“And how will you be paying today?”

The social construction of demand for payment methods

A thesis submitted to the University of Manchester for the degree of Doctor of Philosophy in the Faculty of Humanities

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Abstract

The University of Manchester, Anne Lewis, Doctor of Philosophy.

“And how will you be paying today?” The social construction of demand for payment methods.

Economists have long known that different cultures pay for goods and services in different ways. This thesis complements the economic research by identifying several elements of social construction for payment method demand in the UK, creating new knowledge in this under researched area. Further social and cultural influences on payment choice can be identified in future consumer behaviour research. As the full social construction of demand for payments is built, it will complete the economic research and more accurately predict future payment method demand. Smartphones, contactless cards and Bit coins may all contribute to a change in the way we pay, but without understanding why we choose a payment method it is impossible to really know.

This thesis uses quantitative analysis of primary research to ascertain that there is a correlation between payment methods and shopping value, location of shopping, amount paid and goods/services purchased. The survey \( n=676 \) also collects data on preferences to use cash by amount paid and goods purchased. As a by-product of this survey a correlation between shopping value and demographic segment (gender and ethnicity) is revealed.

Factor analysis and structural equation modelling show that hedonic shoppers prefer tactile and exciting forms of payment (attributes associated with cash) and utilitarian shoppers prefer convenient, cost effective, speedy, rewarded and recorded forms of payment (attributes associated with card payments). The mean value for shoppers to switch from cash to cards is £35 but this varies with shopping value, payment preferences and demographic group. Shoppers also habitually buy certain goods with cash, one common factor being the avoidance of a record of their indulgences.

This thesis demonstrates that shopping value and various subjective norms of behaviour influence our choice at the checkout, proving the principle that there is a social construction to the demand for payment methods.
Declaration

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Dedication

This thesis is dedicated to Christina Broad for all her support.

Acknowledgment

I would like to acknowledge the support provided by my co-supervisors Professor Nitin Sanghavi and Jonathan Aylen.
The author

Anne Lewis holds an MBA degree (2001) from Manchester Business School, and a BSc degree in Mathematics (1996) from the Open University. Anne has been a doctoral student at Manchester Business School since 2011. Her academic interests embrace retailing, payment systems and retail banking.

Anne has had a paper accepted for British Academy of Management Conference in 2013, ‘Consumer involvement in the three major payment methods’, and in 2014, ‘Who shops to live and who lives to shop?’ An article has also been submitted to Currency News for consideration.

Her commercial experience includes five years as an engineer with BBC, NCR and Olivetti and ten years of engineering management at Olivetti and Security Express. In 2003 Anne became Managing Director of Securitas Micro-route and later worked in the US as President of ATMs Worldwide for Securitas. In 2008 Anne came back to the UK as Operations Director for Loomis UK Ltd. Throughout the majority of her career Anne has held a professional and personal interest in the circulation of cash and the resilience of this product in the face of other alternatives. It is this interest in the demand for cash that led to a decision to return to education and research payment methods.
1 Introduction

1.1 Introduction

The act of paying for goods is one part of the shopping process that has received relatively little attention from researchers in consumer behaviour. This research is intended to inform and stimulate a debate about the choice of payment method in the UK. Why do some people opt for a debit card when buying a single pint of beer and others hand over a fistful of notes for the family supermarket shopping? These are extreme examples of behaviour, but the important issue is that for each small purchase, of whatever value and purchasing whatever item, the consumer is making a choice. There is industry data, produced by the Payments Council\(^1\), showing what choices people make, but there is little indication as to why they make a particular choice, and the factors that have an influence on that choice. The industry data shows that different demographic groups, locations, products and amounts paid make different payment choices. These factors will all form part of this research.

There is a large body of academic research on the purchase decision process, and this thesis will build upon this literature to create a model for how the last decision, that of payment method, is influenced. The study will consider consumer involvement and shopping value and will test whether these well-established consumer behaviour constructs are relevant to the payment decision. Primary research will show the relationships between established purchase decision constructs and payment choices, whilst also examining the effect of demographic group, location, amount paid and product. The primary research also collects data measuring shopping value and demographic group and uses this to analyse the correlation between demographic segments and shopping value.

The research is timely as the use of cash in the UK falls in real terms for the first time\(^2\), new methods of mobile phone payment start to gain traction and Bitcoins\(^3\) grow in popularity. The long prophesised cashless society starts to seem a possibility but will the British public ever let cash go completely or will it become a niche product, like cheques?

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1 The payments council has a remit to ensure the payments system works, is transparent and delivers the National Payments Strategy. It is a member funded body and produces all the national statistics for payments in the UK.

2 UK Consumer Payments 2013, Payments Council, November 2013

3 bitcoin.org, a peer to peer decentralised payment system with no authorisation
Countries such as Sweden\textsuperscript{4} and Nigeria\textsuperscript{5} have seen a major decline in the use of cash as new technology takes over, but with different reported motivations and drivers for change. In other countries cash remains king with no sign of reducing despite the availability of technology solutions. Ultimately the public determines the demand for different payments, and what features drive methods they really want. Understanding how this demand is constructed will help economists and industry experts predict how the use of cash will be affected as more technology-based solutions become available.

The research will examine which type of shopper prefers the different payment methods, what UK consumers believe are the attributes of the different payment methods and how demographic characteristics influence not only the type of shopper you are but what type of payment method you prefer.

The ultimate aim of the research is to answer whether some element of demand for payment methods is socially constructed. This is achieved by performing a series of empirical testing and analysis.

- Testing the level of consumer involvement in the three major payment methods to ensure, before further progress, that consumers have some form of emotive response to these products (cash, credit card and debit card.)
- Identifying the perceived attributes of these three different payment methods.
- Identifying any significant relationship between the attributes of payment methods and shopping value.
- Identifying any significant relationship between the attributes of payment methods and subjective norms of behaviour in respect of product, shopping location and amount?

In order to achieve each of these steps three pieces of primary research are performed.

1. A short quantitative survey is used to test if consumers are involved with payment products such as cash, debit cards and credit cards. There is relatively little academic research examining the social dimension of payment method demand so it is considered prudent to check that consumers have some level of involvement in these products prior to commencing the next two pieces of primary research, which

\textsuperscript{5} http://www.cenbank.org/cashless/
are more significant. The survey design, administration and results are all contained within chapter five.

2. Qualitative research is undertaken to create a scale for the final piece of primary research that measures the attributes of payment methods. There is no research available measuring the attributes the UK public associate with different payment methods so the scale is developed from primary research within focus groups. These focus groups also provide an opportunity to collect qualitative data that informs hypotheses for the measurement of the affect of subjective norms of behaviour around payments. The focus group methodology and results are available in chapter six.

3. The final piece of primary research is a large ‘interview style’ survey which collects data on shopping value, payment method preferences, demographic group, amount paid with cash, products purchased with cash and changes of preference for attributes of payment methods depending upon location. The survey is designed and the results from the survey are analysed in chapters seven and eight respectively.

In order to check the validity of the statistical analysis a further step is taken, in chapter nine, where a model is created and tested for statistical fit using structural equation modelling. The model is based on the conceptual model created in chapter four and is used to validate the results of the general statistical analysis and hypotheses testing. The statistical methods used throughout the thesis are diverse and are only ever testing a small part of the overall set of relationships anticipated. The use of structural equation modelling allows a more holistic approach checking the relationships in a combined model of shopping value and payment method preferences.

These three pieces of primary research are designed to create knowledge regarding the social construction for demand for payment methods, opening an opportunity for further research in this area.
1.2 Synthesis of chapters

The contents section, itemises the contents and provides the reader with a list of figures and tables contained therein, providing the reader with easy access to the relevant sections of the document.

Chapter 1, Introduction, provides a synthesis of each chapter and explains the flow of the document. The introduction will also explain the overall concepts involved in the thesis and briefly position the research in academic and industry context.

Chapter 2, Literature review - payment methods, will utilise the industry literature from the payments business to review the current position of personal spontaneous payments (PSPs) in the UK and how demographic segments and situational factors actually affects behaviour in payments. Academic literature in the field of payment methods and the factors affecting the method used is critically reviewed, identifying gaps in this area of research. The P.L.E.S.T.E.D. model is used to analyse the payment industry in the absence of extensive specific research in this area. This chapter explains the current technology progression in payment methods and explains which payment methods are focused upon in this research and why.

Chapter 3, Literature review - consumer behaviour, introduces the academic literature pertaining to consumer behaviour whilst shopping as the basis of this research. The chapter will go on to describe basic models that articulate how attitudes are constructed and how these attitudes go on to affect shopping behaviour. Investigating consumer behaviour constructs leads to a decision on which constructs to use to test for a correlation between consumer behaviour when shopping and the behaviour when selecting a payment method. The chapter then focuses on hedonic/utilitarian shopping value and subjective norms that affect behaviour. This chapter also recognises a gap in knowledge regarding demographic segment and the affect on shopping value. Eight hypotheses are developed within this chapter. Excluded from the research is all shopping where a full range of payment methods are not available, for example internet shopping and ‘click and collect’.

Chapter 4, Research methodology, articulates the objectives of the research, the research questions and briefly describes the epistemology underpinning the research. A conceptual model is created, drawing upon the previous two literature review chapters and the research objectives. A mixed methods methodology is employed for this research and the construction of the research plan is modelled within this chapter. The primary research
comprises a small survey on consumer involvement in different payment methods. This is followed by a set of focus groups identifying the attributes of different payment methods. Using the results of the focus groups, scales are developed for the main survey and this is followed by a more in depth examination of the results.

Chapter 5, Involvement in payment methods, describes the general principles of data collection employed in all the stages of primary research. This research is performed solely to check if consumers do have an emotive response to payment methods before continuing with more substantial research. The chapter explains the construction of the involvement survey and goes on to describe the results, which is a distinct piece of research on consumer involvement with cash, debit cards and credit cards. This survey uses a standard scale (Zaichkowsky 1994) and measures consumer involvement in these three payment methods.

Chapter 6, Research identifying payment attributes and subjective norms, this chapter describes the methodology of the focus group research and the process for the creation of the payment method attribute preference scale. The comments of the participants are then entered into NVivo to collate and examine the results. Two additional hypotheses relating to subjective norms of behaviour when paying are developed from the NVivo analysis and relevant comments are highlighted to provide a baseline of primary data that can be used to validate subsequent results from statistical analysis.

Chapter 7, Main survey design and results, describes how the questionnaire for the main survey is designed and piloted. The chapter explains the choices of sampling and survey administration and shows all the stages of question design. Lessons learned for the survey pilot are included in this chapter as well as in depth view of the decision-making that determined the survey design. The main survey is delivered by interview using the “mall stop” method. This is not a probability sample, but a quota system is used to ensure that minimum thresholds of demographic segments are surveyed.

The results are then analysed starting with the effect of demographic segment on shopping value. The analysis uses the Kruskal-Wallis non-parametric data test to analyse variance between the level of hedonic or utilitarian shopping value and the demographic group to which that consumer belongs.

The chapter then tests the scale used for the payment method attributes preferences, checking reliability and using exploratory factor analysis to match attribute items to a
payment method preference. The Kruskal-Wallis non-parametric data tests for correlation are used to test the relevant hypotheses and the correlation between hedonic/utilitarian shopping values and payment method attributes.

The final section tests whether the situational components of consumer attitude towards payment method influence the choice when at the till. The subjective norm, within this research, is comprised of attitudes towards location, product purchased and amount paid for the purchase. Three locations are tested in this research, which are supermarkets, local shops and clothes stores. Amount paid is measured by looking at the point where a consumer switches from cash to card. Asking what products are always purchased with cash tests subjective norms regarding product.

Chapter 8, Triangulation of results using structural equation modelling, uses the results from this research to create a best-fit model of both payment attributes and shopping value using structural equation modelling. A model is created to check the reliability of the scale for shopping value. The scale used is an established one (Babin et al. 1994) but it is reduced for this research, making a reliability test prudent. The payment method attributes are then modelled with the latent variables discovered during exploratory factor analysis and a best-fit model is found. These two are then combined and tested again to validate the major part of the conceptual model. This section triangulates the earlier statistical testing results in a more holistic view.

Chapter 9, Conclusions, compares the overall data analysis with the original hypotheses and states the generalizable conclusions of the research within a theoretical framework referring back to the conceptual model. The reliability and validity of the research are examined. Any knowledge that can be abstracted from the research is highlighted. This chapter also places the research in the context of the literature review and discusses the contribution to knowledge that the research represents. The limitations of the research are considered and the opportunity for future research in the area highlighted. Implications for the payments industry and retail managers are also considered in this final chapter.
2 Literature review- payment methods

2.1 Introduction

When making a purchase consumers are often asked “And how will you be paying today?” This every-day consumer decision process is the subject of surprisingly limited publicly available academic research. There is a large industry behind the scenes facilitating each of the payment options, which grows and shrinks with the accumulation of all of these small decisions. In the UK there has been some form of currency for holding and transferring value since the Bronze Age, coins became widely used in the Dark Ages with paper currency and cheques becoming available in the seventeenth century. During the last 50 years, technology advancement has increased the number of options with credit cards introduced in 1966 and debit cards in 1987. Recently payments facilitated by mobile phone technology have become available in the UK, examples are PINGIT\(^6\) and PAYM\(^7\).

A personal spontaneous payment (PSPs) is the industry term for any consumer to business payments. All payments consumers make to a retailer, wholesaler or service provider for all goods and services, that are not pre-arranged, are known as PSPs. Examples of PSPs are supermarket shopping and buying drinks in a pub.

There are two other payment classifications in the UK. Firstly, business payments are mainly performed by cheque, bank transfer or share transfer and constitute how businesses pay each other. Secondly, regular payments, which are personal like PSPs but are pre-arranged, examples include: mortgages, utility bills, mobile phone contracts and regular savings or loan repayments, again these are mainly performed by bank transfer or cheque.

This research is looking at the decision making process of an individual consumer, therefore business payments have been excluded. Regular payments have also been excluded because although they do involve a consumer decision, that decision is not situational, and the payee often restricts the payment options. The decision making process for regular payments provides potential for future studies, but this research focuses on the situational decision of a consumer when making a spontaneous payment. For clarity,

\(^6\) Pingit is a person to person bank transfer facilitated by mobile phone, offered by Barclays in 2012
\(^7\) Paym is a person to person bank transfer facilitate by mobile phone offered by Bank of Scotland, Barclays, Cumberland building society, Danske bank, Halifax, HSBC, Lloyds Bank, Santander and TSB.
henceforth the term ‘payment methods’ within this research refers to methods of personal spontaneous payment.

The available payment methods in the UK are:

<table>
<thead>
<tr>
<th>Point of Sale (POS) Payment Method</th>
<th>Description</th>
<th>Medium</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash</td>
<td>Issued by the Bank of England, Bank of Scotland, Royal Bank of Scotland, Clydesdale Bank, Ulster Bank, Northern Bank and Bank of Ireland notes and coin</td>
<td>Notes and Coin</td>
</tr>
<tr>
<td>Debit Cards</td>
<td>Supplied by UK and International Banks taking cash direct from associated accounts, using VISA and MasterCard intermediary systems</td>
<td>Plastic card with CHIP and PIN, Contactless, Mobile wallet, PayPal</td>
</tr>
<tr>
<td>Bank transfer via the internet or telephone</td>
<td>BACs Direct Credit (BDC) or Faster Payment Service (FPS)</td>
<td>PayPal, website, telephone banking centre</td>
</tr>
<tr>
<td>Credit and Store Cards</td>
<td>Supplied by UK and International Banks, stores and companies creating a debt to be repaid by the user, using Europay, Visa and MasterCard intermediary systems</td>
<td>Plastic card with CHIP and PIN, Contactless</td>
</tr>
<tr>
<td>Cheques</td>
<td>Generally supplied by UK and international banks taking cash direct from an associated account or credit facility. Sometimes guaranteed by a debit card, but not necessarily</td>
<td>Paper system usually supplied by banks but any paper format is acceptable if the correct information is contained</td>
</tr>
<tr>
<td>Pre-paid cards</td>
<td>Cards purchased by using a different underlying payment system to use for a specific purpose. E.g. Oyster card</td>
<td>Plastic cards issued by a company to facilitate payment for their goods or services</td>
</tr>
<tr>
<td>Mobile Wallet</td>
<td>Debit system, credit system, prepaid card or voucher loaded onto a chip usually within a smartphone</td>
<td>Smartphone chip, tablet chip</td>
</tr>
<tr>
<td>Voucher</td>
<td>Postal order, gift vouchers, etc.</td>
<td>Plastic card or paper voucher</td>
</tr>
</tbody>
</table>

Table 2.1 Payment methods available in the UK

The most recent report from the UK Payments Council\(^8\) states 26 billion PSPs\(^9\) were made in 2012 with a total value of £728\(^{10}\) billion.

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\(^8\) UK Consumer Payments 2013, Payments Council, November 2013
\(^9\) Only PSPs larger than £1 are counted.
\(^{10}\) Excludes spontaneous financial repayments, savings and investments, although these are PSPs they are not involved in shopping or buying services, and therefore not relevant to this study.
From figure 2.1 it can be seen that cash remains the dominant form of payment with 55% of transactions compared to 27% for debit cards, but it is not the dominant value with only £174 billion of value compared to debit cards at £279 billion. Cash has a mean transaction of £11.30 where debit cards have a mean transaction value of £37.60. The Payments Council predict a decline of 33% in cash transactions by 2021 although the value of cash paid will decline by only 5% due to inflation.

The cashless society is lauded as an ideal and predicted for several years (Worthington 1995) but has not yet materialised, despite the increase in the use of debit cards. This literature review examines the factors that may change the landscape of payments and how significant each factor is in terms of likelihood and impact.

In the UK, 89% of all payments are made using the three major payment methods: cash, debit cards and credit cards (including store cards). For clarity, henceforth in this research the term ‘credit card’ will refer to all payment cards that transact by generating a debt not linked to a specific bank account, issued by any banking, credit or retail institution. To simplify the primary research stages of this thesis going forward only these three payment methods are focused upon. The cheque is the next largest payment method but is declining rapidly, and other payment systems, such as PayPal and Oyster, are growing but are still relatively insignificant. It is acknowledged that excluding these new methods of payment is a limitation on this research, but the lack of consumer experience, and the current speed of innovation make it impractical to include these payment methods.
2.2 Payment method literature

The academic literature available regarding payment methods focuses on two aspects: technology and economics. Both of these disciplines examine the availability of supply of payment methods, with little discussion of consumer demand issues. Possible advancements in methods of payment such as the use of smart phones and electronic coins are the subject of extensive research (Eslami and Talebi 2011; Jones 1999; Kupetz 2007). Most of the economics based literature relating to payments explores the valuation of cash required for circulation by the National Bank using economic indicators (Tobin 1956; Baumol 1952; Lippi and Secchi 2009; Humphrey et al. 1996; Alvarez and Lippi 2009). There is limited publicly available research examining any aspect of consumer demand for different payment methods in the UK.

Research is available, mainly in the US discussing the propensity of consumers to spend more if they have a credit card available (Soman 2001; Raghubir and Srivastava 2008; Feinberg 1986; Prelec and Simester 2001). Prelec and Simester (2001) measure, what is termed the ‘pain of paying’, demonstrating that consumers will pay more using credit card. Ranghubir and Srivastava (2008) explain that this is due to the value being less physically evident. Cash has a physicality linked to the payment that creates a ‘pain of paying’, which the consumer will then weigh against the pleasure of consumption (Thaler 1999; Prelec and Simester 2001). The most notable work in this area involved an experiment with American MBA students who were asked to bid for tickets to a desirable sporting event (Prelec and Simester 2001). They were randomly assigned instructions that stated the payment would need to be in cash or on card. The cash bids were far lower than the card bids, demonstrating a reluctance to part with cash. There are obviously issues of liquidity that can also influence this behaviour but other studies have reinforced these findings (Ranghubir and Srivastava 2008). The research by Ranghubir and Srivastava (2008) explain this phenomenon by theorising that a card payment is less “vivid” than when the payment is with cash. Consumers effectively feel like they are parting with their money only once when they pay the credit card bill, instead of on multiple occasions (Ranghubir and Srivastava 2008). The payment is also ‘decoupled’ from the consumption allowing consumers to enjoy product consumption at the time of purchase without experiencing any pain of payment. This all reinforces the idea that cash is the best form of budgeting tool. Research by Thaler (1999) shows that consumers can enjoy hedonic experiences more when they are decoupled from the payment, for example buying theatre tickets in advance.
allows you to enjoy the experience more because you are not then considering the cost/value whilst experiencing the show. If you personally try and live life paying exclusively in cash for a week it is likely that you will experience the ‘pain of paying’ and will have spent less. Thaler (1999) also states that as people age they become better at evaluating the pleasure of the hedonic consumption against the pain of paying and are therefore more inclined to purchase hedonic goods, when affordability is equalised.

There are also a few US studies available measuring the attributes of different payment methods (Ching and Hayashi 2010; Borzekowski et al. 2008; Schuh and Stavins 2010). Ching and Hayashi (2010) examine specifically whether card reward programmes attract consumers away from other methods of payment and conclude that some consumers would switch back to paper based forms of payment if rewards were not offered. Borzekowski et al. (2008) specifically examine the effect of debit card charges at the point of sale, and again find that consumers are price sensitive and would move away from this method of payment despite consumers finding this the most convenient method. Schuh and Stavins (2010) examine the long awaited move away from cheques in the US by measuring attributes of the major payment methods and concluding that time at check out, record keeping and convenience are all attributes that are moving consumers away from cheques to other payment methods. They warn that these findings may be more as a result of increasing financial literacy than they are actual change in attributes, in other words consumers are becoming more aware of the attributes of other payment methods rather than those attributes changing.

Some of these principles, although exclusively researched in the US, will also apply to the UK. The ‘pain of paying’ is likely to be an international phenomenon. All of this work examining attitudes towards payments is useful in providing understanding of the subject overall but its’ relevance to this research is limited because it is entirely US based. It is also limited because it examines niche areas of consumer attitude in discrete pieces of research and it does not link any known consumer behaviour constructs to payment choice. However the fact that researchers have identified from consumer research attributes of payment demand does indicate a social construction to payment method demand.

UK based research is available on the involvement of consumers in various financial products, including the cheque book (Aldlaigan and Buttle 2001) and there is also general discussion of the cashless society with some reference to consumer preference (Daniels and Murphy 1994; Worthington 1995). Less academic research is available based on the
UK economy than is available in the US. Whilst these two countries may be deemed comparable in many respects their position in payment method propensity is different (Evans et al. 2013) and the attitudes of their consumers are unlikely to be the same.

In order to circumnavigate these limitations of the literature and focus on payment methods the best available option is to identify the environment of payment methods and explore relevant literature in these areas. The model used to search for related literature is P.L.E.S.T.E.D (Politics, Legislation, Economics, Social/Cultural, Technology, Ecological and Demography). This model is an extension of the PEST model that is developed as taxonomy for analysis of the business environment (Aguilar 1967). In the 1980’s the legal, ecological and demographic factors are added to extend the model. The literature relevant to payment methods in each area is explored and an assessment of the likelihood and impact of change in the UK is considered.

2.2.1 Politics

The political stability of a country has significant impact upon the volume and value of all payments, sublimating the preference of consumers. In war torn areas the infrastructure of electronic payments can break down and the citizens revert to cash, precious metals or barter. This reversion to a more primitive system is unsurprising where a more basic set of priorities take over from the accepted first world value system. In periods following or preceding political unrest there are other dramatic impacts on the payment systems, including hyperinflation. The hyper-inflation of 1920’s Germany, 1940’s Hungary and 1990’s Yugoslavia are characterised by an initial drop in trade output lowering tax revenues thus leading to monetization of the fiscal deficit (Bogetic et al. 1999). Monetization creates significant seigniorage\(^\text{11}\) tax revenue in the short term but leads quickly to lower local cash holdings as stable foreign currencies come to dominate. A more recent example is the recent ‘Eurozone crisis’, which is leading Greek and Italian citizens to hold significant value in cash rather than trust the banking system\(^\text{12}\).

Extreme political changes are unlikely to affect the UK economy in the near future, however history has shown that in this unlikely event there would be a high impact.

\(^{11}\) A tax payable to the Government by note issuing Banks related to the value of issued notes they have in circulation

2.2.2  Legislation

Legislation in the payments market is mainly associated with controlling the cost of interchange fees used by electronic payment systems and protecting the integrity of the currency. Interchange fees are used to allocate the cost of the transaction between the card issuer and the transaction receiver. Verdier (2011) provides a meta study of the literature covering the interchange payments in card systems, producing a timely snapshot of the current debate. Costs of different payment methods are not seen directly by the consumer, thus depriving them of the opportunity to make an informed decision, instead costs are divided between retailers and banks. There are 237\textsuperscript{13} different interchange fees operating for debit cards in the UK and the ‘honour all cards rule’ requires retailers to accept either ‘all’ debit cards or ‘no’ debit cards. The European union are currently working on legislation to cap interchange fees in the UK\textsuperscript{14}. MasterCard are appealing to the European court against interference in their interchange fee arrangements. This is their second appeal of the 2007\textsuperscript{15} judgement against their cross border and UK domestic interchange fees with the UK government supporting the UK Competition and Markets Authority in their investigation of any breach of competition law.

Several countries have already capped interchange fees to ensure that banks do not artificially make card usage favourable to cash by loading cost to the retailer. In the USA a case contesting fees went to court leading to the Baxter (1983) interchange fee model. The Baxter model determines an interchange fee that sets the cost to the merchant of accepting a card the same as the cost of accepting cash, creating a socially optimal payment system. Baxter’s model has the benefit of simplicity which makes it widely used and accepted, but relies on merchants and consumers being treated as homogenous groups (Verdier 2011), a clear deficiency in any practical application. Carlton and Frankel (1995) argue for a model allowing price discrimination by merchants to encourage or discourage card use as they see fit. Rochet and Tirole (2002) build a model that assumes heterogeneity for both merchants and consumers and adjusts fees such that any consumer benefit from using a card is matched with a complimentary merchant benefit keeping the two sides of the equation at equilibrium. Whilst this provides a more complete model it still does not allow for extraordinary profit taking by the banks and assumes strong market competition. The cap

\textsuperscript{13}  British retail consortium website and personal interview with Richard Braham, BRC, 2012
\textsuperscript{14}  http://www.bbc.co.uk/news/business-23431543
\textsuperscript{15}  https://www.gov.uk/cma-cases/investigation-into-interchange-fees-mastercard-visa-mifs
on the UK interchange fee is likely to be based on a Baxter style model, which, whilst undeniably flawed, produces a workable solution.

Other legislative change is usually aimed at increasing tax receipts by making it harder to evade tax. In 2011 the Italian Government introduced legislation disallowing payment in cash for any good or services in excess of €1,000\textsuperscript{16}. This has the dual function of providing another opportunity in the pursuit of criminal convictions when attempting to evidence criminal activity and of discouraging tax evasion in person-to-person payments. For example if you are to pay a builder in cash there is an opportunity for income tax evasion by the payee and VAT evasion by the payer. It is speculated in the same press article that the primary reason for this legislation is the discouragement of tax evasion.

Laws against counterfeiting and a system of regulation introduced by the Bank of England protect the integrity of the UK currency. The Bank of England financially reward retail banks for regularly checking notes for fitness and integrity.

Legislation leading to a flat interchange fee model in the UK is likely but the fee is likely to be set to a level that will produce minimal impact to the market. Other legislation regarding payments is less likely in the UK compared to Italy, who have a strong dependency on cash in their economy (Alvarez and Lippi 2009).

2.2.3 Economics

There is significant research in the field of economics modelling the requirement for cash to circulate in the economy, beginning with Baumol (1952) and Tobin (1956), using a simple least square inventory system to calculate optimal personal cash holdings. Later work by Alvarez and Lippi (2009) uses a similar model but introduces the concept of holding a value of cash at the point of withdrawal due to the probability of passing a ‘free to use’ Automated Teller Machine (ATM). The work by Alvarez and Lippi (2009), includes factors covering national characteristics, gained from research of Italian household withdrawal patterns, and therefore includes some indication that a social or cultural dimension exists in the use of cash. Other models that have been developed look at cash holding on a national level rather than personal level (Humphrey et al. 1996; Amromin and Chakravorti 2009), so they work down from national figures to calculate personal requirements for cash rather than working up from personal figures to calculate a national requirement for cash. All of this work provides an inventory estimate of the cash

held in society based upon factors such as the availability of ATMs, debit card penetration, interest rates, crime rates and self-employment rates (Alvarez and Lippi, 2009; Amromin and Chakravorti 2009; Humphrey et al. 1996).

What all these models all have in common is an assumption that consumers act rationally, opting for the most cost effective payment solution, rather than any irrational choices based upon preferences or other attributes of the payment system. However added most significantly in the work of Humphrey et al. (1996) is a ‘cultural factor’. This came to light as cross border comparisons are performed and it became clear that not all cultures create the same values, therefore there is an unknown variable affecting the equation. Humphrey et al. (1996) called this a ‘dummy country variable’, that they calculated by taking Japan as their baseline and then changing the variable by whatever the necessary factor to make the equation balance for each other country. They recognised that the necessity for this variable is cultural factors but made no attempt in their research to identify the cause of this ‘cultural’ factor.

Research in the US has attempted to extend these economic models of behaviour to the consumer standing at the point of sale and their perception of personal cost (Klee 2008). Klee (2008) includes time taken at the checkout, interest costs and transactions costs as factors influencing personal choice. However the difference between the work of Klee and the more macroeconomics of Humphrey et al. (1996) is not that great, it personalises the economic factors influencing the decision rather than examining any ‘cultural’ factors.

UK economics is moving towards higher levels of self-employment creating a counter-weight to the increased debit card penetration in economic modelling, but is unlikely to change dramatically given interest rates, ATM penetration and crime are stable. Change will be evolutionary rather than revolutionary providing a low impact.

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17 Office of National Statistics; [www.ons.gov.uk](http://www.ons.gov.uk)
<table>
<thead>
<tr>
<th>Author &amp; Journal</th>
<th>Variables</th>
<th>Withdrawal/Invest costs and levels</th>
<th>Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Baumol (Quarterly Journal of Economics) 1952</td>
<td>Interest cost, withdrawal cost, withdrawal value and expenditure.</td>
<td>Switches the emphasis to cash withdrawal but makes the same assumption that a withdrawal takes place when cash holding is at zero and that all withdrawals have a fixed cost.</td>
<td>A model to examine the optimal cash holding that accounts for a withdrawal cost. First move away from the view that in a stationary state there will be no demand for cash balances, as all cash should be invested.</td>
</tr>
<tr>
<td>Tobin (The review of Economics and Statistics) 1956</td>
<td>As above</td>
<td>Proves that for optimal efficiency the withdrawals will have regular period and size. Again a fixed cost and zero holding at withdrawal point.</td>
<td>Develops the argument that demand for cash will be dependent upon interest rate. More mathematically rigorous than Baumol but providing the same result.</td>
</tr>
<tr>
<td>Humphrey, Pulley and Vesala (Public policy) 1996</td>
<td>As above without interest but also with the following: GDP, POS , ATM p.h.o.p, last year transactions, violent crime per 100k inhabitants, concentration of 5 Banks, dummy country variables.</td>
<td>The article does not optimise withdrawals but uses actual withdrawals thus implicitly including a holding at the point of withdrawal.</td>
<td>This article examines the actual number of withdrawals using real data and then equates that to relevant factors in 14 different countries. Ignores the theoretical and rational level of cash holdings and identifies the factors that affect cash holding. Then identifying a national ‘cultural’ variable for each country.</td>
</tr>
<tr>
<td>Amromin and Chakravorti (Journal of money, credit and banking) 2009</td>
<td>Currency holding, GDP, POS , Bank branch &amp; ATM p.h.o.p., Ratio of self-employed, interest and national variable</td>
<td>The model partially provides a variable on withdrawal by using the density of ATMs and POS but fails to recognise the difference between free to use and charging ATMs.</td>
<td>The article criticises the work of Humphrey et al. as they are using aggregate national data that will hold currency held outside the nation. The model is on a national scale, but also includes variables developed by Humphrey et al.</td>
</tr>
<tr>
<td>Alvarez and Lippi (Econometrica) 2009</td>
<td>As Baumol or Tobin model but including: Probability of passing free ATM, Ratio of cash held at withdrawal (0.4)</td>
<td>This article includes the probability of random free withdrawals and therefore having a variable holding of cash at the point of withdrawal. This is an innovation in cash optimisation modelling</td>
<td>This is a personal optimisation model built upon the work of Tobin but modernises the options and includes real data from Italy, similar to Humphrey et al. in order to quantify cultural behaviour variables.</td>
</tr>
</tbody>
</table>

Table 2.2 Review of payment method optimisation/prediction economics models
2.2.4 Technology

There are several changes in technology revolutionising the way consumers will be able to make payments. Currently it is the front end of the payment system that is developing, and the ‘engine room’ of payments known as the clearing system, remains largely unchanged. The system developed in 2007 includes a PIN ID at the Point of Sale (POS) terminal that is checked with the card issuer for fidelity before a transaction can proceed, is the most recent major payment system development. The new method is known as the Europay, Mastercard and Visa (EMV) protocol or ‘CHIP and PIN’ informally, and forms the basis of a relatively simple system.

![Debit card processing schematic](image)

Some debit cards check the account before providing payment; ‘Solo’ and ‘Electron’ are two examples of this. Others, such as ‘Visa’, ‘Delta’ or ‘Switch’, make a funds check but do not require it to process payment. These latter cards are issued to customers with good credit ratings who are given the luxury of the card working when the bank networks may not be available. The credit card system operates in the same way but instead of an immediate debit from a bank account, payment is drawn from a loan facility, relegating the need for an immediate funds check. A funds check is always preferred by all card issuers and is the norm in these times of speedy and reliable data communications.

Changes to payment methods are being driven in two different directions using different protocol systems but both relying on Radio Frequency Identification (RFID) technology. The contactless plastic card solution (Paywave, ExpressPay and PayPass), now being made available in the majority of debit and credit cards use the established EMV protocol but removes the need for an ‘every time’ integrity check via PIN for transactions below £20.00. These ‘contactless’ cards are designed to make the card payment process quicker for low value transactions, thus competing more effectively with cash. Research in the US predicts that contactless cards will have a limited impact on the major payment methods.
substituting minimal low value cheque and cash transactions (Borzekowski and Kiser 2008).

The mobile wallet solutions use Near Field Communications (NFC) protocols allowing a chip within a smartphone or tablet to be waved near to a terminal and, assuming the terminal has NFC capability, pass payment information between them (Sanders 2008). The mobile wallet effectively replaces the plastic card at the point of sale but is linked to a debit / credit card account. This uses only a fraction of the possible functionality of a smartphone application but works easily within established payments system procedures. There are other systems that are just becoming available in the UK, but already have wide usage internationally. The most obvious is the removal of the plastic card completely, which in itself, serves no real purpose. The Subscriber Identity Module (SIM) within the phone can link directly with an account facility without a plastic card acting as an intermediary.

A major innovation that can be envisaged is for the application provider to hold the account or loan facility rather than a traditional bank or lender. This may rely on mobile communications rather than the established EMV network. In one possible scenario a salary could be paid to Apple Inc., who then make it available via their “i-wallet” application, providing the consumer instant access to debit and credit facilities as required. There are challenges to be resolved in this scenario, including cash provision, regulation, POS communications and clearing facilities. This system would require an innovation in the supply chain, rendering the banking and clearing infrastructure redundant, however history is littered with similar disruptive innovation where a niche product becomes mainstream and causes the largest of businesses to fail (Christensen 1997).

Research is currently being undertaken to create “electronic coins” that are anonymously passed between computers (Eslami and Talebi 2011; Chaum 1983; Fiat et al. 1990). Elsami and Talebi (2011) consider this technology to be viable and robust, but Drehmann et al (2002) make a strong argument that average consumers will distrust any technical solution due to the perception of leaving a digital footprint. The development of the Bitcoin has proved the viability of such technology but also demonstrates the volatility of decentralised payment systems and the authorities’ insistence on recording transactions before accepting a new digital payment system. Whilst the technology is becoming available for anonymous payment there is a legitimate concern that, like a ‘Swiss Bank Account’, they will be susceptible to legislative intervention by the authorities at some point. Banking journals have researched the adoption of payment method technology (Hayashi and Klee 2003) but
have shown that adoption is dependent on multiple social, demographic and cost factors as well as utility, and is hard to predict with any degree of accuracy.

Technology is **constantly changing** and can create revolutionary change over a short time period making it **high impact**.

### 2.2.5 Ecology

There is little emphasis on ecology in the payment market, and as most of the public are unaware of how cash circulation works, it lacks the pressure of public opinion. The industry focuses upon the transportation of cash in their ecological considerations. Notes taken by a retailer are usually transported to a processing centre where they are counted and sorted for re-distribution; they are then transported out to an ATM for recirculation. Even within a supermarket, that generates its own cash inflow, a vehicle delivers the ATM outflow and the inflow is collected for processing. This is driving a ‘local recycling’ agenda for cash, where retail inflow goes straight into an ATM without the benefit of processing the notes. This has hazards in the passing of forgeries via ATMs, as the notes cannot be fully verified locally. The recent announcement by the Bank of England\(^\text{18}\) that £5 and £10 notes will be re-issued in polymer in 2016 and 2017 respectively shows a move towards improved ecology credentials for cash. Polymer notes not only last longer and so are more environmentally friendly than the linen notes, but they also allow local recycling because they are more difficult to counterfeit.

There is a **low likelihood** of public focus on the ecology of cash circulation and if it did arise it would be so marginal as to be a very niche concern for the public, making it of **low impact**.

### 2.2.6 Social

Payment methods are a tool for the use of consumers and as such form a financial product group. Despite being free at the point of use, most consumers understand that there is a cost and a choice for each payment method. Given that a selection is made and that people select different products in different situations\(^\text{19}\), there must be an element of consumer behaviour driving demand. In summary the demand for payment methods is partially socially constructed. The demand side of the supply/demand equation has received some

\(^{18}\) December 2013, www.bankofengland.co.uk/banknotes/polymer

\(^{19}\) UK Consumer Payments 2013, Payments Council, November 2013
attention in available academic research on payment products, (Aldlaigan and Buttle 2001; Worthington 1995; Drehmann et al. 2002). These researchers discuss payments as a product and conduct empirical research into their usage, but pay little attention to the consumer attitudes that dictate such use. Attitudes towards technology adoption (Hayashi and Klee 2003), towards particular discrete products (Hogarth et al. 2004; Schuh and Stavins 2010) are the subject of research in the US. This research adds understanding of payment method attributes and supports the argument for social construction of payment method demand, but does not link payment methods to any shopping behaviour constructs.

Of all of the environmental factors that effect the use of different payment methods the social aspects would seem the largest driver of demand in a stable western economy, like the UK. We know from the work in economics (Humphrey et al. 1996; Alvarez and Lippi 2009; Amromin and Chakravorti 2009) that cultural issues change demand for different payment methods, but there is currently little understanding of why we choose a payment method or to what extent social factors cause a change. Consumers pay with different methods depending upon the location of the payment. This is driven by amount paid to some extent (Klee 2008), but that alone does not explain the difference. Table 2.3 shows that pubs, chemists and off licences have different patterns of payment behaviour (preference for cash, debit card and cash respectively), with similar average basket sizes: £14, £12, £8 respectively. Some of the difference may be derived from social norms of behaviour in different locations that we do not yet understand.

<table>
<thead>
<tr>
<th>Location</th>
<th>Cash</th>
<th>Cheque</th>
<th>Debit card</th>
<th>Credit card</th>
<th>Other</th>
<th>Average basket size</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supermarket groceries</td>
<td>32%</td>
<td>0%</td>
<td>51%</td>
<td>16%</td>
<td>1%</td>
<td>£ 19.15</td>
</tr>
<tr>
<td>Jewellers</td>
<td>8%</td>
<td>5%</td>
<td>26%</td>
<td>60%</td>
<td>1%</td>
<td>£ 58.20</td>
</tr>
<tr>
<td>Off licence</td>
<td>65%</td>
<td>1%</td>
<td>19%</td>
<td>14%</td>
<td>0%</td>
<td>£ 7.90</td>
</tr>
<tr>
<td>Chemist</td>
<td>34%</td>
<td>1%</td>
<td>46%</td>
<td>20%</td>
<td>0%</td>
<td>£ 12.44</td>
</tr>
<tr>
<td>Holidays</td>
<td>5%</td>
<td>1%</td>
<td>79%</td>
<td>15%</td>
<td>1%</td>
<td>£ 900.74</td>
</tr>
<tr>
<td>Cinema tickets</td>
<td>23%</td>
<td>2%</td>
<td>46%</td>
<td>27%</td>
<td>2%</td>
<td>£ 19.34</td>
</tr>
<tr>
<td>Pubs</td>
<td>73%</td>
<td>2%</td>
<td>14%</td>
<td>11%</td>
<td>0%</td>
<td>£ 13.67</td>
</tr>
</tbody>
</table>

Table 2.3 Percentage of public using different payment methods in one month; source, UK Consumer payments 2013, Payments Council, November 2013

Without knowledge of how social factors affect demand it is impossible to know the likelihood of change, but if consumers are to change attitude toward a particular payment method the impact is high. Consumer demand drives change and the supply side reacts to the demand, the supply side can facilitate and encourage but it cannot drive change (Christensen 1997).
2.2.7 Demographics

Industry data provides information on which demographic segments\textsuperscript{20} use the three major payment methods. Table 2.4 shows the sole use of cash is clearly affected by social class, age and income. This may be due to the percentage of the population who are unbanked\textsuperscript{21} in the UK; this is now 3% (35% in social class E) with no account of any kind and 7% (67% in social class E) of people have no access to a plastic card\textsuperscript{22}. The use of only debit card varies with age and income, with lower income groups being high users of ‘debit card only’. All of these statistics show that demographic segment has an effect and reinforces the view that demand for a payment method is socially constructed. This research will need to look beyond the ‘what’ effect does demographic group have, to ‘why’ does a different demographic group have such an effect? Some of the reasons may be intuitive, like the fact that social class E are more likely not to have a bank account, or that the young are more likely to embrace the more technological aspects of payments. However there may be other reasons more deeply embedded in subjective norms of social behaviour that also drive different behaviours for different demographic segments. We know from UK actual usage and US research (Schuh and Stavins 2010; Carow and Staten 1999; Borzekowski and Kiser 2008; Borzekowski et al. 2008) that demographic segment does have a significant effect on chosen payment methods, and is constantly changing, but the rate of change is slow, although over time the impact will be high.

2.3 Payment industry research

Much of the data shown in this chapter is sourced from the Payments Council. The Payments Council is a Government body charged with ensuring that the payments system in the UK runs smoothly and that Government policy regarding payments is implemented. The Payments Council produce data regularly showing payment methods used in different locations, and who is using them. Annually they use large-scale surveys to collect this information and publish it for industry and Government use.

\textsuperscript{20} Segment refers to a category within demographics (age, gender, qualifications, gross household income, ethnicity) and demographic group refers to the subcategory e.g. (male, female)

\textsuperscript{21} Term referencing people who have no access to a current account

\textsuperscript{22} Consumer payments 2013, Payments Council, November 2013
2.4 Summary

There is a limited body of available academic research relating to payment methods in the UK, therefore an analysis, using the P.L.E.S.T.E.D. model, of the factors affecting the payment methods environment is used to identify the relevant literature. This analysis found that in a stable western economy, such as the UK, the politics, legislation, ecology, economics and demographics relating to payment methods are stable and although influencing factors they are unlikely to provide any revolutionary change; certainly on a five-year horizon (see figure 2.3). It is clear that technology advancement and social
factors have the potential to affect payment methods, and that the two factors are linked. Technology has now provided the “mobile wallet”, and it will be refined and made more user-friendly over the next five years. The unanswered question remains whether consumers will choose this option over other available options, and therefore change individual behaviour. The influencing factor that potentially has high likelihood and high impact is the social aspects or consumer behaviour. In order to start to answer this question, a foundation of research needs to begin on ‘why’ it is that consumers choose a particular payment method. This will facilitate a starting point in the identification of the cultural variable that economists have identified. This research will focus on consumer behaviour, rather than the other influencers on payment method demand/supply, because it is less well researched than other factors and has potential for high impact.

Impact (5 year horizon)

Figure 2.3 Graph of factors affecting payment method use plotted by impact and likelihood of change.

2.5 Concluding chapter remarks

This chapter examines the industry payment literature and the academic literature in the environment of payments. The chapter concludes that demand for payment methods is socially constructed, and that whilst other factors influence the choice of payment method, consumer behaviour is a high impact factor with an unknown likelihood for change, and as such should be the focus of research in this area.
The next chapter will provide a structured review of the relevant literature regarding consumer behaviour when making a purchase decision.
3 Literature review- consumer behaviour

3.1 Introduction

The previous chapter discussed which of the environmental factors affecting supply/demand for payment methods had the most likelihood of change and the greatest impact. Consumer behaviour when deciding on the choice of payment method at the time of making a personal spontaneous payment (PSP) is identified as the most significant and under researched factor and is the focus of this research. Most PSPs are made when out shopping and so this will form the basis of the literature examined in order to understand which of the many consumer behaviour constructs may influence the choice of payment method.

Shopping is an activity composed of several different stimuli, actions and reactions, many of which have been researched in depth, but there is still one aspect of shopping, the payment process, that has received limited attention. Paying is not a part of every shopping experience, but is essential whenever a purchase is made and is a very familiar action for each of us, occurring on average 1.3 times per day\textsuperscript{23}.

