

4-2015

Do Payment Types Affect Consumer Preferences?

Arvind Agrawal

University of Nebraska - Lincoln, aagrawal@unomaha.edu

Follow this and additional works at: <https://digitalcommons.unomaha.edu/marketingfacproc>



Part of the [Entrepreneurial and Small Business Operations Commons](#), and the [Marketing Commons](#)

Recommended Citation

Agrawal, Arvind, "Do Payment Types Affect Consumer Preferences?" (2015). *Marketing & Entrepreneurship Faculty Proceedings & Presentations*. 1.

<https://digitalcommons.unomaha.edu/marketingfacproc/1>

This Conference Proceeding is brought to you for free and open access by the Department of Marketing & Entrepreneurship at DigitalCommons@UNO. It has been accepted for inclusion in Marketing & Entrepreneurship Faculty Proceedings & Presentations by an authorized administrator of DigitalCommons@UNO. For more information, please contact unodigitalcommons@unomaha.edu.

DO PAYMENT TYPES AFFECT CONSUMER PREFERENCES?

Arvind Agrawal, University of Nebraska–Lincoln

ABSTRACT

Through a survey-based experimental study, we assess the influence of payment type (credit and debit cards) on consumer purchase intentions. We find that consumer use of credit cards stimulates intention to purchase whereas the use of debit cards lessens consumer intention to purchase. We test the influence of payment type on consumer intention across three purchase situations – buy a TV (control condition), buy a TV plus accessories (buy more condition), and buy a more expensive TV (upgrade to better quality condition). Consumers using credit cards demonstrate positive purchase intentions when faced with a decision to “buy more” and when they are presented with an opportunity to “upgrade to better quality.” They are more likely to upgrade than to buy more, almost significantly so ($p < .06$). The traditional economic thought has been that preferences do not change with payment type, but the use of credit cards allows consumers to purchase more. Our results indicate that credit also changes preferences, as 60% of consumers using credit cards intend to upgrade their brand selection. We also find that with debit cards consumers are likely to have higher intentions to not purchase in the “buy more” and “upgrade to better quality” conditions than the control condition. We extend the buyer behavior model (Howard and Sheth 1969) and most subsequent research in consumer behavior to include the influence of payment type on purchase intentions. The differential effect of a number of individual characteristics is established on consumer intentions to purchase when using credit cards versus when using debit cards.

INTRODUCTION

Credit/debit cards have become the key payment instruments in the US with about two-thirds of consumer and business payments made with cards in 2012 (Reserve 2013). US consumers are fast replacing cash/checks with credit/debit cards (Humphrey 2004). Credit card purchases tend to be of larger dollar value than those made with cash (Hirschman 1979). Consumer use of credit and debit cards has been related to their desire to fulfill their lifestyle needs, reflect their status in the society, and achieve their goals in life (Bernthal, Crockett, and Rose 2005; Hirschman 1979; Peñaloza and Barnhart 2011). However, credit availability leads to puzzling outcomes for consumers, enticing them with the freedom to pursue their lifestyles and constraining them when they lack self-regulation (Bernthal et al. 2005). Money facilitates consumer realization of their lifestyle choices and thus transforms into a moral and social resource (Bradford 2015). Accordingly consumers pursue goals that originate in their moral values (economizing and sustaining) or in their social relationships (treating and rewarding). Money budgeted for thrift or splurging then becomes the conduit for consumers to achieve these goals. This has consequences for consumers as research has found that higher credit card usage accentuates money attitudes (power, distrust, and anxiety), often resulting in compulsive buying behavior for college students (Roberts and Jones 2001). However, debit cards are different since they draw on the available balance in the bank and thus could be driving purchase behavior differently than credit cards.

Of late, debit cards have found favor with consumers in the US accounting for 1.79 times the number of transactions on credit cards; however, in dollar value, general purpose credit cards account for far more (Reserve 2013). The average value of card payments (credit, debit, and prepaid combined) decreased to \$55 in 2012 from \$66 in 2003. This was primarily ascribed to greater adoption of cards for payments with the conversion of lower value cash payments to mostly debit cards. The enhanced use of debit cards has resulted in the reduction of the use of small denomination currency (Amromin and Chakravorti 2009), pointing to a changing conceptualization of money as symbolized by credit and debit cards. The changing conceptualization of money is due to a complex interplay of the economic, emotional, moral, social, and goal-oriented symbolization that is inherent in debit and credit cards as symbols of money (Bernthal et al. 2005; Bradford 2015; Roberts and Jones 2001). An understanding of how consumers

integrate these multiple payment types in achieving their life goals will be useful in ascertaining their marketplace exchange behavior.

Rewards motivate consumers to use credit cards (Arango, Huynh, and Sabetti 2011) and could change consumer value perceptions in market exchanges, possibly leading to greater consumer loyalty (Bolton, Kannan, and Bramlett 2000). However, greater psychological pain when paying with cash as compared to credit cards also leads to greater consumer commitment for the product post purchase (Shah et al. 2016). While Shah et al. (2016) did not include debit cards in their experiments, the pain of payment for debit cards is expected to fall in between cash and credit cards (Prelec and Loewenstein 1998; Raghurir and Srivastava 2008). Raghurir and Srivastava (2008) find that the spending amount is higher when paying with gift certificate and credit card as compared to paying with cash. It follows then that consumer motivation to purchase itself can be stimulated (or hindered) by the choice of payment type. Varying consumer benefits and value perceptions should translate into different types of payment cards driving consumer preferences differently towards marketplace spending. This is a gap in the literature as there is little information on differences in consumer preferences when presented with alternative choices of using debit versus credit cards. Assessing these differences in consumer preferences gets complicated due to the multiple factors that affect the choice of a payment mode by consumers as discussed earlier (Amromin and Chakravorti 2009; Arango et al. 2011; Bernthal et al. 2005; Hirschman 1979; Peñaloza and Barnhart 2011; Shah et al. 2016). A comprehensive understanding of the effects due to the choice of debit or credit card for payment on consumer purchase preferences is yet to be studied. Therefore, the research questions we ask are as follows:

- RQ1:** We know that the choice of payment type (debit versus credit card) leads to a difference in consumer spending amounts, but does it lead to a difference in consumer preferences in the purchase itself?
- RQ2:** Does the choice of payment type influence the incremental purchase decisions by consumers in terms of whether they buy more versus upgrade to higher quality products/services?
- RQ3:** Do consumer demographics, benefits available on the card, and consumer payment practices differentially influence consumer purchase behavior when using debit versus credit cards?

