CHAPTER 3

REVIEW OF LITERATURE
1. Literature Review:

Indian economy is passing through a transformation stage and under going a major financial revolution. As we shift from a cash-dependent to a cashless economy, we look forward to better social equity, availability of more resources for development work through higher revenue collection, eradication of counterfeit currency, a reduction in illegal transactions and a curb on black money. Meeting these a large number of research work has been carried out by the researcher, academicians. In the present research review researcher has carried out review of different research articles and divided literature review into 4 parts, as following:-

- Motivation of cashless transaction system.
- Present need of cashless transaction system.
- Confidence and satisfaction of cashless transaction system.
- Uses pattern of cashless transaction system.

3.1 Review on Motivation of cashless transaction system:-

Amrinder Kaur (2010) in his research article “Customer Satisfaction Perspective in Public Sector Banks: Post-Privatization Scenario has described the metamorphous change in the last couple of decades after the onset of reforms in the financial sector. Here the author endeavors to appraise the customer satisfaction scenario in the public sector banks in relation to foreign banks.”

Ausu BCL, Lawrence M. (1997) in his article "Credit card defaults, credit card profits and bankruptcy”, presented available data on credit card delinquencies and charge-offs and examined the relationship with data on the number of personal bankruptcy with two general economic factors- the cyclical state of the economy and the household debt burden. The effect of credit card profitability has had on credit card defaults are analyzed. The effect, which deregulation has had on credit card profits is also discussed. He also explored the likely consequences of recent proposals to limit the discharge ability of credit card debt on bankruptcy. This article concluded that various proposals for limiting the discharge ability of credit card debt are likely to lead to an increase in the expected profitability of lending to marginal consumers.
Awh, R.Y and O. Waters (1974), in their study “A discriminant analysis of economic, demographic and attitudinal characteristics of bank charge cardholders: A case study”, tries to find out the relationship between card use and economic, demographic and attitudinal variables to know the differences between active and inactive cardholders. They found that attitude towards bank credit cards is the most differentiating factor distinguishing active and inactive cardholders. Other factors were age, socioeconomic standing, types and number of other cards held by an individual, general attitude towards credit, education and income.

Benito Arrunada(2005) in his paper “Price Regulation of Plastic Money: A Critical Assessment of Spanish Rules” had analyzed the extent of cardholder’s fee, mandate payment systems to include only two costs when setting their domestic multilateral interchanges fee (MIFs): a fixed processing cost and a variable cost for the risk of fraud, the pricing scheme arising from the decisions will cause unbundling and under provision of those services whose cost are excluded.

Bongiorni, Sara, Greater Baton Rouge (2003) in their article “Electronic Transactions” focuses on electronic transactions, which are cheaper and more secure for businesses, reducing the possibility of employee theft and other concerns. Moreover, retailers favor debit cards because the fee charged by banks to process the transaction, typically 2 percent, is less than that on a credit card purchase. Personal finance experts say that the trend towards cashless living offers both peril and opportunity for consumers. For businesses, the trend means new opportunities to capture customer loyalty. Traditional credit card companies like VISA, which also issue debit cards, offer premiums based on a number of spending cardholders.

Byers and Lederer (2001) in their studies, “The profitability of e-banking and in this study” it has been shown it is more profitable for the banks to change the consumer’s habits rather than adjust their own cost structure. The introduction of e-banking did not replace any other service. This dissertation is focused on how customers reacted to the change in part, and as such the customer’s notion of what bank services are must be investigated.

Dangwal, Kailash Sakalani and Swati Anand (2010) in their article E-Banking had analyzed the banking technology, which was, become the engine for triggering rapid change. In their work they discussed the current IT tools applicability’s in the banking
such as Electronic Clearing and Settlement System, MICR/OCR Clearing System, Credit Clearing System, Debit clearing system, RTGS, SFMS, SWIFT, Plastic Money (Debit cards, Credit Cards, Smart Cards, Contactless Smart Cards), E-Commerce, remote banking services, ATM, e-cheque, Mobile Phone Banking, Biometric ATM for rural India and others. The article discussed era, where most of the bank business is carried out with the help of electronic gadgets.

