represent the 8 stores and store locations. The finally estimated model included all main effects and a selection of interaction effects. The model fit was acceptable (R^2 = .136); the final model parameters are displayed in Table 1.

Clearly, the two supermarkets at 5 minutes distance are the largest contributors to satisfaction, with Tesco having a substantially larger effect than Sainsbury. Having a Tesco supermarket at only 5 minutes travel leads to a 1.18 units increase on the 5 point satisfaction scale; the same effect for Sainsbury is 0.82. However, the negative interaction effect for these two stores indicates that if both stores are present at 5 minutes their joint effect on the satisfaction rating is 0.58 less than the sum of the two individual effects, so an increase of 'only' 1.42 on the scale.

Table 1. Regression parameters for the store mix satisfaction model.

	B	S.E.	Beta	t	Sig.
(Constant)	2.21	0.17		12.93	0.00
At 5 minutes, Local Parade					
Independent small retailer	0.25	0.10	0.10	2.53	0.01
Tesco supermarket	1.18	0.20	0.45	5.98	0.00
Sainsbury supermarket	0.82	0.14	0.31	5.95	0.00
At 15 minutes, Edge of Town					
Tesco Express	-0.03	0.10	-0.01	-0.32	0.75
Tesco supermarket	0.07	0.10	0.03	0.71	0.48
ASDA	0.46	0.14	0.18	3.34	0.00
At 15 minutes, near Town Centre					
Morrison	0.59	0.14	0.23	4.31	0.00
Tesco supermarket	0.22	0.10	0.08	2.20	0.03
Interaction effects					
Tesco at 5 minutes AND Sainsbury at 5 minutes	-0.58	0.20	-0.19	-2.93	0.00
Tesco at 5 minutes AND Morrison at 15 minutes	-0.55	0.20	-0.18	-2.78	0.01
Tesco at 5 minutes AND ASDA at 15 minutes	-0.44	0.20	-0.15	-2.24	0.03

The contribution of the independent small retailer is also significant but much smaller in size (only 0.25), and does not display any interaction with either of the supermarkets. Hence, the contribution of the small store is independent from the assortment of large stores.

Further, the effects for the supermarkets at 15 minutes vary with the brand and location type. A Tesco supermarket located near the town centre adds more to satisfaction than a similar supermarket located near the edge of town; the latter does not significantly contribute to satisfaction at all. In contrast, the Morrison and ASDA stores add significantly more than a Tesco located in the same location suggesting that brand variety has significant appeal to consumers. The negative interactions of the

Tesco at 5 minutes with the Morrison and ASDA at 15 minutes suggest that, similar to the interaction with Sainsbury at 5 minutes, if consumers have a Tesco nearby, then having another supermarket available adds less appeal. The fact that these interactions with ASDA and Morrison are significant for Tesco but not for Sainsbury suggest lower levels of substitution between Sainsbury and ASDA or Morrison than between Tesco and ASDA or Morrison.

Finally, the non-significant contribution of a Tesco Express convenience store format at 15 minutes travel suggests that small stores only add satisfaction if they are close to the consumer and are no serious providers located further away. There is a possibility that the low value of the Tesco Express parameter is due to it being a Tesco operated store; however, there is no interaction between the Tesco supermarket and the Tesco Express, so if there is no Tesco supermarket the Tesco Express at 15 minutes still adds no value in the consumers' perception.

5. Conclusions and discussion

This paper reported some initial results of an innovative study into consumer evaluations of local assortments of stores. A scenario approach was adopted to experimentally manipulate the composition of consumers' local assortments of grocery stores in terms of presence and travel distances to five supermarket brands and two small grocery formats in the respondents' localities. Results confirmed our two hypotheses. Firstly, consumers like having more stores, with more stores in the assortments resulting in significantly higher satisfaction ratings. It is worth noting, however, that the largest contribution is derived from having local access to at least one major supermarket.

Secondly, consumers appreciate brand variety. In our study, the same number of stores, at identical locations, resulted in significantly higher satisfaction ratings if the stores were from different brands than if there were duplicate brands. Also, the presence of a small independent store, though less than a supermarket, added significantly to satisfaction levels, regardless of the further composition of the local assortment. This suggests that small stores are complements to supermarkets, serving a different need or niche than the supermarkets.