With credit cards becoming a habitual mode of payment (Cohen 2007), one wonders if they simply represent the utility value of money in the exchange process? Or do credit cards provide the illusion of greater resource availability to the consumer, thereby reducing one of the barriers (lack of resources) noted by Howard and Sheth (1969) between attitude and behavioral intentions? Consumers may selectively use a particular payment type depending on the transaction characteristics, such as its size (Hirschman 1979). In this research, we test the effect of individual payment type for large transaction values (\$1200 and above) across a number of variables that have been found to affect consumer learning over time.

We employ an experimental survey setting to assess the effect of debit versus credit card payment modes on consumer purchase behavior. We find that while credit cards encourage purchasing, debit cards dissuade consumers from spending and perhaps encourage savings. We assess these differences across incremental purchase settings as well as across multiple demographic, card benefit, and consumer payment practice variables. The rest of this manuscript establishes the theoretical foundation for this exchange phenomenon, followed by hypothesis development, methodology including sample selection, and finally the results with the discussion of theoretical and managerial implications of this study.

THEORETICAL FOUNDATION

While credit availability has been one of the important drivers of US economic growth in recent times, it is important to understand the longer term effect of credit in fashioning consumer behavior (DellaVigna 2007). Access to credit is an implicit necessity to be a middle-class consumer in the US. Available credit allows consumers access to daily necessities such as telephone, electricity, and banking

services (Foust and Pressman 2008). Credit cards could be said to possess a certain privilege and a social premium over debit cards as consumers need to be “eligible” and “qualify” for credit cards while debit cards are simply a matter of opening a bank account. Not only does the credit limit available on the card vary according to the “credit assessment” of an individual by the financial institution, but also credit card issuance itself could be denied with typically an upper limit to the number of credit cards a consumer can get from across different financial institutions. There is no such limit on debit cards. Being able to get a credit card, therefore, means that the consumer has been able to meet the standards set for financial prudence and foresight expected of a consumer by the financial institution. Credit cards serve as one of the tools desired by consumers for building a good credit history (Foust and Pressman 2008). Availability of credit, therefore, can be seen as a social triumph and can turn consumers agentic, empowering them, giving them strength, and creating optimism about their future (Peñaloza and Barnhart 2011). What effect does the choice of debit card have on the consumer?

Many research studies on payment types have focused on a combination of characteristics first highlighted by Hirschman (1979) that may determine the consumer’s choice of a payment type: (1) person, (2) payment system, (3) product, (4) the place accepting the remittance, and (5) the situation in which the transaction takes place. For example, Soman (2001) determined that the recall and aversive impact of past payments can affect the future spending behavior and thus the utility of the transaction. The “Theory of Buyer Behavior” identifies stimuli related to the product/service being transacted in the perceptual and learning processes leading to purchase behavior (Howard and Sheth 1969). These include the physical, pictorial, and linguistic stimuli (manifested in quality, price, distinctiveness, service, and availability), and social stimuli (influence of family, reference group, and social class). In this model, the type of money used in the transaction has been assumed to be effect neutral and thus does not figure as an antecedent that could change the internal state of the buyer and thus result in distinct purchase behavior. Subsequent research built on this earlier theory carried out in the contexts of relationship marketing (Sheth and Parvatlyar 1995), constructive consumer choice processes (Bettman, Luce, and Payne 1998), and even value conceptualizations (Ravald and Grönroos 1996) similarly did not include the value that payment mode may add to the exchange process.

As noted earlier making payments with a relatively more painful form of payment (such as cash or checks) increase the commitment to the product purchased, or in the case of donations increase the commitment to the organization to whom the donation is made (Shah et al. 2016). Credit cards are a relatively less painful form of payment as compared to debit cards which result in instantaneous wealth reduction and thus lead to a feeling of immediate loss to the consumer (Prelec and Loewenstein 1998; Raghubir and Srivastava 2008). In the case of credit cards since the consumer is required to pay the bill after a lag time (usually after 30 days of receiving the bill and on an average 45 days after purchase), the feeling of loss is delayed and could even be diminished due to the time-inconsistent behavior of consumers (Hoch and Loewenstein 1991). Thus, the choice of payment type in market transactions (debit card vs credit card) should influence the consumer willingness to make the market transaction. While monetary considerations could be explained by the economic theory of utility maximization, the differences in non-monetary incentive may lead to a range of consumption behaviors across consumers (DellaVigna 2007).

Consumers construct choice strategies contingent on task demands instead of having well-defined pre-existing preferences (Bettman et al. 1998). The primary reason for this is that consumers are limited by their processing capacity. Choice strategies are influenced by consumers’ limited attention, their selective comprehension of information, and their perception of the situation. Pre-existing goals, therefore, gain predominance in consumer construction of choices and lead to motivated reasoning (Kunda 1991). Preference for a payment mode could be reflective of consumer effort to achieve their goals through an efficient use of their money. As noted earlier, research has identified credit availability as leading to consumer’s agency and strength (Peñaloza and Barnhart 2011), which leaves us to wonder what a lack of credit could mean? This question can be answered by studying the differential effects on purchase intentions

of the two main types of payment modes (credit and debit cards) in use today as they account for almost half of all consumer transactions in the US (Foster et al. 2011).

We propose an extension of the “Theory of Buyer Behavior” to include payment mode as an antecedent to consumer choice influencing the consumption process. Specifically, this research tests the effects of debit versus credit cards in influencing consumer purchase decisions (Figure 1). We test for three purchase conditions in this research: (1) a control condition (\$1200 purchase), (2) decision to buy-more (\$1500 purchase), and (3) decision to upgrade to a better quality product (\$1500 purchase). Next we establish the hypotheses for this study.