**Douglas Akers, Jay Golter, Brian Lamm, and Martha Solt**, the article begins by describing the formation of the payment card industry and then its structure. The article continues by explaining the functioning of credit card networks: the various kinds of network models, and the significance of interchange fees in the most complex model. Next discussed are recent industry-altering litigation involving Visa and MasterCard, and significant aftereffects of the litigation. The article concludes by noting the main challenges facing the industry today.


**Gans, Joshua S. and Stephen P. Bing (2003)** in their paper “A theoretical analysis of credit card reforms in Australia”, developed a model of payment systems designed to analyses the impact of credit card reforms in Australia based on Reserve Bank of Australia’s (RBA) main assumptions. RBA moved to reform credit card associations by increasing entity, allowing merchants to surcharge for card payments and regulating the interchange fee. Allowing merchants to surcharge may eliminate much of their concern over the interchange fee.

**Gerdes and Walton, 2002** in their studies, “With the introduction of automated clearing houses such as SWIFT, there has been a direct decline in the usage of paper cheques with direct debits and withdrawals replacing them As a result, it is not just cash that has been affected by technological improvements but also cheques. The technological improvements led to the reduction in costs due to transaction handling charges and improved the availability of electronic transfers Stemming from these
improvements came plastic cards such as debit and credit cards which have sped up the process of banks becoming cashless.”

**Goyal, Anitha (2004)**, in her study “Role of supplementary services in the purchase of credit card services”, focused on understanding the significance of supplementary services as non-personal source of information to consumers for pre-purchase evaluation, the impact of supplementary services

**Gronroos (1990)** “In order to achieve service differentiation, attention needs to focus on how consumers perceive the brand from a holistic perspective based on perception versus the whole interaction between the consumer and the service provider”

**Hayashi, Fumiko and Elizabeth Klee (2003)** in their paper “Technology adoption and consumer payments: Evidence from survey data” commented that payment choices depend consumers propensity to adopt new technologies and nature of transactions. This paper also analyzed the use of consumer payment instrument at the point of sale. It is indicated that consumers who use new technologies and computer are more likely to use e-payment instruments such as debit cards. Credit cards, smart cards etc.

**I. O. Akinyemi, E. O. Asani, A. A. Adigun** in their article, “The benefits of e-banking have been established as being numerous and its success has been argued by many researchers to depend partly on the quality of the banking services but more especially on customer preferences and satisfaction. Surprisingly, as numerous as these e-banking benefits are, very long queues could still be seen in many Nigerian banks for the consumption of the traditional banking services of fund transfer, cash deposits, and cash withdrawals. However, to prove the success of e-banking in Nigeria, users’ acceptance and satisfaction of the system need to be validated. Many research works had been conducted using the Technology Acceptance Model (TAM), an information system theory that models how users come to accept and use a technology, to predict and explain users’ acceptance of e-banking. TAM poses two theoretical constructs; perceived usefulness (PU) and perceived ease of use (PEOU) as fundamental determinants of user’s acceptance of an information system. This research work examines the factors that may influence users’ acceptance and satisfaction of e-banking in Nigeria by adding the impact of perceived credibility (PC) and trust to the TAM constructs (PU and PEOU) with four other external variables (convenience, quality of technology, service quality and system accessibility) in extending its validity on
examining user’s acceptance and satisfaction of e-banking system in Nigeria as a panacea towards operating a cashless economy. The result of the hypothesis testing using Pearson chi-square is consistent with previous studies which showed that there is a significant relationship in the predicted direction on intention to use information system (IS).”

Ingram and Pugn (1981), in their paper “EFT and bank cards: Household attitudes and practices”, examined the consumer ownership and usage of bank credit cards and found that young married couples, retired heads of households, sole survivors, and single member household tend to own fewer bank credit cards. It also revealed that the level of household income and education are positively associated with bank credit card ownership.