Paying comes at the end of a chain of events (figure 3.1) which includes: product requirement and selection, finding time and a location to shop, interaction with product information / advertising, shopping value\textsuperscript{24} and making a purchase decision ahead of the final payment.

Research has shown that each of these events is not just affected by the practicalities of the purchase and the product utility value but also by shopping value (hedonic or utilitarian), and attitudes. Hedonic consumers do not just shop in order to obtain a required item, but shop for the pleasure they obtain in the process. “People buy so they can shop, \textit{not} shop so they can buy” (Langrehr 1991).

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\textsuperscript{23} Payments Council website 2013
\textsuperscript{24} Shopping value is a term used to describe if an individual enjoys the process of shopping (hedonic) or considers it a chore (utilitarian)
This research focuses on determining if shopping value affects the way we pay. Is the method of payment chosen, subject not only to the practicalities and utility of the payment method, but also to the shopping values of a consumer? This review of the relevant literature describes the constructs used in previous research to describe consumer behaviour relating to each stage of the purchase decision process. Some constructs span several stages of the process and many of them have overlapping antecedents, interdependencies and relationships. This review maps these constructs as well as their antecedents to demonstrate how they interact and how the role of the product and the consumer intermingle within the identified constructs. When creating any construct that attempts to describe, and even predict, consumer behaviour it often requires a mix of the product attributes and the attitudes and or values of the consumer.

Ultimately the review of literature builds the rationale for choosing shopping value and subjective norms as the comparators when searching for a construct within consumer behaviour literature that influences the choice of payment method. Situations, attitudes, values and product attributes are diverse and multifaceted leading to an array of possible comparators against which to measure payment method preferences. Finding a key link between shopping and paying, leading to a significant comparator, is fundamental to this research.

This chapter considers the previous research examining consumer behaviour when shopping, showing the development of ideas, and ultimately focussing on the constructs that best link shopping and paying.
3.2 Shopping behaviour

Research on shopping behaviour is extensive and diverse, therefore for this review the research is limited to, and organised by stages in the purchase decision process (Figure 3.1). This limitation is required for the practical length of a thesis and, given that it is the purchase decision that leads to a payment, is a logical narrowing of the plethora of research into shopping behaviour.

Consumer interaction with the **product** is the first stage of the process. The product attributes, perceived risk, product importance and product symbolism are the initial areas of literature reviewed. They examine the nature of the product, what it does, and its symbolism; for example, does the product being purchased have attributes that make it more than what it does? Similarly is the product a disposable item? The implication being that the wrong purchase decision has limited consequence and therefore the product has low product importance.

The review moves on to briefly examine the **situation** of the purchase. This includes time pressure and store attributes as they affect the final purchase decision. These factors are brought together using the construct of involvement, which links the product, the situation and the consumer, creating the basis of the **interaction** between the three. Involvement is a construct which has three categories of antecedents: the product importance, characteristics of the consumer and the situation (Bloch and Richins 1983; Zaichkowsky 1994).

Shopping **value** then examines whether consumers ‘live to shop rather than shop to live’ and, if consumers using an emotional or sensory characteristic imbue certain products, then whether that makes their purchase a fun experience (Hirschman and Holbrook 1982). Work on consumer attitudes provides an array of constructs exploring how purchase decisions are influenced by the **attitude** of the consumer. Significant among them is the work of Azjen and Fishbein (1975, 1980) with their ‘theory of reasoned action’.

Finally these constructs are examined in light of the experience of **paying** for a purchase and which if any of the previous stages may have influenced that selection.
3.3 **Products**

3.3.1 **Product attributes**

A product in itself will have characteristics or attributes which impact on perceived product risk, importance and consumer involvement. The study of product attributes comes from early work to place products in classes (Copeland 1925) or place products on a continuum using various measures as the axis (Aspinwall 1958).

Bloch and Richins (1983) define product attributes such as cost (in terms of purchase price and time/effort to acquire), product longevity, product complexity, potential to do harm and product dependence. Product dependence is subcategorised as availability of substitutes, frequency of use, and hardship experienced if unavailable. Within a particular geography the attributes of a product are stable and change only across the lifecycle of the product. Product attributes tend to be stable over time and only change as products develop over the product lifecycle. For example the calculator started life 40 years ago as a high cost, high complexity and low substitution opportunity product, but is now a low cost, low complexity consumable item.

3.3.2 **Perceived risk**

Perceived risk is a construct created in the 1960’s and developed further in the 1970’s that attempted to explain consumer behaviour (Cunningham 1967; Arndt 1968; Taylor 1974). The construct considers the amount of risk a consumer perceives is involved in a purchase. Therefore the construct is targeting the purchase decision rather than any other parts of the shopping event. For example the research of Anrdt (1968) measured the risk that consumers perceived is involved in buying an unknown brand of coffee by asking “How important is it that a new brand of coffee you have never tried before is as good as your present brand?” This line of questioning shows clearly how the construct of perceived risk can be linked to innovation and can negatively influence innovation / technology adoption (Gatignon and Robertson 1985).

Jacoby and Kaplan (1972) identified five types of perceived risk in their research, which are: financial, performance, physical, psychological and social. **Financial risk** is defined as “the net loss of money to a customer”. **Social risk** considers how others will respond to the purchase. **Psychological risk** is the disappointment or frustration if the product does not conform to one’s self-image. **Physical risk** is the possibility that the product could harm the
consumer or others and performance risk is the financial loss when a product fails to perform the function required (Jacoby and Kaplan 1972; Mitchell 1992).

The perceived risk is determined by measuring the importance of any disbenefit by individual product. This method of measuring perceived risk is sometimes extended to measure product importance, a construct closely related to perceived risk.

3.3.3 Product importance

The importance of a product to a consumer is the balance of the potential benefits with any potential disbenefit. Using the five indices of perceived risk, discussed previously, working on positive and negative scales, shows that a result can range from high benefit to high disbenefit. This provides a measure of product importance, and makes the same scale usable for the construct of product importance as perceived risk. Therefore product importance can be seen as perceived risk (disbenefit) with the equal and opposite opportunity for benefit.

Product importance is one determinant of consumer behaviour when making a purchase decision. It is commonly thought of as a characteristic of the product, for example buying a car will have a higher level of importance than buying instant coffee, but the consumer also influences product importance. The risk construct is clearly identified as ‘perceived’ because to some extent the risk is in the eye of the beholder, and is perceived differently by differing consumers for the same product. Therefore the construct of product importance also has an element that is determined by consumer attitudes, it is more strongly associated with products themselves but consumer perception must be included in any measure (Bloch and Richins 1983).

Product importance can be further split into enduring and situational (Bloch and Richins 1983) where the characteristics of enduring importance are more closely aligned with a consumers life goals. For example, for a gastronome the choice of cheese is of enduring importance and for a more functional eater the choice will only have a situational importance. The product is the same but the level of importance varies depending on the consumer and whether the characteristics of a product align to their life goals.

Product attributes are closely linked to perceived risk and are argued by Bloch and Richins (1983) to be positively related to situational product importance. However, given that product attributes are stable over time the relationship is related to both situational and
enduring product importance. It seems more reasonable that product attributes are an antecedent of product importance both situational and enduring, see figure 3.2.

3.3.4 Product symbolism

In the 1950’s and 1960’s there is a surge of research into product symbolism and what different aspects of a product can be identified as leading to non-functional purchase decision (Gardner and Levy 1955; Levy 1959; Dichter 1960; Levy 1963; Grubb and Grathwohl 1967). This work is divorced from the economics tradition that had previously been the basis of consumer behaviour and built upon ideas in the field of psychology. Ideas are formulated about the emotional response to products that are either drawn from a previous experience or from an imagined experience (Singer 1966; Hirschman and Holbrook 1982). These emotional responses could prompt a purchase decision that is unrelated to the idea of maximised utility. Levy (1959) points out that this response relates not only to luxury products, where the idea is intuitively reasonable, but also to simple products such as food.

There are many examples of such products; an extreme case would be a Rolex watch and whether it is purchased mainly as a timepiece or as a symbol of status. More everyday examples might include the purchase of an Apple Mac to demonstrate a more creative personality or Champagne to denote celebration. There are many products that, whilst having some functional aspect, are purchased for their symbolism as well as their utility.

Product symbolism is also referred to as product meaning and as such is an antecedent of involvement (Laurent and Kapferer 1985) and situational product importance (Belk 1980; Grubb and Grathwohl 1967).

3.3.5 Summary of product

The relationship between the constructs examined in this section is shown in figure 3.2. This view of the relationships is a synthesis of the reviewed literature and whilst diverging from some previous research (Bloch and Richins 1983), represents a snapshot of others (Laurent and Kapferer 1985; Belk 1980).
3.4 Situation

3.4.1 Store attributes

The attributes of a store can affect retail outcomes such as satisfaction, loyalty, intention and shopping value (Pan and Zinkman 2006). In order for a store owner to influence these outcomes they need to understand which attributes lead to which outcome. There is a large body of research on store attribute importance (Oliver 1997; Sheth et al. 1991; Dabholkar 1996).

![Figure 3.2 Product constructs](image)

There are two obvious store attributes: price and value; which will influence consumer loyalty (Caruana et al. 2000), but these are integrated into more subtle dimensions of the store, such as physical aspects, personal interactions, reliability, problem solving and retailers politics (Dabholkar et al. 1996).

Store attributes can also affect shopping value (Stoel et al. 2004; Olsen and Skallerud 2011), who found that hedonic shopping value is positively related to personal interactions, and that product value, accessibility and utilitarian shopping value is positively related to physical store layout and product assortment.
3.4.2 Time pressure

The time available for consumers to research their purchase, interact with product information, browse locations and make a final decision will have an effect on the purchase decision (Langrehr 1991). It is reasonable to assume that given an infinite amount of time a consumer would make a complete search and therefore make the best purchase decision for them (Stigler 1961). It is also reasonable to believe that the extent of the search affects the quality of the purchase decision in a direct correlation, not to say that a perfectly complete search will make a perfect decision, as the quality of the decision is subjective, but that the completeness of the search will have a positive effect on the decision made.

Four factors influence the time used and therefore the completeness of the search.

i) How an individual values their time, it was Benjamin Franklin who stated in 1748 that “time is money”, and for many there is an opportunity cost for use of their time. The concept of the opportunity cost of time equates time to an hourly wage rate (Mincer 1963). This leads to a basic equation of ‘wage rate x research hours = financial risk of a poor decision’, providing the perfect balance for the consumer.

ii) There is the more absolute issue of one person’s available time, for example if you are caring for young children you may not have time to spend shopping. When time is being seen as a fundamental asset rather than a financial opportunity (Davies 1994) it is known as ‘available time’. In a post-industrial service economy, such as the UK, time is a scarce resource (Juster and Stafford 1991)

iii) There is the factor of product importance, for example you will reasonably allocate more time to buying a car than to buying detergent.

iv) One’s attitude towards time.

Available time being finite is much more realistic in this age than the ‘time is money’ concept, mainly because the majority of the population are unable to influence that equation. In paid employment it is rarely possible to decide yourself to work more hours to earn more money, and therefore there is no opportunity to transfer hours spent in shopping research to hours worked and benefit from the difference. Instead most people will work a set number of hours per week, and have a finite amount of available time left over, which they can choose to spend how they prefer. Scarcity of time will have an effect on buying
behaviour because the decision making process can be conceptualised as timely based problem solving (Engel et al. 1968).

The concept of consumers spending time on product research depending upon their attitude towards shopping is more realistic. As discussed previously, consumers are likely to have an amount of available time that they can distribute between multiple, non-work activities. Therefore if consumers find the act of shopping research and shopping itself pleasurable, then they are more likely to spend their free time on it. However, despite a consumers’ shopping value, products with a very high importance may force them to use some of their available time.

A consumer will decide how much time to allocate to the purchase of a product based on the product importance to them, (product importance is discussed previously in this chapter). Even if a consumer does not enjoy shopping, they will spend what they perceive as a required minimum, researching and shopping for high-risk/high-benefit products. Therefore it is not as simple to equate shopping research time with wages or time availability. Instead, time spent in shopping research is a function of the balance between pleasures in the activity of shopping/shopping research combined with product importance to pleasure in other leisure activities (see figure 3.3).

Figure 3.3 Balance of time spent in shopping research

Iyer (1989) suggested that the consumer requirement to complete their shopping task, propensity for unplanned purchases and reception of in store stimuli are all enhanced by time pressure. Dhar and Nowlis (1999) said that time pressure may actually lead to decision deferral. These appear to present themselves as opposite theories, one suggesting time pressure creates snap decisions and the other that time pressure creates no decisions. It may be that both ideas are correct but that other factors, such as perceived product risk, influence behaviour to defer or make a snap decision. Using the same example, if under
time pressure you are likely to make a snap decision about which detergent to buy but likely to defer a decision about which car to buy. What is clear is that the pressure on time that any consumer may have, will affect the extent of their shopping research and the purchase decision.

3.4.3 Summary of situation

The relationship between the constructs examined in this section is shown in figure 3.4. This view of the relationships is a synthesis of the reviewed literature (Olsen and Skallerud 2011; Caruana et al. 2000; Dhar and Nowlis, 1999; Langrehr 1991).

3.5 Interaction

Consumers interact with products by spending time on research and responding to advertising stimuli. The involvement construct provides a measure of the level of interaction with product advertising and product attributes. Product sign is the level of hedonic pleasure that a product provides the consumer. Involvement and product sign influence consumer interaction with a product.
3.5.1 Involvement construct

The concept of involvement has long been a factor discussed when analysing the purchase decision and is first recognised by Sherif and Cantril (1947) in social psychology research. Since then involvement has become a major factor in advertising strategy (Laurent and Kapferer 1985; Zaichkowsky 1994) and in research on the purchase decision (Mittal 1989b). The characteristics of high consumer involvement include the extent of the decision process, the level of information accessed and the interest and interaction with promotions.

Involvement sits alongside other determinants of behaviour, including product importance and product symbolism, which can be used by marketing managers to target promotions and also by product designers when considering attributes of a new product.

Involvement has previously been described as a ‘pot-pourri’ of concepts (Kiesler et al. 1969) but further work has sought to narrow the definition of involvement into a measurable construct (Bloch and Richins 1986; Zaichkowsky 1986; Mittal 1989b). It is widely agreed that involvement can be split into two constructs: situational and enduring (Houston and Rothschild 1978) or more descriptively referred to by Mittal (1989b) as purchase decision and product involvement respectively. Purchase decision involvement relies less on an individual’s historic attitude to a product (built over time by values and ego) and more related to the state of mind at the point the purchase decision is being made. This aligns purchase decision involvement with ‘situational’ involvement. Product involvement centres on the object and its utility. Mittal (1989b) characterises product involvement as a precursor of purchase decision involvement and that only purchase decision involvement provides useful information to the marketer and so only this should be measured. It is true that purchase decision involvement allows brand to be considered to a greater extent than product involvement but to suggest that it is an antecedent of purchase involvement narrows the use of the construct and is unsupported by others (Zaichkowsky 1994).

In 1985 Zaichkowsky defined involvement as “a person’s perceived relevance of the object based on inherent needs, values and interests” and created a scale to measure consumer involvement based on this definition. This scale is intended to measure product, purchase-decision and advertising involvement equally, although the definition seems to favour product involvement. Whilst the Zaichkowsky (1985) involvement measurement scale, known as Personal Involvement Inventory (PII), is criticised (Mcquarrrie and Munson
1987; Mittal 1989a) it remains a widely used measure and a functional tool for practitioners. Zaichkowsky (1994) answered some of the criticism in a revision of the PII known as Revised Personal Involvement Inventory (RPII), which reduced the items in the scale from twenty to ten and recognised the existence of cognitive and affective subscales within the measure.

Laurent and Kapferer (1985) argued that the concept of involvement has too many dimensions and cannot be treated as a single construct and so created a multi-dimension construct using antecedents of behaviour; perceived importance, perceived risk, product symbolism and emotional appeal. The scale created by Laurent and Kepferer (1985) is known as a Consumer Involvement Profile (CIP). As the description of the measure as a ‘profile’ suggests the scale measures several dimensions, and it is arguable that it attempts to measure so much (Mittal 1989a; Ratchford 1987) that it measures nothing completely.

“The extent of interest or concern that a consumer brings to bear on a purchase decision” (Mittal 1989b) is the definition used for his Purchase-decision Involvement Scale (PIS). Mittal concentrates on the purchase decision, which he argues is not incorporated in either the PII scale or the CIP scale and which he believes should be the main area of concern for marketers.

These three scales for measuring consumer involvement all have validity but their use should be selected based upon the nature of the product being tested and the definition of involvement that is most interesting to the researcher. RPII (Zaichkowsky 1994) has the benefit of simplicity with a clear ten-item scale and two recognisable dimensions, cognitive and affective, making it extensively cited and used and the natural choice for most research.

3.5.2 Involvement in financial products

Consumer involvement is measured for financial products in previous research (Aldlaigan and Buttle 2001; Foxall and Pallister 1998) where different measurements have been compared. Foxall and Pallister (1998) measure involvement in Pensions, Life Assurance, Mortgages and Savings using RPII (Zaichkowsky 1994) and the PIS (Mittal 1989b), focusing strongly on the reliability and dimensionality of the scales rather than the empirical results. They conclude that either scale is valid for measuring purchase decision involvement in financial products and that the cognitive aspects of involvement (importance, need, relevance, value and worth) are more significant for financial products.
than the affective aspects of involvement (interest, excitement, appeal, fascination and involving). Their research concludes that this lack of emotional response may be due to brand indifference, as research suggests that the more affective aspects of involvement are linked to brand (Zaichkowsky 1994). Suggesting that financial brands are not differentiated supports and extends the work of Shelton (1994 cited in Foxall and Pallister, 1998), who suggests that consumers distrust and are sceptical towards the financial services industry and its brands.

Aldlaigan and Buttle (2001), whilst also using two different measures of involvement, focus more on the empirical results of the measurements. They find that mortgages, investments and cash point machines have high levels of consumer involvement and saving, loans, cheque-books, overdrafts and switching services have medium levels of involvement. Examining the results of the empirical testing provided by Aldlaigan and Buttle (2001) also shows that items related to the cognitive aspects of involvement scored higher, across all eight of the financial products measured, than the items related to the affective aspect.

The research of both Foxall and Pallister (1998) and Aldlaigan and Buttle (2001) demonstrate the validity of measuring involvement in financial products and endorse the use of the RPII scale. This research shows that consumers are involved and use mainly rational thinking when selecting a financial product and making a final purchase decision.

3.5.3 Hedonic pleasure with a product

Hirschman and Holbrook (1982) suggest that consumers imbue a product with subjective meaning, there is a link between consumption and imaginative constructs of reality and there is a sensory and emotive dimension to consumption. In 1990 Batra and Ahtola developed a scale to measure the hedonic and utilitarian shopping value related to products. This research validated that “attitudes towards brands have at least two distinct components, hedonic and utilitarian” (Batra and Ahtola 1990). The scale measured the attitude of consumers towards a product, labelling the product as either hedonic or utilitarian, rather than measuring the consumer value. Voss et al. (2003) criticised the scale development by Batra and Ahtola (1990) and developed a new scale. The criticism centred upon the lack of reference to the involvement construct and on testing they found that the Batra and Ahtola (1990) is not discriminant from the Zaichkowsky (1985) PII scale. They also found that items are cross-loaded and the predictive validity is disappointing. The Voss et al. (2003) scale is discriminant from the Laurent and Kepferer (1985) CPI
involvement scale and the Zaichkowsky (1985) PII scale. The scales measured different things although there is some correlation to the PII affective and cognitive dimensions. Hedonic pleasure in a product is suggested as an antecedent of involvement (Laurent and Kapferer 1985) and Voss et al. (2003) demonstrate the two are discriminant but correlated, which reinforces an antecedent relationship (see figure 3.5).

3.5.4 Summary of involvement

Involvement is a construct that can be measured on two subscales, affective and cognitive (Zaichkowsky 1994). The antecedents of involvement relate to the symbolism, importance (including perceived risk) and hedonic pleasure of a product (Laurent and Kapferer 1985). Involvement can be situational or enduring depending upon the consumer (Houston and Rothschild 1978).

3.6 Shopping values

3.6.1 Hedonic and utilitarian shopping value

There has long been an understanding that not all of the consumers seen out on a shopping trip are there for the sole purpose of making a purchase. Early work in this area by Tauber (1972) segmented consumers into two groups: the first he described as economic who are utility seeking and the second as non-economic who are seeking an experience. This is the beginning of the research that recognised that consumer values when shopping are not purely utilitarian but has a psychological element and that shopping is more than purely a process of buying and consumption (Wells 1975; Tauber 1972). The research developed...
throughout the 1970’s where non-economic consumers are subdivided into personal motives, for example: role playing, diversion, self-gratification, learning about trends, physical activity and sensory stimulation.

These ideas are consolidated and discussed in relation to marketing in the seminal article by Hirschman and Holbrook (1982) where they defined the term “hedonic consumption” and contrasted it to the traditional utilitarian view of consumption.

“The hedonic consumption designates those facets of consumer behaviour that relate to the multisensory, fantasy and emotive aspects of one’s experience with products” (Hirschman and Holbrook 1982)

Westbrook and Black (1985) developed the early work of Tauber (1972) and McGuire (1974) and suggested there are three fundamental goals influencing shopping behaviour: i) acquisition of a product; ii) acquisition of a product and provide satisfaction for non-product related needs; and iii) attain goals not related to product acquisition. This work created a seven dimension concept of shopping values labelled anticipated utility, role enactment, choice optimisation, affiliation, negotiation, power/authority and stimulation. These seven dimensions are either predominantly hedonic (role enactment, stimulation) predominantly utilitarian (anticipated utility, choice optimisation) or a mixture of the two (affiliation, negotiation, power/authority). This alternative to the traditional two-dimensional hedonic/utilitarian concept, suggested by Hirschman and Holbrook (1982), is measured and a scale developed (Arnold and Reynolds 2003), but has failed to become the dominant construct for shopping value. Whilst the Westbrook and Black (1985) theory is arguably more complete as a construct, it is also more complex, making it difficult to administer as a survey and harder to interpret.

There is some criticism of the Hirschman and Holbrook (1982) research, namely that attitude is labelled as a component of ‘affect’ when affect can be defined as a state of feeling and attitude is an evaluative part of the personality, both cognitive and affective (Spangenberg et al. 1997). It is not possible for attitude to be a part of affect, but more reasonably that affect is part of attitude. Regardless of some justified criticism of the Holbrook and Hirschman (1982) construct its simplicity has won the day, and it has become the dominant construct for shopping value.

Various authors built upon the concept of hedonic and utilitarian aspects of shopping (Bloch and Richins 1983; Langrehr 1991; Wakefield and Baker 1998). A shopping
experience described as hedonic, is characterised by fantasy fulfilment, escapism, perceived freedom, enjoyment, arousal and increased involvement (Langrehr 1991). A utilitarian shopping experience can be similarly characterised as task orientated, problem solving, time critical, purposeful and decreased involvement. The idea of goal seeking can be identified with both the hedonic and utilitarian shopping value. With utilitarian shopping values the goal is the end purchase; and with hedonic shopping the goal is the pleasure of the experience of shopping (Babin et al. 1994).

Following the establishment of the hedonic and utilitarian shopping concept, empirical research developed scales to measure hedonic value within products (Batra and Ahtola 1990; Voss et al. 2003) and find practical applications of the constructs (Jones et al 2006; Olsen and Skallerud 2011; Arnold and Reynolds 2012).

3.6.2 Measurement of shopping values

Babin et al. (1994) developed a similar scale to Voss et al. (2003) but instead of measuring hedonic and utilitarian dimensions of attitude towards a particular product their scale measured the shopping value of a consumer. ‘Do they live to shop or shop to live?’ The measurement is similar to that of Arnold and Reynolds (2003) but is based on a two dimensional construct of shopping value using just hedonism and utilitarianism rather than the seven dimensions of Westbrook and Black (1985). Babin et al. use a twenty-item scale to measure shopping value.

Hedonic:

- This shopping trip was truly a joy.
- Compared to other things I could have done, the time spent shopping was truly enjoyable.
- During the trip, I felt the excitement of the hunt.
- This shopping trip truly felt like an escape.
- I enjoyed being immersed in exciting new products.
- I enjoyed this shopping trip for its own sake, not just for the items I may have purchased.
- I continued to shop, not because I had to, but because I wanted to.
- I had a good time because I was able to act on the "spur of the moment".
- While shopping, I was able to forget my problems.
- While shopping, I felt a sense of adventure.
• This shopping trip was not a very nice time out.
• I felt really unlucky during this trip.
• I was able to do a lot of fantasizing during this trip.

Utilitarian:

• I accomplished just what I wanted to on this shopping trip.
• I couldn't buy what I really needed.
• While shopping, I found just the item(s) I was looking for.
• I was disappointed because I had to go to another store(s) to complete my shopping.
• I feel this shopping trip was successful.
• I feel really smart about this shopping trip.
• This was a good store visit because it was over very quickly.

Babin et al. (1994) believe this scale can be employed in the future to link shopping value to other retail outcomes including purchase decision and re-patronage. They also theorise that further links exist between shopping value and bargain perception and/or satisfaction.

3.6.3 Empirical research using shopping values measurement

Several researchers have since used the hedonic/utilitarian construct to compare with consumer attitude and practical outcomes: Jones et al. (2006) measure if there is a correlation with loyalty and re-patronage; Rintamaki et al (2006) with customer value in a Finnish department store; To et al. (1993) with internet shopping; Olsen and Skallerud (2011) retail environment attributes and Neeley et al. (2010) on consumer decision making in the wine industry. These are a small sample of the empirical research that has linked the construct to real world outcomes to provide useful information to industry.

It is important for marketers, retailers and product designers to understand shopping value. It relates to involvement levels (Voss et al. 2003), impulse purchases (Rook 1985), compulsive buying (O’Guinn and Faber 1989), ritual consumption (Rook 1985) and levels of internet shopping (Granitz and Ward 1996). The influence on consumer behaviour is significant, and understanding the concept will allow retailers and marketers to target their products.

This new view of consumption also brought with it the idea that personality and subculture will influence experiential consumption. Hirschman and Holbrook (1982) say that social
class and ethnicity are major factors in determining hedonic and utilitarian attitudes
towards products and in the appropriate outlet for hedonic shopping value. Ethnicity is
cited as the strongest link to hedonic value as previous research (Singer 1966) has shown
that some ethnic groups have richer and more sensory fantasies than others. Given fantasy
is a large part of hedonic value then it seems reasonable to suggest that different ethnic
groups will have different levels of hedonic shopping value. It would also be reasonable to
conclude that a stronger hedonic response will create a weaker utilitarian response. Social
class is cited as less of a factor in the ability to create a hedonic response, for example find
a product or activity that causes emotion, but is more a differentiator for which product or
activity triggers a hedonic response. The example that Hirschman and Holbrook (1982)
provide is the choice of theatre or opera, both create a similar response and have a similar
cost but they suggest that opera is patronised by a higher social class than theatre. Similarly
the issue of gender is discussed as a differentiator of hedonic products or activities with
two different perspectives on which product may be construed as hedonic or utilitarian but
not necessarily a differentiator of ability to create a hedonic response.

3.7 Attitude

The literature shows that there are several antecedents of the ultimate purchase decision.
Another influencing factor is consumer attitude, which is itself a multi-dimensional
construct.

The early view of shopping is that the consumer acted as a logical thinker, processing
available information and making a rational decision purchasing the best product to fit
their needs (Bettman 1979). This view follows a tradition of economics where every
individual is envisioned as a goal-seeking information processor who will weigh up
alternatives logically and reach the best decision. This idea lacks any aspect of pleasure or
displeasure within the act of shopping itself and so does not adequately describe the act of
shopping or the purchase decision for any individual, even the most utilitarian shopper
cannot be perceived as completely logical. Their lack of enjoyment in the process or the
unsympathetic environment they find themselves in may lead to hasty decisions. Therefore
a more accurate construct for describing the purchase decision is needed.

In the 1980’s and 1990’s several models are developed to try and explain and synthesise
the impact of attitude on consumer behaviour. Attitude can be defined as the “individual
predisposition to evaluate an object or an aspect of the world in a favourable or unfavourable manner” (Antonides and Raij 1989) or “a learned predisposition deciding a choice between alternatives” (Elbeck 1987; Lutz 1991). Attitudes are characterised as having three basic elements: cognitive, affective and conative. The cognitive element is the set of beliefs held by the consumer towards the attitude object, affective is the emotional response to the attitude object and conative is the behavioural intention towards the attitude object (Elbeck 1987). This attitude construct is widely used within the literature of consumer behaviour (Weiner 1998; Elbeck 1987; Holbrook 1978; Zajonc and Markus 1982). There is considerable debate within the literature on the ordering or dominance of these three elements towards the final behaviour displayed, with the dominant view that cognitive processes are the trigger of attitude formation and behaviour (Bagozzi 1983). Later research suggested that a complex interplay of different factors will induce attitude formation (Gatignon and Robertson 1985; Weiner 1998; Zajonc and Markus 1982; Robertson 1976) and the degree of this interplay is dependent upon age (Zajonc and Markus 1982), product involvement (Robertson 1976) and other social factors (Gatignon and Robertson 1985). Bagozzi (1983) proposed four models of consumer response (figure 3.6) that encapsulate these different ideas of the ordering of the attitude construct using a stimulus, organism and response model (SOR) where the organism is essentially the attitude construct that determines preference.
3.7.1 Consumer response models

Cognitive response model

Affective response model

Parallel response model

Social response model

KEY
A - Affective status
C - Cognitive status
P - Preference
I - Intention
Ss - Social Stimulus
Sm - Stimulation subject to management control
B - Behaviour
NB - Normative Belief

Figure 3.6 S-O-R response model; source, Bagozzi 1983

Azjen (1991) uses social psychology to create a model of human behaviour that includes attitude as a determinant of a multi-dimensional behaviour construct. This is based on the Azjen and Fishbein (1980) model known as the Theory of Reasoned Action (TRA), which
attempts to describe and predict behaviour by using the determinants of attitude and subjective norms of behaviour. They define attitude as “a latent disposition to respond with some degree of favourableness or unfavourableness to a psychological object” (Fishbein and Azjen 2010 p77). Azjen (1991) builds upon the TRA (figure 3.7) with the ‘theory of planned behaviour’ (figure 3.8) describing intention as having three antecedents: attitude toward the behaviour, subjective norm and perceived behavioural control. The differentiating factor from the theory of reasoned action is the antecedent ‘perceived behavioural control’ which describes not the actual controlling factors but individual perception of the controlling factors. In reality this relates to personal belief in an ability to complete the action successfully. Perceived behavioural control suggests that a person may be fully capable of performing an action but a lack of self-belief leads people to perceive a lack of ability, and so impose upon themselves an unnecessary level of control.

3.7.2 Theory of reasoned action (TRA)

![Diagram of Theory of Reasoned Action (TRA)](image)

Figure 3.7 Theory of reasoned action; source, Azjen and Fishbein, 1980.
3.7.3 Theory of planned behaviour (TPB)

The issue with the TRA and TPB is that they neglect any repetitive or habitual behaviour (Dillard and Pfau 2002), given that much behaviour is habitual and becomes automatic, this is a significant limitation. The construct also does not take into account any specialist knowledge that may be required for decision making. Having expressed this criticism the TRA still represents the most complete model linking attitude to behaviour.

3.8 Summarised model

The constructs within consumer behaviour throughout stages of the shopping process are interconnected and together influence the purchase decision. Figure 3.9 provides a synthesis of the literature reviewed in this chapter, and demonstrates the connections between the constructs, adding the ‘subjective norm’, as an antecedent of the purchase decision incorporates part of the TRA within the model. The ‘attitudes towards behaviour’ are removed as it overlaps with some of the other constructs shown. Whilst this model is not complete it does cover the basic areas of attitude towards the product itself, and attitudes of the consumer towards shopping. The aim is to provide a view of the complex

![Diagram of Theory of Planned Behaviour]

Figure 3.8 Theory of planned behaviour; source Azjen, 1991.
constructs that build to a purchase decision and their interaction. This will then be used to evaluate which influencers of the purchase decision should be used to compare to the preferences in payment method.

Figure 3.9 Mapping of purchase decision.

3.8.1 Payment methods and consumer behaviour

This thesis does not focus on payment methods specifically as products, although many of the constructs previously discussed apply to them in the same way as they do to any other product. The focus of this research is to understand how the choice of a payment method is influenced by the purchase decision experience. For example if you have researched the product before you make a purchase are you more or less likely to use a credit card? The possible direct influencing factors/constructs are mapped in table 3.1, and each is evaluated as a possible influencer on the use of payment method choice.
Influencer | Comment |
---|---|
Research time | Less likely in itself to influence the payment method decision, because the events are decoupled. |
Purchased product involvement | How involved you are in the product purchased may affect payment method decision but is based around the product purchased and may be difficult to segment in multi product shops. |
Shopping value | Defines the nature of the experience for the customer and therefore likely to affect payment decision. |
Store attributes | Perception of safety and privacy may influence choice. This is a possible practical influencer, but difficult to segment. |
Subjective norms | Social norms of behaviour are likely to play a key role in the decision. Figures showing how different demographic groups pay (table 2.4), suggest the impact of social norms of behaviour. |
Product importance / perceived risk | Similar to involvement the product importance is likely to affect the payment method decision, but highly associated with products and difficult to segment in shops where several products are available. |

Table 3.1 Factors influencing the purchase decision and their relevance to payment method choice.

Whilst ideally all possible influencers on the payment method decision would be included in this research, practical considerations of questionnaire size and time preclude it. Therefore the two areas that appear the most influential, shopping value and subjective norms of behaviour are used to compare payment method preferences.

3.8.2 Hypotheses for consumer behaviour / payment methods

In order to understand how payment method preferences might be influenced by shopping value and subjective norms it is useful now to look at them as products. This will allow the formation of hypotheses by characterising the different payment methods and predicting how they may appeal, or not, to people with different perceptions of normal behaviour and different shopping values.

Payment methods have several of the product attributes defined by Bloch and Richins (1983) such as cost, product complexity, high frequency of use, and hardship experienced if unavailable. Debit cards have the lowest cost to the consumer at the point of use, cash for many has a small acquisition cost involved in visiting an ATM/Bank and credit cards have a variable cost/benefit depending on use of credit and reward schemes. Cash is the least complex of the three major payment methods with both the others requiring some thought regarding current balance position. Cash is the most frequently used, with credit cards 7% and debit cards 27%. Hardship experienced if the product is unavailable is

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highest for cash which is the universally acceptable payment method; other forms of payment are less accepted and as such if unavailable can be substituted always with cash.

The **perceived risk** of using a payment method is significant: **financial risk** in credit card fraud; **social risk** when upsetting the local greengrocer by using a credit card for a small purchase or passing a forged note; **psychological risk** of using a declined card implying personal financial issues; **physical risk** of mugging when carrying cash and **performance risk** of a card failing to be accepted.

Payment methods can also be **symbolic**; a black American Express card or large denomination notes symbolise wealth. Symbolising wealth is one of the major messages that purchasing non-functional products intend to convey.

The **hedonic pleasure** of purchasing a product stems from the original concept of Hirschman and Holbrook (1982), which imbues the product with hedonic or utilitarian properties, rather than the shopper. This construct relates to the attitude of the consumer to the purchase of a particular product rather than the more generic shopping value of that consumer. This translates to the hedonic or utilitarian attitude towards the use of a particular payment method. One aspect of hedonic consumption is the “emotional arousal during the act of consumption” (Hirschman and Holbrook 1982) that is likely to be associated with more tactile and responsive payment method, like cash. The more something costs the larger the note and the more notes are required; there is a direct correlation between the size of the purchase and the act of payment whereas a card payment action is unrelated to the amount paid. However there is also the ‘pain of paying’ (Prelec and Simester 2001) that may inhibit the payment of large values with cash. A utilitarian attitude to the use of a payment method would concentrate on the functionality and convenience (Voss et al. 2003) of the product, which are attributes of both debit and credit cards (Borzekowski 2008). Cards, whilst not generally quicker at the point of sale	extsuperscript{26}, are easy to carry and require no forethought. However utilitarian attitude includes price consciousness (Dhar and Wertenbroch 2000) which is seen as stable for the debit card but is variable for credit cards, many perceive that credit cards are expensive because of the high interest and penalty charges applied. If consumers pay their credit cards bills on time and in full (known as revolvers), then there is a benefit to the use of credit cards from interest free credit, but many consumers have at one time or another experienced high

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	extsuperscript{26} British Retail Consortium, cost of payment survey 2012; www.brc.org.uk
interest costs. Therefore some consumers perceive credit cards as good value and others perceive them as poor value. This dichotomous view of the value of credit cards makes it hard to predict if it is seen as value for money against debit cards. It is known from US studies that credit card reward schemes encourage their use, suggesting that revolvers find them cost effective (Ching and Hayashi 2010).

Involvement is characterised as the combination of product symbolism, importance, perceived risk and hedonic pleasure (Laurent and Kepferer 1985) but is shown to be a discriminate measurable construct in itself (Voss et al. 2003). Research has already been conducted into some financial products (Aldlaigan and Buttle 2001; Foxall and Pallister 1998) showing that all of the financial products they measured had either medium or high levels of consumer involvement. Only one payment method, a cheque book, is measured, showing medium levels of involvement. From this research a hypothesis is developed within this thesis.

H1 Consumers will have middle to high levels of involvement with payment methods.

The measure developed by Zaichkowsky (1994) in a revision of the original PII scale (1985) is known as RPII and has two distinct subscales, cognitive and affective. Examining the results of the empirical testing provided by Aldlaigan and Buttle (2001) show that all eight financial products they examined scored higher on the cognitive subscale than the affective. This leads to a further hypothesis when testing the level of involvement in payment methods.

H2 Payment methods will score lower on the affective subscale than on the cognitive subscale of RPII.

Shopping value stems from the work of Hirschman and Holbrook (1982) and uses scales developed by Babin et al. (1994) to measure a consumers attitude towards shopping based on a two dimensional scale: hedonic and utilitarian. For hedonic shoppers the experience of shopping is more important than the purchase of goods and services. Hedonic value is characterised by fun, entertainment, fantasy fulfilment, escapism, enjoyment and excitement (Holbrook and Hirschman 1982; Bellenger et al. 1976; Babin et al. 1994). Intuitively cash has attributes showing a higher hedonic aspect due to its tactile nature. Cash is also used by the media to demonstrate wealth during the payment process, ‘wads’ of cash are associated in peoples mind with a free spending attitude. Similarly cash is the
only anonymous form of payment where there is no record of how much you have spent on each item, lending itself to a ‘no regrets’ escapism.

**H3 Attributes of cash positively relate to hedonic shopping values.**

Credit cards can also provide a fantasy fulfilment role being the only form of payment that allows a consumer to spend money they do not have. Credit cards also have many of the ‘convenience’ properties of a debit card. It is difficult to therefore hypothesise credit cards as either more appealing to hedonic or utilitarian shoppers, having benefits for both. Utilitarian shopping value is characterised as task related, rational, a chore, a mission and work-like (Batra and Ahtola 1991; Sherry 1990; Babin et al. 1994). It is discussed above that debit cards have attributes that are more appealing to the utilitarian shopper because of their convenience (Borzekowski 2008) and value for money. A shopper on a work like mission who is trying to accomplish a task efficiently is therefore likely to choose a debit card as the tool for the job.

**H4 Attributes of debit cards positively relate to utilitarian shopping values.**

Whilst shopping value and involvement are discriminant constructs, they are related, with a direct relationship between affective involvement and hedonic dimension of attitude and cognitive involvement and the utilitarian dimension of attitude (Voss et al. 2003). Therefore products that are more hedonic/utilitarian will have a higher level of affective/cognitive involvement.

**H5 Consumers have higher involvement levels with cash and debit cards than with credit cards.**

Azjen and Fishbein (1980) created a model, the TRA, to demonstrate the role of **attitude** in the purchase decision. Two major determinants that influence consumer decision are labelled behavioural belief and subjective belief. In figure 3.9 behavioural beliefs is replaced with the two, related but discriminant, attitude constructs of shopping value and involvement, which have been previously examined. Subjective belief is based upon a consumer’s perception of what is the norm socially when shopping and their motivation to comply with that norm. Shopping is a social act where there are social codes, symbolic meanings, relationships and images of self-identity (Rintamaki et al 2006; Firat and Venketesh 1993 in Rintamaki et al 2006). The payment process is part of this interaction with the retailers and the other customers. Paying a small value in a local shop where you have a relationship with the proprietor, for example a pub landlord, may be a social faux
pas. Similarly having a credit card refused in a restaurant that you frequent is a social embarrassment and may not fit one’s self-image.

There is currently no research available to form hypotheses about how social norms of behaviour, as perceived by different consumers, might affect their choice of payment method. What is known from chapter two is that demographic groups behave differently and consumers behave differently in diverse locations. In order to test this later in the research three common locations are discussed with survey respondents and focus group participants, (local shops, supermarkets and clothes stores). These are chosen because they are common venues and because they vary in basket size and products sold.

3.9 **Shopping values and demographic segment**

A by-product of this research is the ability to look for a correlation between demographic segment and shopping value. There is limited publicly available research on the effect of demographic group on shopping value and, whilst later empirical research has reported the demographic spread of their respondents, they have drawn no clear conclusions from this. Concentrating instead upon the store environment or the products (Neeley et al. 2010; Rintamaki et al. 2006; Jones et al. 2006; Lai To et al. 2007). Hirschman and Holbrook (1982) and Arnold and Reynolds (2003) make theoretical predictions regarding correlating demographic segments but do not empirically test these suggestions. Research into consumer decision making styles and the segmentation by demographics is a related and larger body of work (Wesley et al. 2006; Bakewell and Mitchell 2006). This thesis will clarify if there is a direct correlation between any demographic segment and shopping value.

Hirschman and Holbrook (1982) suggested that ethnicity is a determinant of a consumer’s ability to fantasise and create and emotional response. They stated, “differences in consumer emotional and imaginal response to products appear to be closely tied to a variety of subcultural differences”. The subcultural differences cited include gender, ethnicity and social class. When considering the amount of fantasy and emotional response allowable Holbrook and Hirschman (1982) only cite ethnicity as a differentiating factor. They suggest that gender and social class do not affect the amount of hedonism but instead the subject of the hedonic response. Research on adolescents has found that Hispanic adolescents in America are more hedonic shoppers than non-Hispanic American
adolescents (Shim and Gehrt 1996). Whilst their research only involves adolescents, it still suggests that ethnicity is a factor.

Therefore building upon this suggestion it is reasonable to hypothesise that different ethnicities will have different levels of hedonic and utilitarian response to the act of shopping. The original suggestion from Hirschman and Holbrook (1982) only discussed hedonic response but ethnic identity also affects task orientation (Hofstede 1980) and therefore an effect on utilitarianism would also seem reasonable. In order to test the suggestion of this study the following hypothesis is created.

**H6 Ethnicity is a determinant of shopping value**

Hirschman and Holbrook (1982) suggested social class does not affect the amount of hedonism but the subject of the hedonic response. From a glance at British high streets it is clear that shopping is an activity equally enjoyed by all social classes, but the nature of the consumer can be different depending upon the area and shops within it. Visiting different shopping locations anecdotally shows that various social classes enjoy or dislike shopping. Although Waitrose may be seen as appealing to a higher social class and Aldi to a lower, there is evidence to suggest that the middle classes are increasingly shopping at discount retailers\(^\text{27}\). It is clearly worth testing if the view of Hirschman and Holbrook (1982) holds true and that different social classes have the same levels of shopping value but that different locations will create those responses.

Clothes shops are highly differentiated by price with Primark a popular example at one end of the spectrum and Jigsaw a popular example at the other end. Both shops can be just as enjoyable, similarly in both shopping locations it is possible to find customers who wish to be in and out with the minimum of fuss. Supermarkets, by their nature, are less differentiated by price. This study, following the suggestion of Hirschman and Holbrook (1982) that different social classes will experience different amounts of hedonism in different locations, suggests that in clothes stores and local shops the hedonic response is affected by social classes, but that this may not extend to supermarkets. There is no suggestion in the literature reviewed on the effect of social class on utilitarianism. The level of task orientation would seem to be the same across different social classes and time poverty is not a factor of class, except in extremes. Therefore no conclusion can be drawn at this stage regarding the effect of social class on utilitarianism. This research measures a

\(^{27}\) Guardian newspaper, 18\(^{\text{th}}\) March 2014
mix of personal qualification level and gross household income, with those scoring highly in both are deemed one end of the social spectrum and those scoring low in both at the other end of the spectrum. Whilst this is not a traditional measurement of social class, which relies upon profession (Goldthorpe and Hope 1974), income and qualification are both related to social class and purchase decision (Williams 2002) making the combined results a proxy for social class in this context. The reasons for using this proxy are explained in more detail in subsequent chapters.

In order to test the suggestion of this study the following hypotheses is created.

**H7 Combined gross household income and qualification level are a determinant of hedonic shopping value in local shops and clothes shops but not in supermarkets**

Arnold and Reynolds (2003) argue that women have stronger hedonic shopping values than men. A stereotypical view may lead to a belief that women are better able to express emotion and therefore are more hedonic, although some studies challenge this view (Lalama 2004). The research by Arnold and Reynolds (2003) did demonstrate stronger hedonic responses in women; however this is not fully explored. Hirschman and Holbrook (1982) assert no differences in gender for the ability to create an emotional response but only in what products and activities create a hedonic response. There is no reference to gender and hedonism or utilitarianism within the reviewed empirical literature on shopping value. There is evidence to suggest that men are more task orientated than women (Eagly and Johannesen-Schmidt 2001) and whilst this is not the entirety of utilitarianism it does form part of the utilitarian definition, and therefore it is reasonable to assume that men are more utilitarian than women. Referring to consumer decision-making there is a body of research suggesting that males are more utilitarian and that gender is a determinant of consumer decision making (Otnes and McGrath 2001; Shim et al. 2011). Hedonistic and utilitarian behaviours are linked to consumer decision-making traits, and as such it is reasonable for this study to hypothesise that gender is a determinant factor in shopping values. In order to test the suggestion of this study the following hypotheses is created.