HYPOTHESIS DEVELOPMENT

Consumer perception of payment type is reflected in the choice of payment mode for different transaction characteristics (Arango et al. 2011; Bounie and François 2006; Reserve 2013; Soman 2001, 2003). Cash is generally used for low value (\$25 and less) transactions due to speed, merchant acceptance, and low costs. Debit and credit cards (as compared to cash) are used more frequently for higher transaction values where safety, record keeping, and the ability to delay payment gain prominence (Arango et al. 2011). Research on the use of credit cards has clearly established their effect on purchase amount with consumers buying more with credit cards (Feinberg 1986; Hirschman 1979; Roberts and Jones 2001; Soman 1999). Consumer behavior is shaped by the extent of the social status that they are able to derive from a particular transaction. Consumers need to qualify for credit cards and credit limits as noted earlier. This means that credit cards are a source of social status (Feinberg 1986; Peñaloza and Barnhart 2011). Hirschman (1979) found that consumers make a larger total dollar purchase with credit cards than those paying by cash. The total dollars spent by the purchaser are higher when at least one transaction is made with a credit card than when all transactions are made with cash (Hirschman 1979). Credit cards being lower on the pain of payment and payment coupling as compared to debit cards (Prelec and Loewenstein 1998; Raghuram and Srivastava 2008) leads us to infer that:

- H1:** Credit card usage will lead to positive and higher consumer buying intention across (a) control condition, (b) buy more condition, and (c) upgrade to the better quality condition as compared to debit cards.

Roberts and Jones (2001) found that money attitudes (power-prestige, distrust, and anxiety) are moderated by credit card usage, sometimes leading to compulsive buying among American college students. Credit limits signal future income potential to consumers and so they lead to a feeling of liquidity and immediacy of consumption (Soman and Cheema 2002). Consumers are driven by status consciousness and use “convenient credit” provided by credit cards to lead lifestyles that may be beyond their immediate financial means (Cohen 2007). Consumers primed with credit cards expressed higher reservation prices (Chatterjee and Rose 2012). Research has shown that consumers would choose quality products when the price to quality trade-off offered in the market is lower than their own price-quality trade-off threshold (Diehl, Kornish, and Lynch 2003). CCs direct consumers’ attention to product benefits in product evaluations (Chatterjee and Rose 2012), which is expected to change the inherent meaning that consumers assign to CCs in product comparisons from mere objectification of the various items under evaluation to the access cost of quality (Zelizer 1989). The extra-economic motivations shaping the meaning of money represented by different payment types (DCs versus CCs) are expected to affect the price the consumer is willing to pay for an additional quality. The benefit focus in product evaluations with CCs thus should lead to a greater willingness to pay for quality. Combining the benefits focus of consumers when using CCs, lower payment coupling and thus lower psychological pain of payment with CCs, and an illusion of liquidity for the consumer leads us to infer that:

- H2:** Credit card usage will mean higher purchase intentions when upgrading to better quality goods/services than the intention to buy more.

Debit card transaction size is less than half that of credit cards as noted before (Amromin and Chakravorti 2009). Debit cards' increased usage by consumers has led to reductions in change and small currency in circulation which means that they have replaced cash in market exchanges. Payment mechanisms vary in terms of their transparency with higher transparency correlating to greater levels of the pain of payment and negatively with consumption and spending (Prelec and Loewenstein 1998; Soman 2003). Debit cards have higher payment transparency as compared to credit cards. Past payments strongly reduce purchase intention when the consumer is reminded of immediate wealth depletion (Soman 2001). This leads us to infer that debit card usage leads to a more conservative consumer behavior and thus:

H3: Debit card usage will more likely lead to negative purchase intentions across control, (b) buy more, and (c) upgrade to better quality conditions.

We first test the three hypotheses that are offered in this research and then follow-up our findings with an investigation of the impact on consumer purchase intentions across a number of consumer characteristics for each individual purchase context.

METHODOLOGY

An experimental survey methodology is used to investigate consumer choice (buy / no buy) in a three (control condition, buy more, buy better quality) by two (access only to credit card / access only to debit card) design. The control condition presented here is the option to buy a \$1200 Samsung 55" TV. The buy more option refers to \$1500 for the Samsung 55" TV plus surround sound system. The buying better quality option refers to purchase of \$1500 Sony 55" TV. The buying more and buying better quality are consumer perception-based measures. So these conditions are established through an explanation contained in the scenario. The price of items was taken from an e-commerce website in order to make realistic representations of consumer choices. Participants were randomly assigned to either the credit card only or the debit card only condition. For details on the three scenarios, please refer to Appendix 1.

The participants for this research are members of University of Nebraska Federal Credit Union, Lincoln (UNFCU). Any member of UNFCU 20 years old or over was targeted for the survey. A total of 4032 surveys were sent using the "Qualtrics" online survey platform, of which 396 bounced back. Subsequent to a reminder sent four weeks after the initial email, we received a total of 727 completed responses for a 20% net response rate. The early and late responders were compared and revealed non-significant differences in response. The respondent profile is given in Table 1. We note that the respondents to this study have a higher level of education and income as compared to the US population. This is expected since the sample is drawn from the University of Nebraska employees, alumni, and student population.

Table 1 About Here

Participants started with answering questions about their family, card ownership, and financial situation. They were asked to assume that they had available only the payment type they were randomly assigned to in the study while answering their purchase preferences (binary choice: buy / not buy) in the three scenarios which came next. They ended the survey sharing their demographic characteristics.

The research used several measures across which the responses have been analyzed. Measures are selected based on their inclusion in earlier studies of payment types (Ching and Hayashi 2010; Kara, Kaynak, and Kucukemiroglu 1996; Reserve 2013; Zelizer 1996). These include: (1) demographic characteristics of the consumer (gender, education, marital status, household (HH) income, age, ethnicity); (2) consumer family characteristics (family size, number of adults, number of children); (3) consumer financial situation (earning members, HH spending versus HH income annually, satisfaction with financial condition, ability to cover monthly expenses); (4) payment card ownership (number of credit cards (CCs), number of debit cards (DCs), number of other cards, number of CC with rewards, number of CC with fees,

number of DC with rewards, number of DC with fees, number of other cards with rewards, number of other cards with fees); (5) card benefit perceptions and experience across different shopping formats (interest on outstanding balance, experience shopping with CC on-line, experience shopping with CC face-to-face, experience shopping with DC on-line, experience shopping with DC face-to-face, CC provide freedom to spend, accustomed to using CC, CC allow increased spending, CC help build credit profile); and (6) consumer payment practices (bills paid in full, revolve on card, pay minimum bill amount, charged late payment fees).