J Hunt, Robert M. (2003) in his article “An introduction to the economics of payment card networks”, provided an overview of the economics of the card industry and explained some of the differences from the textbook model of competitive markets. Such differences are important factors for the antitrust analysis of payment card networks.

Kalyan Ram Addanki (2009) in his article “Customer Retention in the Banking Sector had analyzed the customer behavior and services provided by the banks behavioural pattern of a new customer and challenges faced by the banking sector to retention the customers.”

Kinsey, J. (1981), in his paper “Determinants of credit card accounts: An application of Tobit analysis”, investigated the determinants of credit card accounts. In this study, it was found that although income is a very important determinant in the number of credit card accounts held, low income does not decrease the number of card accounts held as much as living in a small town or rural area. High income, on the other hand, is the most important determinant for increasing the number of credit card accounts.

Kulwant Singh Pathania and Mamta Sharma (2010) in their paper Adoption of Banking Technologies had analyzed the adoption rate of the banking technologies, identifies the operational problems in the use of modern technologies, and suggested the measures for improvement in the use of technologies.
Lalit Mohan and Kathuria Singhania (2010) in the article “Investor Knowledge and Investment Practices of Private Sector Bank Employees had analyzed the level of knowledge regarding various investment avenues and present investment practices of an employee of private sector bank. The Study revealed that a large majority of the respondents in the Ludhiana city had invested in secured investment like employee provident fund, public provident fund and post office saving schemes and even, the bank employees considered as an investment tool rather than risk coverage instrument.”

Mann, Ronald J. (2005) in his paper “Global credit card use and debt: Policy issues and regulatory responses”, dealt with the global use of the credit card connected policy questions. The pressures of globalizations are rapidly driving convergence in card usage except in those countries that have dropped substantial ‘speed bumps’ to slow the growth of cards. Focus is to devise policies that will be useful to confine the problems related to credit cards without creating undue inefficiencies in retail payment systems. It also analyzed different reforms that might be useful to policy makers of different perspectives.

Masters, Adrian and Rodriguez (2005) in their article “Endogenous credit card acceptance of precautionary demand for money”, pointed out with a model, how the use of credit cards can differ so widely across countries. Retailer’s propensity to accept cards reduces the need for buyers to hold cash as the chance of a stock-out (of cash) is reduced. When retailers make their decision with respect to credit card acceptance they do not take into account the effect that decision has on another seller.

Oginni Simon Oyewole, El-Maude, Jibreel Gambo, Mohammed Abba, Michael Ezekiel Onuh in his article, “Technological advancement has provided efficient and effective payment system devoid of ‘cash and carry syndrome’. Specifically, electronic payment system provides a medium through economic exchanges take place without visiting brick and mortal banks or with no physical presence of the transacting parties. While electronic payment system enjoys prominence in Nigeria, evidence of its contribution to economic growth has not been empirically established. Meanwhile, the current Transaction to the cashless economy was essentially based on the prominence of e-payment system. Therefore, this study, for the first time, explored the relationship between e-payment system and economic growth as means of reviewing current Transaction to a cashless economy in Nigeria. Data was analyzed using OLS and TSLS
methods covering a period of 7 years (2005-2012). The result indicates a significant positive relationship between e-payment system and economic growth in term of real GDP per capita and trade per capita. Only ATMs was found to positively contribute to economic growth while other e-payment channels contribute negatively. Hence, current cashless policy should be tailored towards effective e-payment system and other factors which bear much relevance on a successful Transaction to the cashless economy should be prioritized.”

Puri, Vishal (1997) in his paper “Smart cards — the smart way for the banks to go?” examined the many innovative smart card applications covering areas such as telecommunications. Transport, banking, health care and employee/membership schemes. It looked at how the banks, financial services firms, information companies and card issuers are gradual re conceptual their delivery strategy as well as their businesses to meet the growing need for remote delivery, brand equity, and differentiation. Smart cards could act as payment vehicles, access keys, information managers, marketing tools and customized delivery systems. It also explored the possibilities of an electronic purse ranging from a possible stored value and to a reloadable stored value card, which could literally replace low-value cash transactions. Smart cards would then become integral to the bank’s concept of remote delivery system in the future because smart cards are not just a product; they are a new delivery system. Besides, the paper” focused on some of the issues that might be of deeper concern to banks and suggests collaboration between banks and providers in the mass introduction of smart cards.