**H8 Gender is a determinant of shopping value.**

28 The level of qualification is assigned a value, the lowest being one and highest being four and the level of gross household income is assigned a value, the lowest being one and the highest being five. These values added together give a score between one and eight, with one representing the lowest measurement of income and qualification level and eight the highest.
These eight hypotheses are grounded within reviewed literature but are not directly from any single body of research. They represent a synthesis of previous research in various areas (Hirschman and Holbrook 1983; Arnold and Reynolds 2003; Aldlaigan and Buttle 2001; Voss et al. 2003) and the subjective views of the researcher in accepting and rejecting different theories posited in past research.

3.10 Concluding chapter remarks

This chapter reviews a subset of the literature describing the stages within the shopping process. There is extensive literature in this area and therefore the literature reviewed is selected by relevance to the research topic. The review has deliberately excluded any reference to internet shopping or ‘click and collect’ as payment methods for this service are limited to plastic cards and mediated bank transfers.

The chapter examines the literature using a structured method and leads to eight hypotheses relating payment methods to shopping value, considering the extent to which consumers are involved with payment products and identifying possible correlations between demographic segments and shopping value.

Chapter four will provide a framework for the research and link chapters two and three to create research objectives, research questions and an overall research design. The conceptual model of the research will also be developed within chapter four.
4 Research methodology

4.1 Introduction

This chapter builds upon the literature described in the two previous chapters developing a conceptual model to empirically test hypotheses and generate or extend knowledge. The methodology employed to undertake the primary research and the epistemology and ontology used as the basis of this research, are described in this chapter. The primary research is designed to test both the hypotheses and the overall conceptual model.

This chapter initially outlines the broad objectives of the research. The epistemology and ontology of the research is considered in light of the base literature and the current research requirements. Gaps in the literature are identified and from this the research questions and a conceptual model developed. The research questions are used to formulate the basic primary research design. A more detailed view of how each individual piece of primary research is designed is provided in subsequent chapters.

4.2 Research objectives

The broad objective of this research is to contribute to an understanding of why consumers choose different payment methods when making a spontaneous payment. Industry research demonstrates the payment methods that are used and by whom, but it does not explain why. This research will fill some gaps in previous academic research regarding consumer behaviour during a purchase decision process that may correlate with the selection of a preferred payment method. More specifically the research will identify links between consumer shopping value and preferred attributes of different payment methods. Linking the construct of shopping value to payment attributes will open theoretical links between payment attributes and other consumer behaviour constructs, which can be tested in future research.

This research does not aim to comprehensively identify the construction of social demand for payment methods; this would not be possible within the constraints of a doctoral thesis. It does aim to demonstrate that there is a social dimension to demand and identifies two of those dimensions: shopping value and subjective norms of behaviour. Following this
further work is required to deepen understanding of the correlations between these constructs and broaden the research for further correlated consumer behaviour constructs.

4.3 Epistemology and ontology

Ontology describes the nature of reality that underpins the research. This definition stage is required so that any subsequent research understands the fundamental principle upon which this research is built. Epistemology is the study of knowledge and its nature and limitations. Defining questions of epistemology have been created by Markie (2008) and explain why a definition of knowledge is required.

1) How do we know that knowledge about a particular proposition is true?
2) How do we gain knowledge?
3) What are the boundaries of our knowledge?

Different epistemological approaches answer these questions in a variety of ways. Selecting an epistemological approach defines how such questions are answered within any piece of research.

4.3.1 Ontology

Placing ontology on a continuum, at one end of the spectrum is pure objectivism, closely aligned with a positivist approach, which basically accepts that there is one truth. The objectivist ontology suggests that “[reality] exists independently of the observer and the activities of social science” (Blaikie 1993: p202), in other words that there is a single reality that is external to the researcher, that can be described and is truth. On the other end of the spectrum is subjectivism, closely aligned with an interpretivist approach, which suggests there are multiple truths depending upon the observer. The subjectivist ontology suggests that “social reality is produced and reproduced by social actors” (Blaikie 1983: p203).

For this research the first step when considering the ontological basis is “whether social entities can and should be considered objective entities that have a reality external to social actors, or they can and should be constructions built up from perceptions and actions of social actors” (Bryman, 2001: p16). For any consumer behaviour it is clear that the social
phenomenon being studied is the result of repeated social interaction and therefore the research must accept multiple socially constructed realities, thus dictating a subjective approach.

4.3.2 Epistemology

There are a multitude of epistemological approaches none of which are precluded by the choice of a subjective ontology, although some are more closely aligned with subjectivism. Four of the major modern epistemological options are discussed below to help explain the choice of epistemology for this research: Logical Positivism, constructivism, critical realism and pragmatism.

**Logical positivism** is based on a movement of the 1920’s that sought to define knowledge and separate verifiable knowledge from, what they termed metaphysics, or unverifiable knowledge. Logical positivists believe in absolute truths that exist and are at some point discovered by people. Logical positivism is based on one objective truth and one reality that can be quantified (Bryman and Bell 2007). Only phenomenon verified by the empiricist research and logic can be considered cognitively valuable and create knowledge. Logical positivists believe that from theory, hypotheses can be deduced, and that objective scientific research can empirically test these theories. Logical positivism is linked to objective, deductive and quantitative research methodology.

**Constructivism** is the belief that research develops a construction of reality and that these are created by the action of the researcher not just there to be found. This theory allows for multiple versions of reality that are socially constructed. Research provides a specific, subjective version of social reality (Bryman and Bell 2007). Constructivism is linked to subjective, inductive and qualitative research methodology.

The epistemology of **critical realism** is based upon unobservable ‘generative mechanisms’ that create events and experiences. Therefore the generative mechanisms that are in the domain of the real, sit within the domain of events, which sits within the domain of experience. It is the role of the scientist to identify and describe these generative mechanisms by verifying imagined theories as real through continued empirical testing (Bhaskar 1975). The critical realist approach highlights the differences between natural and social science and allows the idea that there are social objects which can be studied scientifically, but that different methods need to be used (Archer 1995). Critical realism is linked to subjective, deductive and qualitative research methodology.
Pragmatism is positioned by Howe (1988) as an epistemology that allows mixed methodology. Pierce, James and Dewey first discuss pragmatism in the nineteenth century as the creation of knowledge based on observable facts. It has become the epistemology associated with mixed methodology, an inductive or deductive approach and can be loosely thought of as ‘what works best’. Pragmatism is not rooted in truths but more in consequences of theories. What is true is evaluated from the consequence of the theory and how it supports our goals.

Logical positivism is criticised in the post war years and is replaced by post-positivism based on the theories of Popper (1957), amongst others, relying more heavily on falsification rather than verification. Post positivism allowed research to be influenced by the value of the investigators (Tashakkori and Teddlie 2003). The 1960’s saw the rise of constructivism followed by a plethora of different theories: interpretivism, naturalism and realism. This led to a period known as the paradigm wars where multiple epistemological approaches fought for supremacy. At the same time the use of a mixed methodology of both quantitative and qualitative started to be used to compensate for the weakness of one method by the strengths of another (Jick 1979).

From this confusion emerged a middle ground of pragmatism that provided a solution to the incompatibility of methodologies based on epistemology.

![Figure 4.1 Summary of four modern epistemologies.](image)

This research is built upon literature in the field of consumer behaviour, which is in the constructivist tradition. The research is deductive, based on hypothesised theories from the literature, being tested. The research seeks to be both practical and empirical, requiring the use of a survey and statistical analysis to measure shopping value and correlate it with
other measured constructs. The testing of the hypotheses is best based on statistical analysis of survey results making it quantitative. Critical realism and constructivism are best suited to a qualitative research approach making them unsuitable for this study.

A logical positivist approach is not ideal due to the tradition of the base literature and the subjective ontology. Pragmatism is the most apt philosophy, where the research questions are more important than the philosophy that underlies the method and the researcher can use all available methods removing the weaknesses of one with the strengths of another (Brewer and Hunter 1989; Tashakkori and Teddlie 1998).

The epistemological approach to the creation of knowledge in this research creates no absolutes truths, but provides a perceived truth from the social actors involved. The knowledge is gained by a quantitative test of those perceptions and a qualitative interrogation of their own view of their actions. The knowledge gained provides a snapshot of perceptions and views. This research uses pragmatic methods to create knowledge, and whilst that knowledge is not an objective truth it is aiming to explain a social construction of behaviour and so measures the perception of social actors.

4.4 Gaps in the literature summarised

The literature review in chapters three and four examines payments and consumer behaviour when shopping. There is limited academic literature examining the social construct of demand for payment methods. Other areas that influence supply and demand for different payment methods, such as economics, are more extensively researched. The literature review then turned to consumer behaviour when shopping and examined the consumer behaviour aspects of several stages in the shopping experience. These two areas of review lead to five gaps in the literature being identified:

- Consumer involvement in payment methods has not been measured, other than cheque books (Aldlaigan and Buttle 2001), so there is no understanding of whether consumers have any personal goal orientated response to payment products. Without involvement in the products it is debatable if researching a social aspect of the consumer choice of payment methods is valid. The social aspect of consumer decision making requires some level of affective involvement with the products (Voss et al. 2003).
- There is limited academic research testing the relationship between demographic segments and shopping value. Theoretical hypotheses are available but empirical
testing has not specifically examined this area in the UK (Arnold and Reynolds 2003; Holbrook and Hirschman 1982).

- There is limited research worldwide and no available research in the UK into the social construct of payment method demand. Debit cards are considered the most convenient (Schuh and Stavins 2010) and cost effective (Guariglia and Loke 2004) form of payment for the individual and cash is the only anonymous form of payment (Humphrey et al. 1996), but it is not clear to what extent the consumers care about these aspects of payments. This research found limited UK based research is publicly available showing, which attributes consumers associate with which form of payment and whether they are important to them.

- There is industry research showing that consumers’ pay differently depending upon the amount paid, location, and the product purchased. No UK based academic research available in the public domain explains if this is a function of basket size (amount to be paid) or more situational and social aspects of the location and product.

- The most significant knowledge that this thesis seeks to create is to find a consumer behaviour construct which to some extent, explains the known ‘cultural differences’ in demand for payment methods (Humphrey et al. 2001). The component parts that make up the whole of the social dimension to the construction of demand presents a gap in knowledge. This research does not seek to fill this gap but only to find one correlated consumer behaviour construct, providing an opportunity for more to follow.

4.5 Limitations of the research

Together the list above represents significant gaps in knowledge, opportunities to extend current knowledge and an opportunity to test previous theories. Given the limitation of time within a doctoral thesis it is necessary to narrow the research parameters, to attempt to make a meaningful contribution. Firstly the payment type is restricted to Personal Spontaneous Payments (PSPs), which are made by individuals in shops, buying irregular services or paying for leisure activities. These PSPs have been further narrowed to the three most popular methods of payment in PSP: debit cards, credit cards and cash. These
three payment types account for 89%\textsuperscript{29} of all payments made in the UK. The reason for the exclusion of other payment methods is twofold: the practicality of asking questions about too many different methods of payments in focus groups/surveys and the fact that more obscure payment methods, such as NFC chips in mobile phones, are not familiar to all of the population and would create a need to educate the survey respondents as well as obtain information from them. Unfortunately this decision means the research loses an opportunity to discover attributes of emerging technology.

There are many constructs within consumer behaviour, but the focus within this research is shopping value. Measuring more constructs would lead to more comprehensive knowledge of consumer behaviour but is impractical in a doctoral thesis. Understanding if a consumers shopping value influences their choice of payment method will add to the understanding of why a consumer chooses one payment method over another.

Industry research demonstrates a link between demographic group in different demographic segments and the use of payment methods, but does not explain why this happens. Determining whether shopping value influences the choice of payment method and demographic segment affects shopping value may form part of the explanation for different demographic groups choosing different payment methods.

The research is further narrowed by excluding internet shopping and ‘click and collect’ shopping, as they do not allow all of the three major payment forms selected. Cash is not an option for this form of shopping and therefore the research excludes it. Again this is a rapidly growing and changing area and should form part of future research to determine whether consumers want their method of payment to emulate some of the attributes of how they would actually pay in store.

The research has concentrated on three different shopping locations: local shops, supermarkets and clothes stores. These are selected because they are common experiences that most survey respondents are likely to experience regularly, having diverse products, basket size and store attributes.

Finally, the research is also limited to the UK for practical reasons although cross-cultural studies will be interesting for future research.

\textsuperscript{29} Consumer Payments Report 2013, Payments Council, November 2013
All of these restrictions narrow this research making it more useful in the areas it does cover but less comprehensive. The restrictions mean that the entire gap in knowledge identified will not be filled but they allow sufficient depth of research in the selected areas and provide opportunity for further research in this area.

4.6 Research question

The gaps in literature identified above coupled with the restrictions imposed upon this research lead to the following research question.

In the UK, is some element of demand for payment methods socially constructed?

- What is the level of consumer involvement in the three major payment methods? (debit card, credit card and cash) (H1, H2 and H5)
- What are the perceived attributes of these three different payment methods?
- Is there a significant relationship between the attributes of payment methods and shopping values? (H3 and H4)
- Is there a significant relationship between the attributes of payment methods and subjective norms of behaviour in respect of product, shopping location and amount? (H9 and H10)
- Is there a significant relationship between hedonic and utilitarian shopping values and demographic segments? (gender, age, ethnicity, gross household income (GHI), qualification level and combined GHI/qualification) and shopping location (local shop, supermarket, clothes store) (H6, H7 and H8)

4.7 Conceptual model

The relationships discussed within the research question can be graphically represented in a conceptual model (figure 4.2). Primary research is designed to test if the conceptual model is a valid representation of the determinants and influences between various constructs. The research will also test the hypotheses created during the literature review and together will form the results of the research.
4.7.1 **Hypotheses recapped**

**H1**  Consumers have middle to high levels of involvement with payment methods.

**H2**  Payment methods score lower on the affective subscale than on the cognitive subscale of RPII.

**H3**  Attributes of cash positively relate to hedonic shopping values.

**H4**  Attributes of debit cards positively relate to utilitarian shopping values.

**H5**  Consumers have higher involvement levels with cash and debit cards than with credit cards.

**H6**  Ethnicity is a determinant of shopping value.

**H7**  Combination of gross household income and qualification level is a determinant of hedonic shopping value in local shops and clothes shops but not in supermarkets.

**H8**  Gender is a determinant of shopping value.

4.8 **Research Design**

The research is designed to answer the research questions by testing the hypotheses and then statistically testing the conceptual model fit and pathways.

The decision of the research methodology is made on the basis of the research objectives, ontology and research questions. Other pragmatic factors have an effect such as timing,
costs, ethics and data access issues (Saunders et al. 2003). Usually the epistemology would have a role in the choice of methodology but in this case a pragmatic epistemology is selected specifically to widen the choice of methodology and make the research questions the dominant factor. In social sciences research there are four common research methodologies: case studies, experiments, observation and surveys.

The **case study** methodology is used to study either historic or contemporaneous events, usually by interviewing those involved, or by using other methods to gain a person or groups perspective of events. A phenomenon/event is described by multiple participants/stakeholders providing the researcher with a variety of perspectives. The research collates the information into a detailed contextualised picture of the event. Generally case studies are completed using qualitative research. Case studies involve “an empirical investigation of a particular contemporary phenomenon within its real life context using multiple sources of evidence” (Robson 2002; p22). Multiple sources are used to try and find common factors that are more likely to be ‘actual’ rather than perceived. The disadvantage of case study methodology is that it reviews events through the eyes of an observer, who will endow the events with their own perceptions. Using multiple observations minimises the bias of the subjective observers by looking for commonalities but it can rarely provide a fully evidenced account. On the other hand the perceptions of others can also add to a richer understanding of why some behaviour occurs.

**Experimental research** is not only the province of the natural sciences, but can be used for research in social sciences, particularly psychology. A controlled population is subjected to a set of conditions that are rigidly constrained within the experiment, usually with one changing variable. Reactions are then observed/measured and compared using the changing variable as the axis. The difficulty with this research method is constraining the conditions, this is achievable in a laboratory environment but is challenging in any sort of real-life situation (Lehmann et al. 1998). The advantage of this research method is the researcher is observing/measuring reactions contemporaneously and objectively, but the disadvantage is that the environment is either ‘fake’, such as a laboratory, or intrinsically uncontrollable, like the real world.

Another common research method is observing behaviour over a period of time in a real world setting. This has the advantage of being real world but is difficult to practically achieve. Unfortunately this research methodology is rare in a doctoral thesis; due to the fact this it is a longitudinal study requiring a long period of time. Most research methods
use a ‘snapshot’ of time, but by its nature, observation is performed repeatedly over an extended period. Another issue with the observation method is the fact that the ‘observer’ will affect the behaviour of the observed. This phenomenon of observer effect (hermeneutics) is widely reported and documented (Sayer 2010).

**Surveys** remain possibly the most common method of primary research within social science. The survey has the benefit of collecting data quickly and cheaply from a large population. Surveys can collect data in a variety of ways for example self-completion or structured interview. The survey can also use open questions eliciting qualitative data or closed questions providing quantitative data for statistical analysis.

Looking at each of the research question sub sections in turn provides a structured approach to designing the primary research.

**What is the level of consumer involvement in the three major payment methods? (debit card, credit card and cash)**

There are several established scales for the measurement of consumer involvement. Therefore the approach for research into this area is a simple survey of consumers using an established scale. This survey is a pre cursor to the main research, checking that consumers have some level of involvement in the products. If the level of involvement is low then shopping value may not be the correct choice of construct to correlate with payment methods and therefore the premise of the research would need to be reconsidered.

**What are the perceived attributes of these three different payment methods?**

The identification of the attributes of payment methods fills a gap in knowledge, but is here primarily for the development of a scale to measure consumer preference of payment method. The use of attributes of payment methods to measure what consumers prefer to choose, rather than just asking what they use, has two advantages: firstly it widens the future use of the research by allowing new products with similar attributes to be substituted and secondly, it mitigates the bias from the limitations of what consumers may have available to choose from. This research is best achieved by a survey using open questions with text answers, by one to one interviews with consumers or by focus groups. Focus groups, a form of qualitative methodology, are the chosen method because they allow the researcher to participate and draw out ideas from participants. The participants also have the opportunity to share with each other and become more confident articulating their views. Focus groups also have the practical advantage of gaining many diverse views in
one session and are therefore quicker than one to one interviews. Using the focus group methodology with a quantitative methodology for the surveys means this is mixed methods research. The considerations associated with mixed methods research are discussed later in this chapter.

*Is there a significant relationship between the attributes of payment methods and shopping values?*

A survey using established scales for the shopping value construct and a scale developed for the measurement of payment method attributes, is the simplest way to answer this question. The survey will ask the same respondents about their shopping value and their preference for a payment method. Statistical analysis can be used to test the hypotheses and the relationships.

*Is there a significant relationship between the attributes of payment methods and subjective norms of behaviour in respect of product, shopping location and amount?*

The survey described above can be repeated for different locations to test if there is a difference in behaviour. The same respondents will answer the same questions but posed in relation to different locations. The measurement of amount is captured with separate questions in the survey finding the amount at which respondents switch between payment methods. Products are measured using an open question to determine the specific product that the respondent will always have using a particular payment method.

*Is there a significant relationship between hedonic and utilitarian shopping values and demographic segments? (gender, age, ethnicity, GHI, qualification level and combined GHI/qualification) and shopping location (local shop, supermarket, clothes store).*

Capturing demographic data for the survey respondents facilitates the use of statistical analysis to find relationships between demographic segments, location and shopping value.

The research methods chosen for each of the research question sub sections is summarised in figure 4.3. There are a mixture of qualitative and quantitative research methods and a mixture of analysis and tools. The hypotheses are tested mainly by means comparison tests, such as Anova and t tests, and also by using correlation tests. The conceptual model is then tested using exploratory factor analysis and structural equation modelling to determine the ‘goodness of fit’.
4.8.1 Mixed methods

The main data collection method chosen for this research is survey, which includes focus group and questionnaire. The methodology requires no case studies, experimentation or observation. The design of the focus groups and the questionnaires are discussed in more detail in subsequent chapters.

Quantitative research is the dominant methodology for most of the twentieth century, strongly aligned with a positivist epistemology; quantitative research seeks to determine cause allowing generalisation and prediction (Hoepfl 1997). Qualitative research gained favour in the 1960’s and 1970’s with the rise of constructivism and “seeks to understand phenomena in context without trying to manipulate them” (Patton 2002: p39). Qualitative research produces results which cannot be necessarily quantified and generalised but which provides insights to behaviour motivation in a particular context. Both methodologies clearly have benefit and disbenefit which are useful to a researcher at different times.

Mixed methods research uses “quantitative and qualitative data collection and analysis techniques in either parallel or sequential phases” (Tashakkori and Teddlie 2003: p11). Mixed methods selected for this research is in response to the research questions, which are both exploratory and confirmatory. “What are the perceived attributes of these three different payment methods?” is an exploratory research question. “Is there a significant relationship between the attributes of payment methods and subjective norms of behaviour in respect of product, shopping location and amount?” is a confirmatory research question. Quantitative research is better suited to theory verification while qualitative research is typically more suited to exploratory questions (Tashakkori and Teddlie 2003: p15). Mixed methods facilitate the use of the complementary strengths of the different methods (Brewer and Hunter 1989) therefore resolving the issue of requiring both confirmatory and exploratory solutions.
### Figure 4.3 Summary of methodology

A weakness of mixed methodology is the possibility of being less rigorous in the design of the secondary method in favour of the primary method (Brewer and Hunter 1989). It is important to keep the same principles of analysis and data collection throughout the research regardless of methodology and ensure the rigour is maintained.
4.9 Summary

The knowledge created in this thesis is in the field of consumer behaviour, supplementing a purely economic understanding of payment method demand thus far. The choice of subjective ontology is an obvious one for any consumer behaviour research. A deductive approach is required as the research uses theories and constructs already identified in the study of consumer behaviour to create hypotheses that need to be tested. Similarly the choice of pragmatic epistemology is dictated by the need to have a flexible methodology, based on the gaps in literature identified and the research questions required to fill those gaps.

The major contribution of this thesis to new knowledge is finding a link between a consumer behaviour construct and payment method choice. The simplest way to do this is to use a survey instrument with statistical analysis to find the correlation. The difficulty within this research is the lack of available scales for payment method attributes and preferences. A scale is available from US based research (Borzekowski and Kiser, 2008; Ching and Hayashi, 2010) but although culturally similar US consumer behaviour is in some aspects different to the UK (Antonides and Raaij 1989). Given the differences finding a UK scale was deemed the most reliable option, and the easiest way to achieve this is using focus groups and qualitative analysis. Therefore a mixed method approach is adopted, which fits with the choice of epistemology.

The analysis to find a correlation between demographic segment and shopping value is not a primary driver of the methodology and is purely a by-product of the available data. This fortunate by-product is spotted early in the process and therefore the survey design accommodates the analysis, but is not built around it. The collection of demographic data is mainly intended to test a demographic correlation with payment attributes and behaviour around subjective norms.

An on-line survey administration method is in many ways preferable to the mall-stop method used, because of the speed of delivery, but it is not deemed suitable. Two reasons for this are the need to explain some complex ideas within the questions and, most importantly, the desire for the survey to take place whilst respondents are shopping so they are mentally close to the event and in touch with their feelings towards it. Therefore a conscious decision is made to sacrifice number of possible responses to the quality of response.
The involvement survey is used as a ‘tester’ before the main primary research work begins. This is designed as a simple check of the validity of the research questions. There is limited research to base a social aspect of payment method demand on, and therefore a real danger that there will be no significant influence between social constructs and payment method choice. This survey is administered to avoid wasting time on further primary research in the event there is low involvement.

Inevitably there are a series of compromises in the choice of any methodology, but the decisions are made in a structured format to provide maximum reliability.

4.10 Concluding chapter remarks

This chapter explains first the overall objective of the research, which is to contribute to knowledge of the social construction of the demand for payment methods. The underlying epistemology and ontology are selected as subjectivist, deductive and pragmatic. Five gaps in knowledge or opportunities to extend knowledge are identified and the research questions formulated. There is then a discussion of the limitations of the research, mainly imposed by practical considerations of time and resources.

Finally a mixed method data collection and analysis methodology is selected, primarily due to the fact that the research question contains both exploratory and confirmatory aspects that play to the strengths of qualitative and quantitative research respectively.
5 Involvement in payment methods

5.1 Introduction

This chapter describes the first primary research in the thesis, testing if consumers are involved in payment methods. This approach is designed as a precursor to the main research to provide an indication that a social dimension to payment method choice is possible. In the absence of literature in this area it is pragmatic prior to embarking on a major piece of primary research to test one easily established principle.

This chapter first discusses the ethics and governance surrounding the collection and storage of data collected during the course of this research from the general public. The chapter also goes on to discuss the principles of survey design and the specific design of the questionnaire on consumer involvement.

This chapter then describes the sample of respondents and their demographic segmentation. The level of involvement in each payment method is then measured in total and by cognitive and affective element. The hypotheses (H1, H2 and H5) created in chapter four are tested and finally the results of the survey discussed. The testing on consumer involvement in payment methods is a precursor to the main primary research. The results check that consumers are involved with these three payment products, and therefore it is reasonable to hypothesise that shopping value will influence payment choice method. In the event that the three products have low levels of consumer involvement the hypothesis would be revisited. This test is considered necessary due to the lack of specific literature on which the hypotheses are based.

This chapter tests the validity and fit of the part of the conceptual model highlighted in figure 5.1. Higher levels of involvement suggest that consumers are making a conscious, informed and emotional choice; hence involvement is shown as a determinant of payment choice.
5.2 Ethics

No survey or focus group undertaken as part of this research will collect data from people under eighteen. Although the spending habits of teenagers do represent an interesting area, the ethical issues involved in collecting data from children outweigh the value of the data provided. The respondents are informed that the survey covers sensitive areas regarding payment preferences and their permission is sought to proceed. The questionnaires collect no information observed and not directly volunteered by the respondent.

Where the survey takes the form of a structured interview, rather than a self-completion form, respondents are asked to indicate their demographic group rather than being asked the questions directly.

5.2.1 Data storage

The completed questionnaires are stored securely in a locked cabinet and will not be available to view other than with the direct permission of a thesis supervisor. Collected data is stored in hard copy for two years and in soft copy for ten years. The hard copy data will constitute the completed survey sheets and written notes from the focus groups. The soft copy data is the SPSS data entry; NVIVO projects and any excel versions of the SPSS data.
5.3 Survey research methodology

The main objective of survey research is to find the true answer to a question for a distinct population. There are two issues in finding the truthful view of a population which can create error in results: firstly, that you do not ask the entire population so some views are missed (sample frame issues) and secondly that those you do ask do not answer the questions truthfully (validity issues).

5.3.1 Error creation

Sample frames and sampling methods have significant potential to create error and is the most difficult issue to resolve. For the sampling to be free of error, the sample frame must be comprehensive, it must be possible to calculate the probability of any one person being sampled, and the sampling must be efficient (Floyd and Fowler, 2002). The frame must be comprehensive so that the list of possible respondents that fit the criteria of the sample frame is complete. Each person randomly selected from the sample frame must efficiently answer the survey, to create no errors there can be no respondents who choose not to answer. Given all of these restrictions it is difficult to achieve error free sampling and methods need to be developed to minimise errors. Finding a comprehensive list of large populations can also be difficult so populations can be stratified, although any stratification must ensure that no group within the sample is any more or less likely to be included. Strategies of replacement respondents, using a quota, can be effective in minimising errors created by non-response issues. Ensuring that any one respondent has the same chance of being surveyed as any other is critical and is often the most difficult part of the operation. Contacting respondents who have been randomly selected in a large population can be extremely time consuming and expensive.

An ideal survey comprehensively lists the sample frame, randomly selects enough respondents from the frame to provide a statistically significant response and ensures that all of those selected people answer the questionnaire fully. This is known as a probability survey and whilst there may be a small error created by incomplete lists and non-response it is generally accepted as statistically valid. Probability surveys of this kind are rare due to their complexity; consequently many surveys use non-probability sampling and therefore cannot calculate the probability of any one person being sampled. These surveys are by their nature prone to sampling error and can distort the truth significantly (Groves 1989). Techniques can be used to minimise the error in non-probability sampling, such as use of
quotas and unbiased survey methodology, but they must be accepted as flawed to some extent.

**Validity** errors come from the respondents not answering the questions truthfully. Where the truth of the answer can be verified then this error can be eliminated, but this is unusual in research. Therefore it is understood in any sort of behavioural or attitude survey, there is a degree of validity error. The extent of the error for any question can be described by the following equation:

\[ X_i = T_i + E_i \]

Where \( X_i \) represents the answer provided by individual “i” and \( T_i \) represents the true answer for individual “i”, meaning \( E_i \) represents the difference between the response and the truth, or error, for that individual (Floyd and Fowler 2002). In a large survey all of these small errors are added together so if the errors are random they are mitigated, but if they are in the same direction they compound and can make a significant difference to the result. Respondents do not always answer truthfully for a variety of reasons: they are trying to impress the surveyor, they misunderstand the question, they are embarrassed by the answer, they do not know the answer or they project current feelings onto past events. Strategies for minimising validity error rely on question design, test questions, repeated questions and survey methodology.

5.3.2 **Survey administration**

There are several options available for the administration of a questionnaire: on-line, mail, telephone or face to face. On-line and mailed questionnaires are by definition self-administered; similarly, a telephone survey is by definition an interview. Face-to-face surveys can either be self-administered in the company of the interviewer on site, or as more usually the case, in the format of an interview. There are advantages and disadvantages with each of these options.

The **face-to-face interview** questionnaire works well for questions that relate to complex issues and require explanation. The questionnaires tend to be fully completed and the interviewer targeting different demographic groups can meet quotas. This style of survey also provides the interviewer with a choice of location that may be relevant to the questionnaire. The disadvantages are the time and cost of this survey method and the bias introduced by the interviewer and interviewee. Using a face-to-face approach, but then allowing self-administration has the advantage of targeting, like an interview, but remove
the potential for interview bias. It does not have the flexibility for explanation associated with an interview or the ability to draw out answers to open questions in depth. **Mail questionnaires** are very convenient for the researcher, especially when requiring a probability sample; they are inexpensive (Borque and Fielder 1995) and easy for the respondent (Zikmund 1994) who can answer the questions at their leisure. The disadvantage of this type of survey is the low response rate and the bias introduced by the grouping of the type of person who tends to reply. **Telephone questionnaires** are flexible because they are essentially an interview, but have negative connotations because they are often an unwelcome interruption at home. This negativity can lead to a bias in the answers and dissimulation. **On-line questionnaires** are the least expensive administration method, they are easy to send, receive and collect data. Their disadvantage is the limited sample as only those with a computer can respond. They have a low response rate like mail questionnaires and it is harder to check the validity of the response (Goree and Marszalek 1995).

No option is perfect and so the choice will depend upon the compromises the researcher is able to make. The choice of questionnaire administration depends upon the research objectives, time and money available, data requirements, sample required, complexity, level of response, acceptable accuracy levels and response level (Saunders et al. 2003). The main consideration must be that the data collected is appropriate for the purpose of the research objective (Tull and Hawkins 1993).

5.4 **Questionnaire design – involvement**

A questionnaire forming part of a research project is a precise scientific document that requires careful design and planning. The design of the questionnaire is closely related to the subject (Oppenheim 1966) and therefore particular attention should be paid to the objective of the questionnaire when preparing the design.
The questionnaire for consumer involvement in the three major payment methods is relatively simple. There are standard scales developed for measuring involvement so one of these is selected and then the questionnaire constructed.

5.4.1 Definitions of survey terms

A **consumer** is a person making the payment, not necessarily the person using the goods and services purchased. (For the purpose of this research 18 years of age or older and residing in the UK)

**Cash** is money in the form of banknotes and coins issued by the Bank of England, Bank of Scotland, Royal Bank of Scotland, Clydesdale Bank, Ulster Bank, Northern Bank and Bank of Ireland for use as payment for goods and services.

A **debit card** is a plastic card issued by financial institutions, used for payment of goods and services that take a direct and immediate payment form an associated bank account.

A **credit card** is a plastic card issued by financial institutions and retailers, credit providers, used for payment of goods and services utilising credit up to an agreed amount that is repaid periodically by the card holder and incurs an interest charge, often after a period of free credit.

**Ethnicity** is the ethnic group with which the respondent identifies themself.

**Gender** is either male or female.
**Qualification level** is the UK academic or vocational qualifications or foreign equivalent levels achieved.

**Age** is the period from date of birth to time of survey measured in whole years rounded down.

**Gross Household Income** is the total income before tax and any other deductions coming into the household that the respondent forms a part of.

**Involvement** is “a person’s perceived relevance of the object based on inherent needs, values and interests” (Zaichkowsky 1985).

5.4.2 **Scale selection**

The concept of involvement has been recognised since 1947 when Sherif and Cantril described it in their research. Involvement is a significant area of research when considering in advertising strategy and the purchase decision (Mittal 1989b; Zaichkowsky 1986). The characteristics of high consumer involvement include the extent of the decision process, the level of information accessed and the interest and interaction with promotions. Involvement sits alongside other determinants of behaviour, including price and product differentiation that can be used by marketing managers to target promotions and also by product designers when considering attributes of a new product. The decision about using a particular payment method could be perceived as utilitarian and lacking the characteristics of a purchase decision, however payment methods are similar to other services in that they offer utility but there is also a choice of instrument that is both personal and situational.

There are several scales available to measure involvement, four of which have been tested in previous research on financial products, by Foxall and Pallister (1998) and Aldlaigan and Buttle (2001). It is therefore sensible to limit the choice to one of these four: PIS (Mittal 1989b), PII (Zaichkowsky 1985) RPII (Zaichkowsky1994) and CIP (Laurent and Kapferer 1985). The original PII scale (Zaichkowsky 1985) is generally criticised as being assumed to be one-dimensional by its creator, but in fact having multiple dimensions (Mittal 1989a). Zaichkowsky revised the scales in 1994, removing some redundant items and creating a dominant single dimension. The RPII scale has “one general factor and a minor component” (Zaichkowsky 1994) allowing the scale to be used successfully as a one dimensional measure of involvement but also giving the opportunity to analyse two subscales, each of five items. The subscales are categorised as affective aspects of involvement (interesting, appealing, fascinating, exciting and involving) and cognitive
aspects of involvement (*important, relevant, valuable, means a lot to me and needed*). The CIP scale (Laurent and Kapferer 1985) is a wide-ranging scale measuring determinants of involvement rather than involvement as a single construct, rendering it complicated to both administer and interpret. The PIS scale (Mittal 1989b) concentrates on the purchase decision, which is one of the aspects of involvement, but has less relevance for the product or enduring aspect of involvement. Product involvement is important for payment methods as they are used repeatedly and possibly habitually, making the enduring attitude of the consumer towards the product important.

Testing the hypotheses in this research requires both a measure of involvement and distinct subscales that measure the cognitive and affective aspects of the involvement construct. The relationship between shopping value and involvement relies on affective involvement. It is helpful here to have affective involvement articulated in the measure (Voss et al. 2003). The measure that provides such a distinct delineation is the Zaichkowsky RPII (1994), which is a ten-item scale. Five of the items measure the cognitive aspect and five items measure the affective aspect. The scale has other advantages over the alternatives: PIS (Mittal 1989b), PII (Zaichkowsky 1985) and CIP (Laurent and Kapferer 1985), as it is simple to understand and administer having fewer scale items and using a simple adjective pair system. The adjective pairs used in the survey are: important-unimportant, boring-interesting, relevant-irrelevant, exciting-unexciting, means nothing to me-means a lot to me, appealing-unappealing, fascinating-mundane, worthless-valuable, involving-uninvolving and needed-not needed. A seven point Likert scale is used for the response.

5.4.3 **Survey Questions**

<table>
<thead>
<tr>
<th>Question</th>
<th>Scale</th>
<th>Scale Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 To me using cash to pay is Important / Unimportant</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>2 To me using cash to pay is Boring / Interesting</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>3 To me using cash to pay is Relevant / Irrelevant</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>4 To me using cash to pay is Exciting / Boring</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>5 To me using cash to pay is Means nothing to me / Means a lot to me</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>6 To me using cash to pay is Appealing / Unappealing</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>7 To me using cash to pay is Fascinating / Mundane</td>
<td>7 point Likert</td>
<td>Interval</td>
</tr>
<tr>
<td>8 To me using cash to pay is Worthless /</td>
<td>7 point Likert</td>
<td>Interval</td>
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<td></td>
<td>Valuable</td>
<td>7 point Likert</td>
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<tr>
<td>9</td>
<td>To me using cash to pay is Involving / Uninvolving</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>To me using cash to pay is Not needed / Needed</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>To me using a debit card to pay is Important / Unimportant</td>
<td></td>
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<tr>
<td>12</td>
<td>To me using a debit card to pay is Boring / Interesting</td>
<td></td>
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<tr>
<td>13</td>
<td>To me using a debit card to pay is Relevant / Irrelevant</td>
<td></td>
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<tr>
<td>14</td>
<td>To me using a debit card to pay is Exciting / Boring</td>
<td></td>
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<tr>
<td>15</td>
<td>To me using a debit card to pay is Means nothing to me / Means a lot to me</td>
<td></td>
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<tr>
<td>16</td>
<td>To me using a debit card to pay is Appealing / Unappealing</td>
<td></td>
</tr>
<tr>
<td>17</td>
<td>To me using a debit card to pay is Fascinating / Mundane</td>
<td></td>
</tr>
<tr>
<td>18</td>
<td>To me using a debit card to pay is Worthless / Valuable</td>
<td></td>
</tr>
<tr>
<td>19</td>
<td>To me using a debit card to pay is Involving / Uninvolving</td>
<td></td>
</tr>
<tr>
<td>20</td>
<td>To me using a debit card to pay is Not needed / Needed</td>
<td></td>
</tr>
<tr>
<td>21</td>
<td>To me using a credit card to pay is Important / Unimportant</td>
<td></td>
</tr>
<tr>
<td>22</td>
<td>To me using a credit card to pay is Boring / Interesting</td>
<td></td>
</tr>
<tr>
<td>23</td>
<td>To me using a credit card to pay is Relevant / Irrelevant</td>
<td></td>
</tr>
<tr>
<td>24</td>
<td>To me using a credit card to pay is Exciting / Boring</td>
<td></td>
</tr>
<tr>
<td>25</td>
<td>To me using a credit card to pay is Means nothing to me / Means a lot to me</td>
<td></td>
</tr>
<tr>
<td>26</td>
<td>To me using a credit card to pay is Appealing / Unappealing</td>
<td></td>
</tr>
<tr>
<td>27</td>
<td>To me using a credit card to pay is Fascinating / Mundane</td>
<td></td>
</tr>
<tr>
<td>28</td>
<td>To me using a credit card to pay is Worthless / Valuable</td>
<td></td>
</tr>
<tr>
<td>29</td>
<td>To me using a credit card to pay is Involving / Uninvolving</td>
<td></td>
</tr>
<tr>
<td>30</td>
<td>To me using a credit card to pay is Not needed / Needed</td>
<td></td>
</tr>
<tr>
<td>31</td>
<td>Which age range do you fall within?</td>
<td>18-29, 30-44, 45-59, 60-74, 75+</td>
</tr>
<tr>
<td>32</td>
<td>What is the highest level of qualification you have achieved?</td>
<td>Select No formal education GCSEs or equivalent A Level or equivalent</td>
</tr>
<tr>
<td></td>
<td>Degree level Post graduate</td>
<td></td>
</tr>
<tr>
<td>---</td>
<td>--------------------------</td>
<td>---</td>
</tr>
<tr>
<td>33</td>
<td>Are you male or female</td>
<td>Male / Female</td>
</tr>
<tr>
<td>34</td>
<td>What is your ethnic group?</td>
<td>White British, Irish, White other, Pakistani, Indian, Other Asian, African, Caribbean, Other black, Chinese, Arab, Other ethnic group</td>
</tr>
<tr>
<td>35</td>
<td>Please indicate your gross household income</td>
<td>£0-£20,000, £20,001-£40,000, £40,001-£75,000, £75,001-£100,000, £100,000+</td>
</tr>
</tbody>
</table>

Table 5.1 Involvement questionnaire, list of questions.

5.4.4 Involvement construct measurement

![Diagram](image)

Figure 5.3 Involvement questionnaire research instrument.

5.5 Involvement questionnaire sampling
The target of one hundred (100) surveys are taken from the general population who are eighteen years or older living in a household in the UK during the period March 2012 to May 2012. The sampling element is the individual.

The sampling technique employed is non-probability convenience sampling. Using a non-probability sample introduces bias into the survey due to the inability to calculate the probability of any individual being selected. This bias is recognised within the research and it should be clear that this survey provides no inference about the overall population. This survey is a small snapshot providing an indication of consumer involvement in payment methods. The results cannot be generalised to the entire population or create a generalisable result. The survey is intended as a validity check before committing to further work.

The pilot sample is drawn from family and friends of the researcher. It excludes anyone working in the payment industry. The main survey sample is drawn from members of the public in Oxford Westgate shopping centre. The sample is spread in age, income, ethnicity and gender but not geographically.

5.5.1 Involvement questionnaire - survey administration method

The questionnaire is administered by structured face-to-face interview in a ‘mall intercept’ using a paper form as the instrument. The questionnaire will have an explanation in the heading that can be read out by the interviewer or read by the respondent before self-completion. The choice of self-completion or interview is given to the respondent.

5.6 Pilot survey

The survey is constructed using the questions in table 5.1 and a copy is available in Appendix A. The survey is first administered to a group of 15 friends and family of disparate age, gender, income and ethnicity. They are asked to self-complete the survey in the presence of the researcher and to raise any issues. Two issues are raised: “What is the meaning of gross household income?” (Female, age 45-60, GHI £20k-£45k, degree); “What does involving mean in this context?” (Male, age 18-24, GHI <£20k, A-Level). The researcher explained the terminology and the surveys are then successfully completed. All other pilot respondents stated that they understood the survey questions.
As a consequence of the pilot experience, no wording is changed for the full survey; however, the researcher does verbally explain the meaning of the two raised issues in the full survey to clarify the terms for future respondents.

5.7 Sample

There are one hundred and seven (107) surveys completed using a convenience sample of adults. One hundred and forty eight (148) copies of the surveys are distributed at an Oxford shopping centre, and a completion rate of 72% is achieved. Six (6) surveys are only partially completed, due to the respondent never using one or more of the payment methods being measured, but they are included in the final results. Excluding these surveys may bias the results by not including people of lower financial means who cannot access credit, or those who actively choose not to use a payment product. The partial results from these surveys provide an insight into the views of those who have limited experience of payment methods or are limited by other factors such as economic status, social norms or lower financial awareness.

Industry figures, at the time of the survey, show that 9% of the population have no current account facilities and 27% do not use debit cards regularly (defined as one transaction per month) demonstrating a choice by 18% to use banking facilities without the convenience of debit card transactions\(^\text{30}\). Debit card penetration has risen over the last 5 years as most bank accounts now provide a debit card, which also acts as the ATM card, and banks have found technology solutions to reduce their credit risk. Electron or Solo cards only allow a transaction if a positive confirmation of funds is made in real time, while more trusted customers have debit cards which will complete a transaction without an absolute requirement for a funds check. This use of technology has allowed the proliferation of debit cards (84% of population in 2006 to 90% in 2011\(^\text{31}\)) into lower socio-economic segments of society with no credit risk. Two (2) of the one hundred and seven (107) respondents have never used a debit card, which represents 2% of the sample.

\(^\text{30}\) UK Consumer Payments 2012
\(^\text{31}\) UK Consumer Payments 2012
Only 38% of the population use credit cards regularly in 2011, but penetration of credit cards in the adult population is 62%, demonstrating a habit of holding credit cards for emergency purchases. In the survey sample only six (6) respondents did not answer the credit card section, which is 6% of the sample compared to 38% of the population not holding a credit card. This is significantly different from the national average for credit card holding but may reflect that people switch on and off from credit card holding, and so may have held a card in the past and have an opinion to share.