RESULTS

Hypothesis Tests

Overall we find (Table 2) that across each of the three conditions CCs versus DCs produce purchase intentions that are significantly different (Control condition: $\chi^2(1, 585) = 87.67, p < .01$; Buy More condition: $\chi^2(1, 581) = 45.71, p < .01$; Upgrade to Better Quality condition: $\chi^2(1, 577) = 63.88, p < .01$). Across each of the three conditions (control, buy more, upgrade to better quality) CC usage leads to consumer intentions to purchase (odds in favor of buying for control condition: 3.01, buy more: 1.10, and upgrade to better quality: 1.51). Thus, H1a, H1b, and H1c are supported. DC usage across the three scenarios leads to consumer intentions to not purchase (odds in favor of buying for control condition: 0.58, buy more: 0.33, and upgrade to better quality: 0.37). Thus, H3a, H3b, and H3c are supported. Both CCs and DCs produce significant differences across the three conditions. We use confidence intervals (CI) to assess the relationship between the three conditions. Here the CI is calculated on the natural log scale and then converted back to the original scale. If the CI does not contain “one” then we infer that there is an association between the two nominal variables. If the entire interval is higher than “one”, then the numerator has a higher probability. If the entire interval is lower than “one,” then numerator has a lower probability. With CCs, the odds of buying in the buy more condition are similar to the odds of buying in the upgrade to better quality condition (95% CI = (0.52, 1.02)). Given that 1.0 is almost excluded from the range, we can conclude that H2 is marginally supported as consumers are more likely to upgrade to better quality than to buy more.

This study finds that CCs generally generate higher consumer preferences to purchase than DCs. While the use of CCs promotes purchase intentions, use of DCs inhibits consumer intention to purchase. However, this is not always true. Respondents who disagree that CCs are convenient prefer not to buy with their CCs (percent respondents prefer not to buy- control condition: 67%; buy more condition: 78%; upgrade to the better quality condition: 67%). Respondents who are not accustomed to using CCs prefer not to buy with their CCs (percent respondents prefer not to buy- control condition: 54%; buy more condition: 78%; upgrade to the better quality condition: 70%). In these cases, consumer use of CC triggers intentions to not buy that are generally observed when consumers have to use their DC to pay. Similarly, this study finds a reverse influence on consumers who do not own CCs with rewards. For these consumers, DC use triggers an intention to purchase in the control condition.

Consumer Characteristics Influence on Purchase Intentions in the Presence of DCs versus CCs

Now that we have found that CC usage influences decisions both to buy more and to buy better, we will investigate demographic and attitudinal variables in an attempt to provide more insight into under what conditions does the use of CCs has such effects. Many consumer characteristics were found to have no significant effect on consumer purchase intentions when using either DCs or CCs: education, marital status, perception of HH spending versus HH income, satisfaction with financial conditions, whether the respondent is able to cover her/his monthly expenses, number of CCs or DCs with rewards that they hold, number of CCs or DCs with fees, number of other cards (prepaid, gift, charge) that they hold, good or bad experience using CCs or DCs in a face-to-face environment, experience using DCs in an online environment, whether the respondent pays bills in full or revolves on their CC, and whether they were charged late payment fees or not.

The consumer characteristics that affected respondent intention to purchase using a CC or DC are discussed next.

Consumer Characteristics with Distinct Purchase Intentions due to CC Usage

CC use influences consumer purchase intentions differently across consumers with different HH incomes, ethnicities, family size, the number of CCs owned, the number of CCs with rewards owned, the experience of using CCs online, consumer perception of whether CCs provide freedom to spend, and whether consumers are accustomed to using CCs. The influence of each of these variables is presented below.

Income: CCs are instrumental in consumers exhibiting increasing purchase intentions as HH incomes increase. Consumers at all levels of HH income display higher intentions to buy except when those with incomes of less than \$50,000 annually are faced with buying more or upgrading to higher quality, in which case consumers show a preference to not buy. The effect of CCs is visible across all three scenarios (control condition: $\chi^2(7, 269) = 26.74, p < 0.01$; buy more condition: $\chi^2(7, 267) = 17.76, p < 0.01$; upgrade to better quality condition: $\chi^2(7, 264) = 20.14, p < 0.005$). The higher the household income, the greater the tendency among respondents to purchase with credit cards in the control condition (the willingness to buy increases with income, from 60% of those with incomes under \$50,000 to 93% of those with incomes over \$100,000). It is interesting to note that when respondents use a CC, they have a greater purchase intention when they upgrade to better quality than when they buy more. However, household income does not have any effect on respondent's purchase intentions when they use DCs for payment across the three scenarios.

Ethnicity: Ethnicity predicts purchase intention when respondents use a CC in the control ($\chi^2(5, 281) = 17.08, p < 0.004$) and upgrade to better quality ($\chi^2(5, 276) = 11.41, p < 0.04$) conditions. In the control condition, Whites/Caucasians have the highest intent to purchase with a CC (78%) whereas in the upgrade to the better quality condition it is the Asians/Pacific Islanders who have the highest intent to purchase (82%). It has been commonly observed that Asians (especially East Asians) have preferences for brands seen to have higher quality.

Family Size: Respondent family size has a significant influence on their purchase intention when they use a CC to make purchases in the control ($\chi^2(4, 287) = 9.60, p < 0.05$) and upgrade to better quality ($\chi^2(4, 280) = 8.94, p < 0.06$) conditions. In the control condition, respondents with any family size show a preference to buy with a family size of two showing the highest intention to purchase with CCs (84%). This changes when it comes to making a decision in the upgrade to the better quality condition. Here a family size of four shows the highest intention to purchase (69%). Family size does not affect purchase intention in the buy more condition with CCs and when respondents use DCs in any of the three scenarios.