The findings presented here give strong support for retail planning policies aimed at preserving store brand variety at the local level. A larger number of stores and a greater variety of store brands help increase consumer welfare by positively influencing consumers' satisfaction with their local mix of grocery stores. Clearly, our respondents appreciated having more choice.

The findings from this study are only a first step to establishing how consumers evaluate their local assortments. Further analysis of our data will assess how satisfaction levels vary with socio-demographics characteristics of consumers and the impact of high or low levels of provision and single brand dominance. We are also exploring how effects on satisfaction as observed in this paper for hypothetical scenarios, correspond with ratings produced for localities' current assortments of stores. Finally, future research could investigate the relationship between satisfaction with the local assortment and actual store patronage.

6. References

Arentze, Th., Oppewal, H., & Timmermans, H.J.P. (2005). A multipurpose shopping trip model to assess retail agglomeration effects. *Journal of Marketing Research,* 42 (February), 109-115.

Baker, S. M,. Gentry, J. W., & Rittenburg, T. L. (2005). Building understanding of the domain of consumer vulnerability. *Journal of Macromarketing*, 25 (2), 128-139.

Clarke, I. (2000). Retail power, competition and local consumer choice in the UK grocery sector. *European Journal of Marketing*, 34(8), 975.

Clarke, I., Hallsworth, A., Jackson, P., De Kervenoael, R., Perez del Aguila, R., & Kirkup, M. (2006). Retail restructuring and consumer choice 1: Long-term local changes in consumer behaviour: Portsmouth, 1980-2002. *Environment & Planning A*, 38, 25-46.

Competition Commission. (2000). Supermarkets: A report on the supply of groceries from multiple stores in the United Kingdom, Volume 1: Summary and conclusions. London: The Stationary Office.

Competition Commission. (2007). Provisional findings: Market investigation into the supply of groceries by retailers in the UK. London: The Stationary Office.

Cotterill, R. W. (1997). The food distribution system of the future: Convergence towards the us or uk model? *Agribusiness*, 13, 123-135.

Dellaert, B. G. C., Arentze, T. A., Bierlaire, M., Borgers, A. W. J., and Timmermans, H. J. P. (1998). Investigating consumers' tendency to combine multiple shopping purposes and destinations. *Journal of Marketing Research*, 25(2), 177-178.

Guy, C. M. (1983). The assessment of access to local shopping opportunities: A comparison of accessibility measures. *Environment and Planning B: Planning and Design*, 10(2), 219-238.

Iyengar, S. S., & Lepper, M. R. (2000). When choice is demotivating: Can one desire too much of a good thing? *Journal of Personality & Social Psychology*, 79(December), 995-1006.

Jackson, P., Perez del Aguila, R., Clarke, I., Hallsworth, A., De Kervenoael, R., and Kirkup, M. (2006). Retail competition and consumer choice 2: Understanding consumer choice at the household level. *Environment & Planning A*, 38, 47-67.

Kahn, B., & Lehmann, D. R. (1991). Modeling choice among assortments. *Journal of Retailing*, 67(Fall), 274-299.

Limanond, T., & Niemeier, D. A. (2003). Accessibility and mode-destination choice decisions: Exploring travel in three neighborhoods in Puget Sound, WA. *Environment and Planning B: Planning and Design*, 30(2), 219-238.

Louviere, J. J., Hensher, D., and Swait, J. (2000). *Stated choice methods: Analysis and application*. Cambridge: Cambridge University Press.

Messinger, P., & Narasimhan, C. (1997). A model of retail formats based on consumers' economizing on shopping time. *Marketing Science*, 16(1), 1-23.

Nayga, R. M., & Weinberg, Z. (1999). Supermarket access in the inner cities. *Journal of Retailing and Consumer Services*, 6, 141-145.

Oppewal, H., & Koelemeijer, K. (2005). More choice is better: Effects of assortment size and composition on assortment evaluation. *International Journal of Research in Marketing,* 22, 45-60.

Oppewal, H., Timmermans, H, & Louviere, J. (1997). Modelling the effects of shopping centre size and store variety on consumer choice behaviour. *Environment and Planning* A, 29, 1073-1090.

Talen, E., and Anselin, L., 1998. Assessing spatial equity: An evaluation of measures of accessibility to public playgrounds. *Environment and Planning A*, 30(4), 595-613.