<table>
<thead>
<tr>
<th>Age</th>
<th>18-29</th>
<th>30-44</th>
<th>45-59</th>
<th>60-74</th>
<th>75+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>14</td>
<td>13</td>
<td>14</td>
<td>4</td>
<td>2</td>
<td>47</td>
</tr>
<tr>
<td>Female</td>
<td>15</td>
<td>14</td>
<td>15</td>
<td>6</td>
<td>2</td>
<td>52</td>
</tr>
<tr>
<td>No response</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Qualifications</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>No formal qualifications</td>
<td>8</td>
<td>3</td>
<td>0</td>
<td>2</td>
<td>2</td>
<td>15</td>
</tr>
<tr>
<td>Up to GCSE or equivalent</td>
<td>10</td>
<td>8</td>
<td>6</td>
<td>1</td>
<td>1</td>
<td>26</td>
</tr>
<tr>
<td>Up to A Level or equivalent</td>
<td>6</td>
<td>9</td>
<td>9</td>
<td>2</td>
<td>1</td>
<td>27</td>
</tr>
<tr>
<td>Up to degree level</td>
<td>5</td>
<td>6</td>
<td>14</td>
<td>5</td>
<td>0</td>
<td>30</td>
</tr>
<tr>
<td>Post graduate education</td>
<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>No response</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>White British</td>
<td>23</td>
<td>24</td>
<td>29</td>
<td>2</td>
<td>3</td>
<td>81</td>
</tr>
<tr>
<td>Pakistani</td>
<td>3</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>5</td>
</tr>
<tr>
<td>No response</td>
<td>8</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Income (£)</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;20k</td>
<td>14</td>
<td>11</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>33</td>
</tr>
<tr>
<td>20k-40k</td>
<td>11</td>
<td>7</td>
<td>10</td>
<td>2</td>
<td>1</td>
<td>31</td>
</tr>
<tr>
<td>40k-75k</td>
<td>1</td>
<td>8</td>
<td>8</td>
<td>4</td>
<td>1</td>
<td>22</td>
</tr>
<tr>
<td>75k-100k</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>2</td>
<td>0</td>
<td>2</td>
</tr>
<tr>
<td>+100k</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>No response</td>
<td>19</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Table 5.2 Demographic representation of respondents

Note: Eight (8) respondents failed to complete the demographic section of the survey at all and twenty-one (21) chose not to complete some questions.

The demographic details of the sample are recorded in part to allow comparison of attitudes against demographic segment, although these conclusions are limited due to the size of the samples concerned. More importantly collecting demographic data provides confidence that a reasonable distribution of adults is achieved and major demographic
groups are not neglected. The demographic information of the sample is shown in table 5.2.

The sample is not intended to mirror the population of the UK, as they are younger and better educated than the overall population. However, it does include most major population groups. The use of a convenience sample will introduce some bias to the result, as any non-probability sampling does. The bias is mitigated as much as possible by seeking a range of ages, incomes, qualification levels, gender and ethnicity.

5.8 Internal reliability

Examining the original data using a scatter plot, data points at the extremes of the scale are visible, but no respondents score all products either very high or very low. This demonstrates strength of feeling around certain products rather than a high or low scoring mentality. Therefore, no outlying data is removed.

The Cronbach alpha measurement for each of the scales, using all ten items is: debit cards (.87), cash (.86) and credit cards (.94). All of these are acceptable using 0.7 or above as the generally agreed allowable level for reliability (Field 2009). Zaichkowsky (1994) has scores of (.91) to (.95) for RPII on three different consumer products (Ice Cream, Lean Machine, Pepsi-Cola).

In order to confirm the reliability further, the Cronbach alpha is checked for each item in the scale if it were to be deleted, checking that no single item influences the overall reliability of the scale. In the case of each payment method, no single item significantly affected the Cronbach alpha of the whole.

The Cronbach alpha measurement is also used for both subscales, cognitive and affective; to check the reliability of reporting results from these sub scales. Tests for the affective subscale show: debit cards (.79), cash (.74) and credit cards (.78). Tests for the cognitive sub scale show: debit cards (.85), cash (.85) and credit cards (.92). The lower values are acceptable and are reasonable given the lower number of items (Field 2009).
5.9 Results

All three payment methods are shown to have medium levels of consumer involvement (table 5.3) using the ranking recommended by Zaichkowsky (1994) to define low (10-29), medium (30-50) and high (51-70) levels of involvement. Debit cards (44.51) and cash (43.64) are more involving for consumers than credit cards (39.06). The levels of involvement for different individuals vary widely as demonstrated by the standard deviations, particularly for credit cards.

<table>
<thead>
<tr>
<th>Service</th>
<th>Sample (n)</th>
<th>Overall Mean</th>
<th>Range</th>
<th>Standard Deviation</th>
<th>Level</th>
<th>RPII Involvement Range</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debit Cards</td>
<td>105*</td>
<td>44.51</td>
<td>15-66</td>
<td>10.71</td>
<td>Medium</td>
<td>9% 60% 31%</td>
</tr>
<tr>
<td>Cash</td>
<td>107</td>
<td>43.64</td>
<td>15-65</td>
<td>10.40</td>
<td>Medium</td>
<td>14% 58% 28%</td>
</tr>
<tr>
<td>Credit Cards</td>
<td>101*</td>
<td>39.06</td>
<td>10-70</td>
<td>14.29</td>
<td>Medium</td>
<td>27% 51% 22%</td>
</tr>
</tbody>
</table>

Table 5.3 Summary of RPII levels of consumer involvement

Note: *there are one hundred and seven (107) respondents but not all of them completed the debit and credit cards sections. Respondents did not complete this section if they do not use debit or credit cards.

Both cash and debit cards showed a skewed result with far more respondents showing high levels of involvement than low.

The results for the affective subscale are shown in table 5.4, and are noticeably lower than the cognitive involvement scores (table 5.5). This result tallies with the results of Aldlaigan and Buttle (2001) when they measured other financial products. The cognitive scores are both higher and more reliable than the affective scores (table 5.5). It is interesting to note that cash has a higher affective score than debit cards possibly suggesting a more emotional response to cash.

<table>
<thead>
<tr>
<th>Service</th>
<th>Sample (n)</th>
<th>Overall Mean</th>
<th>Range</th>
<th>Standard Deviation</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debit Cards</td>
<td>105</td>
<td>18.5</td>
<td>6-31</td>
<td>5.8</td>
<td>.791</td>
</tr>
<tr>
<td>Cash</td>
<td>107</td>
<td>19.9</td>
<td>8-30</td>
<td>5.0</td>
<td>.736</td>
</tr>
<tr>
<td>Credit Cards</td>
<td>101</td>
<td>17.0</td>
<td>5-35</td>
<td>6.0</td>
<td>.784</td>
</tr>
</tbody>
</table>

Table 5.4 RPII Affective subscale levels of consumer involvement
<table>
<thead>
<tr>
<th>Service</th>
<th>Sample (n)</th>
<th>Overall Mean</th>
<th>Range</th>
<th>Standard Deviation</th>
<th>A</th>
</tr>
</thead>
<tbody>
<tr>
<td>Debit Cards</td>
<td>105</td>
<td>25.9</td>
<td>5-35</td>
<td>6.3</td>
<td>.850</td>
</tr>
<tr>
<td>Cash</td>
<td>107</td>
<td>23.8</td>
<td>7-35</td>
<td>6.6</td>
<td>.864</td>
</tr>
<tr>
<td>Credit Cards</td>
<td>101</td>
<td>22.0</td>
<td>5-35</td>
<td>9.4</td>
<td>.940</td>
</tr>
</tbody>
</table>

Table 5.5 RPII Cognitive subscale levels of consumer involvement.

There are differences in results across the demographic segments, although for some of the segments the sample size is too small to allow the result to be meaningful. The samples that are too small to use are non-White British ethnicity, over 60 years of age, those with no formal education or postgraduate qualification and those earning over £75,000 per year. Other sample segments and the result of the RPII score are shown below in tables 5.6 to 5.9 for interest.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Debit Card</th>
<th>Cash</th>
<th>Credit Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>Sample (n)</td>
<td>Mean</td>
<td>Sample (n)</td>
</tr>
<tr>
<td>18-29</td>
<td>29</td>
<td>48.0</td>
<td>29</td>
</tr>
<tr>
<td>30-44</td>
<td>26</td>
<td>43.0</td>
<td>27</td>
</tr>
<tr>
<td>45-59</td>
<td>29</td>
<td>43.5</td>
<td>29</td>
</tr>
</tbody>
</table>

Table 5.6 RPII Levels of consumer involvement segmented by age.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Debit Card</th>
<th>Cash</th>
<th>Credit Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Qualification Level</td>
<td>Sample (n)</td>
<td>Mean</td>
<td>Sample (n)</td>
</tr>
<tr>
<td>GCSE or equivalent</td>
<td>26</td>
<td>51.6</td>
<td>26</td>
</tr>
<tr>
<td>A level or equivalent</td>
<td>27</td>
<td>43.4</td>
<td>27</td>
</tr>
<tr>
<td>Degree level</td>
<td>28</td>
<td>43.0</td>
<td>30</td>
</tr>
</tbody>
</table>

Table 5.7 RPII Levels of consumer involvement segmented by qualification level.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Debit Card</th>
<th>Cash</th>
<th>Credit Card</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td>Sample (n)</td>
<td>Mean</td>
<td>Sample (n)</td>
</tr>
<tr>
<td>Male</td>
<td>46</td>
<td>43.4</td>
<td>47</td>
</tr>
<tr>
<td>Female</td>
<td>51</td>
<td>45.6</td>
<td>52</td>
</tr>
</tbody>
</table>

Table 5.8 RPII Levels of consumer involvement segmented by gender.
Table 5.9 RPII Levels of consumer involvement segmented by income.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Debit Card</th>
<th>Cash</th>
<th>Credit Card</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Sample (n)</td>
<td>Mean</td>
<td>Sample (n)</td>
</tr>
<tr>
<td>&lt;£20k</td>
<td>32</td>
<td>45.9</td>
<td>33</td>
</tr>
<tr>
<td>£20k-£40k</td>
<td>31</td>
<td>47.0</td>
<td>31</td>
</tr>
<tr>
<td>£40k-£75k</td>
<td>21</td>
<td>38.7</td>
<td>22</td>
</tr>
</tbody>
</table>

Involvement in credit cards increases with both age and income, which makes sense when considering the trend over the last five years for limiting credit card distribution. The reduced usage of credit cards and the negative publicity associated with credit card debt may influence the younger generation to avoid them. Five (5) individuals within that group scoring credit cards highly create the spike in credit card involvement for those with A-level qualifications. Some of those individuals state in the comments section that they use credit cards due to the rewards on offer from the credit card companies.

Involvement with debit cards is higher amongst the young and the lower income groups. Youth is the independent factor here with younger respondents correlating highly with lower incomes. The qualification level ‘GCSE or equivalent’ correlates with lower income and has high level of debit card involvement. Future research could use a longitudinal study to measure if consumers increase involvement levels with credit cards as their wealth increases or age or both. The young have grown up with debit cards, which have risen in popularity, in alignment with the decline of the chequebook, over the last 20 years. This familiarity may create a higher level of involvement in debit cards than for those to whom the credit card is the first ‘flexible friend’.

Cash has a higher involvement score for the lower income band (<£20k), this may be explained by a lack of availability of credit cards and the preference of cash as a budgeting tool over debit cards. Other groups have no clear trends for cash.

Gender seems to have no significant impact on the involvement scores, although women score slightly higher than men for both cards and men score higher for cash, but the differences appear small.

5.9.1 Hypotheses testing

H1 Consumers have Middle to High Levels of involvement with payment methods

Advertising slogan for Access (Mastercard) credit cards in the 1980’s
Low involvement is defined as a mean score between 10 and 29 on RPII, therefore in order to check the validity of this hypothesis the test needs to check if the mean could be less than or equal to 29.

The statistical null hypotheses relating to H1 is:

H0 a) the means for the cash involvement score is equal or lower than 29.

H0 b) the means for the debit cards involvement score is equal or lower than 29.

H0 c) the means for the credit cards involvement score is equal or lower than 29.

H1 a) the means for the cash involvement scores are greater than 29.

H1 b) the means for the debit card involvement scores are greater than 29.

H1 c) the means for the credit card involvement scores are greater than 29.

In order to test the null hypothesis a one-sample t-test uses the means of the data for cash, debit cards and credit cards and asserting that the samples are large enough to assume normal distribution. A 95% one-tailed significance is used to analyse the probability of the means being significantly different.

Respondents report a significantly higher involvement score than 29 for cash (M=43.43, SE 1.31) than the maximum score for a low level of involvement (29), t (106) =10.95, p<.05, r=0.81. Therefore the null hypothesis, H0 a), is rejected in favour of H1 a).

Respondents report a significantly higher involvement score than 29 for debit cards (M=44.36, SE 1.39) than the maximum score for a low level of involvement (29), t (104) =11.06, p<.05, r=0.83. Therefore the null Hypothesis, H0 b), is rejected in favour of H1 b).

Respondents report a significantly higher involvement score than 29 for credit cards (M=38.39, SE 1.97) than the maximum score for a low level of involvement (29), t (100) =4.77, p<.05, r=0.54. Therefore the null hypotheses, H0 c), is rejected in favour of H1 c).

All payment methods measured have middle to high levels of involvement.
<table>
<thead>
<tr>
<th>Pair compared</th>
<th>T</th>
<th>Df</th>
<th>Sig (one tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash involvement score mean 43.43 - Score 29</td>
<td>10.95</td>
<td>106</td>
<td>.000</td>
</tr>
<tr>
<td>Debit card involvement score mean 44.36 – Score 29</td>
<td>11.06</td>
<td>104</td>
<td>.000</td>
</tr>
<tr>
<td>Credit card involvement score mean 38.39 – Score 29</td>
<td>4.78</td>
<td>100</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 5.10 Hypothesis 1 one sample t-test results.

**H2 Payment methods score lower on the affective subscale than on the cognitive subscale of RPII.**

The statistical null hypotheses relating to H2 is:

H0 a) the means for the affective cash subscale and for the cognitive cash subscale are the same.

H0 b) the means for the affective debit card subscale and for the cognitive debit card subscale are the same.

H0 c) the means for the affective credit card subscale and for the cognitive credit card subscale are the same.

H2 a) the means for the affective cash subscale is lower than for the cognitive cash subscale.

H2 b) the means for the affective debit card subscale is lower than for the cognitive debit card subscale.

H2 c) the means for the affective credit card subscale is lower than for the cognitive credit card subscale.

In order to test the null hypothesis a dependent t-test is used using the means of the data for cash, debit cards and credit cards and asserting that the samples are large enough to assume normal distribution. A 95% one-tailed significance is used to analyse the probability of the means being significantly different.

Respondents report significantly lower involvement in the affective subscale of cash (M=19.66, SE 0.64) than the cognitive subscale of cash (M = 19.66, SE=0.842), t (106) = -5.8, p<.05, r=0.6. Therefore the null hypotheses, H0 a), is rejected in favour of H2 a).
Respondents report significantly lower involvement in the affective subscale of debit cards (M=18.29, SE=0.76) than the cognitive subscale of debit cards (M=26.07, SE=0.83), t (104) = -9.9, p<.05, r=.79. Therefore the null hypothesis, H0 b), is rejected in favour of H2 b).

Respondents report significantly lower involvement in the affective subscale of credit cards (M=16.70, SE=0.81) than the cognitive subscale of credit cards (M=21.70, SE=1.31), t (100) = -5.26, p<.05, r=.58 Therefore the null hypothesis, H0 c), is rejected in favour of H2 c).

For each of the three payment methods measured the affective subscale measured significantly lower for the affective subscale than the cognitive subscale demonstrating a more rational, less emotional, approach to the choice of payment method.

<table>
<thead>
<tr>
<th>Pair compared</th>
<th>t</th>
<th>Df</th>
<th>Sig (one tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash affective – cash cognitive</td>
<td>-5.80</td>
<td>106</td>
<td>.000</td>
</tr>
<tr>
<td>Debit card affective – debit card cognitive</td>
<td>-9.90</td>
<td>104</td>
<td>.000</td>
</tr>
<tr>
<td>Credit card affective – credit card cognitive</td>
<td>-5.26</td>
<td>100</td>
<td>.000</td>
</tr>
</tbody>
</table>

Table 5.1 Hypothesis 2 dependent t-test results.

**H5 Consumers have higher involvement levels with cash and debit cards than with credit cards.**

The statistical null hypothesis relating to H5 is:

H0 a) the means for cash and credit cards are the same.

H0 b) the means for debit cards and credit cards are the same.

H5 a) the means for cash are higher than credit cards.

H5 b) the means for debit cards are higher than credit cards.

In order to test the null hypothesis a dependent t-test is used using the means of the data for cash, debit cards and credit cards and asserting that the samples are large enough to assume normal distribution. A 95% one-tailed significance is used to analyse the probability of the means being significantly different.
On average respondents report significantly higher involvement in cash (M=43.04, SE 1.42) than credit cards (M=38.39, SE=1.97), t (100) =1.77, p<.05, r=0.23. Therefore the null hypothesis, H0 a), is rejected in favour of H5 a).

On average respondents report significantly higher involvement in debit cards (M=43.45, SE=1.46) than with credit cards (M=38.96, SE=2.03), t (100) =1.73, p<.05, r=0.23. Therefore the null hypothesis, H0 b), is rejected in favour of H5 b).

The result of the survey supports the fact that consumers are more highly involved with cash and debit cards than with credit card.

<table>
<thead>
<tr>
<th>Pair compared</th>
<th>t</th>
<th>Df</th>
<th>Sig (one tailed)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cash – credit card</td>
<td>1.766</td>
<td>100</td>
<td>.041</td>
</tr>
<tr>
<td>Debit card –credit card</td>
<td>1.733</td>
<td>100</td>
<td>.044</td>
</tr>
</tbody>
</table>

Table 5.12 Hypothesis 5 dependent t-test results.

5.10 Conclusions

All of the three payment methods show a medium level of involvement, with cash and debit cards having very similar scores. The results show consumers are significantly less involved with credit cards. There are higher levels of involvement in the cognitive aspects of payment methods rather than the affective aspects. In summary consumers find payment methods useful and necessary more than interesting and exciting, but they are involved with the products.

Debit cards and cash both have relatively high scores for ‘appealing’ and cash alone has a high score for ‘involving’. This may indicate some desire to use these payment forms above credit cards, and may indicate some emotional response to cash as a different medium. Cash scored higher than both forms of plastic card on the affective subscale demonstrating some difference in attitudes between cash and debit cards, which score almost identically in the cognitive aspects.

The affective results may have been higher if the survey set the scene of the payment and therefore allowed the respondent to recall from memory a similar event, possibly evoking a more emotional response. Another survey that used this methodology of prompting recall of an experience may provide different results and a comparison would be interesting.
This research is a pre-cursor for further primary research undertaken into the correlation between payment methods and shopping value. Hedonic dimensions of attitude have been shown to correlate to the involvement construct (Hirschman and Holbrook 1982; Spangenberg et al. 1997; Voss et al. 2003) and therefore it is a reasonable pre-cursor to check that consumers are involved with payment methods before testing whether there is a correlation between shopping value and payment methods. Given the result of this survey it is reasonable to proceed with the current conceptual model.

Another interesting aspect of this testing is the implied lack of brand trust and loyalty that a low affective score suggests. This may lead those marketing payment methods to consider creating a rational decision basis to tempt new customers rather than relying on brand loyalty or affective themes. For example when advertising credit cards it may be more effective to emphasise convenience and acceptance rather than concentrating on the affective aspects such as the status from carrying a ‘black’ version. VISA adverts have recently concentrated on speed of use in their debit card advertisements showing awareness that it is the cognitive features which the public respond to. Current payment technology innovations, such as contactless cards, are designed to increase convenience.

Relating all of this to payment methods leads to a conclusion that consumers care about the payment methods they choose, have a tendency to consider more positively the cognitive aspects of the choice and are involved in payment method products.

5.11 Concluding chapter remarks

This chapter describes the design process and the completion and results of a survey of consumer involvement in the three major payment methods: cash, credit cards and debit cards. The results of the survey concluded that all of the three payment methods have medium levels of involvement. This means that it is reasonable to continue to test if shopping value influences choice of payment method attributes.

The next chapter describes the use of focus groups to create a scale for the measurement of payment method attributes.
6 Research identifying payment attributes and subjective norms

6.1 Introduction

This chapter describes how the attributes of payment methods are identified. Knowing what attribute is most strongly associated with paying for goods and services will provide the basis of a scale for the main survey, measuring payment preferences and shopping value. The attributes are linked to one of the three major payment methods: cash; debit cards and credit cards. They are also identified and assigned as utilitarian or hedonic.

During this qualitative research data is collected that provides a view of how some consumers think about payment methods and what attitudes they have to different payment methods. The analysis of this qualitative data allows the formation of hypotheses around the affect of location, product and amount paid on these attitudes, which can be tested during the main survey.

6.2 Scale development

The scale is comprised of preferred attributes rather than descriptions of the payment methods themselves. This means that the research can be applied to future payment methods by identification of the relevant attributes. Also the attitude of the consumer is not restricted by what is currently available to them or experiences they have had with any particular payment method. For example, someone who does not currently have a bank account may want their payment method to have all the attributes of a debit card but may not be able to express that desire, if they are only provided with a choice of preferred payment method.

Research is available from large scale surveys in the US by the Federal Reserve Bank on payment attributes used by several US researchers to investigate changing preferences (Schuh and Stavins 2010; Borzekowski et al. 2008). These attributes will not be used in

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34 Survey of Consumer payment choice, US Federal Reserve
this research due to the possible differences between US and UK consumers; however the research will help provide a basis for the attribute testing and as a comparison with the results.

This primary research on payment method preferences also provides new perspectives on the link between payment preferences and subjective norms of behaviour, by analysing participant comments.

This chapter investigates the part of the conceptual model that identifies the payment method attributes of importance to consumers and whether they associate with current popular payment methods.

![Conceptual model tested in chapter six](image)

**6.3 Research methodology**

A focus group can be described as an informal discussion among a group of selected people about a specific topic (Wilkinson 1998). It is the informality of the discussion that points to the greatest benefit of the focus group. Focus groups provide an opportunity to “listen to people’s views and experiences and learn from them” (Morgan 1998: p9). It is the interaction between people that often creates the greatest understanding and benefit to the researcher rather than answering research questions. It is the element of interaction that separates focus groups from interviews.

Focus group methodology is originally devised as an academic research method by Bogardas in 1926, but has become increasingly popular for market research in recent years.
Market research focus groups tend to be more structured than those used for academic research. The moderator in market research usually has a set of very specific questions requiring an answer for the company sponsoring the project. Focus group methodology is preferred within market research due to the speed of data collection (Kroll et al. 2007). Within academic research the focus group has proved popular in social sciences where it is valued for the interaction between participants and the opportunity this provides to reach a deeper understanding. Focus groups for research in social sciences are less structured with the moderator acting as a facilitator rather than an interviewer and attempting to create a non-threatening environment where people feel free to say how they think and feel.

The ethical considerations associated with focus group research are complex and centre around two main issues: confidentiality and inappropriate behaviour. In a one to one interview situation the researcher can speak about confidentiality with the full understanding that they are speaking for themselves and their colleagues all of whom are operating in a framework of academic research, where confidentiality is paramount. In a focus group the researcher can make no assertion regarding confidentiality, as they cannot speak for the other participants. A practical solution to this is to ensure that participants are aware their confidentiality is not guaranteed. This should be stated at the beginning of the group and as required throughout the discussion. Unfortunately this necessary warning may limit what is shared, but this is unavoidable. Inappropriate behaviour of other participants is also a consideration for focus groups. It is important to state ground rules at the beginning of the session that make it clear what behaviour is inappropriate.

Each focus group should comprise of six to eight participants and at least one moderator (Wilkinson 2004). The moderator is often the researcher but this is not a requirement as long as the moderator has sufficient grasp of the subject matter and methodology. Often another researcher is present to make notes especially if the session is not recorded. Participant selection works in a similar way to survey participant selection with a sample frame and a sampling methodology. A probability sample is desirable but unlikely for this sort of event with convenience sampling being far more common.

The payment of incentives is a controversial subject within academic research. Some would argue that payment for time is both reasonable and pragmatic (Liamputtong 2007) whereas others say any form of payment implies coercion and is inappropriate in academic research (Holloway and Jefferson 2000). Paying for time does mean that researchers obtain
opinions from hard to reach groups, either those who are poor in time so need compensation (e.g. modern professionals) or those who are non-participative but will participate for payment (e.g. drug users). On the other hand in poorer areas large payments (relative to the local economy) may attract people who are not representative and who are not sharing the truth. There are pros and cons to both arguments and the answer should be determined depending on the nature of research and those involved.

The focus groups should also be held in positive environments that are relaxed and engender a feeling of community in the group. Providing some form of moderate hospitality is conducive to creating this atmosphere although excessive alcohol should be avoided.

6.4 Research design

Focus groups are selected for two reasons within this research. Firstly they provide a quick result, which is required given the time frame of a doctoral thesis. Secondly the research requires a framework of symbolic interactionism, which focus group methodology provides. There are two sections to the focus groups in this research. First, a group discussion that is prompted by research questions but is allowed to range widely depending upon the participants. The second is a more structured exercise where participants are asked to share their preference for different attributes of payment methods. The informal discussion gives the participants the opportunity to think about and discuss a subject that is rarely discussed. It is vital for this research that the interaction of participants in this conversation allows them to think in more depth about a subject where habitual behaviour may be ingrained. If we have always done a common action in the same way it can be difficult to understand why the original decision is taken and what the root causes are. Participation and interaction in a group discussion gives an opportunity to discuss not just ‘what we do’ but ‘why we do it’.

For this research the participants are selected using a convenience sample from a sample frame of adults in the UK. No incentive is offered for attendance, except payment of babysitting fees when required. Light refreshments are provided. Each group is arranged as eight participants but last minute cancellations lead to most groups having one or two fewer than planned. The researcher acts as moderator for each group and directs the conversation as required, facilitating rather than controlling the discussion. The sessions
are not recorded in case this is perceived as intrusive and stifles discussion, however a note taker does attend.

At the beginning of each session ground rules are discussed, the lack of confidentiality is discussed and the need for a note taker explained. The premise of the research and the purpose of the focus groups are outlined.

6.4.1 Focus group discussion questions

(i) When you pay for something what do you want the experience to be like?

(ii) What makes you change the way you pay for things?

(iii) What do you like about when you use cash / credits cards / debit cards?

6.4.2 Focus group administration

Six focus groups are held during October and November 2012, in total 39 people attended the focus groups.

1. Leicester (5, Leicester residents and 2 Kent residents)
2. Liverpool (6, all Liverpool residents)
3. Charlbury Oxfordshire (7, all Oxfordshire and surrounding area residents)
4. Oxford (7, all Oxford residents, students)
5. Atherstone, Warwickshire (5, Atherstone residents and 1, Newcastle resident)
6. Manchester (6, all Manchester residents)

The focus groups are introduced as a part of the primary research for a doctoral thesis on consumer attitudes to personal spontaneous payments. The respondents often ask questions at this point and the research is put into context for them. A general conversation of which sort of payments people prefer is encouraged in this early part of the session. The focus group questions (section 6.4) are introduced and opinions discussed. The conversation is allowed to flow within boundaries and as long as the overarching topic remains payment methods. After 20-30 minutes of discussion, the focus group moves to the next phase.

A stack of cards is produced with an adjective written on each card. Each participant is provided with a stack of cards and asked to discard as many or as few as they like, holding on to cards that they believe are associated with any payment method used when shopping
or purchasing services. This is a solitary exercise as there is a stack of cards for each person but participants are encouraged to discuss their choices with others if they want to.

The adjectives written on these cards are originally created using US research as a basis and adding other attributes that were deemed more UK centric. These additional attributes were added using a brain storming session with three other people not linked with the payment industry or with the research. Feedback from the focus groups adds to the list of adjectives as the research progresses.

The original list of attributes are all paired with the positive and negative words describing the attribute on separate cards and mixed up.

- Environmentally friendly / Environmentally unfriendly
- Safe / Risky
- Secret / Recorded
- Tactile / Awkward
- Welcome / Unacceptable
- Exciting / Dull
- Cost effective / Rip off
- Budgeting / Free spending
- Convenient / Inconvenient
- Wealthy / Poor
- Speedy / Slow
- Rewarding / Unrewarding
- Enjoyable / Unenjoyable

Once this exercise is complete each respondent is given a large card and asked to place each of their adjective cards on the payment method they most associate with it. The payment methods represented on the card are “CASH”, “DEBIT CARDS” and “CREDIT CARDS”.

The position of the retained cards is recorded and the exercise is complete. Participants are not isolated during this exercise and there is considerable feedback amongst them on the different choices being made. The exercise is then discussed particularly the diversity of views. The same participants then have the definitions of hedonism and utilitarianism read out to them (Babin et al. 1994). They are then asked to discuss each pair of adjectives and together decide, using a majority decision, whether the adjective describes a hedonic or
utilitarian attribute of a payment method. Those at the meeting are then asked to complete a short demographic questionnaire privately and hand this to the moderator.

The meetings generally last 2-3 hours, and respondents are only incentivised to attend by the provision of light refreshments.

6.5 Focus group meetings

The demographic segmentation of the focus groups is shown in table 6.1. This is not designed as a representative sample of the population as the sample size is too small. However it did achieve at least one person in each age group, income bracket and qualification level.

<table>
<thead>
<tr>
<th>Age</th>
<th>16-29</th>
<th>30-44</th>
<th>45-59</th>
<th>60-74</th>
<th>75+</th>
<th>Total</th>
</tr>
</thead>
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<tr>
<td>Age</td>
<td>11</td>
<td>8</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>39</td>
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<td></td>
<td></td>
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<tr>
<td>Male</td>
<td>7</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td>3</td>
<td>19</td>
</tr>
<tr>
<td>Female</td>
<td>4</td>
<td>5</td>
<td>7</td>
<td>3</td>
<td>1</td>
<td>20</td>
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<tr>
<td>Income</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;£20k</td>
<td>10</td>
<td>2</td>
<td>4</td>
<td>2</td>
<td>1</td>
<td>19</td>
</tr>
<tr>
<td>£20k-£40k</td>
<td>1</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>3</td>
<td>11</td>
</tr>
<tr>
<td>£40k-£75k</td>
<td>0</td>
<td>5</td>
<td>2</td>
<td>0</td>
<td>0</td>
<td>7</td>
</tr>
<tr>
<td>£75k-£100k</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>&gt;£100k</td>
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<td>0</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
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<td>Ethnicity</td>
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<td></td>
<td></td>
<td></td>
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<tr>
<td>White British</td>
<td>4</td>
<td>7</td>
<td>12</td>
<td>4</td>
<td>4</td>
<td>31</td>
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<tr>
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<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Asian/Asian British</td>
<td>3</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
<tr>
<td>Black British /African / Caribbean</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>1</td>
</tr>
<tr>
<td>Arab</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
<td>0</td>
</tr>
<tr>
<td>Chinese</td>
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<td>0</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
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<td>2</td>
<td>2</td>
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<td>2</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>A Level or equivalent</td>
<td>1</td>
<td>3</td>
<td>1</td>
<td>0</td>
<td>1</td>
<td>6</td>
</tr>
<tr>
<td>Degree</td>
<td>8</td>
<td>2</td>
<td>6</td>
<td>1</td>
<td>0</td>
<td>17</td>
</tr>
<tr>
<td>Post Graduate</td>
<td>0</td>
<td>2</td>
<td>1</td>
<td>0</td>
<td>0</td>
<td>3</td>
</tr>
</tbody>
</table>

Table 6.1 Demographic segmentation of focus groups

6.5.1 Meeting 1 - Leicester

The meeting is predominantly female (6 out of 7), older (range 38 to 64), White British (7 out of 7) and contains a mix of qualification level and income, but with high levels of self-employment (4 out of 7).
The first meeting lasts approximately 3 hours, and the format for all of the subsequent meetings is developed at the first meeting. During this first meeting, an adjective pair is split into two to clarify the meaning. “Safe / Risky” is changed to “Safe to use / Risky to use” and “Safe to carry / Risky to carry”. This change is then implemented at all subsequent meetings.

6.5.2 Meeting 2 - Liverpool

The meeting is predominantly male (5 out of 6), older (range 43 to 75), White British (6 out of 6) and less well educated (no qualifications to GCSE level). Income is only in the two lower ranges (<£20k and £20k to £40k).

The meeting is very strongly positive regarding cash and raises issues of anonymity and establishment powers to view records. Fraud with the use of credit cards is discussed, as well as the potential to get into debt with credit cards.

6.5.3 Meeting 3 - Oxfordshire - Charlbury

The meeting is split reasonably evenly by gender and has a good range of ages (range 22 to 59). The attendees are entirely White British and have a good range of qualifications. Income is well distributed in the first four categories (<£20k up to £100k).

The term “rip-off” is discussed and whether the phrase is too emotive and if a term like “expensive” is preferable. The discussion concludes with the continuation of the term “rip-off”, as no alternative that conveyed the same exact meaning could be found.

The meeting is mainly positive regarding the use of debit cards and the fact that it is easier to see what you are spending with a debit card.

6.5.4 Meeting 4 - Oxford city centre – students

Local students attend the focus group, most are British (4 out of 6) but the remaining two are visitors from overseas. The group is split reasonably evenly in gender and has consistently high levels of education (post graduate students) and low levels of current income. They range from 23 to 29 in age.

The meeting is positive about debit cards although they also generally hold credit cards for emergency purposes. The group prefers the use of debit cards for convenience and those from abroad discuss the difficulty of currency conversion. Cash is used at certain locations where it is required, for example markets. No additional adjective pairs are forthcoming
6.5.5 Meeting 5 - Atherstone (Warwickshire small town)

The meeting is reasonably split by gender and has a large range of ages (18 to 79). The attendees are entirely White British and have a good range of qualifications. Income is only distributed between the first two categories (<£20k, up £20k-£40k).

There is a long discussion about whether cash or cards are more environmentally friendly and how this can be judged. The general consensus is that neither method is significantly environmentally unfriendly, and that the issue is not worthy of consideration. The environmental issues are not considered a factor in decision-making on payments where it is for many other products selected by participants within the group. The meeting had very mixed views on payment preferences.

6.5.6 Meeting 6 - Manchester

The meeting is split reasonably evenly by gender and has a narrow range of ages (32 to 47). The attendees are mainly White British with a single mixed race British born attendee. The meeting is highly qualified (A Level to postgraduate) and income is distributed in the first three categories (<£20k up to £75k).

One attendee explains that they have children and they find cash very useful as a tangible way to explain the concept of money to children. The use of cards is considered too abstract for this purpose. This is discussed but the consensus is that this cannot be considered an attribute of cash for most people, because it is situational. The meeting discusses at length the differences between different brands of cards, shopping around for the best interest rates and other payment methods, such as mobile phone NFC technology. This is a young professional group who are highly financially savvy and work to get the best deals. The general feeling is they use the payment method that is the best balance of convenience and financial benefit.

6.6 Adjectives selected as attributes (test results)

The results of the test for adjectives that best describe attributes associated with the different payment methods is shown fully in appendix B and a summary of those which scored the highest is shown in table 6.2. The cut off point for those that are considered significant is a 40% score that represents two standard deviations above the mean. This
gives nine adjectives two of which are from a pair and can therefore be measured using a single item in the questionnaire. This creates an eight-item scale. The distribution of items between associated payment methods is not even (four for cash, three for debit cards and two for credit cards). Whilst the distribution is not ideal, this is a clear result and the scale is developed from these adjectives.

<table>
<thead>
<tr>
<th>Payment method</th>
<th>Attribute</th>
<th>Score</th>
<th>Options</th>
<th>%</th>
</tr>
</thead>
<tbody>
<tr>
<td>Credit card</td>
<td>Rip–off</td>
<td>19</td>
<td>39</td>
<td>49%</td>
</tr>
<tr>
<td>Debit card</td>
<td>Convenient</td>
<td>18</td>
<td>39</td>
<td>46%</td>
</tr>
<tr>
<td>Cash</td>
<td>Exciting</td>
<td>17</td>
<td>39</td>
<td>44%</td>
</tr>
<tr>
<td>Credit card</td>
<td>Financially rewarding</td>
<td>16</td>
<td>39</td>
<td>41%</td>
</tr>
<tr>
<td>Debit card</td>
<td>Recorded</td>
<td>16</td>
<td>39</td>
<td>41%</td>
</tr>
<tr>
<td>Cash</td>
<td>Tactile</td>
<td>16</td>
<td>39</td>
<td>41%</td>
</tr>
<tr>
<td>Cash</td>
<td>Welcomed by shopkeeper</td>
<td>16</td>
<td>39</td>
<td>41%</td>
</tr>
<tr>
<td>Debit card</td>
<td>Cost-effective</td>
<td>16</td>
<td>39</td>
<td>41%</td>
</tr>
<tr>
<td>Cash</td>
<td>Speedy at checkout</td>
<td>16</td>
<td>39</td>
<td>41%</td>
</tr>
</tbody>
</table>

Table 6.2 Result from focus group exercise of top nine payment method attributes.

Table 6.3 shows the results of US research on perceived payment method attributes (Ching and Hayashi 2010). Cheques are included in this table because they remain a significant payment method in the US, it should also be noted that this US research is based on all types of payment not just spontaneous payments. Whilst there are some similarities the removal of cheques as a very low level form of payment in the UK and higher levels of debit card penetration in the UK appear to lead to different results. This justifies the decision to test the UK population separately and only use the US research for information.

Table 6.3 Result from US research; source Ching and Hayashi 2010.

The participants of the focus groups are then asked to categorise which of the adjective pairs describing attributes are hedonic and which are utilitarian. In respect of the adjectives selected as attributes in table 6.2 the following results are obtained.

‘Exciting’ and ‘tactile’ are quickly defined as hedonic.

‘Convenient’, ‘recorded’, ‘cost effective/rip-off’, ‘speedy’ and ‘rewarding’ are quickly defined as utilitarian.
The attribute ‘welcome’ forms the subject of debate and disagreement. This is the same for all of the focus groups finding this attribute the most difficult to categorise. The majority opinion is measured and in all but one group (5, Atherstone) the attribute is categorised as hedonic. Whilst this attribute creates the most discussion it is overwhelmingly defined as hedonic. The debate centres upon the issue that ‘wanting to please’ someone appears hedonic, but that possibly the underlying motivation of minimising banking charges/prices is utilitarian. The results of the classification of the attributes as hedonic or utilitarian are shown in table 6.4.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Associated payment method</th>
<th>Classification</th>
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</thead>
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<tr>
<td>Rewarding</td>
<td>Credit card</td>
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</tr>
<tr>
<td>Rip-off</td>
<td>Credit card</td>
<td>Utilitarian</td>
</tr>
</tbody>
</table>

Table 6.4 Result from focus group exercise for hedonic or utilitarian classification of payment method attributes.

Table 6.4 demonstrates that cash has three hedonic attributes and one utilitarian and both card payments have two utilitarian attributes. This is suggestive that those preferring cards may be more utilitarian than those with a cash preference, but the main survey will test this rigorously.

6.7 Analysis of qualitative data for subjective norm hypotheses formation

Only the data from the adjective selected attributes test is used to create the attribute scale, however other data is collected in the form of ‘comments’ from the discussions. The text from comments during the focus group discussions is entered into NVivo (version 9) to identify relationships between the qualitative data more easily. This is done to find any new hypotheses that can be captured from these meetings and can be measured in the main survey relating to subjective norms of behaviour.

NVivo 9 is a software tool developed to aid the organisation of data in a qualitative research project. Many different sources of data can be loaded into NVivo 9. In this case there is only a Microsoft excel spread sheet, showing the demographic split of the attendees, and a series of Microsoft word transcripts from the focus group meetings. The
researcher creates nodes within NVivo and then links sections of text, pictures or notes to that node within the software. In this case a node is created for each attendee and their demographic information is attributed to that node. Other nodes are created to represent preferences for different payment methods or attributes of different payment systems, and statements from the focus groups are linked to the node of the person who made the statement and the node(s) that describe the statement. The nodes created in this project are:

1-39 Attendees (39)

Positive regarding cash / debit cards / credit cards (3)

Neutral regarding cash / debit cards / credit cards (3)

Negative regarding cash / debit cards / credit cards (3)

Attributes: Convenient, inconvenient, welcomed by staff, unwelcome to staff, safe, unsafe, tactile, awkward, slow, fast, rip-off, cost effective, anonymous, recorded, rewarding, unrewarding, exciting, boring, environmentally friendly, environmentally unfriendly. (20)

Other factors: use of credit, self-employed, budgeting, location sensitive, value sensitive, brand sensitive. (6)

NVivo collects data within these nodes allowing the researcher to organise data by node and create relationships between nodes. The software helps to graph the frequency of words used or coding to a node helping to find links within the data. In this case NVivo is used to find major areas of discussion representing coherent messages from the participants. This could provide new hypotheses or reinforce existing hypotheses.

Some comments that demonstrate preferences from different attendees are listed below.

“I use envelopes of cash to budget what I need and what family members need and what the business needs. I have worked this way for decades.” Female, aged 62, Leicester, no formal education, personal income £20k-£40k.

“Like to get points on the credit card but really like the delayed payment at end of the month. Helps personal budgeting.” Female, aged 54, Oxfordshire, educated to degree level, personal income £20k-£40k.
“Use a debit card frequently, as I like to see what I have spent.” Male, aged 24, Oxford, educated to degree level, personal income <£20k.

6.7.1 Participant statements cluster analysis

The participants are shown on a cluster diagram in figure 6.2, which is created by NVivo based on coding similarity between their personal nodes, using Jaccard’s coefficient. The nodes are represented in groups in figure 6.3 and a key is provided in table 6.5. Examining the attendees who are clustered together provides no clear result, but it does appear that age and qualification level are the most important factors. Location, gender and income appear to be completely mixed.

For example cluster B are identical in age group, income and location and none of them are White British. Cluster G has similar age, GHI and qualification level with a single outlier of participant 8. In this collection of demographic data the participants are asked to provide personal income. Participant eight (8) has a relatively low personal income but their gross household income is high, making them a better fit to cluster G than they first appear.

![Nodes Clustered by Coding similarity](image-url)

Figure 6.2: Cluster analysis of attendee nodes based on coding similarity (NVivo)
This research shows that actions and opinions are dictated more by the gross household income than by personal income. Exclusively throughout the discussion references are made to the income of the household rather than the individual.

“I get cash for the house keeping which makes me feel independent and that the purchases I make are anonymous. My husband is a market trader (self-employed) and so relies on cash from customers.” Female, aged 64, Leicester, educated to degree level, personal income £20k -£40k.

“I only use my wife’s credit card. I got into difficulty with credit cards as I am not much good at budgeting. My wife bailed me out and I promised I wouldn’t get another, but I have two she doesn't know about.” Male, aged 49, Oxfordshire, educated at degree level, personal income £20k to £40k.
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Table 6.5 Key to attendee demographic data
These observations lead to the adoption of gross household income (GHI) as the measure of income within the main survey. Whilst GHI is more complicated to explain during the interview process it is clear from the discussion within the focus groups that it is household income which drives behaviour rather than personal income.

Cluster E is older and with a single exception less well educated than the mean level. They also have similar income levels. Those attendees in cluster E all have a strong preference for debit cards.

When examining stated preference for payment methods those in clusters A and E show a preference for cash (near the top of the chart) whereas those on clusters B and H (near the bottom of the chart) have a preference for debit cards. Clusters C, D, F and G (towards the middle of the chart) are less definite in their preferences.

6.7.2 Qualitative attribute analysis

Using NVivo it is possible to view the commonality of the use of a node by representing the nodes in a tree map that equates area of the chart to the commonality of the use of the node. Figure 6.4 shows the factors that are cited as issues when making a payment method decision. Some examples of these are:

“Some things can only be bought using cash at vintage stalls on the market for example.” Female, Oxford, aged 24, qualified at degree level, personal income <£20k, Chinese ethnicity.

“Rarely use cash, only for small items, such as milk, paper in local shops or coffee shop.” Male, Oxford, aged 24, qualified at degree level, personal income <£20k, Asian British.
The next most commonly used node is value sensitive (amount paid) and some examples of this are:

“Rarely use cash, only for small items, such as milk, paper in local shops or coffee shop.” Male, Oxford, aged 24, qualified at degree level, personal income <£20k, Asian British.

“Always use cash for small purchases, less than £10.” Female, Kent, aged 49, qualified at degree level, personal income <£20k, white British.

“Rarely use credit cards, only on items over £50.” Male, Oxford, aged 24, qualified at degree level, personal income <£20k, Asian British.

The first quote in the section above is cited as both value sensitive and location sensitive and provides an example that a single statement may be coded to multiple nodes. The prominence of statements indicating that a payment decision is based on the amount paid and the location of the payment reinforce the need to measure these factors within the main survey and prove the effect of the subjective norm in the decision making process. Examining the prominence of value sensitive statements it is clear that several of the attendees have a limit below which they chose to pay with cash and above which they opt for one form of card or another. The value of the limit varied although it is reasonable to speculate that the stronger a persons’ preference for cash the higher the limit. It is also clear that being self-employed is a factor leading to an increased use of cash. Of those who showed a preference for cash 55% are self-employed which is disproportionate to the participant demographic (only 25% of the participants are self-employed). The population level of self-employment is considered an important factor when assessing the demand for cash in economics research (Alvarez and Lippi 2009, Humphrey et al. 1996).

The location preferences are varied but several comments are made regarding local shops. Participants stated that it is important to them that the chosen payment method is welcomed by local shop owners and that they would opt to use cash in local shops.

“Use cash locally to buy things from charity shops, newsagent etc. Like to use cash to educate small children how to use money. Small household jobs paid for in cash for tradespeople etc. Shopkeepers like cash, can’t use big notes like £20 and £50 because I feel like I cannot be trusted when they check for
authenticity of the note.” Female, Manchester, aged 47, qualified at degree level, personal income £40k-£75k, White British.

“Like to pay cash for items in local shops that are owned by friends as I think they prefer it.” Female, Atherstone, aged 79, qualified at GCSE, personal income <£20k, White British.

“Where I know the owner I want to give them cash.” Female, Oxfordshire, aged 54, qualified at degree level, personal income <£20k, White British.

Using these results from this primary research hypotheses relating to subjective norms of behaviour is developed.

**H9 Consumers are more concerned that a payment method is welcomed in local shops than in other locations.**

Some attendees also suggested that they are more excited about the process of paying in a clothes shop where the entire purchase process has a sense of fun. They believed there is little or no excitement involved in the process of paying in other locations.