Number of Credit Cards: The greater the number of CCs owned by our respondents, the greater the intention to buy when using a CC for purchase in the control condition ($\chi^2(5, 290) = 18.08, p < 0.003$; purchase intentions with number of CCs owned: none – 47%, one – 63%, two – 74%, three to four – 84%, > five – 87%). Since CCs are linked to credit availability on each card, ownership of a greater number of CCs could mean qualification for more credit. This is corroborated by the number of CCs that are strongly correlated with household income (Pearson correlation $r = 0.196, p < 0.001$). Thus, ownership of a greater number of CCs may lead to higher spending (Soman 1999; Soman and Cheema 2002). With CCs offering the most expensive means of credit, we might assume that respondents holding more CCs would be under greater financial pressure in cases when they are using all of their CCs. To check this assumption, we ran the correlation of CC ownership with the satisfaction with the financial condition (Pearson correlation $r = 0.066, p < 0.10$) which are not correlated. Thus, the use of multiple CCs does not appear to reflect situations where consumers were maximizing the credit limits on some of them.

Number of Credit Cards with Rewards: “Ownership status of CCs with rewards” as a consumer characteristic is related to purchase intentions across all the three scenarios whether they use a CC for purchase (control condition: $\chi^2(1, 293) = 10.99, p < .001$; buy more condition: $\chi^2(1, 290) = 10.24, p < .001$; upgrade to better quality condition: $\chi^2(1, 286) = 9.90, p < .002$) or use a DC for purchase (control condition: $\chi^2(1, 292) = 15.03, p < .001$; buy more condition: $\chi^2(1, 291) = 15.40, p < .001$; upgrade to better quality condition: $\chi^2(1, 291) = 14.33, p < .001$).

When using CC for purchases in the control condition, it does not matter whether the CC has rewards on it or not as respondents prefer to buy (purchase intentions: own no CCs with rewards – 63%, own CCs with rewards – 81%). However, this changes in the buy more and upgrade to the better quality condition. Respondents continue to prefer to buy when they use a CC with rewards (percentage of respondents preferring to purchase: in the buy more condition – 59%, in the upgrade to better quality condition – 67%). When they do not have rewards on their CC, they reverse their preference to not buy (percentage of respondents preferring to purchase: in the buy more condition – 39%, in the upgrade to better quality condition – 47%). We notice therefore that respondents (using CC with rewards) when upgrading to a better quality show a higher intention to purchase than when they want to buy more (67% versus 59%). Thus, CCs with rewards have a significant impact on consumer purchase intentions whether consumers use CCs or DCs for purchase.

Credit Card Experience Online: Respondent CC experience online predicts purchase intentions when respondents use a CC in the control condition ($\chi^2(4, 265) = 9.82, p < 0.04$). Respondent inclination is to buy (percentage of respondents preferring to purchase when CC experience online is: poor – 50%, fair – 71%, good – 76%, and very good – 82%) but not when they have a very poor experience of using the CC in an online environment, in which case they do not prefer to buy (percentage of respondents preferring to purchase – 0%). However respondent experience with CC use in an online environment does not have any effect when they have to make incremental purchase decisions in the buy more and upgrade to better quality conditions.

Credit Cards Provide Freedom to Spend: Respondent perception of whether CCs provide freedom to spend influences them as to whether they will spend (or not) when using a CC across all the three scenarios (control condition: $\chi^2(4, 286) = 22.94, p < 0.001$; buy more condition: $\chi^2(4, 285) = 11.22, p < 0.02$; upgrade to better quality condition: $\chi^2(4, 281) = 17.59, p < 0.001$). Respondents who agree or strongly agree that CCs provide freedom to spend prefer to buy when using a CC (percentage of respondents with purchase intention in (a) control condition: strongly agree that CCs provide freedom to spend – 91%, agree that CCs provide freedom to spend – 74%; (b) buy more condition: strongly agree that CCs provide freedom to spend – 72%, agree that CCs provide freedom to spend – 53%; (c) upgrade to better quality: strongly agree that CCs provide freedom to spend – 79%, agree that CCs provide freedom to spend – 60%). In the control condition respondents who strongly disagree that CCs provide freedom to spend prefer to buy using CCs (percentage of respondents with purchase intention – 68%), while that is not so in the decisions to buy more (percentage of respondents with purchase intention – 46%) and to upgrade to better quality (percentage of respondents with purchase intention – 48%) scenarios.

Accustomed to Using Credit Cards: Respondent perceptions that they are accustomed to using CCs is related to their purchase preference in all three conditions when they use CCs for purchase (control condition: $\chi^2(4, 288) = 40.02, p < 0.001$; buy more condition: $\chi^2(4, 286) = 34.46, p < 0.001$; upgrade to better quality: $\chi^2(4, 282) = 35.32, p < 0.001$). Respondents who strongly agree to being accustomed to using CCs show a higher likelihood of purchase in all the three conditions with their CCs (percentage of respondents with purchase intention when they strongly agree that they are accustomed to using CCs: control condition – 93%, buy more condition – 71%, upgrade to better quality – 80%). However, the intention to purchase drops as they are less accustomed to credit cards.

Consumer Characteristics with Distinct Not to Purchase Intentions due to DC Usage

DC use influences consumer purchase intentions differently across genders, age groups, the number of CCs owned, and consumer perception that CCs help build credit profile.

Gender: Use of CC does not influence purchase intentions differently for males versus females in any of the purchase conditions. However gender does have an effect on purchase intentions when respondents pull out a DC in the “buy more” condition ($\chi^2 = (1, 289), p < 0.02$). Females tend to be more conservative in this situation, showing a higher preference to not buy than males (79% versus 67%).

Age: Respondent age affects purchase intentions when consumers use DCs in the control ($\chi^2 (3, 289) = 7.93, p < 0.04$) and buy more conditions ($\chi^2 (3, 289) = 9.23, p < 0.02$). The greater the respondent’s age, the higher is their intention to not buy with their DCs.