Ramayah, T., Nasser Noor and Aizzat Mohd. Nasarudin (2002) in their study “Cardholders attitude and bank credit card usage in Malaysia: An exploratory study”, aimed at validating attributes that influence the differences in attitudes among active and inactive cardholders. By focusing on relevant attributes that have been identified. it is believed that credit card issuing banks can position themselves effectively via their marketing strategies to active their existing cardholders usage rate as well as to attract new active cardholders. Thirteen important attributes were used to measure credit cardholder’s attitude. These attributes include acceptance level, credit limit, interest-free payment period, annual fees, application approval period, ancillary functions, handling of card holder’s complaints, issuing bank image, gift/bonus to new applicants, card design, leaflet to describe the card and advertising by the issuing bank. Acceptance
level, credit limit, interest-free repayment period, ancillary functions. Handling of cardholder’s complaints, bank image, and bank advertising were found to be the most important attributes that influenced cardholder’s attitudes in distinguishing active from inactive cardholders. Based on the study, several suggestions are forwarded to the credit card issuing banks as a step to simulate credit cardholder’s usage level. Among those are to work closer with various retailers to promote the credit card payments mode, to provide adequate credit limit to cardholders, to extend interest-free payment period from 20 days to 30 days, to implement strategic alliances with firms involved in traveling, entertainment, insurance and telecommunications and advertise more so as to create a brand name for the issuing bank.

Rob, Mohammad A. and Emmanual U. Opara (2003), in their paper “Online credit card processing models: Critical issues to consider by small merchants”, attempted to address the current state of the online credit card processing system. An overview of the credit card processing mechanism, followed by a discussion of various credit card processing systems also are provided. They also focused on the various models of online, real-time credit card processing system and discuss several factors such as cost, complexity and security issues related to implementing such a system and also give suggestions which are extremely valuable to small business that is venturing into internet commerce.

Baddeley, Michelle (2004) in his paper “Using e-cash in the new economy: an economic analysis of micro-payment systems”, analyzed the micropayment systems and especially the use of e-cash in the new economy. The key characteristics of successful e-payment innovations are analyzed by using binary dependent variable estimation techniques on data derived from the E-Payment System Observatory (EPSO) database.

Santiago Carbó-Valverde Nadia Massoud Francisco Rodríguez-Fernández Anthony Saunders Barry Scholnick, in their article, “This working paper provides a critical survey of the large and diffuse literature on credit cards, debit cards, and ATMs. We argue that because there are still many outstanding issues and questions about the pricing, use, and substitutability of these payment mechanisms, that there are significant further opportunities for research in these areas. A large number of questions are examined in this survey, including the pricing of credit cards, the impact of networks
on the provision and pricing of ATMs, as well as the tradeoffs that consumers make between different types of payment mechanism, including debit cards, credit cards, and ATMs. Importantly, this paper is also amongst the first to provide new evidence on this latter question from bank level data (from Spain). We conclude that point of sale (debit card) and ATM transactions are substitutes, and that ATM surcharges impact point of sale volume significantly.”

Wilko Bolt and Sujit Chakravorti in their studies “In this article, we survey the recent theoretical literature on payment cards and study their implications for public policy. Payment card networks have faced regulatory scrutiny in several countries regarding the setting of various fees including interchange fees—fees paid by the merchant’s financial institution to the cardholder’s financial institution. In addition, other common payment practices such as no-surcharge rules have also been challenged in several jurisdictions. Unlike other types of markets, card payment services are network goods where two distinct end-users (i.e. consumers and merchants) must participate for the good to be consumed.”