“Paying for things is only exciting if you are buying a luxury item and it is a bit special.” Female, Leicester, aged 62, qualified at GCSE level, personal income <£20k, white British.

“I pay for clothes with cash because I do not want my husband to know what things cost, there is something a bit exciting because I feel I am getting away with something.” Female, Manchester, aged 36, qualified to degree level, personal income £40k-£75k, White British.

“I pay in the supermarket with cash because I like to see what I am spending and it is the most interesting part of the experience. I like the feel of counting out the notes.” Female, Oxfordshire, aged 52, qualified at degree level, personal income <£20k, White British.

In order to test the validity of these comments, and other similar comments within the focus groups, a hypothesis is proposed that compares the ‘excitement when paying’ attribute between the different locations.
H10  Consumer shopping will find payment a more exciting part of the experience when shopping in a clothes store and a supermarket than they will in local shops.

There are several other interesting statements worthy of consideration.

“A debit card helps with budgeting more than cash; I like to see a list of what I have spent. I do not use them in a pub. You need it for clothes shopping to get the returns. All purchases are over £5 on a debit card. Most of my day-to-day purchases on debit card.” Female, Leicester, aged 38, qualified at degree level, personal income £20k-£40k, White British.

This requirement for a receipt for the return of purchases may be an important factor in clothes store payments. There is an excitement, luxurious and a clandestine characteristic in buying clothes, mainly associated with the use of cash, but this may be disregarded due to the practical consideration of having a secondary form of receipt.

Concerns about card fraud are expressed by a variety of people and transcend boundaries of GHI and qualification.

“Too much fraud with cards, I do not trust using them.” Male, Liverpool, aged 42, no formal qualifications, personal income £20k-£40k, White British.

“I never use debit or credit cards in petrol stations because of fraud.” Male, Kent, aged 50, qualified at A Level, personal income +£100k, white British.

6.8  Revised conceptual model

The additional hypotheses that have been added need to be placed in the context of the conceptual model. This provides a graphical representation of where they fit in the overall research.
6.9 Concluding chapter remarks

This chapter discusses the focus groups that are used to create a scale to measure the attributes of different payment methods. To achieve this thirty nine (39) people attend six (6) focus groups around England and are asked to choose attributes that they most associated with the three common payment methods: credit cards, cash and debit cards. The scores from these exercises are compiled into a list of eight attributes created that can be measured as questionnaire items using a Likert scale in the forthcoming survey.

The focus groups also provided transcripts that provide insight into public opinions on the use of different payment methods and from these two additional hypotheses are created.

The next chapter examines the creation of the questionnaire, using this newly developed scale, to measure consumer opinion on the attributes required by them from a payment method as well as their shopping values.
7 Main survey design and results

7.1 Introduction

This chapter explains the stages of the survey and questionnaire design for the main survey in the primary research. Firstly the sampling and administration approach for the survey is discussed and then the scale is selected based upon the literature review. The questionnaire is designed by considering the constructs being measured and designing questions to measure each construct. Following the questionnaire design a series of pilot surveys are undertaken to test the understanding of respondents and the validity of the data collected.

This chapter goes on to use statistical analysis to test various hypothesised relationships and ultimately summarise the overall result of the research and compare the results to the conceptual model. Firstly the relationships between demographic segment and shopping value are tested. Secondly the scale measuring payment method attribute preferences is tested for validity and latent variables for a preference for different payment methods created. Finally the three subjective norms relating to location, product and amount paid are tested to measure any significant relationships both shopping value and payment method preferences.

The questionnaire and survey throughout the thesis is referred to as the ‘Main’ survey and is designed to measure shopping value, payment method attributes and subjective norms which affect attitude.

7.2 Survey Design

Much of the theoretical discussion regarding survey design is contained in chapter six so this section does not duplicate that discussion but explains the decisions made for this survey.

7.2.1 Survey ethics and choices

The same ethical considerations and data storage requirements described in chapter six (Data collection principles and consumer involvement survey) are used for this primary
research and so are not described again. Similarly a discussion of the benefit and disbenefit of different survey and questionnaire styles is included in chapter six.

This piece of primary research requires a more complex questionnaire than the previous involvement questionnaire but the same basic steps are taken in the design.

7.2.2 Questionnaire objective

The objective of this questionnaire is to test hypotheses (H3, H4, H6, H7, H8, H9, and H10) which all relate to relationships between the constructs shown in the conceptual model. The questionnaire is also designed to measure the goodness of fit for relationships within the conceptual model. Finally, the questionnaire is designed to allow respondents to make general comments about payment methods. In order to design the questionnaire the relationships between the constructs is shown in figure 7.1 and the terms that are being measured are defined.

7.2.3 Definition of terms for the main survey questionnaire

Most definitions are the same as written in section 6.6 and are not repeated here. New definitions are listed below.

**Shopping value** is a construct measuring the consumer shopping experience including the numerous intangible and emotional costs and benefits involved (Holbrook 1986), using a scale developed by Babin et al. (1994).

**Location** is an establishment type where payment for goods or services takes place.

- Local shop (frequented at least fortnightly, within a walk / short drive from home, know the staff, small establishment).
- Supermarket (large grocery store using self-service trolley system).
- Clothes store (retail shop selling mainly clothing).

**Payment method attributes** are as developed in chapter six; tactile, cost effective/rip-off, welcomed by staff, convenient, speedy to use, exciting, rewarding and recorded.
7.2.4 Sampling

The sampling technique is non-probability convenience sampling using a quota system. The quotas are based upon age, gender, qualification level, GHI and ethnicity. The quota system is designed to ensure that sufficient data is captured within each demographic group to create a valid sample rather than to ensure that the sampling is representative of the population. There is no intention to infer population shopping values or preferred payment methods from the data collected, but instead to test the relationships between constructs.

The fact that a non-probability sample is used introduces bias into the survey due to subjectivity in the selection of the quota criteria, the choice of interview locations and respondent selection. The bias is mitigated as much as possible by use of a quota system,
varying locations of interviews, varying times of interviews and interviewer training. However, some bias is recognised within the research results.

The sample is drawn from intercepts in public shopping areas using a variety of geographic locations and diverse shopping areas, for example malls, high streets and retail parks. Where sufficient persons fulfilling the quota are not available using this convenience system then surveying in specifically selected locations will target individual subgroups. Targeting specific times of day may help capture any ‘hard to reach’ groups e.g. shops in the City of London to survey young men with high levels of qualification.

The sample frame will therefore have a set of criteria including geographic location, location type and time of day.

7.2.5 Quota levels

The levels are based on a target of five hundred (500) respondents. There are no set rules on sample size and each survey must be considered on a case-by-case basis (Floyd and Fowler 2002). Whilst five hundred (500) is at the low end of the acceptable level the workload involved in this style of survey, in comparison to an internet survey, requires this compromise to a lower level of survey respondents.

<table>
<thead>
<tr>
<th>Demographic Group</th>
<th>Segment</th>
<th>Minimum</th>
<th>2011 Census % of UK population</th>
</tr>
</thead>
<tbody>
<tr>
<td>Sex</td>
<td>Male</td>
<td>250</td>
<td>(48.9%)</td>
</tr>
<tr>
<td></td>
<td>Female</td>
<td>250</td>
<td>(51.1%)</td>
</tr>
<tr>
<td>Age</td>
<td>18-29</td>
<td>100</td>
<td>(20.8%)</td>
</tr>
<tr>
<td></td>
<td>30-44</td>
<td>100</td>
<td>(26.3%)</td>
</tr>
<tr>
<td></td>
<td>45-59</td>
<td>100</td>
<td>(25.0%)</td>
</tr>
<tr>
<td></td>
<td>60-74 and 75+</td>
<td>100</td>
<td>(27.9%)</td>
</tr>
<tr>
<td>Qualification level</td>
<td>None</td>
<td>100</td>
<td>(23%)</td>
</tr>
<tr>
<td></td>
<td>GCSE</td>
<td>100</td>
<td>(27%)</td>
</tr>
<tr>
<td></td>
<td>A Level</td>
<td>100</td>
<td>(29%)</td>
</tr>
<tr>
<td></td>
<td>Degree</td>
<td>100</td>
<td>(21%)</td>
</tr>
<tr>
<td>Gross Household Income</td>
<td>&lt;£20k</td>
<td>100</td>
<td>N/A</td>
</tr>
<tr>
<td></td>
<td>£20k-£40k</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>£40k-75k</td>
<td>100</td>
<td></td>
</tr>
<tr>
<td></td>
<td>£75k-£100k and £100k+</td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Ethnicity</td>
<td>White British</td>
<td>250</td>
<td>(85%)</td>
</tr>
<tr>
<td></td>
<td>Chinese</td>
<td>100</td>
<td>(0.7%)</td>
</tr>
</tbody>
</table>

Table 7.1 Quota levels for main survey and ONS website
7.2.6 Survey type

The survey is cross-sectional, as the research question and the conceptual model are not measuring the relationships over time but as a snapshot. Cross sectional surveys are believed to be particularly prone to Common Method Variance (CMV) bias (Jap and Anderson 2004) but Rindsfleisch et al. (2008) argue that a cross sectional approach is adequate in situations where the constructs are: externally orientated and concrete; where a diverse array of measurements are employed; where they are strongly rooted in theory and where the respondents are highly educated. This research can claim some of these characteristics, but not all, and must accept that a certain amount of CMV bias is present. The construct of demographics and shopping value are external, concrete and well developed in literature. The use of a diverse array of measurements is also a feature of the questionnaire design; however concentration on well-educated respondents is not a feature of the survey design.

7.2.7 Questionnaire format

Using an on-line questionnaire is rejected due to the need to access people of a low social grade and older people who may not have access to the internet/computer. A quota from these two groups is required to provide a relationship analysis. Mail and telephone survey methods are also rejected because of possible response rate issues in some demographic groups as well as the possibility of incomplete or disingenuous answering. The face-to-face interview is chosen due to the interviewers’ ability to recruit respondents from the demographic quota required, and they can achieve full completion of the questionnaire. The interviewer will inevitably introduce bias themselves, but as all interviews are administered consistently, the bias should remain consistent. Surveys conducted by interviewers tend to produce more complete and accurate answers (Groves et al 2004) reducing the error from incomplete answering or response errors due to misinterpretation of questions. However, the lack of anonymity may lead to a social desirability bias, created by respondents exaggerating in order to impress the interviewer. The intercept method also allows the interviews to take place in and around shops, making it easy for the interviewee to recall how they feel when shopping and paying.

7.2.8 Survey administration

In order to achieve the quota levels a mall intercept survey is chosen, this has advantages of allowing the interviewer to deliberately target respondents in order to achieve the quotas
and also means the surveys are taking place when people are shopping, making the questions relevant to their recent experience. The survey is designed to be mainly structured questions with response measured on a 7 point Likert scale but also has three open questions, inviting more depth of information from respondents. Pilot surveys are used in order to develop the approaches that are most likely to succeed in reassuring people of their privacy.

The literature suggests that the sequence of the questions can affect respondent’s answers (Czaja and Blair 1996; Dillman 2000, de Vaus 1995). The questionnaire should begin with simple and engaging questions that draw the respondent into responding. It is often best to start with an open question. Similarly, the demographic questions (age, ethnicity, etc.) should be the last section of the questionnaire. It is well accepted that respondents do not feel comfortable answering questions about their age or incomes at the beginning of questionnaires. Unfortunately, in this case the questionnaire begins with the shopping value closed questions. This decision is taken because all the other non-demographic questions deal with the subject of paying and this is a sensitive subject that could be off-putting initially. Starting the survey with questions about shopping is preferable to questions about paying despite these being closed questions. There is the option of adding an initial ‘open’ question about shopping but none are felt necessary and as the question count is already high, this seems an unnecessary complication.

One of the most important issues is the number of questions and the time taken to complete the questionnaire. The target time for this questionnaire, which are administered as an interview standing outside on the street, is 12 minutes. The flow chosen for the main survey questionnaire is shown in figure 7.2.

7.2.9 Scale choices

7.2.9.1 Shopping value scale

Babin et al. (1994) developed a scale commonly used to measure shopping value. The scale comprises twelve hedonic items and seven utilitarian items. This scale is used in the past by other researchers for empirical testing. The scale is used to contrast shopping value between Russian and American shoppers (Griffin et al. 2000) and to investigate approach and avoidance motivation in retail settings (Arnold and Reynolds 2012). On both occasions, the scale is reduced to a more practicable size. The size of the survey within this
research requires a more manageable number of items than the original nineteen. Both previous empirical research examples reduced the utilitarian items to four and these same four items are used within this survey (accomplishment, disappointment, successful, over quickly). Arnold and Reynolds (2012) reduced the hedonic items to seven (joy, desire to shop, enjoyable, shopping for its own sake, excitement, adventure and having a nice time).

Within this questionnaire, the items measuring hedonism are reduced to four (enjoyable, excitement, desire to shop and shopping for its own sake). Three items are dispensed with (joy, having a nice time and adventure) for this survey. These items are reluctantly deselected to make a manageable questionnaire size, as they overlap to some extent with the other scale items that are included.

Figure 7.2 Question flow for main survey questionnaire
7.2.10 Payment method preference scale

The payment method preference scale is developed from the primary research described in chapter six. The attributes identified in the focus groups are developed into questions that fit within the questionnaire. The attributes are: tactile, exciting, convenient, cost-effective/rip-off, rewarding, welcomed, speedy and recorded. A 7-point Likert scale is used to make the analysis comparable to the shopping value scale without manipulation. The questions therefore are phrased to have answers that range from strongly agree to strongly disagree. Therefore, the questions are phrased as statements that involve the attribute.

1. I like the feel of counting out the payment.
2. It is important that the payment is speedy.
3. I must find the payment method convenient.
4. I want to get rewards from my payment method when I spend money.
5. It is important to me that the shop owner welcomes the payment method I use.
6. Paying can be exciting.
7. I always use the most cost effective method of payment.
8. I like knowing there will be a record of my payment.

7.2.11 Demographic scale

Demography is a method of segmenting consumers into groups and is one of the most basic constructs in the analysis of consumer behaviour. The traditional demographic facets are age, social grade and gender (Evans et al 2009), but the study uses qualification level, gender, GHI, age and ethnicity. These additional facets are not always included in demographic studies, but are selected to be included in this construct as industry literature suggests that they have a bearing on payment method used (chapter three). Occupation can be used to provide a stratification of social status (A, B, C1, C2, D, E) (Evans et al. 2009). This method has a limitation that the respondent may not occupy the role of breadwinner and their occupation may not demonstrate a high level of income, for example, a housewife/husband may technically be unemployed but they may form part of a high-income household. Income level of the household would seem the best measure for a payment survey but again this has the drawback of not showing potential for future high earning in the younger age groups. The results of the focus groups (chapter six) demonstrated that the gross household income is more reflective of attitudes to payment than personal income. Therefore gross household income combined with qualification level is used instead of a social class category based solely on profession.
The survey measures a mix of personal qualification level and gross household income, with those scoring highly in both are deemed one end of the social spectrum and those scoring low in both at the other end of the spectrum. Whilst this is not a measurement of social class, which relies upon profession (Goldthorpe and Hope 1974), income and education are both related to social class and purchase decision (Williams 2002) making the combined results a more useful measure than the traditional social class measure in this context.

In order to create a categorical grouping for combined qualification level and gross household income (QGHI) the level of qualification is paired with the GHI group, table 7.2, which is used to test H7. All respondent who chose “prefer not to say” as their income level have been treated as missing data.

<table>
<thead>
<tr>
<th>QGHI Groups</th>
<th>Gross household income and qualification level groupings</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>No formal qualifications and GHI £20k</td>
</tr>
<tr>
<td>2</td>
<td>No formal qualifications and GHI £20k-£40k</td>
</tr>
<tr>
<td></td>
<td>GCSE qualifications and GHI £20k</td>
</tr>
<tr>
<td>3</td>
<td>No formal qualifications and GHI £40k-£75k</td>
</tr>
<tr>
<td></td>
<td>GCSE qualifications and GHI £20k-£40k</td>
</tr>
<tr>
<td></td>
<td>A Level qualifications and GHI £20k-£40k</td>
</tr>
<tr>
<td>4</td>
<td>No formal qualifications and GHI £75k-£100k</td>
</tr>
<tr>
<td></td>
<td>GCSE qualifications and GHI £40k-£75k</td>
</tr>
<tr>
<td></td>
<td>A Level qualifications and GHI £20k-£40k</td>
</tr>
<tr>
<td></td>
<td>Degree qualifications and GHI £20k</td>
</tr>
<tr>
<td>5</td>
<td>No formal qualifications and GHI £100k+</td>
</tr>
<tr>
<td></td>
<td>GCSE qualifications and GHI £75k-£100k</td>
</tr>
<tr>
<td></td>
<td>A Level qualifications and GHI £40k-£75k</td>
</tr>
<tr>
<td></td>
<td>Degree qualifications and GHI £20k</td>
</tr>
<tr>
<td>6</td>
<td>GCSE qualifications and GHI £100k+</td>
</tr>
<tr>
<td></td>
<td>A Level qualifications and GHI £75k-£100k</td>
</tr>
<tr>
<td></td>
<td>Degree qualifications and GHI £40k</td>
</tr>
<tr>
<td>7</td>
<td>A Level qualifications and GHI £100k+</td>
</tr>
<tr>
<td></td>
<td>Degree qualifications and GHI £75k-£100k</td>
</tr>
<tr>
<td>8</td>
<td>Degree qualifications and GHI £100k+</td>
</tr>
</tbody>
</table>

Table 7.2 Derivation of scoring for QGHI.

Evans et al (2009) suggest that whilst the use of demographics can still shed light onto consumer preferences and propensities, it is no longer sufficient given the wealth of personal data now available. This is a reasonable statement and especially true in the retail sector where loyalty programmes are used extensively to collect personal data. However demographics still remains one of the building blocks in any study of consumer behaviour upon which further data can be layered. There are tools that are more sophisticated now available for consumer segmentation that may prove beneficial, but establishing a basic demographic baseline is a robust first step and considered sufficient for this research. Some
demographic profiles also include household size, however, in order to keep the questionnaire manageable, and because the connection to payment methods is not obvious, this aspect is excluded.

7.2.12 Pre-pilot main survey questionnaire

<table>
<thead>
<tr>
<th>Item / question</th>
<th>Scale</th>
<th>Scale Type</th>
</tr>
</thead>
<tbody>
<tr>
<td>Questions 1 to 17 are repeated three times.</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1-17 for local shops</td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-34 for supermarkets</td>
<td></td>
<td></td>
</tr>
<tr>
<td>35-51 for clothes stores</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1 Compared to other things I could have done, time spent shopping is truly enjoyable</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>2 During a shopping trip, I feel the excitement of the hunt</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>3 I enjoy shopping trips for their own sake, not just for the items I may have purchased</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>4 I continue to shop here, not because I have to, but because I want to</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>5 It is important that I accomplish just what I want to while shopping</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>6 I am disappointed if I have to go to another store(s) to complete my shopping</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>7 It is important that I feel a shopping trip was successful</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>8 A good shopping trip is over very quickly</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>9 I like the feel of counting out the payment</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>10 It is important that the payment is speedy</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>11 I must find the payment method convenient</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>12 I want to get rewards from my payment method when I spend money</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>13 It is important to me that the shop owner welcomes the payment method I use</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>14 Paying can be exciting</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>15 I always use the most cost effective method of payment</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>16 I like knowing there will be a record of my payment</td>
<td>Likert Scale 1-7</td>
<td>Interval</td>
</tr>
<tr>
<td>17 What payment do you generally use in this location?</td>
<td>Cash / Debit or Credit Card / pre-paid card / Cheque Book / Internet Banking</td>
<td>Nominal</td>
</tr>
<tr>
<td>52 Is there a payment value above which you almost always use a credit / debit card?</td>
<td>Open (Value in GBP)</td>
<td>Scale</td>
</tr>
<tr>
<td>53 Can you list any products that you almost always pay cash for?</td>
<td>Open question</td>
<td>Nominal</td>
</tr>
<tr>
<td>54 Do you have any comments about why you choose different payment methods?</td>
<td>Open question</td>
<td>Nominal</td>
</tr>
<tr>
<td>55 Which age range do you fall within?</td>
<td>16-29, 30-44, 45-59, 60-74, 75+</td>
<td>Nominal</td>
</tr>
<tr>
<td>56 What is the highest level of education you have achieved?</td>
<td>Select</td>
<td>Nominal</td>
</tr>
<tr>
<td>57 Are you male or female</td>
<td>Male / Female</td>
<td>Nominal</td>
</tr>
<tr>
<td>58 What is your ethnic group?</td>
<td>White British, Irish, White other, Pakistani, Indian, Other Asian, African, Caribbean,</td>
<td>Nominal</td>
</tr>
</tbody>
</table>
The open questions provide an opportunity to cross reference general opinion with more specific responses. Answers to the open questions that do not correspond to more specific answers may demonstrate inaccuracy. Questions 1-8 use a 7 point Likert scale to measure shopping value in local shops and questions 9-16 measure preference in payment methods at the same location using the same scale. The same questions are then repeated for supermarkets and clothes stores. This is a repetitive section of the survey and the response to the repetitive nature of these questions will need to be considered during the pilot phases. Questions 17, 34 and 51 ask for each location ‘what’ payment method is actually used the majority of the time, and there is no restriction on payment method selected so this is an open question. There are then a series of three open questions (52, 53, 54) allowing a check for consistency within the respondent answers and providing opportunity to collect additional information. Questions 55 to 59 collect demographic information using grouped options, making the data nominal.

7.2.13 Pilot studies

Pilot studies are essential to help adjust wording and ordering issues within the questionnaire (Oppenheim 1966, Churchill 1995). The pilot studies also provide an accurate measurement of the length of time to complete the survey, respondent’s reactions to some questions and the general willingness to complete the survey. The most common errors that a pilot study will identify are poor wording of questions, limited understanding, and missed alternatives to closed questions (Bolton 1991). Pilot studies allow both adjustment of the questionnaire itself and planning for the survey administration. This questionnaire uses three pilot studies. The first is simply asking the questions to friends and family to gain feedback on the wording, which is declared as a pilot study to the participants. Following this exercise two full ‘on street’ interview pilots are completed, the first is declared as a pre-study and the second is undeclared. The first on street pilot is with 29 respondents and the next is with 19 respondents. Converse and Presser (1986) suggested this mixture of declared and undeclared pilot studies is the preferred approach. The literature suggests that between five (5) and fifty (50) are a reasonable number of pilot questionnaires (Floyd and Fowler 2002). The objective of the pilot study phase for this research is defined as:

<table>
<thead>
<tr>
<th>Item</th>
<th>list for main survey questionnaire</th>
</tr>
</thead>
<tbody>
<tr>
<td>7.2.13 Pilot studies</td>
<td>Pilot studies are essential to help adjust wording and ordering issues within the questionnaire (Oppenheim 1966, Churchill 1995). The pilot studies also provide an accurate measurement of the length of time to complete the survey, respondent’s reactions to some questions and the general willingness to complete the survey. The most common errors that a pilot study will identify are poor wording of questions, limited understanding, and missed alternatives to closed questions (Bolton 1991). Pilot studies allow both adjustment of the questionnaire itself and planning for the survey administration. This questionnaire uses three pilot studies. The first is simply asking the questions to friends and family to gain feedback on the wording, which is declared as a pilot study to the participants. Following this exercise two full ‘on street’ interview pilots are completed, the first is declared as a pre-study and the second is undeclared. The first on street pilot is with 29 respondents and the next is with 19 respondents. Converse and Presser (1986) suggested this mixture of declared and undeclared pilot studies is the preferred approach. The literature suggests that between five (5) and fifty (50) are a reasonable number of pilot questionnaires (Floyd and Fowler 2002). The objective of the pilot study phase for this research is defined as:</td>
</tr>
</tbody>
</table>
• Measure time to complete questionnaire.
• Measure willingness to complete questionnaire.
• Item / question order.
• Find any items / questions that are hard to interpret.
• Find any items / questions that are misinterpreted.
• Note any unwillingness to respond to any items / questions.
• Find any administrative issues with the size of the paper survey / practicality for the interviewer completion.
• Note any preferable locations for the survey.
7.2.14 Construct measurement

Figure 7.3 Construct and question relationships for main survey questionnaire
7.2.14.1 First pilot study (1)

The first pilot study involved interviewing nine friends and family. The demographics of this group vary in age and gender but have the same ethnicity and similar income and qualification levels. There are no measurements of time or willingness to complete the questionnaire and no data gathered on preferred locations or administrative issues. The first pilot study is solely to consider question interpretation. From this small survey, it is evident that questions 10 and 13 are creating a misunderstanding.

Item 10 refers to the payment method being speedy, which is the name of the attribute that came from the focus groups (chapter six). Two of the first pilot respondents interpreted the word ‘speedy’ as the speed of the payment leaving the bank account, as ‘speedy payment’ is a brand name. The attribute, intended from the focus groups is speed to pay at the point of sale. Therefore, before the next pilot study item 10 is changed to “It is important that the payment is fast”.

Item 13 refers to the shop owner welcoming the payment, this item worked well for local shops but when people are considering supermarkets the ‘shop owner’ is too remote. The item is expected to be far more pertinent in the local shops but it appeared that respondents cared about the response of the person they are dealing with at the time rather than the owner. In a local shop, this can often be the same person. The origin of the attribute, in the focus groups, is the fact that local storeowners preferred cash, so changing the word from ‘owner’ to ‘staff” would change the meaning of the attribute. It is therefore decided at this stage to allow the question into the next pilot study without change and monitor the understanding of this question particularly closely.

No other changes are made to the original design of the questionnaire at this stage.

7.2.14.2 Second pilot study (2)

The interviewer used Oxford city centre as the location of the pilot study in March 2013. This pilot study is designed to meet all of the objectives of the pilot study explained previously. The interviewer started in Oxford High Street, Oxford Clarendon shopping centre and then moved to the Cowley Road shopping centre. The respondents varied in age, ethnicity, income, qualification level and gender. Each of the objectives is reported separately.
7.2.14.2.1 Measure time to complete
The survey is on average taking ten (10) minutes to administer, but this varied, depending on the talkativeness of the respondent, between eight (8) minutes and fifteen (15) minutes. The interviewer improved with practice the ability to move respondents on to the next subject. The ‘chatting’ takes place in the mid-section of the survey, during the open questions and can be informative so it is not discouraged unless the respondent is moving away from the subject.

7.2.14.2.2 Item order
The beginning section of the survey (Q1-Q51) is originally asked in the order the questions are numbered i.e. the shopping value questions followed by the payment preference questions for local shops and then this sequence repeated for supermarkets and clothes stores. It is quickly apparent that this felt too repetitive and respondents are quickly bored. They then said the answers are the same across the locations, trying to effectively skip this part of the survey. The sequence is changed mid-pilot and people are far more responsive to effectively answering one question three times for three different locations. This gives the interviewer the opportunity to prompt with “do you think that is more of less in a supermarket/clothes store?” This approach provides a more considered response to the differences by location.

7.2.14.2.3 Measure willingness to complete
Once respondents started the survey they tended to complete it, some even warming to the subject. Only two started and failed to complete therefore giving a completion rate of 93%. It is harder to measure what proportion are willing to stop and answer the questions, a rate of about 20% approached agreed to the survey and approximately only 20% of the available people are approached. This gives an overall response rate of 4%. At this stage, the interviewer is not aiming for a demographic quota so this did not limit those approached. When it is necessary to select respondents based on demographic quotas this response is likely to worsen.

7.2.14.2.4 Find any questions that are hard to interpret
Item 14 referring to ‘paying as being exciting’ created some difficulty as respondents did not understand what aspect of paying could ever be exciting and the interviewer has to
contextualise the question within the shopping experience to gain a response. Therefore, before the next pilot study item 11 is changed to “Paying can be part of the excitement of the experience”.

Item 13, which had been discussed in the first pilot study continued to cause problems of understanding. The word ‘owner’ is questioned several times for supermarkets. Therefore before the next pilot study item 13 is changed to: “it is important to me that the shopkeeper / staff welcome the payment method I use.” This does change the meaning of the attribute to some extent but is designed to convey the possibility of ownership in a local environment, while also allowing the idea to be expanded to include the reaction of the staff member to whom the payment is being made. The staff member reaction is likely to be different from the owner. A shop owner tends to prefer cash payments as the cheapest form of payment to handle\(^{35}\) whereas staff members will prefer the quickest and easiest for them to process at the time.

7.2.14.2.5 Find any items that are misinterpreted
No items or questions are interpreted incorrectly as far as it is possible for the interviewer to ascertain.

7.2.14.2.6 Note any unwillingness to respond to any items / questions
There is an unwillingness to answer questions regarding gross household income level with four respondents declining to answer the question. The questionnaire is amended and an option added labelled “Prefer not to say”. There is also a noticeable reticence when answering the ethnicity question. To overcome this issue a technique of turning the questionnaire to the respondent and asking them to indicate for each of the demographic questions where they fit best is implemented.

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\(^{35}\) British Retail Consortium 2013 Payment Survey
7.2.14.2.7 Find any administrative issues with paper survey / practicality

The comments box is found not to be large enough and the font for the demographic section is too small to be read by respondents. These two practical aspects are changed for the next pilot.

7.2.14.2.8 Note any preferable locations for the survey

The interviewer began in Oxford High Street but it is soon apparent that many of the interviewees are foreign tourists and therefore not eligible for the survey. Whilst this may be seen as a particular problem to Oxford it is likely to be true for the central area of many large cities, and therefore surveying in such central location is not advisable. Identification of tourists is added to the selection criteria and interviewers are asked to check if selected respondents are ‘just visiting’ or ‘living locally’ before the survey began.

The two shopping centre locations had far fewer tourists and both provided a better response rate making them preferred locations. The two locations yielded respondents with different demographics as one is in an affluent area and one in a more socially deprived area. It is clear that a variety of locations are required to administer the survey in order to meet the quota levels.

7.2.14.3 Third pilot study (3)

Nineteen (19) respondents are interviewed for the third pilot study at a shopping area in, Walthamstow, London. This area is chosen specifically for its ethnic diversity.

The questionnaire contains all of the amendments from pilot studies (1) and (2). There are few further amendments found in this pilot study. The only slight query is the differentiation between degree educated and post graduate which confused two respondents. The separate box for ‘post graduate’ is removed from the final questionnaire with just ‘degree level and above’ used.

Following the administration of the third pilot study the design of the questionnaire and administration method is finalised. The data collected is used to help set up the SPSS data entry template and to check if the data that will be available at the end of the survey administration is sufficient to answer the hypotheses. This data is not used for the final data analysis because the issues with the initial survey design render the data invalid. However it is useful to check that the correct fields are available for
The Cronbach alpha of items in the scale is measured and an exploratory factor analysis is undertaken. Item 13 “It is important to me that the shopkeeper / staff welcome the payment method I use” did not correlate well with the other items but the score is marginal and given the data sample size is so small the item is retained. The full data analysis is described in subsequent chapters and so is not described in detail here. A point to note is that the statistical analysis for this test data is slightly different than that used in the main analysis due to the assumption of normality and homogeneity of variance that is made for the test data. The method of analysis remains consistent but the actual statistical tests used are different.

7.2.15 Changes within survey administration

One further change is made to the questionnaire during the administration. The original questionnaires had no way of identifying whether respondents are born in the UK or are immigrants. Tourists are not interviewed and this fact is established during respondent selection by the interviewer. However people living in the UK but not born here are interviewed and identified only by their ethnicity. This issue with the questionnaire had been discussed with supervisors prior to the survey design and it is decided that asking if a person is born in the UK is too intrusive for an on street interview. The view taken at this stage is that any dichotomy of response from the chosen ethnic group, Chinese, would show up in the data analysis. A focus group could then be used to check which data corresponded to which group, born in the UK or born elsewhere and now living in the UK. This decision is reconsidered during a review of progress and a further question asking for the location of the respondent’s primary school is introduced. This question determined if respondents are born in the UK and this information is collected. All subsequent surveys included this question and when analysing the response from those of Chinese ethnicity only those born in the UK are included.

7.3 Identifying a relationship between demographic segment and shopping value

Some people shop to live spending the bare minimum amount of time in shops and they have a utilitarian shopping value, others are the opposite shopping for the pleasure of it and enjoying the experience whether they buy anything or not, and they have hedonic shopping value. Analysis in this chapter checks which of us fall into these groups and whether it
depends on our demographic group. Stereotypically we think of upper class ladies that lunch going on expensive shopping trips as a form of leisure but this is actually not the case. It is in fact low income, low qualified, young people and those with Chinese ethnic backgrounds who have the most hedonic shopping value. This research endorses time use surveys that show that women spend longer shopping than men\textsuperscript{36}, but questions whether shopping should be categorised as a ‘housework’ activity. It becomes clear that some forms of shopping are now leisure activities enjoyed for hedonic pleasure.

This research also tests shopping value in three different locations to examine whether this changes the correlation between shopping value and demographic groups.

Research examining shopping value has concentrated on retail outcomes, involvement, branding, decision making, shop attributes and internet usage (Neeley et al. 2010; Rintamäki et al. 2006; Jones et al. 2006; To et al. 2007). This published research has in some cases collected demographic data but has not segmented the level of shopping value based on any of the aspects of demographic grouping. The demographic information is used only to show that the sample collected is representative. Recently research in Malaysia tested shopping value against demographic segment using similar scales and hypotheses (Karim et al. 2013) and this is contrasted at the end of the analysis to review the similarities between the UK and Malaysian population.

This chapter tests the validity and fit of the part of the conceptual model, testing the link between demographic segment and shopping value (figure 7.4) and hypotheses H6, H7 and H8.

\textsuperscript{36} Time use survey 2005, Office for National Statistics
7.3.1 Demographic result of survey

There are six hundred and ninety three (693) completed surveys, only one of which has unusable demographic data, creating six hundred and ninety two (692) usable responses. This high completion rate is due to the survey administration method, where an interview assures completion.

An initial inspection of the data reveals that some of the responses to questions measuring shopping value are similar in hedonic and utilitarian score. Hedonism and utilitarianism are measured using separate items, not as opposite concepts. The questions that determine hedonism and utilitarianism, whilst not completely contradictory, are designed such that a hedonic shopper should have a high score in questions one to four and a low score in questions five to eight. A consumer with utilitarian shopping value should score the opposite. Therefore to have a similar score for hedonism and utilitarianism is inconsistent, and suggests that the respondent is providing answers that did not truly reflect their feelings. Examining further it can be seen that in sixteen (16) cases the hedonic score is similar (within 0.6 in a range of between 1 and 7, equating to 10%) to the utilitarian score in all three shopping locations. These sixteen responses are rejected from the data as unreliable. There are respondents providing scores that are similar in one or two locations, but at least one location has a valid response, in which circumstance the data is retained.

This removal of unreliable shopping value responses reduces the number of usable responses to six hundred and seventy seven (677).
Boxplots of the data show that when testing hedonic response there are no outliers for age, qualification level, gender and income but ethnicity has nine (9) outlying data points (seven (7) ‘Chinese’, one (1) ‘any other racial background’ and one (1) ‘Indian’). The utilitarian response boxplots showed eleven (11) points of outlying data, six (6) in ethnicity and five (5) for qualification level (one (1) ‘Irish’, three (3) ‘other white’, two (2) ‘Pakistani’ and five (5) ‘qualified to degree level’). Only one data point is an outlier in two areas, data point 585 is an outlier in both ethnicity and qualification level, so this is removed from the data set. Other outliers showing in only one set of data are retained. A final set of six hundred and seventy six (676) data items are analysed.

A reliability test using Cronbach’s alpha shows that the hedonic and utilitarian scales are reliable across all locations combined. The hedonism scale Cronbach’s $\alpha = 0.93$ and the utilitarian scale Cronbach’s $\alpha = 0.92$.

The Cronbach’s $\alpha$ for hedonism in the three separate locations of local shops, supermarkets and clothes stores are respectively 0.81, 0.84 and 0.90. The Cronbach’s $\alpha$ for utilitarianism in the three separate locations of local shops, supermarkets and clothes stores are respectively 0.79, 0.82 and 0.80. All results are above the required 0.7 (Field 2009), demonstrating that the scales for hedonism and utilitarianism are reliable as a combined total and in all three separate locations.

A general description of the demographic data of the respondents is shown in table 7.4.
### Table 7.4 Demographic distribution of main survey respondents

<table>
<thead>
<tr>
<th>Age</th>
<th>18-29</th>
<th>30-44</th>
<th>45-59</th>
<th>60-74</th>
<th>75+</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>97</td>
<td>94</td>
<td>88</td>
<td>27</td>
<td>12</td>
<td>318</td>
</tr>
<tr>
<td>Female</td>
<td>86</td>
<td>91</td>
<td>113</td>
<td>53</td>
<td>15</td>
<td>358</td>
</tr>
<tr>
<td>GHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>676</td>
</tr>
<tr>
<td>&lt;£20k</td>
<td>65</td>
<td>35</td>
<td>28</td>
<td>14</td>
<td>3</td>
<td>145</td>
</tr>
<tr>
<td>£20,001-£40k</td>
<td>45</td>
<td>66</td>
<td>69</td>
<td>23</td>
<td>10</td>
<td>213</td>
</tr>
<tr>
<td>£40,001-£75k</td>
<td>26</td>
<td>51</td>
<td>50</td>
<td>12</td>
<td>1</td>
<td>140</td>
</tr>
<tr>
<td>£75,001-£100k</td>
<td>6</td>
<td>11</td>
<td>14</td>
<td>4</td>
<td></td>
<td>35</td>
</tr>
<tr>
<td>£100k+</td>
<td>17</td>
<td>3</td>
<td>8</td>
<td>2</td>
<td></td>
<td>30</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>24</td>
<td>19</td>
<td>32</td>
<td>25</td>
<td>13</td>
<td>113</td>
</tr>
<tr>
<td>Qualification</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>676</td>
</tr>
<tr>
<td>None</td>
<td>16</td>
<td>42</td>
<td>40</td>
<td>15</td>
<td>8</td>
<td>121</td>
</tr>
<tr>
<td>GCSE</td>
<td>44</td>
<td>52</td>
<td>56</td>
<td>28</td>
<td>9</td>
<td>189</td>
</tr>
<tr>
<td>A level</td>
<td>67</td>
<td>35</td>
<td>26</td>
<td>14</td>
<td>7</td>
<td>149</td>
</tr>
<tr>
<td>Degree</td>
<td>56</td>
<td>56</td>
<td>79</td>
<td>22</td>
<td>3</td>
<td>216</td>
</tr>
<tr>
<td>Missing</td>
<td>1</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>1</td>
</tr>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>676</td>
</tr>
<tr>
<td>White British</td>
<td>79</td>
<td>101</td>
<td>130</td>
<td>68</td>
<td>25</td>
<td>403</td>
</tr>
<tr>
<td>Irish</td>
<td>2</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td>8</td>
</tr>
<tr>
<td>Other White</td>
<td>5</td>
<td>9</td>
<td>14</td>
<td></td>
<td></td>
<td>28</td>
</tr>
<tr>
<td>Indian</td>
<td>1</td>
<td>8</td>
<td>1</td>
<td>1</td>
<td></td>
<td>11</td>
</tr>
<tr>
<td>Pakistani</td>
<td>18</td>
<td>11</td>
<td>7</td>
<td>3</td>
<td></td>
<td>39</td>
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<tr>
<td>Other Asian</td>
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<td>5</td>
<td>3</td>
<td></td>
<td></td>
<td>18</td>
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<tr>
<td>African</td>
<td>9</td>
<td>11</td>
<td>5</td>
<td></td>
<td></td>
<td>25</td>
</tr>
<tr>
<td>Caribbean</td>
<td>2</td>
<td>1</td>
<td>4</td>
<td></td>
<td></td>
<td>7</td>
</tr>
<tr>
<td>Other Black</td>
<td>3</td>
<td>5</td>
<td>1</td>
<td></td>
<td></td>
<td>9</td>
</tr>
<tr>
<td>Chinese</td>
<td>44</td>
<td>29</td>
<td>25</td>
<td>7</td>
<td>2</td>
<td>107</td>
</tr>
<tr>
<td>Arab</td>
<td>1</td>
<td>3</td>
<td>2</td>
<td></td>
<td></td>
<td>6</td>
</tr>
<tr>
<td>All other</td>
<td>9</td>
<td>2</td>
<td>4</td>
<td></td>
<td></td>
<td>15</td>
</tr>
</tbody>
</table>

Quotas are set for each specific demographic segment being examined. The quotas are set with some reference to the UK demographic but are designed to ensure that each segment being examined contains sufficient data to be reliable.

All quotas are achieved in the relevant segments allowing the data to be used to measure the effect of demographic segment on shopping value.

Hedonic and utilitarian shopping values are measured using four questions each (selected from the scale developed by Babin et al. (1994)).

**Compared to other things I could have done, time spent shopping is truly enjoyable. (HEDONISM)**

**During a shopping trip, I feel the excitement of the hunt. (HEDONISM)**

**I enjoy shopping trips for their own sake, not just for the items I may have purchased. (HEDONISM)**

**I continue to shop here, not because I have to, but because I want to. (HEDONISM)**
It is important that I accomplish just what I want to while shopping. (UTILITARIANISM)

I am disappointed if I have to go to another store(s) to complete my shopping. (UTILITARIANISM)

It is important that I feel a shopping trip was successful. (UTILITARIANISM)

A good shopping trip is over very quickly. (UTILITARIANISM)

The same eight questions are asked regarding three different locations. The locations are examined as a combined set of data first and later as individual sets, to draw comparisons.

7.3.2  Descriptive statistics

7.3.2.1  Age

The hedonic scores combined and separated by location are shown in table 7.5 below, split by age group.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Hedonism (All locations)</th>
<th>Hedonism (Local shops)</th>
<th>Hedonism (Supermarkets)</th>
<th>Hedonism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>4.16</td>
<td>3.68</td>
<td>3.92</td>
<td>5.07</td>
<td>183</td>
</tr>
<tr>
<td>30-44</td>
<td>3.87</td>
<td>3.38</td>
<td>3.67</td>
<td>4.64</td>
<td>185</td>
</tr>
<tr>
<td>45-59</td>
<td>3.57</td>
<td>3.19</td>
<td>3.30</td>
<td>4.27</td>
<td>201</td>
</tr>
<tr>
<td>60-74</td>
<td>3.51</td>
<td>3.29</td>
<td>3.27</td>
<td>3.98</td>
<td>80</td>
</tr>
<tr>
<td>75+</td>
<td>3.66</td>
<td>3.22</td>
<td>3.43</td>
<td>4.34</td>
<td>27</td>
</tr>
<tr>
<td>Grand total</td>
<td>3.81</td>
<td>3.39</td>
<td>3.57</td>
<td>4.55</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.5 Hedonism by age group

The utilitarian scores are combined and separated by location are shown in table 7.6.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Utilitarianism (All locations)</th>
<th>Utilitarianism (Local shops)</th>
<th>Utilitarianism (Supermarkets)</th>
<th>Utilitarianism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>18-29</td>
<td>4.35</td>
<td>4.40</td>
<td>4.59</td>
<td>4.14</td>
<td>183</td>
</tr>
<tr>
<td>30-44</td>
<td>4.52</td>
<td>4.58</td>
<td>4.73</td>
<td>4.34</td>
<td>185</td>
</tr>
<tr>
<td>45-59</td>
<td>4.76</td>
<td>4.76</td>
<td>5.04</td>
<td>4.52</td>
<td>201</td>
</tr>
<tr>
<td>60-74</td>
<td>4.73</td>
<td>4.68</td>
<td>4.81</td>
<td>4.69</td>
<td>80</td>
</tr>
<tr>
<td>75+</td>
<td>4.57</td>
<td>4.64</td>
<td>4.69</td>
<td>4.39</td>
<td>27</td>
</tr>
<tr>
<td>Grand total</td>
<td>4.57</td>
<td>4.60</td>
<td>4.79</td>
<td>4.38</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.6 Utilitarianism by age group

Just by examination of the data it can be seen that the 18 to 29 age group have higher scores for hedonism in every location and overall. The 45-59 age group have higher scores throughout for utilitarianism, although the difference is less marked.
7.3.2.2 Qualification level

The hedonic scores combined and separated by location are shown in table 7.7.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Hedonism (All locations)</th>
<th>Hedonism (Local shops)</th>
<th>Hedonism (Supermarkets)</th>
<th>Hedonism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>4.23</td>
<td>3.78</td>
<td>3.97</td>
<td>4.98</td>
<td>121</td>
</tr>
<tr>
<td>GCSE</td>
<td>3.93</td>
<td>3.63</td>
<td>3.62</td>
<td>4.60</td>
<td>189</td>
</tr>
<tr>
<td>A level</td>
<td>3.54</td>
<td>3.10</td>
<td>3.33</td>
<td>4.27</td>
<td>149</td>
</tr>
<tr>
<td>Degree</td>
<td>3.71</td>
<td>3.18</td>
<td>3.53</td>
<td>4.55</td>
<td>216</td>
</tr>
<tr>
<td>Grand total</td>
<td>3.81</td>
<td>3.39</td>
<td>3.57</td>
<td>4.55</td>
<td>n=675 n=673 n=669 n=669</td>
</tr>
</tbody>
</table>

Table 7.7 Hedonism by qualification level

The utilitarian scores are combined and separated by location are shown in table 7.8.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Utilitarianism (All locations)</th>
<th>Utilitarianism (Local shops)</th>
<th>Utilitarianism (Supermarkets)</th>
<th>Utilitarianism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>4.03</td>
<td>4.13</td>
<td>4.19</td>
<td>3.77</td>
<td>121</td>
</tr>
<tr>
<td>GCSE</td>
<td>4.64</td>
<td>4.64</td>
<td>4.81</td>
<td>4.55</td>
<td>189</td>
</tr>
<tr>
<td>A level</td>
<td>4.57</td>
<td>4.52</td>
<td>4.80</td>
<td>4.48</td>
<td>149</td>
</tr>
<tr>
<td>Degree</td>
<td>4.82</td>
<td>4.88</td>
<td>5.12</td>
<td>4.52</td>
<td>216</td>
</tr>
<tr>
<td>Grand total</td>
<td>4.57</td>
<td>4.60</td>
<td>4.79</td>
<td>4.39</td>
<td>n=675 n=673 n=669 n=669</td>
</tr>
</tbody>
</table>

Table 7.8 Utilitarianism by qualification level

Just by examination it can be seen that those with no formal qualification are more hedonic, and the most highly qualified are more utilitarian.