Number of credit cards owned: The greater the number of CCs owned by our respondents, the greater the intention to not buy when using a DC for purchase in the control and buy more conditions (control condition: $\chi^2 (5, 291) = 12.07, p < 0.034$; buy more condition: $\chi^2 (5, 288) = 18.004, p < 0.003$). The intention to not purchase in the DC condition is highest for those owning greater than five CCs (intention to not purchase with number of CCs owned (a) in the control condition: none – 31%, one – 57%, two – 64%, three to four – 71%, > five – 71%; (b) in the buy more condition: none – 38%, one – 68%, two – 84%, three to four – 79%, > five – 79%).

Credit Cards Build Credit Profile: Respondent perception of whether CCs help them build their credit profile is predictive of their purchase preferences in the control and upgrade to better quality scenarios when using DCs (control condition: $\chi^2 (1, 284) = 4.25, p < 0.03$; upgrade to better quality: $\chi^2 (1, 284) = 4.08, p < 0.04$). Respondents intend to not buy with their DCs both in the control and upgrade to better quality conditions.

DISCUSSION

This research focused on assessing the effect of payment type (CC versus DC) on consumer purchase preferences. We find that the use of CCs for making purchases stimulates consumers’ intention to purchase while the use of DC inhibits their purchase intention, holding them back from making a purchase. Moreover, with CCs consumers are not only likely to buy more, they are also likely to upgrade to better quality.

We find that when respondents use CCs for payment, the following variables influence their intentions to purchase differently across the three conditions: household income, ethnicity, family size, number of CCs owned, ownership of CCs with rewards, experience with using CCs online, consumer perception that CCs provide freedom to spend, and that consumers get accustomed to using CCs.

Different variables sway consumer intentions across the three conditions when respondents pay with their DCs. These include gender, age, the number of CCs owned, and consumer perception as to whether CCs build a credit profile. Notice the absence of DC characteristics from this list. The overwhelming influence of CC characteristics on differences in consumer purchase intentions across the three conditions when paying with a DC brings into focus the formative influence of CCs on consumer purchase behavior. This holds at least for large value transactions as was the case in this research. CCs are the third largest payment form used in the US (21.6% share of total consumer payments) closely following DCs (29.9%) and cash (26.8%) (Schuh and Stavins 2013b). However, the adoption rates for DCs and CCs are very similar (80% and 78%) (Koulayev et al. 2012). CCs however, have a higher share by value as the average CC transaction (\$94) was more than double that of DC (\$39) (Reserve 2013). CCs play a significant role in consumer payment type portfolios (US consumer holds on an average three out of the four payment

types - CC, DC, check, and bank account) and thus their compelling influence on a majority of market transactions (Schuh and Stavins 2013a).

These findings are innovative since they emphasize the need to include the choice of payment type as one of the influencers in the purchase decision adding to the extrinsic influencers (importance of purchase, culture, social class, personality trait, social and organizational setting, time pressure, and financial status) and intrinsic influencers (attitudes and motives) in the conception of the model of buyer behavior (Howard and Sheth 1969). This research is unique as it provides a differential meaning to the two forms of money (debit and credit cards) that are instrumental for the majority of consumer transactions today. The consumer's choice of debit or credit cards for payments is reflective of the importance of the exchange task as it influences their purchase intentions differently. Just like the extrinsic and intrinsic influencers for purchase in Howard and Sheth's (1969) "Model of Buyer Behavior," the choice of payment type by consumers drives their motivation and attitudes towards the acquisition of the good/service. Consumers thus exercise their strategies to use their wealth appropriately through the choice of different payment types. Thus, payment types play an important role in shaping consumer preferences that go beyond the simple exchange task.

This has important implications for managers who can now assess purchases in light of this new factor (payment type: debit or credit card) that influences consumer purchase intentions differently across unique purchase occasions. Managers are focused on influencing consumers to select their product and brand. They can now consider the influence of the payment type in consumer purchase intentions. Managers can develop more effective programs such as loyalty development, relationship marketing, building consumer perceived value, and consumer construction of choice strategies through monitoring / influencing the payment type used by consumers. Managers can now prioritize consumers that are more likely to get convinced to contribute higher revenues by looking at the payment type used. Those consumers who use CCs may be convinced to purchase more and upgrade to better quality brands. However, managers are better off leaving the consumers using DCs alone as they are less likely to purchase and could target them with focused "savings" oriented consumer promotions.

LIMITATIONS AND FUTURE RESEARCH

This research has assumed a descriptive role assessing the relationship of individual variables with the consumer intention to purchase. The variables selected have been a mix of behavioral (attitudes, predispositions, and opinions) and behavioristic (objects of choice such as the number of cards) nature. Future research can look at the integrative effect of these variables on consumer purchase intention when consumers pay with DC or CC. Future research could also assess the impact of subjective variables such as motivations, emotions, and past experiences. This research could further examine at what stage of the consumer decision making process does the choice of payment type influence consumer intentions. This research is limited by the profile of the consumer sample drawn from the credit union members at Lincoln, NE. As can be noticed from Table 1, the profile is skewed towards a wealthier class of consumers, as is to be expected with a university credit union. A more balanced sample could be drawn through a more probabilistic stratified sample. This research assumes equal opportunity to each consumer to own DC or CC with no environmental constraints limiting their goal-directed pursuance.

Payment types (debit and credit cards) influence consumer intentions to purchase as this research highlights. Payment types have been found to influence consumer purchase intentions across multiple characteristics including demographic, perceptual, experiential, and environmental. Payment types could be symbolic of consumer attitudes and motivations and thus, play a more enduring influence on consumer purchase intentions rather than just being the exchange fuel in a transaction. This finding opens up the extensive literature on consumer exchange where we can now include access to consumer payment type as one of the antecedents to purchase intention.