7.3.2.3 Gross household income (GHI)

The hedonic scores combined and separated by location are shown in table 7.9.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Hedonism (All locations)</th>
<th>Hedonism (Local shops)</th>
<th>Hedonism (Supermarkets)</th>
<th>Hedonism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>GHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>&lt;£20k</td>
<td>4.08</td>
<td>3.66</td>
<td>3.80</td>
<td>4.89</td>
<td>145</td>
</tr>
<tr>
<td>£20k-£40k</td>
<td>3.67</td>
<td>3.27</td>
<td>3.37</td>
<td>4.39</td>
<td>213</td>
</tr>
<tr>
<td>£40k-£75k</td>
<td>3.58</td>
<td>3.13</td>
<td>3.49</td>
<td>4.25</td>
<td>140</td>
</tr>
<tr>
<td>£75k-£100k</td>
<td>3.89</td>
<td>3.50</td>
<td>3.51</td>
<td>4.79</td>
<td>35</td>
</tr>
<tr>
<td>£100k+</td>
<td>4.00</td>
<td>3.48</td>
<td>3.50</td>
<td>5.02</td>
<td>30</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>3.95</td>
<td>3.53</td>
<td>3.80</td>
<td>4.59</td>
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<td>3.39</td>
<td>3.57</td>
<td>4.55</td>
<td>n=676 n=674 n=670 n=670</td>
</tr>
</tbody>
</table>

Table 7.9 Hedonism by GHI

The utilitarian scores combined and separated by location are shown in 7.4.
Lower earners (<£20k) are more hedonic and the most utilitarian are the £40k -£75k earners. It is noted previously that the young and the less well qualified are most hedonic, so the low income may be a by-product of age and lack of qualifications, rather than a determinant in itself.

### 7.3.2.4 Gender

The hedonic scores combined and separated by location are shown in table 7.11.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Hedonism (All locations)</th>
<th>Hedonism (Local shops)</th>
<th>Hedonism (Supermarkets)</th>
<th>Hedonism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>3.54</td>
<td>3.22</td>
<td>3.39</td>
<td>4.07</td>
<td>358</td>
</tr>
<tr>
<td>Female</td>
<td>4.05</td>
<td>3.54</td>
<td>3.73</td>
<td>4.98</td>
<td>318</td>
</tr>
<tr>
<td>Grand total</td>
<td>3.81</td>
<td>3.39</td>
<td>3.57</td>
<td>4.55</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.11 Hedonism by gender

The utilitarian scores combined and separated by location are shown in table 7.12.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Utilitarianism (All locations)</th>
<th>Utilitarianism (Local shops)</th>
<th>Utilitarianism (Supermarkets)</th>
<th>Utilitarianism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Gender</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Male</td>
<td>4.74</td>
<td>4.72</td>
<td>4.99</td>
<td>4.57</td>
<td>358</td>
</tr>
<tr>
<td>Female</td>
<td>4.42</td>
<td>4.49</td>
<td>4.62</td>
<td>4.22</td>
<td>318</td>
</tr>
<tr>
<td>Grand total</td>
<td>4.57</td>
<td>4.60</td>
<td>4.79</td>
<td>4.38</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.12 Utilitarianism by gender

It can be seen that women are more hedonic than men, especially for clothes stores. Men appear more utilitarian than women.

### 7.3.2.5 Ethnicity

The hedonic scores combined and separated by location are shown in table 7.13.
The utilitarian scores combined and separated by location are shown in table 7.14.

## Table 7.14 Utilitarianism by ethnicity

<table>
<thead>
<tr>
<th>Segment</th>
<th>Utilitarianism (All locations)</th>
<th>Utilitarianism (Local shops)</th>
<th>Utilitarianism (Supermarkets)</th>
<th>Utilitarianism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ethnicity</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>African</td>
<td>3.94</td>
<td>4.05</td>
<td>4.01</td>
<td>3.76</td>
<td>25</td>
</tr>
<tr>
<td>All other</td>
<td>4.64</td>
<td>4.42</td>
<td>4.58</td>
<td>4.93</td>
<td>15</td>
</tr>
<tr>
<td>Arab</td>
<td>4.08</td>
<td>4.13</td>
<td>4.42</td>
<td>3.71</td>
<td>6</td>
</tr>
<tr>
<td>Caribbean</td>
<td>4.87</td>
<td>4.82</td>
<td>5.04</td>
<td>4.75</td>
<td>7</td>
</tr>
<tr>
<td>Chinese</td>
<td>3.74</td>
<td>3.85</td>
<td>3.87</td>
<td>3.53</td>
<td>107</td>
</tr>
<tr>
<td>Indian</td>
<td>5.49</td>
<td>5.80</td>
<td>5.73</td>
<td>5.48</td>
<td>11</td>
</tr>
<tr>
<td>Irish</td>
<td>4.32</td>
<td>4.19</td>
<td>4.64</td>
<td>4.13</td>
<td>8</td>
</tr>
<tr>
<td>Other Asian</td>
<td>4.32</td>
<td>4.19</td>
<td>4.64</td>
<td>4.13</td>
<td>18</td>
</tr>
<tr>
<td>Other Black</td>
<td>4.85</td>
<td>4.81</td>
<td>4.89</td>
<td>4.86</td>
<td>9</td>
</tr>
<tr>
<td>Other White</td>
<td>4.86</td>
<td>4.99</td>
<td>5.35</td>
<td>4.60</td>
<td>28</td>
</tr>
<tr>
<td>Pakistani</td>
<td>5.34</td>
<td>5.34</td>
<td>5.56</td>
<td>5.12</td>
<td>38</td>
</tr>
<tr>
<td>White British</td>
<td>4.71</td>
<td>4.71</td>
<td>4.95</td>
<td>4.51</td>
<td>403</td>
</tr>
<tr>
<td>Grand total</td>
<td>4.57</td>
<td>4.60</td>
<td>4.79</td>
<td>4.51</td>
<td></td>
</tr>
</tbody>
</table>

Table 7.14 Utilitarianism by ethnicity

Only two ethnicities have a large enough sample size to be analysed. A visual check shows that Chinese are more hedonic than white British.
Figure 7.5 is a visual profile showing the epitomised hedonic and utilitarian using just a visual inspection of the data. No significance can be ascribed to this profile until further statistical tests have been undertaken.

Figure 7.5 Profile of epitomised hedonic and utilitarian shoppers with no significance tested

7.3.3 Statistical analysis

The hedonism and utilitarianism scores, combined for the three locations, are tested for normality using the Kolmogorov-Smirnov test. The combined mean for the level of hedonism, D (667) =0.09, p<0.01, is significantly non-normal. The combined mean for the level of utilitarianism, D (669) =0.12, p<0.001, is also significantly non-normal. The hedonism scores in each demographic segment are tested for homogeneity of variance using Levene’s test. The results show that ethnicity and gender do not have homogeneity of variance, table 7.15.

<table>
<thead>
<tr>
<th>Combined Hedonism</th>
<th>Homogeneity of Variance (Levene’s test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>The variances are equal, F (4,661) = 1.52 non-significant</td>
</tr>
<tr>
<td>GHI</td>
<td>The variances are equal, F (5,660) = 1.55 non-significant</td>
</tr>
<tr>
<td>Qualification</td>
<td>The variances are equal, F (3,662) = 0.29 non-significant</td>
</tr>
<tr>
<td>Gender</td>
<td>The variances are significantly different, F (1,664) = 11.73, p&lt;0.01</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>The variances are significantly different, F (11,654) = 7.80, p&lt;0.01</td>
</tr>
</tbody>
</table>

Table 7.15 Results of Levene’s test for homogeneity of variance for combined hedonism scores (SPSS)

37 Only samples with above 50 data samples have been considered in this profile
The utilitarianism scores in each demographic segment are tested for homogeneity of variance using Levene’s test.

The results showed that ethnicity and education do not have homogeneity of variance but that age, income and gender do, table 7.16.

<table>
<thead>
<tr>
<th>Combined Utilitarianism</th>
<th>Homogeneity of Variance (Levene’s test)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Age</td>
<td>The variances are equal, F (4,663) = 2.65 non-significant</td>
</tr>
<tr>
<td>GHI</td>
<td>The variances are equal, F (5,662) = 2.61 non-significant</td>
</tr>
<tr>
<td>Qualification</td>
<td>The variances are significantly different, F (3,664) = 9.00, p&lt;0.01</td>
</tr>
<tr>
<td>Gender</td>
<td>The variances are equal, F (1,666) = 4.98 non-significant</td>
</tr>
<tr>
<td>Ethnicity</td>
<td>The variances are significantly different, F (11,656) = 3.48, p&lt;0.01</td>
</tr>
</tbody>
</table>

Table 7.16 Results of Levene’s test for homogeneity of variance for combined utilitarianism scores

Given that the data is not normally distributed and not all the data segments have homogeneity of variance, a non-parametric test is required. The Kruskal-Wallis test is used to test the hypothesis.

7.3.3.1 Demographic segment and shopping value relationship hypotheses testing

There are two ethnicities that are specifically targeted, White British and Chinese. Other ethnicities of respondents in the survey did not attain quota levels that would make them suitable for further comment from the results. White British is chosen because it is the local ethnicity and Chinese ethnicity is selected for several different reasons: firstly, China has a significantly different culture to the UK leading to clear cultural differences between the two, secondly Chinese are stereotypically associated with the use of cash and finally for the practical reason that second generation, or longer established, Chinese are available for survey in the main city survey location, which is Manchester. The respondents are asked where they went to primary school and their data is only included if they responded with a location in the UK. Therefore the Chinese respondents are all raised and schooled in the UK.

H6 Ethnicity is a determinant of shopping value

The statistical null hypothesis relating to H6 is:

H0 a) Hedonism is not significantly affected by ethnic group.

H0 b) Utilitarianism is not significantly affected by ethnic group.

H6 a) Hedonism is significantly affected by ethnic group.

H6 b) Utilitarianism is significantly affected by ethnic group.
In order to test the null hypotheses a Kruskal-Wallis test for non-parametric data is used to compare the categorical groups of ethnicity with the combined hedonism followed by the combined utilitarianism scores (based on a mean value of a 7 point Likert scale for the twelve items measuring hedonism or the twelve items measuring utilitarianism). Five percent (p<0.05) significance is used to analyse the probability of the ethnicity category affecting hedonism and utilitarianism.

Hedonism is significantly affected by ethnic group (H= (11) =119.38, p<0.05). Therefore the null hypotheses, H0 a), is rejected in favour of H6 a).

Utilitarianism is significantly affected by ethnic group (H= (11) =56.19, p<0.05). Therefore the null hypothesis, H0 b), is rejected in favour of H6 b).

Ethnicity is shown to be a determinant of shopping value. This may be due to the cultural differences in attitude towards shopping as an activity. Whilst no direction is suggested in the hypotheses, due to lack of previous research in this area, there is an expectation, suggested by general research on cultural difference, that Chinese ethnicity are more utilitarian than white British ethnicity. Hofstede (1980) suggested that those cultures with a high power distance are more task orientated and less pleasure seeking and in his research this included the Chinese. Although this sample is born in the UK, cultural traits may be expected to remain so there is a reasonable expectation of those of Chinese ethnicity being more utilitarian. When examining the difference between Chinese and Canadian consumer behaviour on the internet, Mazaheri et al. (2011) discovered that Chinese sought more control and less pleasure from the internet service experience than their Canadian counterparts.

This analysis has shown that Chinese ethnicity consumers are more hedonic than the white British ethnicity population. There are several possible explanations for this result. Firstly, the respondents are not from China, they are raised and educated in the UK, so the high power distance no longer applies to their experience. This aspect of the culture may be quickly lost when living elsewhere. Mazaheri (2011) surveyed indigenous Chinese living in Canada rather than those of Chinese ethnicity, which may account for the different result. Secondly Chinese society has changed considerably since Hofstede studied cultural differences in the 1980s.

“Over the past four years, the number of Chinese shoppers visiting the town’s luxury goods shopping centre, Bicester Village, has grown 20%;
they now represent the biggest single group of non-EU visitors to the outlet. When asked by UK prime-minister David Cameron how Britain could attract more tourists from China, the Chinese ambassador was said to have replied “build more Bicester Villages”. 38

China now has a large middle-class, who clearly enjoys shopping, as they choose it as a holiday activity. It is possible that previous economic and political circumstances in China repressed a natural urge to shop. Finally, the result may be attributable to how the Chinese communities locally organise themselves. In order to explore this in more detail it is interesting to review table 7.13, which also breaks the hedonism score down by location. Chinese respondents are more hedonic in their local shopping than any other ethnic group. This may be ascribed to the fact that 80% of the respondents are surveyed in Manchester ‘Chinatown’ which has a vibrant and entirely Chinese run local shopping community. The area also has Chinese supermarkets that are likely to be the supermarket contemplated. Whilst the sample sizes are too small to be stated as significant, it is worth mentioning that the results of those Chinese surveyed in various other locations are closer to the mean scores of the survey. It is possible therefore that a social aspect in shopping is available within these locally owned and run shops and that these provide an enjoyment in shopping from their affiliation to the Chinese culture.

Ethnicities cannot be treated as a single homogenous group, instead they are differentiated by their intrinsic disposition towards their culture and the amount they identify with their cultural background (Donthu and Cherian 1994). Within the white British population there are those who strongly or weakly identify with their parent culture but because they are living within the UK they have strong cultural reinforcement. The Chinese respondents are all second generation or further from their parent culture so they are likely to have more diverse identification levels with their parent culture.

H7 Combined scores for gross household income and qualification level are determinants of hedonic shopping value in local shops and clothes stores but not in supermarkets.

38 http://www.ifaonline.co.uk/professional-adviser/feature/2175239/bicester-village-changing-investment
The hypothesis is amended from the original created during the literature review (chapter three), to replace social class with combined gross household income and qualification level.

Tables 7.17 and 7.18 show the hedonism and utilitarianism scores combined, and separated by location, for each combined gross household income and qualification (QGHI) group.

<table>
<thead>
<tr>
<th>Segment</th>
<th>Hedonism (All locations)</th>
<th>Hedonism (Local shops)</th>
<th>Hedonism (Supermarkets)</th>
<th>Hedonism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QGHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>4.52</td>
<td>4.06</td>
<td>4.21</td>
<td>5.30</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>4.03</td>
<td>3.72</td>
<td>3.64</td>
<td>4.72</td>
<td>87</td>
</tr>
<tr>
<td>3</td>
<td>3.95</td>
<td>3.53</td>
<td>3.63</td>
<td>4.70</td>
<td>126</td>
</tr>
<tr>
<td>4</td>
<td>3.89</td>
<td>3.38</td>
<td>3.63</td>
<td>4.71</td>
<td>109</td>
</tr>
<tr>
<td>5</td>
<td>3.50</td>
<td>3.03</td>
<td>3.31</td>
<td>4.20</td>
<td>107</td>
</tr>
<tr>
<td>6</td>
<td>3.45</td>
<td>3.03</td>
<td>3.31</td>
<td>4.07</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>3.83</td>
<td>3.18</td>
<td>3.42</td>
<td>4.90</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>3.31</td>
<td>3.04</td>
<td>2.85</td>
<td>4.06</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 7.17 Hedonism by QGHI

<table>
<thead>
<tr>
<th>Segment</th>
<th>Utilitarianism (All locations)</th>
<th>Utilitarianism (Local shops)</th>
<th>Utilitarianism (Supermarkets)</th>
<th>Utilitarianism (Clothes stores)</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>QGHI</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>3.77</td>
<td>3.76</td>
<td>3.77</td>
<td>3.50</td>
<td>20</td>
</tr>
<tr>
<td>2</td>
<td>4.40</td>
<td>4.28</td>
<td>4.45</td>
<td>4.35</td>
<td>87</td>
</tr>
<tr>
<td>3</td>
<td>4.69</td>
<td>4.62</td>
<td>4.74</td>
<td>4.38</td>
<td>126</td>
</tr>
<tr>
<td>4</td>
<td>4.69</td>
<td>4.53</td>
<td>4.75</td>
<td>4.26</td>
<td>109</td>
</tr>
<tr>
<td>5</td>
<td>4.94</td>
<td>4.75</td>
<td>5.04</td>
<td>4.56</td>
<td>107</td>
</tr>
<tr>
<td>6</td>
<td>5.05</td>
<td>4.91</td>
<td>5.11</td>
<td>4.66</td>
<td>75</td>
</tr>
<tr>
<td>7</td>
<td>5.04</td>
<td>4.89</td>
<td>5.11</td>
<td>4.77</td>
<td>25</td>
</tr>
<tr>
<td>8</td>
<td>5.51</td>
<td>5.25</td>
<td>5.63</td>
<td>4.62</td>
<td>13</td>
</tr>
</tbody>
</table>

Table 7.18 Utilitarianism by QGHI

The statistical null hypotheses relating to H7 is:

H0 a) Hedonism is not significantly affected by QGHI in local shops.

H0 b) Hedonism is not significantly affected by QGHI in clothes shops.

H0 c) Hedonism is significantly affected by QGHI in supermarkets.

H7 a) Hedonism is significantly affected by QGHI in local shops.

H7 b) Hedonism is significantly affected by QGHI in clothes shops.

H7 c) Hedonism is not significantly affected by QGHI in supermarkets.
In order to test the null hypotheses a Kruskal-Wallis test for non-parametric data is used to compare the categorical groups of QGHI with the hedonism and utilitarianism scores (based on a mean value of a 7 point Likert scale for the four items measuring hedonism or the four items measuring utilitarianism in each individual location). Five percent (p<0.05) significance is used to analyse the probability of the QGHI category affecting hedonism and utilitarianism.

Hedonism in local shops is significantly affected by QGHI (H= (7) =21.92, p<0.05). Therefore the null hypotheses, H0 a), is rejected in favour of H7 a).

Hedonism in clothes shops is significantly affected by QGHI (H= (7) =18.30, p<0.05). Therefore the null hypotheses, H0 b), is rejected in favour of H7 b).

Hedonism in supermarkets is not significantly affected by QGHI (H= (7) =11.83, p=0.11). Therefore the null hypotheses, H0 c), is rejected in favour of H7 c).

The result of the test of these hypotheses demonstrates that shopping value in local shops and clothes stores is affected by QGHI and therefore by position on the social class spectrum. Lower levels of QGHI are tested and found to be significantly more hedonic and higher levels of QGHI are more utilitarian. No direction is stated in the hypotheses but this is an intuitive result, as shopping is essentially a free leisure activity where shoppers can fantasise about products and the lifestyle they create. For some in the higher levels of GHI it is possible that many products represent their reality and therefore their ability to be emotionally aroused by shopping or fantasise about their life with various products is limited.

**H8 Gender is a determinant of shopping value**

The statistical null hypotheses relating to H8 is:

H0 a) Hedonism is not significantly affected by gender.

H0 b) Utilitarianism is not significantly affected by gender.

H8 a) Hedonism is significantly affected by gender.

H8 b) Utilitarianism is significantly affected by gender.

In order to test the null hypotheses a Kruskal-Wallis test for non-parametric data is used to compare gender with the combined hedonism scores followed by utilitarianism scores (based on a mean value of a 7 point Likert scale for the twelve items measuring hedonism
or the twelve items measuring utilitarianism). Five percent (p<0.05) significance is used to analyse the probability of the gender category affecting hedonism and utilitarianism.

Hedonism is significantly affected by gender (H= (1) =20.67, p<0.05). Therefore the null hypotheses, H0 a), is rejected in favour of H8 a).

Utilitarianism is not significantly affected by gender (H= (1) =7.20, p<0.05). Therefore the null hypotheses, H0 b), is rejected in favour of H8 b).

Women are significantly more hedonic and men are significantly more utilitarian. In every location there is a significant effect of gender on hedonism, although it is a more marked difference in a clothes store.

7.3.4 Relationships between demographic segment and shopping value

A more general set of non-parametric Kruskal-Wallis tests are used to test for a significant effect on hedonism or utilitarianism created by demographic group for each demographic segment.

Hedonism is significantly affected by age group (H(4) = 23.62, p<0.05), by qualification level achieved (H(3)=22.45, p<0.05), by gender (H(1)=20.67, p<0.05), by GHI
(H(4)=11.83, p<0.05, by QGHI (H(7)=20.15, p<0.05) and by ethnicity (H(11)=119.38, p<0.05).

Utilitarianism is significantly affected by qualification level achieved (H (3) =19.52, p<0.05), by gender (H (1) =7.2, p<0.05), by QGHI (H (7) =17.23, p<0.05) and by ethnicity (H (11) =56.19, p<0.05). Utilitarianism is not significantly affected by GHI (H (4) =8.38, p = 0.08) or by age group (H (4) =6.60, p=0.16).

From these tests the significant demographic segmentation of shopping value is shown as a profile below in figure 7.7.

![Figure 7.7 Significant profile of epitomised hedonic and utilitarian shoppers](image)

### 7.3.4.1 Discussion of results

There are no hypotheses derived from the existing literature regarding age and hedonism, however this research shows that there is a significant affect, and that the young are more hedonic. There is research available showing that adolescent girls shop as a leisure activity (Haytko and Baker 2004). The young tend to have more available time and less financial resources making shopping an accessible leisure activity, logically making them more hedonic shoppers.

Shoppers who are young, of low QGHI and female are significantly hedonic and shoppers who are male and of high QGHI are significantly utilitarian. Both of these conclusions
build upon existing theories (Holbrook and Hirschman 1982; Arnold and Reynolds 2003; Shim and Kotsiopulos 1993; Bakewell and Mitchell 2006). The result not anticipated from previous research is that second generation, or further removed, Chinese ethnicity consumers living in the UK are more hedonic than the white British population. Several explanations have been considered for this result, which is in contradiction to other similar tests (Lim and Ang 2008; Mazaheri et al. 2011): firstly that other tests have measured attitudes of Chinese born consumers’, secondly that Chinese attitudes now seem to embrace shopping as an activity and finally that those of Chinese ethnicity in the UK use shopping as a cultural reinforcement activity.

Research on a similar basis has been conducted in Malaysia (Karim et al. 2013) and found that young people, men and highly qualified people are more hedonic. This agrees with this research for two out of the three demographic groups but is different in terms of qualification level achieved. Karim et al. (2013) found no significant difference by ethnicity, although only tested Malay, Indian and Chinese people. Given the cultural differences the results are fairly similar and only diverge on the qualification level.

The implication of this research for retailers lies within how they arrange their store layout and marketing depending upon the demographic segment they are aiming for. For example a retailer that specialises in male clothing where their stock attracts the older high income patrons, will need to make their store highly convenient to use by having fast service, high stock levels and no promotional delays. This will appeal to these utilitarian shoppers and lead to re-patronage intentions (Jones et al. 2006). Stores aiming for the young, female, lower income and qualification market will need to seek to excite their patrons, who are happy to be distracted by offers and choices and who will want their shopping to contain an element ‘hunt’ about it. The store could have a more chaotic feel with the need to rummage for just what you want, and the opportunity for trying on multiple items. This will appeal to these hedonic shoppers and lead to word of mouth recommendation, re-patronage anticipation and high retailer satisfaction (Jones et al. 2006).

7.4 **Payment method attributes**

This section uses statistical analysis to measure the relationship between shopping value and payment method attributes. The review of payment literature contained within chapter two, explained that there is limited literature available regarding consumer attitude towards payment methods in the UK. There is previous research that examines payment methods
with relevance to politics, legislation, technology and economics. A P.L.E.S.T.E.D. analysis of the environment of payment methods is completed in chapter three using previous academic research and industry literature regarding environmental and demographic issues. The industry literature also provides a view of how demographic and location factors influence the method people use to make a payment but offer no description of the decision making process. The payment choice literature in the US examines preferences for particular products, particularly the unusual reluctance of the American republic to transfer from cheques to debit cards (Schuh and Stavins 2010), and the increase in use of card products which offer rewards (Ching and Hayashi 2010). There is no publicly available literature linking payment choice to established segmentation constructs in shopping behaviour.

The P.L.E.S.T.E.D. analysis and review of the literature concluded that in the UK political, legislative, environmental and economic factors are stable. The effect of demographic segmentation is understood in terms of ‘what’ payment method is used but not on ‘why’. Shopping behaviour factors have not been researched in any depth and technology factors are currently in a process of change, but the level of acceptance of the change is unknowable without further social research.

Chapter four examines social factors involved in the purchase decision and creates a theoretical model to test using shopping value as an influencer. From the focus groups described in chapter six, different attributes of methods of payment are identified and assigned to a payment method. For reference the attributes are shown in table 7.19 with a full explanation of how they are created available in chapter six.

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Assigned payment method</th>
<th>Shopping value</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile</td>
<td>Cash</td>
<td>Hedonic</td>
</tr>
<tr>
<td>Speedy to use</td>
<td>Cash</td>
<td>Utilitarian</td>
</tr>
<tr>
<td>Convenient</td>
<td>Debit card</td>
<td>Utilitarian</td>
</tr>
<tr>
<td>Rewards when you spend</td>
<td>Credit card</td>
<td>Utilitarian</td>
</tr>
<tr>
<td>Store welcomes the payment form</td>
<td>Cash</td>
<td>Hedonic</td>
</tr>
<tr>
<td>Excitement</td>
<td>Cash</td>
<td>Hedonic</td>
</tr>
<tr>
<td>Cost effective (Reversed as rip-off)</td>
<td>Debit card / (Credit card)</td>
<td>Utilitarian</td>
</tr>
<tr>
<td>Recorded</td>
<td>Debit card</td>
<td>Utilitarian</td>
</tr>
</tbody>
</table>

Table 7.19 Recap of payment attributes, their associated payment methods and hedonic or utilitarian perceived designation

The relationship between shopping value and payment method attribute preferences is tested. The preferences are grouped into latent variables, which represent a current major
payment method. This tests the link between payment method attribute preferences and actual payment choice.

7.4.1 Payment attributes location and demographic analysis

7.4.1.1 Location

The interviewer asked respondents to answer questions about their attitude towards the payment method attributes (listed in table 7.19) in three different locations: local shops, supermarkets and clothes stores. A seven point Likert scale is used to measure their view of the strength of feeling regarding each attribute with 1 representing the lowest requirement for any attribute and 7 representing the highest requirement for that attribute.

The results are shown in table 7.20 for each attribute in each location. The attribute “rip-off” is reversed to “cost effective” in the survey and it is the “cost effective” score that is shown.

<table>
<thead>
<tr>
<th></th>
<th>Local Store</th>
<th>Supermarket</th>
<th>Clothes Store</th>
<th>Combined</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile</td>
<td>2.95</td>
<td>3.38</td>
<td>3.30</td>
<td>3.19</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>5.29</td>
<td>5.09</td>
<td>4.78</td>
<td>5.01</td>
</tr>
<tr>
<td>Convenience</td>
<td>5.30</td>
<td>5.06</td>
<td>4.83</td>
<td>5.02</td>
</tr>
<tr>
<td>Rewarding</td>
<td>3.69</td>
<td>4.83</td>
<td>4.22</td>
<td>4.21</td>
</tr>
<tr>
<td>Welcomed by store</td>
<td>5.18</td>
<td>5.08</td>
<td>5.43</td>
<td>5.20</td>
</tr>
<tr>
<td>Excitement when paying</td>
<td>3.09</td>
<td>3.35</td>
<td>3.43</td>
<td>3.27</td>
</tr>
<tr>
<td>Cost Effective</td>
<td>4.21</td>
<td>4.37</td>
<td>4.65</td>
<td>4.37</td>
</tr>
<tr>
<td>Recorded</td>
<td>3.99</td>
<td>4.53</td>
<td>4.91</td>
<td>4.44</td>
</tr>
</tbody>
</table>

Table 7.20 An analysis of payment method attributes by location

In local stores the survey respondents wanted\(^\text{39}\) their payment method to be ‘speedy’, ‘convenient’, ‘welcomed’ and ‘cost effective’. In a supermarket and in a clothes store they wanted their payment method to be ‘financially rewarding’ and ‘recorded’ in addition to the attributes listed for a local shop. The fact that respondents are less concerned about financial rewards and recording the transaction in a local shop may well relate to the fact that individual transaction values in local shops are likely to be lower than in a supermarket or clothes store. It is intuitively reasonable that consumers are more concerned about recording large value payments than small values. Similarly the desire for financial rewards from your payment method is more concerning when you are spending a

\(^{39}\) Designated by a score above 4
large amount. Reward points will seem to be of trivial value on small payment values. The average basket size for a convenience store is just above £5\textsuperscript{40} with large supermarkets, such as Tesco, as high as £80\textsuperscript{41} for an average transaction, making the desire for a financial benefit much stronger. The need for speed and convenience runs throughout all the locations although it is markedly higher in a local store than in a clothes store. Cost effectiveness is a feature of every location and shows little deviation between locations.

In none of the locations did the tactile nature of payment score as a desired attribute, but it is considered more important in supermarkets and clothes stores than in local stores. This may also be related to transaction value, especially in the case of cash, as paying small amounts with coinage will provide much less of a tactile experience than paying large amounts with notes. The tactile value of a card transaction is the same regardless of the value but this is an attribute very strongly related to cash (see chapter six) making the link to value of transaction sensible.

Whilst speed and convenience are desired attributes in all locations they are weakest in clothes stores. It has already been found that clothes stores are more strongly associated with hedonic shopping values, and therefore these clearly utilitarian features may be less sought after, during (what is considered by some) a leisure experience. This result suggests that, in this instance, payment may be seen as part of the whole shopping experience. Similarly “excitement when paying” is not a required attribute in any location (all scores are below the midpoint of 4) but is strongest in a clothes store. This may again be linked to the fact that buying clothes is more hedonic and that the payment process is linked to the entire purchase experience.

All consumers wanted their payment method to be welcomed by the store staff. There appears to be very little difference between locations, which is not the anticipated result. It is expected from focus group comments that consumers have a relationship with the store staff in a local store but less with a more anonymous supermarket or clothes store and would therefore be more concerned that their payment is welcomed. This is clearly not the case, as can be seen by looking at these results, with a strong desire for the method to be welcomed but no marked differentiation between locations. This may be because either, consumers have a relationship with staff in a clothes store or supermarket, or that the

\textsuperscript{40} www.conveniencestore.co.uk/advice (2013)  
\textsuperscript{41} www.theguardian.com › Business › Tesco (2013)
relationship in local shops is not meaningful. Comments from the survey itself provide no indication which of these ideas is correct.

Respondent 24: “Shops prefer cash” (Male, 45-59, White British, qualified to degree level, GHI £40k to £75k)

Respondent 64: “Shopkeepers prefer cash” (Male, 45-59, White British, qualified to degree level, GHI £20k to £40k)

Respondent 65: “Some shops don’t like you to use cards” (Female, 45-59, White British, qualified to A level, GHI <£20k)

Respondent 79: “I’m embarrassed to use cards for small amounts” (Female, 18-29, White British, qualified to degree level, GHI £20k to £40k)

Respondent 459: “I buy all my clothes with cash, they prefer it” (Female, 60-74, Chinese, no qualifications, GHI +£100k)

Further research is required to conclude this discussion.

7.4.1.2 Age group

Age group in the table below has also segmented payment method attribute requirements.

<table>
<thead>
<tr>
<th>Age</th>
<th>18-29</th>
<th>30-44</th>
<th>45-59</th>
<th>60-74</th>
<th>75+</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitement when paying</td>
<td>3.53</td>
<td>3.47</td>
<td>3.06</td>
<td>2.81</td>
<td>3.02</td>
</tr>
<tr>
<td>Tactile</td>
<td>3.31</td>
<td>3.37</td>
<td>3.07</td>
<td>2.78</td>
<td>3.10</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>4.88</td>
<td>4.92</td>
<td>5.18</td>
<td>5.10</td>
<td>4.91</td>
</tr>
<tr>
<td>Convenience</td>
<td>4.94</td>
<td>4.83</td>
<td>5.16</td>
<td>5.30</td>
<td>5.04</td>
</tr>
<tr>
<td>Rewarding</td>
<td>4.03</td>
<td>4.22</td>
<td>4.27</td>
<td>4.55</td>
<td>3.86</td>
</tr>
<tr>
<td>Welcomed by store</td>
<td>5.24</td>
<td>5.15</td>
<td>5.32</td>
<td>4.99</td>
<td>4.86</td>
</tr>
<tr>
<td>Cost Effective</td>
<td>4.17</td>
<td>4.23</td>
<td>4.50</td>
<td>5.05</td>
<td>3.80</td>
</tr>
<tr>
<td>Recorded</td>
<td>4.17</td>
<td>4.32</td>
<td>4.64</td>
<td>4.76</td>
<td>4.65</td>
</tr>
</tbody>
</table>

Table 7.21 Analysis of payment method attributes by age group

There is a split in responses between the age groups 18-29 and 30-44 and the older age groups of 45-59 and 60-74\(^\text{42}\). The younger two age groups have the highest requirement for ‘excitement when paying’ (18-29), ‘tactile’ (30-44) and the lowest requirement for ‘speed

\(^{42}\) The 75+ age group sample is too small to be considered significant.
of payment’ (18-29), ‘financial rewards’ (18-29), ‘cost effectiveness’ (18-29), ‘recorded’ (18-29) and ‘convenience’ (30-44).

The older age groups are opposite having the lowest requirement for ‘excitement when paying’ (60-74), ‘tactile’ (60-74) and the highest requirement for ‘speedy payment’ (45-59), ‘convenience’ (60-74), ‘financial rewards’ (60-74), ‘cost effective’ (60-74) and ‘recorded’ (60-74).

Reviewing the results of the focus groups (see table 7.21) shows that the three attributes deemed hedonic (tactile, excitement when paying, welcomed by store staff) score better in the under 45s. The five utilitarian attributes (convenience, cost effective, recorded, speed of payment, financial rewards) score better with the over 45s.

Reviewing the profile of shopping value against age group (see chapter ten) it is discovered that the 18-29 year old age group have significantly higher hedonic shopping values than other age groups. Age is not found to be a significant determinant of utilitarian shopping values although the 45-59 age group records the higher scores.

The attribute of being ‘welcomed by the store’ has an unclear result, with similar scores across all age groups.

7.4.1.3 Gross household income (GHI)

Payment method attribute requirements have been segmented by GHI group and the results shown in table 7.22.

<table>
<thead>
<tr>
<th>Gross Household Income</th>
<th>&lt;£20k</th>
<th>£20k-£40k</th>
<th>£40k-£75k</th>
<th>£75k-£100k</th>
<th>+£100k</th>
<th>Prefer not to say</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitement when paying</td>
<td>3.54</td>
<td>3.19</td>
<td>2.89</td>
<td>3.61</td>
<td>3.79</td>
<td>3.29</td>
</tr>
<tr>
<td>Tactile</td>
<td>3.51</td>
<td>3.11</td>
<td>2.83</td>
<td>3.47</td>
<td>3.29</td>
<td>3.23</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>4.72</td>
<td>5.10</td>
<td>5.16</td>
<td>4.85</td>
<td>4.94</td>
<td>5.09</td>
</tr>
<tr>
<td>Convenience</td>
<td>4.92</td>
<td>5.17</td>
<td>5.04</td>
<td>4.35</td>
<td>4.97</td>
<td>5.07</td>
</tr>
<tr>
<td>Rewarding</td>
<td>4.07</td>
<td>4.21</td>
<td>4.23</td>
<td>3.77</td>
<td>4.12</td>
<td>4.51</td>
</tr>
<tr>
<td>Welcomed by store</td>
<td>5.26</td>
<td>5.30</td>
<td>5.01</td>
<td>5.19</td>
<td>5.16</td>
<td>5.16</td>
</tr>
<tr>
<td>Cost Effective</td>
<td>4.21</td>
<td>4.36</td>
<td>4.60</td>
<td>3.92</td>
<td>4.08</td>
<td>4.56</td>
</tr>
<tr>
<td>Recorded</td>
<td>4.23</td>
<td>4.50</td>
<td>4.59</td>
<td>3.94</td>
<td>3.53</td>
<td>4.81</td>
</tr>
</tbody>
</table>

Table 7.22 Analysis of payment method attributes by GHI

The lowest income group (<£20k) required the most ‘tactile’ payment. The next income group (£20k-£40k) required most ‘convenience’ and wanted the payment method to be ‘welcomed by store’. The next income group (£40k-£75k) have the lowest requirement for
‘excitement when paying’, ‘tactile’ and ‘welcomed by store’ and the highest requirement for ‘speedy payments’, ‘financial rewards’, ‘cost effectiveness’ and ‘recorded payments’. This split does not provide a clear pattern for the requirement for hedonic payment attributes but does show the £40-£75k GHI group to prefer four out of five of the utilitarian attributes and require least the three hedonic attributes.

No significant relationship is found between GHI and utilitarianism, but the £40k - £75k income group did produce the highest score for utilitarianism.

7.4.1.4  Gender

Payment method attribute requirements have been segmented by gender and the results shown in table 7.23.

<table>
<thead>
<tr>
<th>Gender</th>
<th>Female</th>
<th>Male</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitement when paying</td>
<td>3.34</td>
<td>3.19</td>
</tr>
<tr>
<td>Tactile</td>
<td>3.23</td>
<td>3.14</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>5.14</td>
<td>4.86</td>
</tr>
<tr>
<td>Convenience</td>
<td>5.14</td>
<td>4.89</td>
</tr>
<tr>
<td>Rewarding</td>
<td>4.33</td>
<td>4.07</td>
</tr>
<tr>
<td>Welcomed by store</td>
<td>5.33</td>
<td>5.05</td>
</tr>
<tr>
<td>Cost Effective</td>
<td>4.37</td>
<td>4.38</td>
</tr>
<tr>
<td>Recorded</td>
<td>4.43</td>
<td>4.45</td>
</tr>
</tbody>
</table>

Table 7.23 An analysis of payment method attributes by gender

The difference between men and women for every attribute appears to be relatively small. Women want their payment methods to be more ‘exciting when paying’, ‘tactile’, speedy’, ‘convenient’, ‘financially rewarding’ and ‘welcomed by the store’. Other attributes score almost exactly the same.

7.4.1.5  Qualifications

Payment method attribute requirements have been segmented by qualifications achieved and the results shown in table 7.24.
Respondents with no qualification want ‘financial rewards’ from their payment methods but are the least concerned about the payment method being ‘cost effective’. Those with A-Level qualifications have the lowest desire for ‘convenience’ and ‘recorded’ as attributes of payment methods. Respondents with a degree have the lowest desire for ‘excitement when paying’, ‘financial rewards’ and ‘welcomed by store staff’ and the highest requirement for a ‘tactile’ experience, a ‘speedy payment’, ‘convenience’, ‘cost effective’ and ‘recorded’ payment method. This does not correspond with any utilitarian or hedonic shopping value profile that is discovered previously. Respondents with no qualifications are found to have significantly higher hedonic shopping value than other qualification groups.

### 7.4.2 Shopping value and payment attributes

During the focus groups people are asked to designate each attribute of a payment method as either hedonic or utilitarian. The results are available in table 7.19 designating hedonic and utilitarian attributes (more detail is available in chapter six). In order to examine if this categorisation is endorsed by the data tables have been created showing ascending level of hedonism (table 7.25) and utilitarianism (table 7.26). For example for those respondents whose mean hedonism score rounds to 1, their desire for a tactile payment method scored 1.94 (table 7.25). The small graph at each side is a ‘sparkline’ giving a representation of the direction of the data. For hedonic attributes: ‘tactile’, ‘excitement when paying’ and ‘welcomed by store staff” you would expect a rising trend of requirement for this attribute, as the level of hedonism increased. Similarly for utilitarian attributes; ‘speedy payment’, ‘convenience’, ‘financially rewarding’, ‘cost effective’ and ‘recorded’ you would expect a declining trend of requirement for these attribute as the level of hedonism increased.

### Table 7.24 Analysis of payment method attributes by qualifications

<table>
<thead>
<tr>
<th>Qualifications</th>
<th>None</th>
<th>GCSE</th>
<th>A Level</th>
<th>Degree</th>
</tr>
</thead>
<tbody>
<tr>
<td>Excitement when paying</td>
<td>3.47</td>
<td>3.39</td>
<td>3.13</td>
<td>2.89</td>
</tr>
<tr>
<td>Tactile</td>
<td>4.69</td>
<td>5.01</td>
<td>5.02</td>
<td>5.19</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>4.39</td>
<td>5.10</td>
<td>5.02</td>
<td>5.30</td>
</tr>
<tr>
<td>Convenience</td>
<td>4.02</td>
<td>4.29</td>
<td>3.99</td>
<td>4.38</td>
</tr>
<tr>
<td>Rewarding</td>
<td>5.30</td>
<td>5.22</td>
<td>5.16</td>
<td>5.15</td>
</tr>
<tr>
<td>Welcomed by store</td>
<td>3.70</td>
<td>3.43</td>
<td>3.12</td>
<td>2.98</td>
</tr>
<tr>
<td>Cost Effective</td>
<td>3.86</td>
<td>4.36</td>
<td>4.37</td>
<td>4.68</td>
</tr>
<tr>
<td>Recorded</td>
<td>4.26</td>
<td>4.57</td>
<td>4.17</td>
<td>4.61</td>
</tr>
</tbody>
</table>
Table 7.25 Analysis of payment method attributes by hedonistic shopping value

The three attributes designated as hedonic are highlighted in red in table 7.25. Both ‘tactile’ and ‘excitement when paying’ show a trend upwards as hedonism increases, endorsing the view that respondents who demonstrated higher levels of hedonic shopping value required more ‘tactile’ payment methods and ‘excitement when paying’. The attribute ‘welcomed by store’ showed a less clear trend, and does not appear to be clearly related to hedonic shopping value.

Table 7.26 Analysis of payment method attributes by utilitarian shopping value

All of the five attributes that are deemed utilitarian from the focus group results (highlighted in red in table 7.26) are showing an upward trend as utilitarianism increases, endorsing the view that respondents who demonstrate higher levels of utilitarian shopping value required more ‘speedy’, ‘convenient’, ‘financially rewarding’, ‘cost effective’ and ‘recorded’ methods of payment.

7.4.3 Payment method attributes and shopping value statistical analysis

The data used for this analysis is the same data that is used for the analysis of shopping value data analysis earlier in this chapter. The outliers that are removed from that data are also removed in this data set. The demographic distribution of the data is as reported earlier in this chapter. Boxplots of the data showed that when testing all eight payment method
attributes no further outliers are found. Of the six hundred and seventy-six (676) respondents fourteen (14) did not score all payment attributes in all locations. The size of sample is shown in each data table but the minimum sample size is six hundred and sixty-two (662).

The result for each of the eight payment attributes, combined for the three locations, is tested for normality using the Kolmogorov-Smirnov test. The results are shown in the table 7.27.

<table>
<thead>
<tr>
<th>Tests of Normality</th>
<th>Kolmogorov-Smirnov</th>
<th>Shapiro-Wilk</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Statistic</td>
<td>df</td>
</tr>
<tr>
<td>Tactile</td>
<td>.136</td>
<td>662</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>.168</td>
<td>662</td>
</tr>
<tr>
<td>Convenient</td>
<td>.157</td>
<td>662</td>
</tr>
<tr>
<td>Financially rewarding</td>
<td>.118</td>
<td>662</td>
</tr>
<tr>
<td>Welcomed by store staff</td>
<td>.136</td>
<td>662</td>
</tr>
<tr>
<td>Excitement when paying</td>
<td>.133</td>
<td>662</td>
</tr>
<tr>
<td>Cost effective</td>
<td>.116</td>
<td>662</td>
</tr>
<tr>
<td>Recorded</td>
<td>.107</td>
<td>662</td>
</tr>
</tbody>
</table>

a. Lilliefors Significance Correction

Table 7.27 Results of the Kolmogorov-Smirnov test for normality (SPSS)

Each of the payment attributes has significantly non-normal data. Non-parametric tests are required for analysis.

7.4.3.1 Exploratory factor analysis (EFA) for payment method attribute scale

The aim of this exploratory study is to check if the payment attributes that the focus groups identified with the three different payment methods: cash, debit cards and credit cards are valid. The results of this can then be used to test the hypotheses which relate payment methods to shopping value and to test the conceptual model that is proposed in chapter four.

The data for each payment attribute is combined for the three different locations by creating a mean value for the three scores. This data is analysed using the ‘principal axis factoring’ method of extraction. This extraction method is used as the data is significantly non-normal and this is the recommended extraction test for non-normal data (Field 2009). Two criteria are applied when running the extraction:
• The suppression of values less than 0.3 to ensure that only significant values are reported (Stevens 1992).

• All factors satisfy the Kaiser criterion, that the Eigen values must be equal or greater than 1.

This resulted in a two-factor pattern matrix with two items loading oppositely on both factors.

### Factor Matrix

<table>
<thead>
<tr>
<th>Item</th>
<th>Factor 1</th>
<th>Factor 2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile</td>
<td>-.530</td>
<td>.551</td>
</tr>
<tr>
<td>Speedy payment</td>
<td>.709</td>
<td></td>
</tr>
<tr>
<td>Convenient</td>
<td>.747</td>
<td></td>
</tr>
<tr>
<td>Financially rewarding</td>
<td>.508</td>
<td>.435</td>
</tr>
<tr>
<td>Welcomed by store staff</td>
<td></td>
<td>.399</td>
</tr>
<tr>
<td>Excitement when paying</td>
<td>-.492</td>
<td>.612</td>
</tr>
<tr>
<td>Cost effective</td>
<td>.658</td>
<td></td>
</tr>
<tr>
<td>Recorded</td>
<td>.643</td>
<td></td>
</tr>
</tbody>
</table>

Extraction Method: Principal Axis

a. 2 factors extracted. 10 iterations required.

Table 7.28 Results of the exploratory factor analysis on the combined scores for each payment method attribute v1 (SPSS)

The matrix is analysed to identify which items are a part of each factor using the following rules.

1. Each item must have at least one factor loading above 0.3.
2. Each factor must have a least three items scoring above 0.3.
3. Any item loading on each factor will be assigned to the factor where it loads most highly.

Cleaning the factor matrix to make the loading clearer is shown in table 7.29.
Results of the exploratory factor analysis on the combined scores for each payment method attribute v2 (SPSS)

The next step is to test the communality of the scores. Communality is the percentage of variance in an item explained by common factors (Hair et al. 2006). Any items with communalities less than 0.2 should be removed from the solution. The lowest communality in the solution is ‘welcomed by store staff’ with a communality of 0.22. Whilst this is a low proportion of the variance, less than half the communality score of most other items, it is a valid score and the item is retained within the solution.

Factor 1 has an eigenvalue of 3.2 and accounts for 40.4% of the variance. Factor 2 has an eigenvalue of 1.6 and accounts for 20.3% of the variance. In total the two factors account for 60.8% of the variance.

7.4.3.2 Naming the factors

The focus group created suggested three factors as seen in table 7.30.

Table 7.30 Focus group results relating payment method attributes to payment method

<table>
<thead>
<tr>
<th>Attribute</th>
<th>Assigned payment Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tactile</td>
<td>Cash</td>
</tr>
<tr>
<td>Speedy to use</td>
<td>Cash</td>
</tr>
<tr>
<td>Convenient</td>
<td>Debit Card</td>
</tr>
<tr>
<td>Rewards when you spend</td>
<td>Credit Card</td>
</tr>
<tr>
<td>Store welcomes the payment form</td>
<td>Cash</td>
</tr>
<tr>
<td>Excitement</td>
<td>Cash</td>
</tr>
<tr>
<td>Cost-effective (Reversed as rip-off)</td>
<td>Debit Card / (Credit Card)</td>
</tr>
<tr>
<td>Recorded</td>
<td>Debit Card</td>
</tr>
</tbody>
</table>

Table 7.29 Results of the exploratory factor analysis on the combined scores for each payment method attribute v2 (SPSS)

In order to match the result from the focus groups the exploratory factor analysis would have identified three factors.
Cash in the focus groups loaded against items ‘tactile’, ‘speedy to use’, ‘welcomed by store staff’ and ‘excitement when paying’ but factor 2 loaded against three out of four of these items. This suggests that factor 2 is cash. Examining the focus groups results shows that debit cards also scored highly for ‘speedy’ payments and it is clear that the survey favours this result more than cash being a ‘speedy’ method of payment.

Debit cards in the focus group results loaded against three items ‘convenient’, ‘cost effective’ and ‘recorded’ but factor 1 loaded against two additional items. ‘Speedy’ is discussed as an item not originally designated to debit cards but which scored highly for them. The fifth item that loaded on factor 1 is ‘financially rewarding’. This is an unusual result as debit cards are not financially rewarding and whilst they are the most cost effective way for consumers to pay this is not expected to translate into respondents considering them ‘financially rewarding’.

In the focus group results loaded against items ‘rip off’ (converse of cost effective) and ‘financially rewarding’ for credit cards. Factor 1 had a positive loading against ‘financially rewarding’ and a positive loading against ‘cost effective’ which makes it dissimilar from the credit card profile suggested by the focus groups. Many credit cards do offer financial rewards such as air-miles or cashback, so this is an item for credit cards that should not be associated with debit cards.

Factor 1 has the three items clearly identified for debit cards, one item that is identified as cash but also with a strong debit card score and one item that is not debit card but is credit card. The conclusion from this is that respondents have not responded separately regarding credit cards or debit cards, but have coalesced the two. There is no real difference between the ‘convenience’, ‘recording’ and ‘speed’ in use of debit cards against credit cards. The only difference between credit cards and debit cards is that credit cards have financial rewards but can be costly to use where debit cards have no financial rewards but are cost effective to use.

Factor 1 is therefore labelled as “card payments” including debit cards, credit cards and store cards and factor 2 is labelled “cash payments”.

The exploratory factor analysis has now effectively created two scales, one for card payments and one for cash payments.

The cash scale has mean 3.9, SD 1.2 (n=667) and the card scale has mean 4.6, SD 1.3 (n=662).
To check the reliability of these newly created scales the items are tested using the Cronbach alpha test of reliability. The Cronbach alpha measurement for each of the scales, using all items identified is: card payments (.80) and cash payments (.54). The card payment scale has an acceptable rating, using 0.7 or above as the generally agreed allowable level for reliability (Field, 2009) but the cash scale does not.

The Cronbach alpha test is run with the additional check of ‘Cronbach alpha value if item deleted’. This showed a far better result if the item ‘welcomed by store staff’ is deleted. In the card payment scale the test score did not improve if any item is deleted. Reviewing the cash scale within the exploratory factor analysis this one item stands out as explaining a low proportion of the variance. This item is removed from the cash scale and the Cronbach alpha test run again. The Cronbach alpha score for the two-item scale for cash payments is (.77) with mean 3.2, SD 1.4 (n=667).

7.4.3.3 Results of EFA

A ‘cash payment attribute’ scale is developed which included only two items ‘tactile’ and ‘excitement when paying’ and a ‘card payment attribute’ scale is developed with five items ‘speedy to use’, convenient’, ‘financially rewarding’, ‘recorded’ and ‘cost effective’. In future work on the hypotheses these latent variables are used rather than individual items.

7.4.3.4 Payment method attribute hypotheses testing

In chapter three, the review of consumer behaviour literature, two relevant hypotheses are developed. This section tests these hypotheses using statistical analysis. The data has already been tested and found to be non-normal therefore a non-parametric test must be used. The Spearman correlation test is used because there is one continuous outcome variable and one continuous predictor variable. A new variable is created for cash preference and a new variable is created for card preference within SPSS.

H3 Attributes of cash positively relate to hedonic shopping values

The statistical null hypothesis relating to H3 is:

H0) Cash payment attributes are not positively correlated with hedonic shopping value.

H3) Cash payment attributes are positively correlated with hedonic shopping value.

In order to test if there is a correlation between wanting attributes of cash and hedonic shopping value a Spearman correlation test for non-parametric data is used. Five percent (p<0.05) significance is used to analyse the probability of the two scales being correlated.
Cash payment attributes are positively correlated with hedonic shopping value ($r=0.485$, $p<0.05$). Therefore the null hypothesis, $H_0$, is rejected in favour of $H_3$.

**H4 Attributes of debit cards positively relate to utilitarian shopping values**

No scale specifically for debit cards is created so the card payment scale is being substituted for the original hypotheses. Therefore the hypothesis is changed to reflect this.

**H4 (v2) Attributes of cards positively relate to utilitarian shopping values**

The statistical null hypothesis relating to $H_4$ (v2) is:

- $H_0$) Card payment attributes are not positively correlated with utilitarian shopping value.
- $H_4$ (v2)) Card payment attributes are positively correlated with utilitarian shopping value.

In order to test if there is a correlation between wanting attributes of cards and utilitarian shopping value a Spearman correlation test for non-parametric data is used. Five percent ($p<0.05$) significance is used to analyse the probability of the two scales being correlated.

Card payment attributes are positively correlated with utilitarian shopping value ($r=0.372$, $p<0.05$). Therefore the null hypothesis, $H_0$, is rejected in favour of $H_4$ (v2).

In both cases the null hypotheses is rejected and the two hypotheses are accepted at a five percent (5%) significance level.

**7.4.4 Summary of results for payment method attributes**

EFA created two latent variables from the eight items measuring attributes of payment methods. These are designated as ‘cash’ and ‘card’ as the best fit of currently available payment methods. The expectation from the focus groups is to have three variables and for the ‘card’ variable to be split between debit card and credit card. However the difference between debit cards and credit cards when used at the point of sale is subtle and it can be seen that most of the attributes apply to both equally. Therefore using two latent variables is an acceptable outcome. Only one item is rejected from the model ‘welcomed by store staff’, which has issues of misunderstanding and confusion throughout the process.

The significance of location for preference in payment method is tested later in this chapter. The demographic split shows only age with a clear correlation to preference for payment method, <45 preferring cash.
What is clear both from the descriptive statistics and the hypotheses testing is that the variables ‘cash preference’ and ‘card preference’ positively correlate to hedonic and utilitarian shoppers respectively.

7.4.5 Implications of results

The research has found that shopping value correlates with a preference for different attributes of payment methods. Hedonic shoppers prefer the attributes of cash and utilitarian shoppers prefer the attributes of cards. This proves that, at least to some extent, the demand for payment methods is socially constructed. This answers the main part of the research question originally posed. There is indication from previous economics research (Humphrey et al. 1996) discussed in chapter two, that there is some form of cultural factor as cross culture economic studies required an unknown variable to be added which they termed the ‘country dummy variable’. Further research is required to identify other social factors that affect the demand for payment methods and to measure the relative importance of each. This research has created new knowledge and opened a new area of research to identify the extent of the influence.

7.5 Analysis of subjective norms

This section uses the data collected for maximum amount paid with cash, products always purchased with cash and location specific data provided by the questionnaire to review the influence of a subjective norm on the choice of payment method. The subjective norm is represented in this research by location, amount paid and product purchased. These three situational aspects are the most easily identifiable factors that contribute towards a subjective norm of behaviour for this research to test. There are many other relevant factors but these three were shown to be the most significant following the focus group discussions.

Firstly, value paid in cash before switching to plastic card is compared to location and demographic group. Secondly, products that consumers habitually pay cash for are examined and categorised. Finally hypotheses nine and ten, which are developed from the focus groups in chapter six are tested.

Previous in this chapter the correlation between demographic groups and shopping value, and the preferred attributes for different payment types are identified. The conceptual model
suggests one further aspect affects the choice of payment groups and that is the subjective norm.

Demographic data is collected as part of the questionnaire (a detailed breakdown is available earlier in the chapter) and is used to compare behaviour by demographic groups within the segments measured. Location data is collected both by asking payment method preference questions split by three locations. Asking respondents which products they always pay cash for collects product information. This question has limitations as it only splits payments by cash and non-cash and so credit cards, debit cards and other forms of payment are not investigated. Questionnaire size is limited and cash to non-cash is considered by the industry as the strongest differentiation, but this limitation in the research is noted and further research is required.

The thesis goes on to look at the usual amount to be paid where the respondent opts to switch from cash to non-cash. There is a specific question in the questionnaire asking at what amount respondents draw the line between paying with cash and paying with another payment form, or if they do at all. This ‘amount’ is then compared by demographic segment and by shopping value.

7.5.1 Location analysis

The first step is to check if the shopping value and payment attribute preferences measured are different in the three different locations. A non-parametric test must be used to test for differences, as the data is significantly non-normal and so violates the assumptions of a standard repeated Anova. The samples are related, as the same respondents are answering the questions but changing the location they are relating the question to. The non-parametric test used for measuring a difference between samples with three or more related data samples is the Friedman Anova (Field 2009). The Freidman Anova uses ranked means to test for differences across multiple related samples (Friedman 1937).

7.5.1.1 Shopping value and location

This forms an additional analysis of the shopping value construct and provides a test of whether shopping value is situational. The hedonic scores for each location are compared with each other (table 7.31) and the Friedman ANOVA (table 7.32) reports that the hedonic shopping value differs significantly depending upon the location (local shop, supermarket and clothes store). $\chi^2(2) = 442, p<0.05.$
The utilitarian scores for each location are compared with each other (Table 7.33 and the Friedman ANOVA (Table 7.34) reports that the utilitarian shopping value differs significantly depending upon the location (Local shop, supermarket and clothes store); $\chi^2(2)=80, p<0.05$. 

<table>
<thead>
<tr>
<th>Utilitarian Shopping Value by Location (SPSS)</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local shop utilitarian</td>
<td>667</td>
<td>4.59</td>
<td>1.53</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Supermarket utilitarian</td>
<td>667</td>
<td>4.78</td>
<td>1.61</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Clothes store utilitarian</td>
<td>667</td>
<td>4.42</td>
<td>1.58</td>
<td>1.00</td>
<td>7.00</td>
</tr>
</tbody>
</table>

Table 7.33 Descriptive statistics of utilitarian shopping value by location (SPSS)

Test Statistics

<table>
<thead>
<tr>
<th>N</th>
<th>667</th>
</tr>
</thead>
<tbody>
<tr>
<td>Chi-Square</td>
<td>80.34</td>
</tr>
<tr>
<td>df</td>
<td>2</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
<td>.000</td>
</tr>
</tbody>
</table>

a. Friedman Test

Table 7.34 Friedman test of utilitarian shopping value by location (SPSS)
These tests demonstrate that the respondents did have different shopping value depending on location. They are far more hedonic in a clothes store (mean=4.55) than in a supermarket (mean=3.56) or a local shop (mean=3.37), suggesting that clothes stores allow people to fantasise about their purchases and that shopping for clothes is an enjoyable and exciting experience. Clothing holds a different, “less functional”, more hedonic meaning for the fashion-conscious person, who can be categorised as an enthusiast, than it does for others (Yazicioglu 2005). The meaning of the product to the enthusiast will derive from its experiential rather than its functional features (Bloch and Bruce 1984).

There is a statistically significant difference between hedonism in local shops and supermarkets with local shopping being the least hedonic. The supermarket has the highest utilitarian score (mean=4.78) suggesting respondents are more task orientated and goal orientated when shopping in a supermarket for groceries.

7.5.1.2 Payment methods and location

Using the same test as previously, the Friedman ANOVA, the difference in payment method attribute preferences is tested between the three locations. The attributes are split into two latent variables as identified in earlier in this chapter, which are used to make the comparison. The ‘cash preference’ latent variable is comprised of the attributes ‘tactile’ and ‘excitement when paying’. The ‘card preference’ latent variable is comprised of the attributes ‘convenient’, ‘cost-effective’, ‘speedy’, ‘financially rewarding’ and ‘recorded’.

The ‘preference for cash’ scores for each location are compared with each other (table 7.35) and the Friedman ANOVA (table 7.36) reports that the preference for cash differs significantly depending upon the location (Local shop, supermarket and clothes store). $\chi^2(2) = 47, p<0.05$.

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
<th>N</th>
<th>Mean</th>
<th>SD</th>
<th>Min</th>
<th>Max</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local shop preference for cash</td>
<td>667</td>
<td>3.01</td>
<td>1.53</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Supermarket preference for cash</td>
<td>667</td>
<td>3.37</td>
<td>1.69</td>
<td>1.00</td>
<td>7.00</td>
</tr>
<tr>
<td>Clothes store preference for cash</td>
<td>667</td>
<td>3.36</td>
<td>1.70</td>
<td>1.00</td>
<td>7.00</td>
</tr>
</tbody>
</table>

Table 7.35 Descriptive statistics of preference for cash by location (SPSS)
The ‘preference for cards’ scores for each location are compared with each other (table 7.37) and the Friedman ANOVA (table 7.38) reports that the preference for cards differs significantly depending upon the location (Local shop, supermarket and clothes store); $\chi^2$ (2)=19, $p<0.05$.

<table>
<thead>
<tr>
<th>Test Statistics(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>Chi-Square</td>
</tr>
<tr>
<td>df</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
</tr>
</tbody>
</table>

a. Friedman Test

Table 7.36 Friedman test of preference for cash by location (SPSS)

<table>
<thead>
<tr>
<th>Descriptive Statistics</th>
</tr>
</thead>
<tbody>
<tr>
<td>Local shop preference for card</td>
</tr>
<tr>
<td>Supermarket preference for card</td>
</tr>
<tr>
<td>Clothes store preference for card</td>
</tr>
</tbody>
</table>

Table 7.37 Descriptive statistics of preference for cards by location (SPSS)

<table>
<thead>
<tr>
<th>Test Statistics(^a)</th>
</tr>
</thead>
<tbody>
<tr>
<td>N</td>
</tr>
<tr>
<td>Chi-Square</td>
</tr>
<tr>
<td>df</td>
</tr>
<tr>
<td>Asymp. Sig.</td>
</tr>
</tbody>
</table>

a. Friedman Test

Table 7.38 Friedman test of preference for cards by location (SPSS)

The tests show that there is a significant difference between the preference for cash or cards, depending upon the location of the purchase. Clothes stores have the highest preference for the use of cards (mean=4.78). A focus group member, chapter six, commented that “recorded purchases are required for returns”\(^{43}\) and this is especially

\(^{43}\) Chapter 6, Female, Leicester, aged 38, qualified at degree level, personal income £20k-£40k, White British.
important in a clothes store. This requirement for proof of purchase may account for the high preference for card payments in clothes stores. Local shops have the lowest preference for the use of cash (mean=3.01), which is logical given that cash attributes involve the excitement of paying and the feel of the payment; local shops, which have very low value transactions are likely not to have much excitement or tactile response due to the low amounts involved.

7.5.2 Amount paid in cash analysis

Of the six hundred and seventy-six (676) usable data entries five hundred and fifteen (515) have a valid entry for the maximum amount at which respondents switch from cash to card. Fifty-eight (58) respondents explained that they used cash for every purchase as they had no alternative and these have been excluded. One hundred and three (103) respondents have no fixed value in their mind. The mean value of those who responded is shown in table 7.39, and is £35.08. The median response is £25.00 and the mode is £50.00.

<table>
<thead>
<tr>
<th>VALUE</th>
<th>N</th>
<th>Valid</th>
<th>Missing</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>515</td>
<td>161</td>
</tr>
<tr>
<td>Mean</td>
<td></td>
<td>35.08</td>
<td></td>
</tr>
<tr>
<td>Median</td>
<td></td>
<td>25.00</td>
<td></td>
</tr>
<tr>
<td>Mode</td>
<td></td>
<td>50</td>
<td></td>
</tr>
<tr>
<td>Std. Deviation</td>
<td></td>
<td>30.503</td>
<td></td>
</tr>
<tr>
<td>Variance</td>
<td></td>
<td>930.447</td>
<td></td>
</tr>
<tr>
<td>Skewness</td>
<td></td>
<td>1.238</td>
<td></td>
</tr>
<tr>
<td>Std. Error of Skewness</td>
<td></td>
<td>.108</td>
<td></td>
</tr>
<tr>
<td>Kurtosis</td>
<td></td>
<td>.703</td>
<td></td>
</tr>
<tr>
<td>Std. Error of Kurtosis</td>
<td></td>
<td>.215</td>
<td></td>
</tr>
<tr>
<td>Range</td>
<td></td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Minimum</td>
<td></td>
<td>0</td>
<td></td>
</tr>
<tr>
<td>Maximum</td>
<td></td>
<td>150</td>
<td></td>
</tr>
<tr>
<td>Percentiles</td>
<td></td>
<td>25</td>
<td>10.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>50</td>
<td>25.00</td>
</tr>
<tr>
<td></td>
<td></td>
<td>75</td>
<td>50.00</td>
</tr>
</tbody>
</table>

Table 7.39 Descriptive statistics for maximum amount paid with cash (SPSS)
7.5.2.1 Mean maximum amount paid with cash and demographic segment

Each segment is examined individually to check if any segment has a significant affect and how the groups with the segment perform.

7.5.2.2 Age

<table>
<thead>
<tr>
<th>Age</th>
<th>Mean maximum amount paid</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>18-29</td>
<td>£35.42</td>
<td>138</td>
</tr>
<tr>
<td>30-44</td>
<td>£37.42</td>
<td>140</td>
</tr>
<tr>
<td>45-59</td>
<td>£33.12</td>
<td>154</td>
</tr>
<tr>
<td>60-74</td>
<td>£30.73</td>
<td>60</td>
</tr>
<tr>
<td>75+</td>
<td>£43.26</td>
<td>23</td>
</tr>
<tr>
<td>Grand total</td>
<td>£35.08</td>
<td>515</td>
</tr>
</tbody>
</table>

Table 7.40 Age comparison to mean maximum amount paid with cash

The over 75 appears to have a much higher mean maximum amount for the use of cash, but the number of respondents is too small to have any significance. Other age groups do not show a large difference by age.

7.5.2.3 Qualification level

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Mean maximum amount paid</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>None</td>
<td>£44.93</td>
<td>85</td>
</tr>
<tr>
<td>GCSE</td>
<td>£41.21</td>
<td>136</td>
</tr>
<tr>
<td>A level</td>
<td>£30.48</td>
<td>107</td>
</tr>
<tr>
<td>Degree</td>
<td>£28.90</td>
<td>186</td>
</tr>
<tr>
<td>Grand total</td>
<td>£35.08</td>
<td>514</td>
</tr>
</tbody>
</table>

Table 7.41 Qualifications achieved comparison to mean maximum amount paid with cash
The mean maximum amount paid using cash appears markedly higher for the lower qualification level achieved. This distinction appears marked and may be significant. Those with no qualifications have a maximum value paid in cash of approximately 50% more than for those with a degree.

7.5.2.4 Gender

<table>
<thead>
<tr>
<th>Qualification</th>
<th>Mean maximum amount paid</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Male</td>
<td>£33.50</td>
<td>238</td>
</tr>
<tr>
<td>Female</td>
<td>£36.44</td>
<td>277</td>
</tr>
<tr>
<td>Grand total</td>
<td>£35.08</td>
<td>515</td>
</tr>
</tbody>
</table>

Table 7.42 Gender comparison to mean maximum amount paid with cash

There appears relatively small difference in mean maximum amount paid in cash between the genders.

7.5.2.5 Gross household income (GHI)

<table>
<thead>
<tr>
<th>GHI</th>
<th>Mean maximum amount paid</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>&lt;£20k</td>
<td>£39.85</td>
<td>99</td>
</tr>
<tr>
<td>£20k-£40k</td>
<td>£32.31</td>
<td>175</td>
</tr>
<tr>
<td>£40k-£75k</td>
<td>£34.66</td>
<td>119</td>
</tr>
<tr>
<td>£75k-£100k</td>
<td>£39.42</td>
<td>26</td>
</tr>
<tr>
<td>£100k+</td>
<td>£34.62</td>
<td>22</td>
</tr>
<tr>
<td>Prefer not to say</td>
<td>£34.62</td>
<td>74</td>
</tr>
<tr>
<td>Grand total</td>
<td>£35.08</td>
<td>515</td>
</tr>
</tbody>
</table>

Table 7.43 GHI comparison to mean maximum amount paid with cash

The mean maximum amount paid in cash seems considerably higher for lower income respondents related to their spending power. The unbanked and those without the choice of cards are removed from the data so lack of an option to use a card is not a factor in this result.
7.5.2.6 Ethnicity

<table>
<thead>
<tr>
<th>Ethnicity</th>
<th>Mean maximum amount paid</th>
<th>Sample (n)</th>
</tr>
</thead>
<tbody>
<tr>
<td>African</td>
<td>£43.00</td>
<td>10</td>
</tr>
<tr>
<td>All other</td>
<td>£29.62</td>
<td>13</td>
</tr>
<tr>
<td>Arab</td>
<td>£31.25</td>
<td>4</td>
</tr>
<tr>
<td>Caribbean</td>
<td>£36.67</td>
<td>3</td>
</tr>
<tr>
<td>Chinese</td>
<td>£50.71</td>
<td>85</td>
</tr>
<tr>
<td>Indian</td>
<td>£21.30</td>
<td>10</td>
</tr>
<tr>
<td>Irish</td>
<td>£18.13</td>
<td>8</td>
</tr>
<tr>
<td>Other Asian</td>
<td>£29.27</td>
<td>15</td>
</tr>
<tr>
<td>Other Black</td>
<td>£30.20</td>
<td>5</td>
</tr>
<tr>
<td>Other White</td>
<td>£30.91</td>
<td>22</td>
</tr>
<tr>
<td>Pakistani</td>
<td>£24.62</td>
<td>29</td>
</tr>
<tr>
<td>White British</td>
<td>£33.32</td>
<td>311</td>
</tr>
<tr>
<td>Grand total</td>
<td>£35.08</td>
<td>515</td>
</tr>
</tbody>
</table>

Table 7.44 Ethnicity comparison to maximum amount paid with cash

The only two ethnicities with a large enough sample size to consider are Chinese and white British. The Chinese at £50.71 have a significantly higher maximum value for the use of cash than the white British ethnicity at £33.32.

7.5.3 Analysis of amount paid with cash and demographic segment

The data is non-parametric so a Kruskal Wallis test for correlation is used to test each of the different demographic groups against the maximum amount paid with cash.

The mean maximum amount paid with cash is significantly affected by qualification level achieved (H (3) =29.52, p<0.05) and by ethnicity (H (11) =41.92, p<0.05).

The mean maximum amount paid in cash is not significantly affected by age (H (4) =5.93, p=0.204, by gender H (1) = 3.38, p=0.06 and by GHII H (4) =6.29, p=0.178.

7.5.4 Amount paid with cash and payment method attributes

Next a test for correlation between the mean maximum amount paid with cash and preferred payment method is completed. The preferred payment method is either cash or card as defined by the attributes in the exploratory factor analysis.

The data is non-parametric and is testing the correlation between two continuous variables so a one-tailed Kendall Tau correlation test is used testing significance at the five percent (5%) level.
The output shown in table 7.45 shows that the maximum amount with which a person will pay with cash is positively related to a preference the attributes of cash with a coefficient (r= 0.239), which is significant at p<0.05.

<table>
<thead>
<tr>
<th>Correlations(^b)</th>
<th>VALUE</th>
<th>CASHWITH2</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kendall's tau_b</td>
<td>VALUE</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.</td>
</tr>
<tr>
<td>CASHWITH2</td>
<td>Correlation Coefficient</td>
<td>.239</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).

b. Listwise N = 509

Table 7.45 Correlation between mean maximum amount paid with cash and preference for cash attributes (SPSS)

The output also shows in table 7.46 that the mean maximum amount at which a person will pay with cash is negatively related to a preference for the attributes of card payments with a co-efficient (r=-0.181), which is significant at p<0.05.

<table>
<thead>
<tr>
<th>Correlations(^b)</th>
<th>VALUE</th>
<th>CARD</th>
</tr>
</thead>
<tbody>
<tr>
<td>Kendall's tau_b</td>
<td>VALUE</td>
<td>Correlation Coefficient</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.</td>
</tr>
<tr>
<td>CARD</td>
<td>Correlation Coefficient</td>
<td>-.181**</td>
</tr>
<tr>
<td></td>
<td>Sig. (1-tailed)</td>
<td>.000</td>
</tr>
</tbody>
</table>

**. Correlation is significant at the 0.01 level (1-tailed).

b. Listwise N = 506

Table 7.46 Correlation between mean maximum amount paid with cash and preference for card attributes (SPSS)

Those with a preference for cash will spend more before they switch to cards and vice versa. These relationships are intuitive and are expected.

7.5.5 Correlation between amount paid in cash and shopping value

To test for correlation between the mean maximum amounts paid with cash and shopping value, a non-parametric correlation test is required. A one-tailed Kendal Tau correlation test is performed, because the correlation is between two continuous variables. Testing significance is at the 5% level.
Correlations $^b$

<table>
<thead>
<tr>
<th>Kendall's tau_b</th>
<th>VALUE</th>
<th>Correlation Coefficient</th>
<th>Sig. (1-tailed)</th>
<th>Totalhedonic</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VALUE</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Totalhedonic</td>
<td></td>
<td></td>
<td>.</td>
<td>.</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (1-tailed).

b. Listwise N = 511

Table 7.47 Correlation between mean maximum amount paid with cash and hedonism (SPSS)

The mean maximum amount with which a person will pay with cash is positively related to hedonic shopping value (table 7.47) with a coefficient ($r = 0.221$), which is significant at $p<0.05$.

The output shown in table 7.48 shows that the mean maximum amount with which a person will pay with cash is negatively related to utilitarian shopping value with a coefficient ($r = -0.178$), which is significant at $p<0.05$.

Correlations $^b$

<table>
<thead>
<tr>
<th>Kendall's tau_b</th>
<th>VALUE</th>
<th>Correlation Coefficient</th>
<th>Sig. (1-tailed)</th>
<th>Totalutil</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>VALUE</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Totalutil</td>
<td></td>
<td></td>
<td>-.178**</td>
<td>1.000</td>
</tr>
</tbody>
</table>

** Correlation is significant at the 0.01 level (1-tailed).

b. Listwise N = 511

Table 7.48 Correlation between mean maximum amount paid with cash and utilitarianism (SPSS)

7.5.6 Product analysis

Within the questionnaire is an open question, asking what products the respondents always purchase using cash. The purpose of this question is to ascertain if there are any subjective norms regarding what products people choose to purchase with different payment methods.

Fifty-one (51) of the six hundred and seventy-six (676) respondents explained that they had no choice and they purchased everything with cash; they had no access to any other payment form. This is 7.5% of the surveyed population and is very similar than the national average, which is 8%\(^44\). Only four (4) respondents said that there are no products that they always chose to purchase with cash and twenty (20) respondents said that, whilst

\(^{44}\) UK consumer payments 2012, Payment Council
they had a choice, they used cash for all purchases. The remaining six hundred and one (601) respondents provided a variety of products that they chose to always purchase with cash. Therefore six hundred and twenty-five (625) of the six hundred and seventy-six (676) surveyed have a choice on which payment method to use. The products are listed in the second column of table 7.49. The first column contains a categorisation of these products. The categories that have been selected are: basics, local shopping of low value, local shopping of luxury items, tradespeople, requirement, luxury, clandestine and norm. These categories are selected as a convenient way of grouping the products. The next section discusses each category individually.

7.5.7 Local shopping at low value

This category describes items that are likely to be purchased locally, and is relatively low value (<£5). The best example is the newspaper, which one hundred and fifty-eight (158), twenty five percent (25%), stated they always purchase with cash. The price of a newspaper ranges from £0.80 to £2.50 so this use of cash is reasonable and may well be driven by amount paid (section 8.18). The purchase is also likely to be made at a shop that the person uses frequently and so some form of relationship with the proprietor is likely. Both of these factors may drive this overwhelming use of cash, however the amount paid appears likely to be the dominant reason, given the previous results, where the attribute is ‘welcomed by store staff’ is not deemed significant. Other products in this category are bread and milk, greengrocers, charity shop items and ‘all local shop’ items. All of these products are likely to be of low value.

7.5.8 Local shopping / luxury

This category is more interesting as it describes purchases that are local, and so again there is a form of relationship with the proprietor, but they are not of a particularly low value. Hairdressers and flowers are relatively high value items, especially hairdressing that will range from £30 to £200. Fourteen (14) women and two (2) men say they always pay for hairdressing with cash. The cost of hairdressing is generally in excess of the mean values at which respondents say they switch from cash to card, thirty-five pounds (£35.08), but it is a very personal transaction where there is a strong bond between the hairdresser and their client. It is possible that this tendency to pay with cash demonstrates that a strong relationship between the payee and the payer will result in a higher likelihood of a cash transaction.
<table>
<thead>
<tr>
<th>Category</th>
<th>Product</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>Basics</td>
<td>Home fuel</td>
<td>2</td>
</tr>
<tr>
<td>Basics</td>
<td>Petrol/Diesel</td>
<td>9</td>
</tr>
<tr>
<td>Basics</td>
<td>Food</td>
<td>33</td>
</tr>
<tr>
<td>Basics</td>
<td>Clothes</td>
<td>6</td>
</tr>
<tr>
<td>Basics</td>
<td>Car repairs</td>
<td>2</td>
</tr>
<tr>
<td>Basics</td>
<td>Mobile credit</td>
<td>1</td>
</tr>
<tr>
<td>Basics</td>
<td>oyster card</td>
<td>1</td>
</tr>
<tr>
<td>Basics</td>
<td>canteen at work</td>
<td>1</td>
</tr>
<tr>
<td>Basics</td>
<td>Rent</td>
<td>2</td>
</tr>
<tr>
<td>Basics</td>
<td>Medicine</td>
<td>1</td>
</tr>
<tr>
<td>Clandestine</td>
<td>Cigarettes</td>
<td>28</td>
</tr>
<tr>
<td>Clandestine</td>
<td>Bets</td>
<td>5</td>
</tr>
<tr>
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<td>Drugs</td>
<td>4</td>
</tr>
<tr>
<td>Clandestine</td>
<td>Tips</td>
<td>4</td>
</tr>
<tr>
<td>Clandestine</td>
<td>Avoiding VAT</td>
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<tr>
<td>Clandestine</td>
<td>Lottery</td>
<td>7</td>
</tr>
<tr>
<td>Local shopping / low value</td>
<td>Newspaper</td>
<td>158</td>
</tr>
<tr>
<td>Local shopping / low value</td>
<td>Bread &amp; Milk</td>
<td>60</td>
</tr>
<tr>
<td>Local shopping / low value</td>
<td>All local shops</td>
<td>51</td>
</tr>
<tr>
<td>Local shopping / low value</td>
<td>Greengrocer</td>
<td>25</td>
</tr>
<tr>
<td>Local shopping / low value</td>
<td>Charity shop</td>
<td>4</td>
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<tr>
<td>Local shopping / low value</td>
<td>Stationary</td>
<td>3</td>
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<tr>
<td>Local shopping / low value</td>
<td>Cards</td>
<td>18</td>
</tr>
<tr>
<td>Local shopping / Luxury</td>
<td>Hairdresser</td>
<td>16</td>
</tr>
<tr>
<td>Local shopping / Luxury</td>
<td>Flowers</td>
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<td>Luxury</td>
<td>Luxuries</td>
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<tr>
<td>Luxury</td>
<td>Restaurants</td>
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<tr>
<td>Non product</td>
<td>Everything</td>
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<tr>
<td>Non product</td>
<td>Nothing</td>
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</tr>
<tr>
<td>Norm</td>
<td>Coffee shops</td>
<td>69</td>
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<td>Takeaways</td>
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<tr>
<td>Norm</td>
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<td>67</td>
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<tr>
<td>Requirement</td>
<td>Snacks</td>
<td>84</td>
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<tr>
<td>Requirement</td>
<td>Local transport / Bus</td>
<td>45</td>
</tr>
<tr>
<td>Requirement</td>
<td>Taxi</td>
<td>24</td>
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<td>Requirement</td>
<td>Car park</td>
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<td>Requirement</td>
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<td>Pocketmoney</td>
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<tr>
<td>Requirement</td>
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<tr>
<td>Requirement</td>
<td>Ice cream man</td>
<td>1</td>
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<tr>
<td>Tradespeople</td>
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<td>9</td>
</tr>
<tr>
<td>Tradespeople</td>
<td>Gardener</td>
<td>4</td>
</tr>
<tr>
<td>Tradespeople</td>
<td>Builders</td>
<td>4</td>
</tr>
<tr>
<td>Tradespeople</td>
<td>Domestic help</td>
<td>3</td>
</tr>
<tr>
<td>Tradespeople</td>
<td>Dog groomer</td>
<td>1</td>
</tr>
</tbody>
</table>

Table 7.49 List of products for which respondents always pay with cash
7.5.9 Tradespeople

This category is again suggesting that a personal relationship engenders the use of cash. It is possible that someone working as a cleaner does not choose to take card payments and therefore the cash payment is a requirement. However payment using ‘person-to-person’ transfer is perfectly possible in current times and can be used in these circumstances. Banks are introducing new products, such as “PINGIT”\(^{45}\) and PAYM\(^{46}\), to make this easier. Whilst some of these transactions may be relatively small, window cleaning for example, others are clearly not. Paying builders in cash suggests some form of tax evasion either by the payee or both parties. This implicit tax evasion appears to be a common feature where there is a strong personal relationship or where the benefit is substantial and shared. In Italy in 2011, as discussed in chapter two, the government legislated to ban cash payments over one thousand euro (€1,000) to avoid just this sort of tax evasion.

7.5.10 Luxuries

Fewer people mention luxury items than the previous two categories. Items categorised as luxuries include: holidays, cinema tickets, restaurants and luxury goods. However they are interesting because they are neither purchased locally nor of particularly low value. Two respondents said that they paid for holidays with cash. Both respondents provided cut off values that they switch to cards at a value far lower than the possible cost of a holiday and use debit cards for other transactions. This suggests the use of cash as a savings mechanism for luxuries such as holidays. The number of respondents that mentioned luxuries is comparatively low and so it is not possible to generalise regarding these behaviours but it does indicate that some people use cash as a saving tool for luxury items.

7.5.11 Basics

A relatively high number of, what have been termed ‘basic’ items, are mentioned as always being purchased with cash. Some respondents list items such as food, rent and utility bills as cash purchases. It is possible that the respondents mentioning these items are cash rich, for example they are self-employed and have earnings available in cash. Most of us have to go to some effort to get cash, either from an ATM or from a bank counter, and so using

\(^{45}\) PINGIT opened in 2012 is a Barclays product to transfer values between bank accounts by use of mobile phone numbers rather than bank account details

\(^{46}\) PAYM opened in 2014 with nine major banks participating in person-to-person cash transfer via mobile phone numbers. (Bank of Scotland, Barclays, Cumberland Building Society, Danske Bank, Halifax, HSBC, Lloyds Bank, Santander and TSB.)
cash for items that are neither small, nor local is unusual. It is not possible to tell from the survey if the respondents who mention these basic items are cash rich or if they have taken the positive step of withdrawing a large amount of cash to make these purchases. Oyster cards are cited by one respondent, which is an unusual choice as they are designed to keep cash, specifically coins, out of the transport system and have been very successful in doing so. “The decision to stop accepting cash fares on London buses reflects the changing way that people pay for goods and services in our city, including journeys on the bus network. Paying with Oyster or a contactless payment card is not only the cheapest option, but also speeds up boarding times...”

Buying an Oyster card with cash no doubt transforms several cash transactions to a single cash transaction nevertheless it does in part undermine the ‘cashless’ ethos of the prepaid card.

Purchasing high value basics with cash suggests the respondent has easy access to cash and is finding means to spend it or chooses to provide less of a spending ‘footprint’ by utilising the anonymity of cash.

7.5.12 Requirement

Some items have to be purchased with cash, for example the ice cream van is unlikely to accept card payments, and similarly car parking is traditionally a cash transaction. Taxi drivers resist the use of cards and either choose not to accept them or impose very high penalties for their use. Taxi fares can be very high and the fact that they need to be paid in cash does create a large cash requirement both for tourists and those planning a night out. Visa have publicly decried the charges that taxi drivers impose worldwide for the use of cards, explaining that it is a gross over inflation of their charges, but taxi drivers continue to impose them, clearly in an effort to remain a cash business. “For about a week now, you can no longer pay for your taxi fare using Visa here in Singapore. The reason for this outcome is over a surcharge dispute between Visa and the country's biggest taxi firm, ComfortDelGro.”

Whilst there remains a benefit for the self-employed to be paid with cash, it is likely they will continue to resist card payments, creating a cash requirement for consumers.

7.5.13 Clandestine

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47 Leon Daniels, MD of TfL Feb 2014 (www.itv.com)
48 www.totalpayments.org July 2013
The items listed in the clandestine category range from activities that may be considered wasteful (such as betting), to the illegal (such as drug) purchase. One respondent has positively mentioned the avoidance of VAT, presumably within the payment for services. The legal activities categorised here such as smoking and betting are perfectly legitimate but they may wish to be hidden from a partner or even oneself, and are therefore looking for the anonymity of a cash payment. Banks often provide statements of major spending areas. It is possible that consumers do not want to see the amounts they truly spend on certain products. Clearly any illegal activity requires the use of cash.

7.5.14 Conclusion on the influence of products in payment methods

This section emphasises the advantages of cash for the purchase of certain products and also the corresponding benefits of other forms of payment for different products.

Cash is anonymous therefore both illegal (drugs) and clandestine (betting) activity has a requirement / preference for cash, including the evasion of tax (tradespeople). Cash is the cheapest and easiest form of payment for a retailer or service provider making it essential for very small purchases (newspapers) where a retailer will not want to pay the fee for a card purchase. Cash can be used for basic items where the payee is cash rich (self-employed) and for luxuries where someone has saved using cash (holidays) or indulgences (flowers) where a record of the cost is not desirable.

Debit cards record all transactions (work expenses) and are easier for large costs (supermarkets) where carrying such large amounts of cash could be considered dangerous. Credit cards operate in the same way as a debit card if they are paid monthly but have the added advantage of providing credit to smooth spending patterns, although this can be costly if not paid off immediately. The choice of products shows the diversity of cash but some clear patterns emerge demonstrating the benefit of cash for small transactions and anonymous transactions.

7.5.15 Subjective norm hypotheses testing

In chapter six, payment attributes, two hypotheses are created based upon an analysis of the statements made by the thirty-nine (39) attendees of the focus groups.

**H9 Consumers are more concerned that a payment method is welcomed in local shops than in other locations.**
In order to test this hypothesis a Wilcoxon signed rank test is used to compare the mean score for the attribute ‘welcomed by the shopkeeper/staff’ between the different locations. This test is applicable for non-normal data.

The statistical null hypotheses relating to H9 are:

H0a) The mean score of the attribute ‘welcomed by shopkeeper/staff’ will not be significantly higher in a local shop than that for supermarkets.

H0b) The mean score of the attribute ‘welcomed by shopkeeper/staff’ will not be significantly higher in a local shop than that for clothes stores.

H9a) The mean score of the attribute ‘welcomed by shopkeeper/staff’ are significantly higher in a local shop than that for supermarkets.

H9b) The mean score of the attribute ‘welcomed by shopkeeper/staff’ are significantly higher in a local shop than that for clothes stores.

The attribute scores for each location are compared with each other, firstly local shops and supermarkets, (table 7.50). Table 7.51 reports that requirement for a payment method to be welcomed by the shopkeeper/staff does not differ significantly depending upon the location (local shop (mean 5.18) and supermarket (mean 5.08)). $z = -1.27$, $p = 0.204$.

### Descriptive Statistics

<table>
<thead>
<tr>
<th></th>
<th>N</th>
<th>Mean</th>
<th>Std. Deviation</th>
<th>Minimum</th>
<th>Maximum</th>
</tr>
</thead>
<tbody>
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<td>674</td>
<td>5.18</td>
<td>1.774</td>
<td>1</td>
<td>7</td>
</tr>
<tr>
<td>Supermarket_Welcome</td>
<td>669</td>
<td>5.08</td>
<td>1.799</td>
<td>1</td>
<td>7</td>
</tr>
</tbody>
</table>

Table 7.50 Descriptive statistics of ‘welcomed by shopkeeper /staff’ attribute by local shop and supermarket (SPSS)
The mean score for ‘welcomed by shopkeeper/staff’ in a local shop is not significantly different to the mean score in a supermarket therefore hypotheses H9a is rejected in favour of the null hypotheses H0a.

Table 7.51 reports that requirement for a payment method to be welcomed by the shopkeeper/staff differs significantly depending upon the location (Local shop (mean 5.18) and supermarket (mean 5.44)); z= -4.08 p<0.05.

<table>
<thead>
<tr>
<th></th>
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<td>1.774</td>
<td>1</td>
<td>7</td>
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</tbody>
</table>

Table 7.52 Descriptive statistics of ‘welcomed by shopkeeper/staff’ attribute by local shop and clothes store (SPSS)
The mean score for ‘welcomed by shopkeeper/staff’ in a local shop is significantly different to the mean score in a clothes store, but the clothes store is higher, therefore hypotheses H9b is rejected in favour of the null hypotheses H0b.

The hypothesis is unproven; in fact the location that has a significantly higher requirement for the payment method being welcomed by the shopkeeper/staff is a clothes store. The original hypothesis is based upon comments made by the attendees of the focus groups who suggested that they are concerned about this attribute in local shops where they had a relationship with the owner. Earlier in this chapter the cash attribute is removed during the exploratory factor analysis, as it did not correlate in the expected way with a preference for cash. One possibility for both these inconsistencies is the reshaping of this question within the questionnaire. The original question that is formed from the focus groups concentrated on the shop owner, but this caused confusion during the pilot stages of the questionnaire and the question is rewritten to include store staff. This subtly changes the meaning of the question and has clearly had an effect on both the correlation to cash and the general emphasis of this attribute. It is feasible that respondents are primarily concerned about the choice of payment they used being welcomed by the store staff as the easiest for them to handle. However the question has been interpreted, it has lost its intended meaning and has not proven this hypothesis.

**H10 Consumer shopping will find the payment a more exciting part of the experience when shopping in a clothes store and a supermarket than they will in local shops**

In order to test this hypothesis a Wilcoxon signed rank test is used to compare the mean score for the attribute ‘exciting part of the experience’ between the different locations. This is an applicable test for non-normal data.

The statistical null hypotheses relating to H10 are:

H0a) The mean score of the attribute ‘exciting part of the experience’ will not be significantly higher in a clothes store than that for local shops.