REFERENCES

- Amromin, Gene and Sujit Chakravorti (2009), "Whither Loose Change? The Diminishing Demand for Small-Denomination Currency," *Journal of Money, Credit and Banking*, 41 (2-3), 315-35.
- Arango, Carlos A., Kim P. Huynh, and Leonard Sabetti (2011), "How Do You Pay? The Role of Incentives at the Point-of-Sale," *Bank of Canada Working Paper 2011-23*.
- Bernthal, Matthew J., David Crockett, and Randall L. Rose (2005), "Credit Cards as Lifestyle Facilitators," *Journal of Consumer Research*, 32 (1), 130-45.
- Bettman, James R., Mary Frances Luce, and John W. Payne (1998), "Constructive Consumer Choice Processes," *Journal of Consumer Research*, 25 (3), 187-217.
- Bolton, Ruth N., P. K. Kannan, and Matthew D. Bramlett (2000), "Implications of Loyalty Program Membership and Service Experiences for Customer Retention and Value," *Journal of the Academy of Marketing Science*, 28 (1), 95-108.
- Bounie, David and Abel François (2006), "Cash, Check or Bank Card? The Effects of Transaction Characteristics on the Use of Payment Instruments," *Telecom Paris Economics and Social Sciences Working Paper No. ESS-06-05*.
- Bradford, Tonya Williams (2015), "Beyond Fungible: Transforming Money into Moral and Social Resources," *Journal of Marketing*, 79 (2), 79-97.
- Chatterjee, Promothesh and Randall L. Rose (2012), "Do Payment Mechanisms Change the Way Consumers Perceive Products?," *Journal of Consumer Research*, 38 (6), 1129-39.
- Ching, Andrew T. and Fumiko Hayashi (2010), "Payment Card Rewards Programs and Consumer Payment Choice," *Journal of Banking & Finance*, 34 (8), 1773-87.
- Cohen, M. J. (2007), "Consumer Credit, Household Financial Management, and Sustainable Consumption," *International Journal of Consumer Studies*, 31 (1), 57-65.
- DellaVigna, Stefano (2007), "Psychology and Economics: Evidence from the Field," *Journal of Economic Literature*, 47.2, 315-372.
- Diehl, Kristin, Laura J. Kornish, and John G. Lynch (2003), "Smart Agents: When Lower Search Costs for Quality Information Increase Price Sensitivity," *Journal of Consumer Research*, 30 (1), 56-71.
- Feinberg, Richard A. (1986), "Credit Cards as Spending Facilitating Stimuli: A Conditioning Interpretation," *Journal of Consumer Research*, 13(3), 348-56.
- Foster, Kevin, Erik Meijer, Scott D. Schuh, and Michael A. Zabek (2011), "The 2009 Survey of Consumer Payment Choice," *FRB of Boston Public Policy Discussion Paper* (11-1).
- Foust, Dean and Aaron Pressman (2008), "Credit Scores: Not-So-Magic Numbers," *Business Week*, 7.
- Hirschman, Elizabeth C. (1979), "Differences in Consumer Purchase Behavior by Credit Card Payment System," *Journal of Consumer Research*, 6 (1), 58-66.
- Hoch, Stephen J. and George F. Loewenstein (1991), "Time-Inconsistent Preferences and Consumer Self-Control," *Journal of Consumer Research*, 492-507.

- Howard, John A. and Jagdish N. Sheth (1969), *The Theory of Buyer Behavior*, Vol. 14: Wiley New York.
- Humphrey, David B. (2004), "Replacement of Cash by Cards in Us Consumer Payments," *Journal of Economics and Business*, 56 (3), 211-25.
- Kara, Ali, Erdener Kaynak, and Orsay Kucukemiroglu (1996), "An Empirical Investigation of Us Credit Card Users: Card Choice and Usage Behavior," *International Business Review*, 5 (2), 209-30.
- Koulayev, Sergei, Marc Rysman, Scott Schuh, and Joanna Stavins (2012), "Explaining Adoption and Use of Payment Instruments by Us Consumers," Working Papers, *Federal Reserve Bank of Boston*.
- Peñaloza, Lisa and Michelle Barnhart (2011), "Living US Capitalism: The Normalization of Credit/Debt," *Journal of Consumer Research*, 38 (4), 743-62.
- Prelec, Drazen and George Loewenstein (1998), "The Red and the Black: Mental Accounting of Savings and Debt," *Marketing Science*, 17 (1), 4-28.
- Raghubir, Priya and Joydeep Srivastava (2008), "Monopoly Money: The Effect of Payment Coupling and Form on Spending Behavior," *Journal of Experimental Psychology: Applied*, 14 (3), 213-25.
- Ravald, Annika and Christian Grönroos (1996), "The Value Concept and Relationship Marketing," *European Journal of Marketing*, 30 (2), 19-30.
- FederalReserve (2013), "The 2013 Federal Reserve Payments Study," https://www.frb services.org/files/communications/pdf/research/2013_payments_study_summary.pdf: Federal Reserve System.
- Roberts, James A. and Eli Jones (2001), "Money Attitudes, Credit Card Use, and Compulsive Buying among American College Students," *Journal of Consumer Affairs*, 35 (2), 213-40.
- Schuh, Scott and Joanna Stavins (2013a), "The 2013 Survey of Consumer Payment Choice: Summary Results," (accessed 1/20, 2016).
- (2013b), "How Consumers Pay: Adoption and Use of Payments," Vol. 12(2): *Federal Reserve Bank of Boston*.
- Shah, Avni M., Noah C. Eisenkraft, James R. Bettman, and Tanya L. Chartrand (2016), "'Paper or Plastic': How We Pay Influences Post-Transaction Connection," *Journal of Consumer Research*, Forthcoming.
- Sheth, Jagdish N. and Atul Parvatlyar (1995), "Relationship Marketing in Consumer Markets: Antecedents and Consequences," *Journal of the Academy of Marketing Science*, 23 (4), 255-71.
- Soman, Dilip (1999), "Effects of Payment Mechanism on Spending Behavior: The Illusion of Liquidity," *Journal of Consumer Research*, 27 (4), 460-74.
- (2001), "Effects of Payment Mechanism on Spending Behavior: The Role of Rehearsal and Immediacy of Payments," *Journal of Consumer Research*, 27 (4), 460-74.
- (2003), "The Effect of Payment Transparency on Consumption: Quasi-Experiments from the Field," *Marketing Letters*, 14 (3), 173-83.

Soman, Dilip and Amar Cheema (2002), "The Effect of Credit on Spending Decisions: The Role of the Credit Limit and Credibility," *Marketing Science*, 21 (1), 32-53.

Zelizer, Viviana A. (1989), "The Social Meaning of Money: Special Monies," *American Journal of Sociology*, 342-77.

--- (1996), "Payments and Social Ties," in *Sociological Forum*, Vol. 11, 481-95.

APPENDIX 1

Scenarios Offered to Respondents

Control Scenario

You are shopping for a new TV for your house. Your old TV set is behaving erratically and you don't want to miss watching another episode of your favorite show on the big screen. You have done your research on-line and now want to make sure that the TV model you shortlisted is up to expectations. You are determined to walk out of the showroom with the TV set without having to go through all the TV sets on display. So you walk into an electronics store and ask specifically for the 55 inches Samsung ultra HD TV. The salesperson takes you to the model on display and runs through all the features. You like it and ask the salesperson to prepare the invoice. The salesperson takes you to the billing counter and prepares the invoice adding taxes, installation, and delivery charges. She/he announces the bill totals \$1200. You take out your wallet and notice that you only have your credit card with you.

Would you buy or not?

(Please assume you have a credit card (or debit card for the other group) even though currently you may not have one)

- Yes, I will buy (1)
- No, I will not buy (2)

Buy-More Scenario

As the salesperson presents you the bill, you inquire whether you can add the surround sound and home theater system to the TV. You had played video games at your friend's house and the home theater system added so much more to the thrill of the game. The salesperson shares the various options in surround sound and home theater system that go with the Samsung TV you had selected. You choose one of the systems and ask the salesperson to include that in the invoice. The salesperson brings you back to the billing counter and bills you for the Samsung TV together with the surround sound and home theater system. She/he announces that the bill totals \$1500. You take out your wallet and notice that you only have your credit card with you.

Would you buy or not?

(Please assume you have a credit card (or debit card for the other group) even though in reality you may not have one)

- Yes, I will buy (1)
- No, I will not buy (2)

Upgrade to the Better Quality Scenario

As the salesperson presents the bill, you wonder if you should have gone for a brand like Sony. Your friend never tires showing off her/his Sony TV. You also remember fondly the good time you had with your old TV, which was a Sony. You had also noticed during the research on-line that Sony was rated higher by a prominent technology website. You inquire from the salesperson and she/he too confirms that Sony is rated higher and is more advanced. She/he takes you to the 55 inch Sony ultra HD TV on display which is priced at \$1500 including taxes, delivery, and installation. The Sony TV looks sleeker and more stylish to you. You think this over and then decide that this will be worth the investment. You ask the

salesperson to bill you for the Sony TV. The salesperson once again takes you to the billing counter and prepares a fresh bill that this time is for the Sony TV. She/he announces that the bill totals \$1500. You take out your wallet and notice that you only have your credit card with you.

Would you buy or not?

(Please assume you have a credit card (or debit card for the other group) even though in reality you may not have one)

- Yes, I will buy (1)
- No, I will not buy (2)

FIGURE 1
The Role of Payment Device at the Point of Exchange
Influencing Consumer Purchase Intentions

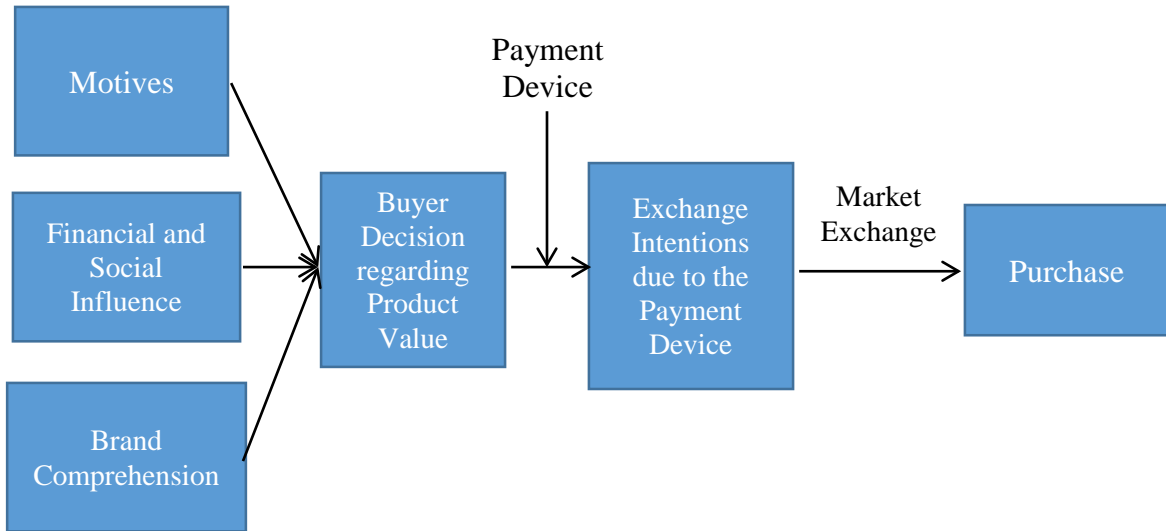


TABLE 1
Demographic Characteristics of the Respondents

Variable	Mean	SD	Percentage
Gender			
Male			38%
Females			62%
Average age (years)	49.17	14.92	
Ethnicity			
White Caucasians			84.5%
Hispanic or Latinos			3.4%
Asian / Pacific Islanders			3.4%
Marital Status			
Married			55.4%
Single			25%
Divorced			12.3%
Education			
Postgraduate education			45.5%
College graduates			31.9%
Some college education			16.5%
High school graduates			4.4%
Annual Income			
< 25,000			8%
25,000 to < 50,000			24%
50,000 to < 100,000			49.1%
>= 100,000			29%

TABLE 2

χ^2 values	Credit Versus Debit Card		
	Control Condition	Buy More Condition	Upgrade to Better Quality Condition
Overall	$\chi^2(1, 585) = 87.67, p < .01$	$\chi^2(1, 581) = 45.71, p < .01$	$\chi^2(1, 577) = 63.88, p < .01$
Odds: Buy / Not Buy			
Credit Card	3.01	1.10	1.51
	H1a supported	H1b supported	H1c supported
Debit card	0.58	0.33	0.37
	H3a supported	H3b supported	H3c supported

	Credit Card
	Buy More versus Upgrade to Better Quality
Odds comparison	1.10 versus 1.51; 95% CI = (0.52, 1.02)
	H2 is marginally supported