H0b) The mean score of the attribute ‘exciting part of the experience’ will not be significantly higher in a supermarket than that for local shops.

H10a) The mean score of the attribute ‘exciting part of the experience’ are significantly higher in a clothes store than that for local shops.
H10b) The mean score of the attribute ‘exciting part of the experience’ are significantly higher in a supermarket than that for local shops.

The attribute scores for each location are compared with each other, firstly clothes stores and local shops, (table 7.54). Table 7.55 reports that requirement for a payment method to be an exciting part of the experience does differ significantly depending upon the location (Clothes store (mean 3.43) and local shop (mean 3.09)); $z= -5.20$, $p<0.05$.

![Table 7.54](image)

Table 7.54 Descriptive statistics of ‘paying is an exciting part of the experience’ attribute by clothes store and local shop (SPSS)

![Table 7.55](image)

Table 7.55 Wilcoxon signed ranks test of ‘paying is an exciting part of the experience attribute by clothes stores and local shops (SPSS)

The mean score for ‘paying is an exciting part of the experience’ in a clothes store is significantly different to the mean score in a local shop, and the clothes store is higher, therefore the null hypotheses $H0a$ is rejected in favour of $H10a$.

Table 7.56 reports that requirement for a payment method to be an exciting part of the experience differs significantly depending upon the location (local shop (mean 3.09) and supermarket (mean 3.55)); $z= -4.94$, $p<0.05$. 
Table 7.56 Descriptive statistics of ‘paying is an exciting part of the experience attribute by supermarket and local shop (SPSS)

<table>
<thead>
<tr>
<th></th>
<th>N</th>
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<th>Maximum</th>
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<td>7</td>
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</tbody>
</table>

Table 7.57 Wilcoxon signed ranks test of ‘paying is an exciting part of the experience’ attribute by supermarkets and local shops (SPSS)

The mean score for ‘paying is an exciting part of the experience’ in a local shop is significantly different to the mean score in a supermarket, and the supermarket is higher, therefore the null hypotheses H0b is rejected in favour of hypotheses H10b.

7.5.16 Summarised results of subjective norm analysis

The stronger your preference for cash the higher the maximum value you are prepared to pay with cash and conversely the stronger your preference for cards the lower the maximum value you are prepared to pay with cash. This result is intuitively reasonable. The more hedonic you are the higher the maximum value you are prepared to pay with cash and conversely the more utilitarian you are the lower the maximum value you are prepared to pay in cash. This is a more interesting conclusion and reinforces earlier work within this chapter linking shopping value and payment method preferences. Research earlier in this chapter shows that the more hedonic you are, the stronger your preference for cash; and the more utilitarian you are, the stronger your preference for cards. These two results within this research triangulate with each other.

Looking at these results from another angle leads to the conclusion that it is likely that higher value items are more likely to be paid for in cash by those with a preference for
cash, and those consumers are more likely to be hedonic shoppers, and vice versa. Although for almost all shoppers, however hedonic and however strong their preference for cash there appears to be a limit where they switch to cards. This switch may take place because the preference for convenience, recorded transactions and cost effective payments outweigh the desire to be excited by the process and feel the payment experience. Therefore this research offers no conclusion in this area and further research is required.

The mean maximum value paid using cash for a person characterised as utilitarian (a lower hedonic score than utilitarian score) is £28.55 and for a person characterised as hedonic (a higher hedonic score than utilitarian score) is £48.92. Therefore the amount paid for goods or services does affect the choice of payment method but there is a range in which shopping value appears the dominant factor. Location has a significant affect in choice of payment method. Product can also cause a different choice to be made and can outweigh considerations of amount paid in some instances. This research proves that these factors affect the decision making process but does not measure the extent of the influence.

7.6 Summary of main survey results

The significant relationships described in detail in this chapter are briefly summarised in figure 7.9. The significant relationships are shown with an arrow and the direction of the relationship is described.
Figure 7.9 Summary of significant relationships with directions

7.7 Concluding chapter remarks

Chapter seven describes how the questionnaire for the main survey is initially designed and subsequently tested with pilot studies. The chapter describes what changes are required to the original design and the process of making these amendments.

The chapter then analyses three sets of relationships, between a) demographic segment and shopping value b) shopping value and payment method attributes and finally c) subjective norms and payment method attribute preferences/shopping value/demographic segment.

Hypotheses H3, H4, H6, H7, H8, H9 and H10 are tested, with only H9 not proven at the five percent (5%) significance level.
The next chapter tests the validity of the statistical analysis by creating a best-fit model for the construct of shopping value and payment method attributes as measured within this thesis using structural equation modelling.
8 Triangulation of results using structural equation modelling

8.1 Introduction

This chapter creates a best-fit model using structural equation modelling for the constructs of shopping value and payment method preferences measured within this thesis. The use of structural equation modelling is not designed to find or demonstrate any new relationships that have not already been tested in the previous chapter. The modelling is purely used to triangulate the previous results and demonstrate the validity of the statistical results. The relationships identified in the previous chapter are modelled and if a statistical fit can be found that will validate the relationships that have been identified by exploratory factor analysis and the series of anova tests used to check hypotheses. This is required to create an overall best-fit model to test the posited theory that shopping value influences choice of payment method.

8.2 Structural equation modelling (SEM)

Structural equation modelling is a powerful multivariate technique to measure direct and indirect effects with multiple dependent variables. It is chosen above regression testing in this research for several reasons. Firstly, it is visually easier to see the results by using the path diagrams created. Secondly, the interface tools to use SEM are relatively simple, and can handle large amounts of data. Finally SEM works with both non-normal and incomplete data sets. Multiple regression techniques could also have been used to provide triangulation but they are inflexible and complex in comparison to SEM. Nor do they have the advantage of creating path diagrams that explain the results simply and holistically. SEM provides both confirmatory factor analysis and correlation structure models making it ideal to test the major statistical analysis used previously in this thesis. Whilst SEM cannot in itself identify causal relationships it’s use as triangulation of previous statistical analysis allows it to add to the weight of probability. The previous statistical analysis has provided the shape and direction of the model as well as the size of the correlations. This makes SEM far easier to use rather than when using it for the first analysis where the model is only hypothesised.
To produce an SEM result the AMOS 20 programme is used. Consistently well performing fit indices are used: Chi-square; Root-Mean-Square-Error-Of-Approximation (RMSEA); Comparative fit index (CFI) and the Tucker Lewis index (TLI), (Steiger and Lind 1980; Bentler 1992; Byrne 2001). The values that qualify as good fit for RMSEA are less than 0.06, as reasonable fit are 0.061-0.08 and 0.08-0.10 as mediocre fit. RMSEA values above 0.1 are not considered to represent a model that fits the data. (Hu and Bentler 1999). Bentler (1992) suggests that higher than 0.90 is a good fit for CFI and TLI.

A maximum likelihood method of estimation is used. This method usually relies on normal multivariate data but in this case the data is non-normal. The data can be practically treated as continuous. The result of using non-normal data with a maximum likelihood estimation method ia a type 1 error. Therefore the level of fit reported by the SEM testing will be poorer than it should be, in which case it is possible to reject a model that does fit (Hu et al. 1992; Curran et al. 1996). One proposed solution for this is scaling the chi-square statistic down to represent the effect of the type 1 error. This method is known as applying a ‘scaling correction factor’ but as yet an agreed standard for this factor is not available. Literature suggests that a factor above 10% is concerning (Newsom 2012). For the purpose of this research the maximum likelihood method is used and results reported without any scaling correction factor. In the event that a reasonable fit is not achieved then a scaling correction factor can be considered.

The model describing payment method attributes is developed from the previous exploratory factor analysis. The only addition is an inverse correlation between cash payment attributes and card payment attributes, which logically will exist. The model created is shown in figure 8.1.
The model in figure 8.1 produced the following results: Chi-square 201.8, df=13, p<0.05. TLI=0.801, CFI=0.877 and RMSEA=0.148. This model is not a fit. Reviewing the modification indices shows a strong correlation between e15 and ‘cash’. This is demonstrative of the fact that during the EFA (chapter seven) ‘rewards’ loaded reasonably highly onto cash as well as cards, although it is recognised as an attribute of cards. For the purpose of SEM ‘rewards’ is removed from the model.

A second model is created (figure 8.2) and produced the following results. Chi-square 104.9, df=8, p<0.05. TLI = 0.860, CFI=0.926, RMSEA = 0.135. The model is not a fit.
Reviewing the modification indices shows a strong correlation between the errors of attribute ‘cost effective’ and ‘recorded’. This strong positive correlation may show a link in respondents mind between a payment method being cost effective if they have a record of the transaction. It suggests a different understanding of ‘cost effective’ than that envisaged during the focus groups and the questionnaire creation. It is possible that respondents are linking ‘cost effective’ with ‘recorded’ in terms of being able keep a track of spending rather than the actual cost of using the method, which is the intended meaning. Focus groups did not deem that cash is cost effective because visiting ATMs can have a usage or transport cost.

This possible new understanding of cost effective may explain further why credit cards and debit cards did not load on separate factors. Both debit and credit cards are ‘recorded’ and so if ‘recorded’ and ‘cost effective’ are strongly linked it is possible that credit cards may be deemed ‘cost effective’. The focus group results lead to an expectation that cost
effective is in relation to debit cards being free to use, which credit cards arguably are not. However ‘cost effective’ correlates with ‘recorded’ possibly showing that it is this recorded aspect that reassures consumers that their payment method is ‘cost effective’, and therefore the attribute possibly applies equally to debit and credit cards.

A correlation is added between error 13 and error 14 and the model tested again (figure 8.3). The model in figure 8.3 produced the following results. Chi-square 6.6, df=7, p=0.471, TLI = 1.0, CFI=1.0, RMSEA = 0.000. The model is a good fit.

![Figure 8.3 Structural equation model of payment attributes (v3) (AMOS 20)](image)

8.3 **Structural equation modelling - shopping value**

Structural equation modelling is performed to test the relationships between latent variables (hedonic and utilitarian shopping value) and the items in the shopping value
model. The validity of the items has already been tested by Babin et al. (1994) when they created the scale and to some extent by the measurement of the Cronbach’s alpha in this research. However this provides a measurement of the fit for the model, which can be used in association with payment attribute preference models in subsequent chapters.

The first model tested linked the four items each measuring hedonic and utilitarian shopping value, with error values for each item. Hedonism and utilitarianism are also correlated because they should have an inverse relationship (as one increases the other is expected to decrease).

![Figure 8.4 Structural equation model of shopping value (v1) (AMOS 20)](image)

The model in figure 8.4 produced the following results. Chi-square 279.4, df=19, p<0.05. TLI = 0.835, CFI=0.913, RMSEA = 0.142.

This model does not represent a fit. The modification indices are checked to see if the analysis suggests any correlations that are not obvious within the model. The
largest modification suggested is a correlation between error 5 and error 7. These represent the errors between the items:

5) “It is important that I accomplish just what I want to while shopping.”
7) “It is important that I feel a shopping trip was successful.”

These are very similar measures, the difference being a subtle one between accomplishment, for example buying what you set out for, and success which represents achieving not just a purchase but several different personal measures of success. That these items would have a correlation is reasonable so it is valid to add this covariance to the model seen in figure 8.4. Therefore the model is run again with a relationship between e5 and e7 correlated.

The model in figure 8.5 produced the following results. Chi-square 183.3, df=18, p<0.05. TLI = 0.889, CFI=0.945, RMSEA = 0.118. The model is not a fit.

Figure 8.5 Structural equation model of shopping value (v2) (AMOS 20)
The process of checking the modification indices and adding correlations between errors is continued until the best available fit is found, represented in figure 8.6.

![Figure 8.6 Structural equation model of shopping value (v3) (AMOS 20)](image)

All of the correlations suggested by the estimation process make sense in respect of the theoretical model. Items 3 and 6 are inversely correlated.

3) “I enjoy shopping trips for their own sake, not just for the items I may have purchased.”

6) “I am disappointed if I have to go to another store(s) to complete my shopping.”

Items 2 and 5 are inversely correlated.

2) “During a shopping trip, I feel the excitement of the hunt.”

5) “It is important that I accomplish just what I want to while shopping.”
Item 8 and the latent variable hedonic shopping value are inversely correlated.

8) “A good shopping trip is over quickly.”

Hedonism, represented by items 1) to 4).

The model in figure 8.6 produced the following results. Chi-square 76.6, df=15, p<0.05. TLI=0.961, CFI=0.979, RMSEA = 0.079. The model is a reasonable fit.

8.4 Combined model for shopping value and payment method attributes
A structural equation model is then constructed (figure 8.7), chi-square 366, df=69, p<0.05. TLI = 0.91, CFI=0.95, RMSEA = 0.08, making the model a reasonable fit without further alteration. This model shows the positive link between cash and hedonism (0.89) and the positive link between card payments and utilitarianism (0.87). There is a negative correlation between cash and utilitarianism (0.90) and a negative correlation between card payments and hedonism (0.24), although this is relatively weak. Figure 8.7 also shows the attributes that are associated with cash payments and those with card payments and the items used to measure hedonism and utilitarianism.

8.5 Concluding remarks

In this chapter a best-fit model between the items measuring shopping value and the latent variable hedonism and utilitarianism is created. A best-fit model for the attributes of payment methods is also created with the two new latent variables for ‘cash’ and ‘cards’. The two models are then combined and show that a fit is achieved showing a positive relationship between ‘cash’ and hedonism and a positive relationship between ‘cards’ and utilitarianism. This models triangulates the previously achieved results which found the same relationships using a series if anova tests and exploratory factor analysis.

The next chapter summarises the conclusions of the research. The chapter discusses the implications of the research academically and within industry.
9 Conclusion

9.1 Introduction

The main purpose of this research is to create new knowledge by demonstrating that there is a correlation between a consumer's behaviour construct and payment method choice. A correlation is identified between shopping value and payment method attribute preference, which will contribute towards eventual choice. This creates new knowledge in an under researched area by establishing that there is a social construction to the demand for payment methods. The implication of this is that along with many economic factors, there are social factors that drive demand. The relative importance of these factors is unknown, and represents a new area of research, but that they exist is shown by this thesis.

Understanding the social construction of demand will complement research in economics that tries to predict future demand for payment methods (Humphrey et al. 1996). The value to central banks, Governments, retailers and financial institutions of having an understanding of the demand for payment methods, and how it can be influenced is significant. For example the Bank of England is a Government profit centre due to the collection of seigniorage revenue on circulating cash from the retail banks. This gives both the Bank of England and the Government a benefit from increased use of cash. Retailers prefer cash as it is the cheapest payment to handle but retail banks dislike cash because they must provide it to the public free of charge and forgo the opportunity of profit on a card transaction.

This research also expands the boundaries of knowledge by identifying the social attributes that hedonic consumer find appealing and associate with cash and card payments. Cash attributes are the tactile nature of the payment and the excitement associated with handling cash. If these attributes can be replicated in a new smart phone payment system their appeal to hedonic consumers would increase and the use of cash might decrease.

There are also important lessons to be learned regarding the use of cash for its’ anonymity when purchasing goods/services that, whilst not illegal, may be sensitive to the buyer. Annual banking summaries showing twenty percent of income going to “Majestic” are

49 http://www.brc.org.uk/brc_policy_content.asp, BRC payment survey 2013
50 Off license trade name
unlikely to be welcomed. Banks and finance houses considering these sensitivities and providing complete anonymity may encourage consumers to use a card to buy high value goods that they may previously have used cash for and may increase sales in some retail establishments.

All these factors make understanding the demand for a payment method important for Government and industry, and demonstrate the value of academic research in this area. This thesis provides new knowledge and by doing so may stimulate further necessary research into the social factors influencing the demand for payment methods.

9.2 Context of results

The thesis begins by examining how the UK public currently spontaneously pay for goods and services and all of the influences that may change the balance of payment instruments. A P.L.E.S.T.E.D. review of the payments environment is completed to provide a full picture of the demand and supply of payment methods. This analysis concludes that most of these factors: politics, legislation, economics, technology, ecology and demography have an influence on the payment method the public uses, and that research into all these areas allows them to be placed on a scale of likelihood and impact. Each of the six influencers have some level of research into their historic importance and effect on current trends, either academic or industry led research. The single factor that has limited research in the UK (available in the public domain) is the social aspect of payment method choice. There is a natural recognition that future behaviour depends on past behaviour, and that this is the largest indicator (Guariglia and Loke 2004; Humphrey et al. 1996). Economic research recognises that different cultures demonstrate different behaviours (Humphrey et al. 1996) but they add a ‘country dummy variable’ to allow for this. Economics recognises the fact of a cultural difference in behaviour but fails to label this as the social construction of demand or identify any component parts. This research demonstrates that there is a social construction of demand for payment methods and identifies some of the correlating factors that make up components of that social construction.

In chapter three the thesis considers all of the various consumer behaviour constructs identified within a shopping experience, the most common occasion for a spontaneous payment. Whilst any of these consumer behaviour constructs could influence the choice of payment method, this research focuses on two of them: the subjective norms of behaviour;
and, shopping value. These two are selected due to the expected size of their influence when measured against other relevant consumer behaviour constructs (chapter three, table 3.1). Hypotheses are created (chapter three and six) and a conceptual model constructed (chapter four) to test the posited theory that shopping value and subjective norms of behaviour influence choice of payment method.

Three additional research opportunities are also identified. Firstly it is important to understand whether consumers are involved with payment methods as products. If consumers have no involvement with payment products, then any theory that social behaviour constructs have an influence on demand is flawed. There is limited research into consumer involvement in financial products (Foxall and Pallister 1998; Arnold and Reynolds 2003) so a small pre-cursor survey is administered (chapter five) to check the underlying basis of the conceptual model. The second area of research identified is the link between demographic segment and shopping value in the UK. This is added to the conceptual model and tested as part of the main survey (chapter seven). Finally, there is an opportunity from the data collected in the main survey to check whether shopping value depends upon location.

9.3 Discussion of results

This chapter only summarises the results of this research as the detailed hypotheses testing and statistical analysis results of the research are discussed in their respective chapters. Please refer to these individual chapters for further details.

The main purpose of this research is to establish positively that there is a social construction for the demand for payment methods. This purpose is achieved by proving the correlation between shopping value and preference for different payment method attributes. Shopping value is positively identified as one component of the social construction. Subjective norms influenced by situational factors such as location, amount paid and product purchased are also positively identified as influencing the payment method decision. This creates new knowledge in a field not researched in depth at this point in time.
The survey results show that the attributes of cash positively relate to **hedonic shopping values** (H3) and that the attributes of plastic cards (debit and credit) positively relate to **utilitarian shopping values** (H4).

The link between the situational factors of the subjective norm and payment preferences is also demonstrable. There is a statistically significant difference in the preference for various payment methods within alternative **locations**. A preference for cash is more marked at supermarkets than in local shops and clothes stores.

There is also a statistically significant relationship between the maximum **amount paid** in cash, and preference for different payment methods. We know that the amount paid has an impact on the choice of payment method because eighty three percent (83%) of respondents, who have a choice, said that they opt for a card payment at a certain value (mean £35.08). This accords with US research that demonstrates a pain for paying, specifically high values, with cash (Prelec and Simester 2001; Raghubir and Srivastava 2008), although factors of safety and convenience will also play a part. This thesis proves that consumers pay a higher amount with cash if they have a preference for cash. Conversely consumers pay a lower amount with cash if they have a preference for card payments.

The test for **products** is qualitative and demonstrates that consumers have a preference for cash when purchasing specific items; this includes small value products, person-to-person payments, subjectively clandestine and illegal products. The subjectively clandestine products cover items like cigarettes and bets where people may not wish their partner to know what they are spending, or even want a record of it themselves. This is triangulated with industry statistics that show off-licences having unexpectedly large cash payments for their basket size (chapter two). One specific finding is that consumers find it more important to feel excitement during the payment process when paying in a clothes store (H10).

All three factors: product, amount paid and location will have an effect on which payment method is used (chapter seven), and that affect will vary depending upon their individual subjective norm of behaviour. An individuals’ subjective norm will also vary depending upon many factors including demographic segment and lifestyle. It is important to note that no link between demographic segment and use of payment method is tested within this thesis. The behaviour differences between different demographic groups is understood and
reported within industry data (chapter two, 2.3) and the influence is clear. Therefore it is not tested again here.

![Conceptual Model](image)

**Figure 9.1 Conceptual model chapter nine**

This thesis demonstrates that shopping value and perceived normal behaviour (depending on location of purchase, product purchased and amount paid) will all affect a consumers’ choice on payment method. This proves that the conceptual model (figure 9.1) is valid.

Throughout this research it is evident that those practical, rational and cognitive aspects of payment choice have a significant impact on the payment method decision, and that a complex set of factors influence the decision. This leads to what appear to be contradictory results. For example consumers are more hedonic in clothes stores and want to be excited when paying in clothes stores leading to a preference for cash according to the results of this research. However we know from industry data that sixty-seven percent\(^{51}\) (67%) generally pay with cards. This could be due to a variety of factors including securing a second receipt for returns, as was suggested by a focus group participant. It is reasonable to assume that given basket size and other factors the share of card payments would be even higher if it were not for the social factors this thesis has identified. Therefore, this research does not suggest that more affective concerns such as shopping value dominate, only that they are present, and provide a counterbalance to other factors.

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\(^{51}\) UK consumer payments 2013, Payments Council November 2013.
In the process of creating this new knowledge other results have added to the value of the research as a whole. Firstly, medium levels of involvement are found for all three of the current major payment methods: cash, debit cards and credit cards. Secondly, it is found that consumers’ age, qualification level, gross household income, combined gross household income and qualification, ethnicity and gender significantly affects hedonism. The gender, ethnicity, qualification level and combined gross household income and qualification level of a consumer significantly affects utilitarianism. The most hedonic profile is a young woman of low combined gross household income and qualification level who is Chinese. The most utilitarian profile is a white British man of high combined gross household income and qualification level.

9.4 Research question revisited

This section revisits the research question posed in chapter four and gives a brief view of the conclusions in this research, also providing reference to a more detailed answer.

Is some element of demand for payment methods in the UK socially constructed?

Shopping value and subjective norm are social factors and are shown to have an effect on payment method choice (chapter seven).

- What is the level of consumer involvement in the three major payment methods? (debit cards, credit cards and cash)
  All three major payment methods have medium levels of involvement (chapter five).
- What are the perceived attributes of these three different payment methods?
  Nine attributes are found using focus groups (chapter six).
- Is there a significant relationship between the attributes of payment methods and shopping value?
  There is a positive correlation between cash and hedonic shopping value and a positive correlation between card payments and utilitarian shopping value (chapter seven).
- Is there a significant relationship between the attributes of payment methods and subjective norms of behaviour in respect of product, shopping location and amount?

52 Only Chinese and white British are measured so this result only represents a comparison between the two.
Product, amount paid and location all have a significant effect on payment method (chapter seven).

- **Is there a significant relationship between hedonic and utilitarian shopping values and demographic segments in the UK?** (gender, age, ethnicity, gross household income (GHI), qualification level and combined GHI/qualification level) and shopping location (local shop, supermarket, clothes store).

Significant correlation is found between some demographic segments and shopping value (chapter seven).

### 9.5 Limitations and learning points

Practical limitations of the research such as geography and size are already covered in chapter four. Similarly the bias created by using a convenience sample rather than a probability sample is discussed in chapter seven. However there are more general limitations and learning points discovered or considered following the completion of the research.

The thesis uses in the most part a quantitative methodology to analyse a model for social factors affecting payment method choices. Quantitative methodology lacks some of the benefits of the exploratory and inductive aspects of data collection and analysis. A fuller qualitative analysis of the main research question is likely to add depth to the analysis, which deductive statistical testing of hypotheses does not provide.

The research concentrates on two different ethnicities within the UK and finds significant differences in behaviour. A cross-cultural study will provide a much richer comparison between behaviours and add to the strength of the argument for a social construction to demand for payment methods.

There are two clear learning points from the research. Firstly, not enough attributes associated with different payment types are tested. The differentiation between credit cards and debit cards is limited to the perception of their cost-effectiveness. It transpires that this is too subtle a distinction causing debit cards and credit cards to merge, during exploratory factor analysis, into a single entity. The use of additional attributes that differentiate more strongly between debit cards and credit cards would be beneficial. Secondly, the attribute identified as ‘welcomed by store staff’ is poorly worded and leads to misinterpretation. This is spotted during the pilot phase but the question is reworded rather than being
rejected. The rewording removed the initial usefulness of the question and made it irrelevant during analysis, also causing hypotheses H9\textsuperscript{53} to fail.

9.6 Gaps in knowledge revisited

Five gaps in knowledge or opportunities to extend knowledge are identified in chapter four.

- **Consumer involvement in payment methods had not been measured, other than cheque books** (Aldlaigan and Buttle 2001), so there is no understanding of whether consumers have any personal goal orientated response to payment products. Knowledge has been extended in this area by the empirical testing using a standard scale (Zaichkowsky 1994) to test cash, debit cards and credit cards. All are found to have medium levels of involvement. The survey sample is relatively small (n=107) so a larger sample would be advantageous for future research.

- **There is limited research worldwide and no available research in the UK into the social construct of payment method demand.** Debit cards are considered the most convenient (Schuh and Stavins 2010) and cost effective (Guariglia and Loke 2004) form of payment for the individual and cash is the only anonymous form of payment (Humphrey et al. 1996), but it is not clear to what extent the consumers care about these aspects of payments. This research found limited UK based research is publicly available showing which attributes consumers associate with which form of payment and whether they are important to them. Attributes for cash are discovered to be ‘tactile’ and ‘excitement when paying’ and attributes for paying with cards are discovered to be ‘convenience’, ‘cost effectiveness’, ‘speed at the point of sale’, ‘financial rewards’ and ‘recording of the payment’.

- **There is industry research showing that consumers’ pay differently depending upon the amount paid, location, and the product purchased.** No UK based academic research available in the public domain explains if this is a function of basket size (amount to be paid) or more situational and social aspects of the location and product.

\textsuperscript{53} Consumers are more concerned that a payment method is welcomed in local shops than in other locations
This research creates new knowledge in this area by finding a statistical link between both amount paid (basket size) and location with payment method choice. The research demonstrates that the amount paid is a contributory factor in payment method choice, but that the amount varies depending upon your payment preferences and shopping value. A statistically significant correlation is found between location and payment method preference, showing the choice is also situational. Different consumers also expressed different preferences for payment method related to the product and not just the amount.

- There is limited academic research testing the relationship between demographic segments and shopping value. Theoretical hypotheses are available but no empirical testing has specifically examined this area in the UK (Arnold and Reynolds 2003; Hirschman and Holbrook 1982).

Knowledge is extended in this area. It is found that ethnicity and gender have a significant effect on shopping value. Hedonic shopping value is also significantly affected by age and combined gross household income and qualification levels (QGHI). QGHI can be related to position of the social spectrum, demonstrating that those with less current or potential spending power enjoy the experience of shopping more than those who can spend more freely.

- The most significant knowledge that this thesis seeks to create is to find a consumer behaviour construct which to some extent, explains the known ‘cultural differences’ in demand for payment methods (Humphrey et al 2001). The component parts that make up the whole of the social dimension to the construction of demand presents a gap in knowledge. This research does not seek to fill this gap but only to find one correlated consumer behaviour construct, providing an opportunity for more to follow.

This research has shown that shopping value and preference for payment method choice are correlated. This is a new piece of knowledge in a new area of research and opens the way for further analysis of social factors that affect consumer behaviour regarding choice of payment method.
9.7 Implications - academic

There are two significant academic implications from this research. Firstly, a new area of research into the social factors affecting payment method preferences is initiated within this research. Understanding the effect of social factors will enhance the economics models designed to estimate the future levels of payment methods. Humphrey et al. (1996) provide a large study using five different non-cash payment methods in fourteen different countries. The scale of the work and the coherent methodology adds to its significance. Other calculation methods are available (Guariglia and Loke 2004; Lippi and Secchi 2009) but Humphrey et al. (1996) is a well-respected model. The factors they include in their analysis are: GDP, ATMs per head of population, POS terminals per head of population, violent crimes per 100,000 inhabitants, value of cash held per person, concentration of the five major banks, use of payment method in the previous year, price of payment method and ‘dummy country variable’. It is the inclusion of the dummy country variable that has significance for this research.

“It is not possible to include in our model all the historical, institutional and cultural factors influencing payment instrument use across countries and, to a lesser extent, over time. To absorb the empirical consequences of such excluded influences, we include a full set of country dummy variables.” (Humphrey et al. 1996).

The country dummy variable is essentially adjusted to make the equation in the different countries balance, using Japan as the baseline. This variable is a mixture of social factors that Humphrey et al. (1996) characterise as ‘historic, cultural and institutional’. This research begins to understand what constitutes this variable. In providing this understanding it is possible to use the Humphrey et al. (1996) model or similar, to better predict the use of payment methods across the world. The contribution towards this goal within this work is partial but it represents a starting point and demonstrates that social factors do play a part in the payment method volumes and values.

Secondly, market segmentation is a key area of consumer behaviour research allowing researchers to anticipate behaviour based upon a variety of factors including demographics (Thomas and Peters 2009) and behaviours (Ruiz et al. 2004). Previous research has shown that shopping value affects shopping outcomes. Specifically retailer satisfaction, re-
patronage anticipation and word of mouth endorsement are influenced by hedonic shopping value and re-patronage intention is influenced by utilitarian shopping value (Jones et al. 2006). This research provides the basis of a typology that can be used to help predict shopping outcomes based upon certain demographic segments. The research demonstrates a link between demographic segments and shopping value, and therefore suggests that there is a link between some demographic segments (age, combined income and qualification, ethnicity and gender), via shopping value, to shopping outcomes. Female, young and lower combined income and qualification consumers shop hedonically and they may therefore look forward to visiting the store again, spread recommendations by word of mouth and be satisfied with retailers who fulfil their hedonic values. Male shoppers with high levels of combined qualification and gross household income want a utilitarian shopping experience and may therefore have re-patronage intentions leading them to be loyal to stores which offer high levels of convenience, for example large stock levels and speedy assistance.

9.8 Implications - industry

Retailers are aware of the demographic mix of their customers; they will often be aiming their products at certain demographic segments. Knowing this will also now help them understand the prevalent shopping value of their customer base. If they are attracting younger female customers it is reasonable to now suggest they are more hedonic shoppers, and they need to provide a hedonic experience for these patrons. These shoppers will want to hunt out bargains, to spend time in the shop, including breaks for coffee and chats. On the opposite end of the spectrum if a shop is aiming at ‘well heeled’ men then they should make merchandise easy and quick to find, allowing shoppers to be in and out without lingering.

Both retailers and the payment industry should also be aware that some consumers want the act of paying to be part of the excitement of the experience, especially in clothes stores. They therefore need to consider how payment can be included as part of the experience. Some suggestions for achieving this aim are: spot discounts at payment point, paying as an
interactive part of ordering\textsuperscript{54} or paying in more exclusive, interactive and pleasant surroundings, rather than queuing to pay.

The UK payment industry can learn from this research that their hedonic customers are seeking a tactile experience. To create that with electronic payments they need to be interactive rather than just a plastic card; smartphones seem an ideal medium for a more interactive experience. For utilitarian customers it is all about speed and efficiency, and contactless payments may provide that for them. There are also customers that for some products, in some locations, do not want to use electronic payments. These are not all in the ‘informal economy’ but involve issues of personal privacy where more anonymous solutions are required.

9.9 Future research

There are several areas for future research. Firstly, a more in depth qualitative study of attributes of payments methods would be beneficial, using a larger sample and creating a more in depth analysis of what attributes are valued. This would allow the payments industry to really understand how to shape and advertise future products and raise levels of involvement with payment products.

Secondly, further research could be completed to link this research to that of Jones et al. (2006) and Olsen and Skallerud (2011) to find the strength of the link between demographic segment, store attributes and shopping outcome via shopping value in a single piece of primary research (figure 9.2).

\textsuperscript{54} Nandos already allow you to order and pay on a smartphone in their restaurants.
Thirdly a cross-cultural study of the links between shopping value and payment method attributes would check the significance of social factors on the use of payment methods and work towards the goal of better predicting payment method usage by understanding the ‘country dummy variable’. Also a review of the effect of other shopping experience constructs and the influence they may have on the payment method decision.

Finally it would be beneficial to expand the research to other methods of payment and include new methods with different attributes such as smartphone wallets and Bit coins.

9.10 Concluding chapter remarks

This final chapter discusses the implications of this research and the contribution to knowledge the thesis represents. It summarises the results of the analysis for the research question. The identified gaps in knowledge are examined and the contribution from this research, with its limitations and requirements for further research, identified. The implications both academically and managerially are discussed.

9.11 Concluding thesis remarks

The payments industry is moving relentlessly towards a cashless society with improved technology presenting the possibility of mobile phone payments for all items. The current industry concerns are technical rather than social and centre on making the systems robust and protected from fraud. Limited attention has yet been paid to the social factors that need to be overcome in order to displace cash as the largest transaction method in the UK. We now know that hedonic shoppers want their payment method to be tactile and have some element of excitement. This can be replicated using handheld devices if the manufacturers consider the requirement and put the consumer rather than the supplier in the forefront of their thinking. Electronic payment providers will not displace cash by using a ‘one size fits all’ methodology but need to consider the social and cultural needs of their consumers and devise an array of different payment methods that appeal to consumers whoever they are, whatever they are buying in whatever location. Further academic research fully identifying the key social factors that influence demand are required to complete this process.
Once these factors are identified a combined view between economics and consumer behaviour should be able to better predict future payment method demand and eventually manipulate that demand by the design of products and brands that will appeal to all.
Bibliography and references


Newsom (2012), Available at: [http://www.upa.pdx.edu/IOA/newsom](http://www.upa.pdx.edu/IOA/newsom) [Accessed 6-8-13]


UK Cards Association (2012), *A Decade of Cards 2000 - 2010… and beyond.*


Appendices

Appendix A - Involvement questionnaire

This is a self-completion survey for Anne Lewis’s PhD. It is about the method used by people when purchasing goods in shops, pubs, café’s etc.

Could you please complete the survey below based on your own individual feelings.

Only mark one circle per line.

<table>
<thead>
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<tr>
<td>Important</td>
</tr>
<tr>
<td>Boring</td>
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<tr>
<td>Relevant</td>
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<tr>
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<tr>
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</tr>
<tr>
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</tr>
<tr>
<td>Fascinating</td>
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</tr>
<tr>
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<tr>
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<table>
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<tr>
<th>To me, using a debit card to pay is:</th>
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</thead>
<tbody>
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<td>Important</td>
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</tr>
<tr>
<td>Relevant</td>
</tr>
<tr>
<td>Exciting</td>
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<tr>
<td>Means nothing to me</td>
</tr>
<tr>
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### To me, using a credit card to pay is:

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</tbody>
</table>

### Comments

1. **Which age range do you fall within?**

   - 16-29 ○
   - 30-44 ○
   - 45-59 ○
   - 60-74 ○
2. **What is the highest level of education you have achieved?**
   - No formal education
   - GCSE’s or equivalent
   - A level or equivalent
   - Degree level
   - Post graduate

3. **Are you Male ☐ or Female ☐**

4. **What is your ethnic group?**
   (Choose one section A-E, then tick one box to best describe your ethnic origin)

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<td>Welsh, English, Scottish, Northern Irish, British</td>
<td>Gypsy or Irish Traveller</td>
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<td>B.</td>
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<td>White and black Caribbean</td>
<td>White and black African</td>
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5. **Please indicate your annual household income?**

   **Income bracket**

   - Below £20,000 per year ☐
   - Between £20,000 and £40,000 per year ☐
   - Between £40,000 and £75,000 per year ☐
   - Between £75,000 and £100,000 per year ☐
   - Above £100,000 per year ☐
## Appendix B - Focus group exercise scores

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Appendix C - Comments from focus groups

Positive comments regarding cash

<Internals\> - § 22 references coded [2.09% Coverage]

Reference 1 - 0.09% Coverage

I get cash for the housekeeping which makes me feel independent and that the purchases I make are anonymous. My husband is a market trader (self employed) and so relies on cash from customers.

Reference 2 - 0.09% Coverage

I don’t use Debit Cards very much, I am happier using cash.

Reference 3 - 0.09% Coverage

As I am self employed in a cash based shop, I find it easier and cheaper (because of bank charges) to pay for more by cash.

Reference 4 - 0.09% Coverage

People I know prefer cash. It can’t be traced in the same way as other payments.

Reference 5 - 0.09% Coverage

I use envelopes of cash to budget what I need and what family members need and what the business needs. I have worked this way for decades.

Reference 6 - 0.09% Coverage

My mum has given me an envelope full of cash for her funeral and I ‘dib’ into that if I need money quick and then put it back.

Reference 7 - 0.09% Coverage

It is cultural to use cash in a pub. I feel better knowing I have a ‘wodge’ in my pocket when I am going out at night. You use a note to get attention at the bar.

Reference 8 - 0.09% Coverage

I use cash for most things, only large purchases don't use cash.

Reference 9 - 0.09% Coverage

No one argues with cash.

Reference 10 - 0.09% Coverage

Reference 11 - 0.09% Coverage

Reference 12 - 0.09% Coverage

Reference 13 - 0.09% Coverage

Reference 14 - 0.09% Coverage

Reference 15 - 0.09% Coverage

Reference 16 - 0.09% Coverage

Reference 17 - 0.09% Coverage

Reference 18 - 0.09% Coverage

Reference 19 - 0.09% Coverage

Reference 20 - 0.09% Coverage

Reference 21 - 0.09% Coverage

Reference 22 - 0.09% Coverage
Always use cash when I can, prefer this for budgeting

Reference 11 - 0.09% Coverage

Prefer cash

Reference 12 - 0.09% Coverage

Use cash much more than other cards, but I do have them, but prefer cash. Budgeting good with Cash. No-one knows what you are buying.

Reference 13 - 0.09% Coverage

Difficult to spend £50 notes, especially Scottish money, but will always choose cash.

Reference 14 - 0.09% Coverage

Cash is easy and quick, know where you are

Reference 15 - 0.09% Coverage

Use my wifes cash as she has a cash based business

Reference 16 - 0.09% Coverage

Helpful as a small cash rich business to use for items bought at craft fairs and where there are no card payment facilities

Reference 17 - 0.09% Coverage

still prefer cash in my pocket but rarely use these days

Reference 18 - 0.09% Coverage

Like to pay cash for items in local shops that are owned by friends as I think they prefer it

Reference 19 - 0.09% Coverage

Mainly use cash, know where you are

Reference 20 - 0.09% Coverage

prefer cash when going out and bargaining for deals with tradespeople

Reference 21 - 0.09% Coverage

Budget on basis of the cash I take out, each week, if run short (as after I night out) I tend not to go out again, as a budgeting, money saving method.

Reference 22 - 0.09% Coverage

Know where I am most with cash. Started to get cash payments as am self employed and it
makes me feel really good. I budget by writing notes, and need to keep an eye on money coming in as have taxes to pay.

Positive comments regarding debit cards

<Internals\Sheet3> - § 15 references coded  [1.42% Coverage]

Reference 1 - 0.09% Coverage
DC Quicker if paying through telephone banking
Reference 2 - 0.09% Coverage
Use DC all the time as it helps me budgeting when on a starting out income at wok
Reference 3 - 0.09% Coverage
Always quicker to use DC.
Reference 4 - 0.09% Coverage
Use DC all the time unless I want to make a payment for something I don't want a record of
Reference 5 - 0.09% Coverage
Convenient to use DC when I travel for work
Reference 6 - 0.09% Coverage
DC useful to keep a track at end of month for budgeting, got own small business so handy to identify payments clearly on statement
Reference 7 - 0.09% Coverage
Use DC all the time good for convenience and budgeting
Reference 8 - 0.09% Coverage
DC most frequently used, quick, easy and recorded
Reference 9 - 0.09% Coverage
Handy to have DC when going out, don’t like to handle cash re safety
Reference 10 - 0.09% Coverage
Save on transport so must be more environmentally friendly so use DC a lot
Like to have the convenience of debit cards

Use DC frequently, like to see what I have spent

Pay DC fast for petrol etc at pump.

Most frequently I would use DC.

I like to budget now, but generally my habits have changed. Only use DC and cash now.

**Positive comments regarding credit cards**

I like the credit card, manages our household budget and can see on line what the purchases are and what the current balance is. I would always put expensive items on a credit card to get points and manage the cashflow with my monthly salary.

Recently changed to credit card and was influenced by a new partner

Now I pay off CC every month (but didn’t used to) It takes methodical nature to pay off regularly. I like the points and the insurance cover. I only pay half as my partner pays so better for me. Have to use XXXX to get the best points.

I have the CC with the best points

Use CC for most things
DC is convenient, use most of the time

Like to get points on CC but really like the delayed payment at end of the month to pay. Helps personal budgeting

Use DC more often than not, find easiest

I like the credit cards as it gives me points and I get better value on flights etc.

CC good for when I work abroad, I collect airmiles on credit cards

Prefer to use CC to budget and forecast experience of payments

Use DC for day to expenditure like shopping and going out

Prefer CC to cash but prefer DC to CC

Got time to save before payment is due, like/need the credit (cc)

Pay on line so easier using a credit card, passwords make it safe, use for free credit

Credit cards allow me to get points

Read about best savings etc. For example I was probably one of the youngest users with the Barclay Connect. Early adopter on all new products. Want telephone payments like a DC.
Preferred method of payment as get points. Will not use if have to pay for privilege (like booking holidays, tickets etc), will then use a debit card. Like to get all the advantages of having a card - keen to get the benefits like 2% cash back, If a card provider in the past charged a fee and would not return the fee charged I would switch provider.
Appendix D - Main survey questionnaire

Survey of payment method preference

This survey is for academic research being conducted by a PhD student at Manchester Business School. No names or addresses are collected in this survey so it is completely anonymous. You need to be 18 or over to complete this survey. The research is designed to understand more about how we feel towards the shopping experience in different locations and specifically when paying for goods. You can stop this survey at any time you want to and we appreciate the time you are taking.

Please score the boxes below with 1 for Strongly Disagree to 7 for Strongly Agree, with 4 representing neither agree or disagree.

<table>
<thead>
<tr>
<th>Local Newsagent/Shop</th>
<th>Supermarket Shopping</th>
<th>Clothes shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree Agree</td>
<td>Disagree Agree</td>
<td>Disagree Agree</td>
</tr>
</tbody>
</table>

1. Compared to other things I could have done, time spent shopping is truly enjoyable: 1 2 3 4 5 6 7
2. During a shopping trip, I feel the excitement of the hunt: 1 2 3 4 5 6 7
3. I enjoy shopping trips for their own sake, not just for the items I may have purchased: 1 2 3 4 5 6 7
4. I continue to shop here, not because I have to, but because I want to: 1 2 3 4 5 6 7
5. It is important that I accomplish just what I want to while shopping: 1 2 3 4 5 6 7
6. I am disappointed if I have to go to another store(s) to complete my shopping: 1 2 3 4 5 6 7
7. It is important that I feel a shopping trip was successful: 1 2 3 4 5 6 7
8. A good shopping trip is over very quickly: 1 2 3 4 5 6 7

<table>
<thead>
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<th>Supermarket Shopping</th>
<th>Clothes shopping</th>
</tr>
</thead>
<tbody>
<tr>
<td>Disagree Agree</td>
<td>Disagree Agree</td>
<td>Disagree Agree</td>
</tr>
</tbody>
</table>

9. I like the feel of counting out the payment: 1 2 3 4 5 6 7
10. It is important that the payment is fast: 1 2 3 4 5 6 7
11. I must find the payment method convenient: 1 2 3 4 5 6 7
12. I want to get rewards from my payment method when I spend money: 1 2 3 4 5 6 7
13. It is important to me that the shopkeeper/staff welcome the payment method I use: 1 2 3 4 5 6 7
14. Paying can be part of the excitement of the experience: 1 2 3 4 5 6 7
15. I always use the most cost effective method of payment: 1 2 3 4 5 6 7
16. I like knowing there will be a record of my payment: 1 2 3 4 5 6 7

What payment do you generally use in this type of location?
4. Is there a payment value above which you almost always use a credit / debit card?


4. Can you list any products that you almost always pay cash for?


5. Do you have any comments about why you choose different payment methods?


6. Which age range do you fall within? (please tick in circle)  ○ 18-29  ○ 30-44  ○ 45-59  ○ 60-74  ○ 75+

7. What is the highest level of education you have achieved?
   ○ No formal education  ○ GCSE’s or equivalent
   ○ A level or equivalent  ○ Degree level

8. What is your gender?  ○ Male  ○ Female

9. What is your ethnic group?  Please indicate one box below to best describe your ethnic origin

<table>
<thead>
<tr>
<th>White</th>
<th>British</th>
<th>Irish</th>
<th>Any other White background</th>
</tr>
</thead>
<tbody>
<tr>
<td>Asian/Asian British</td>
<td>Indian</td>
<td>Pakistani</td>
<td>Any other Asian background</td>
</tr>
<tr>
<td>Black, African, Caribbean, Black British</td>
<td>African</td>
<td>Caribbean</td>
<td>Any other Black, African, Caribbean</td>
</tr>
<tr>
<td>Other ethnic group</td>
<td>Chinese</td>
<td>Arab</td>
<td>Any other ethnic group</td>
</tr>
</tbody>
</table>

10. Please indicate your annual household income (before tax or any other outgoings)?

| ○ Below £20,000 per year | ○ Between £20,000 and £40,000 per year | ○ Between £40,000 and £75,000 per year |
| ○ Between £75,000 and £100,000 per year | ○ Above £100,000 per year | ○ Prefer not to say |

That’s all. Thank you for your help