Motivation of customer for cashless transaction system is important factor. Many studies conducted on Amrinder Kaur (2010) said that the customer motivate through good banking facility, Ausu BCL, Lawrence M. (1997) said in their article, that credit card charges demotivate consumer for cashless tansaction, Awh, R.Y and O. Waters (1974) also said that bank charges on card demotivate cashless transaction, Benito Arrunada(2005) also indicate demotivation of cashless transaction because the variable and fixed cost on cards, Bongiorni, Sara, Greater Baton Rouge (2003) in their article said that the electronic transaction was cheaper so its motivate the cashless transaction, Byers and Lederer (2001) also state in his article that if bank motivate customer for e banking than the growth of cashless transaction increases smoothly, Dangwal, Kailash Sakalani and Swati Anand (2010) in his article that electronic devices motivate customer for cashless transaction, Douglas Akers, Jay Golter, Brian Lamm, and Martha Solt in his article focus on what are the issues for motivating cashless transaction. The discussion leads to the following hypothesis

Hypothesis no 1. Various factors of motivation in favor of Cashless Transaction System do not differ significantly across the customer demographics.
3.2 Review on present need of cashless transaction system:

Adewale Adegoke Alawiye-Adams in their article, “The article examined critically, the workability of the cashless society in some countries of the world and particularly in Nigeria, specifically identifying reasons why Nigeria and its financial system are ill-equipped and therefore not ready or capable of implementing the cashless society project for now. Although, quite a number of countries have introduced the new identity and placement of microchip in human hand under the guise of security for cashless society and the hidden biometric identification features in I.D cards under the guise of cashless policies Some of this security measures are hidden agenda by governments to invade the privacy of the citizenry taking undue advantage of the secret information obtained via the avenue of properly coded identification for cashless society project. It is hoped that this strategy will bring about the change that is needed in the transformation and revolution against cash money. Despite the fact, that money eliminated the challenges faced during the barter system. The trend in economic development has surpassed those solutions that money provided in the days of barter, therefore posting needs for more efficient means of both local and international payment settlements.”

Alvares, Cliford (2009) in their reports “The problem regarding fake currency in India.” It is said that the country's battle against fake currency is not getting easier and many fakes go undetected. It is also stated that counterfeiters hitherto had restricted printing facilities, which made it easier to discover fakes. According to chief economist Soumendra K. Dash, the solution to the problem is to provide people incentive to use plastic cards and make cashless transactions.

Ann Borestam and Heiko Schmiede, “The present paper explores issues surrounding multilateral interchange fees (MIFs) in payment card markets from various angles. The Euro system’s public stance on interchange fees is neutral. However, the Euro system takes a keen interest in facilitating a constructive dialogue among the stakeholders involved in this debate. Transparency and clarity with respect to the real costs and benefits of different payment instruments are indispensable for a modern and harmonized European retail payments market. Interchange fees (if any) should be set at a reasonable level so as to promote overall economic efficiency in compliance with competition rules.”
Anvari, M. (1990) in their article, “The experience of the Canadian payment system. May be of benefit to others as they develop, adopt and grapple with the resulting challenges and opportunities of payment system innovations. Focuses on the challenges of adopting new payment system technologies on a large scale.

Ashish Das, and Rakhi Agarwal, (2010) in their article “Cashless Payment System in India- A Roadmap” Cash as a mode of payment is an expensive proposition for the Government. The country needs to move away from cash-based towards a cashless (electronic) payment system. This will help reduce currency management cost, track transactions, check tax avoidance / fraud etc., enhance financial inclusion and integrate the parallel economy with the mainstream. Additionally as the card, usage crosses the boundaries of big cities and gains popularity into the hinterland, the electronic payment system will generate huge volumes of data on the spending behavior of persons in these areas. This information will help the Government in its objective of getting more and more person under the financial inclusion net by designing products that meet the spending behavior of individuals. Over time when card payments grow and represent a significant part of retail sales, the card payments data could also be used as a quick estimate of private consumption.

Atanda, Akinwande A., and Alimi, Olorunfemi Y. “This study discussed in details the structure, importance, challenges and consequences of the newly adopted cashless policy program in the Nigerian banking sector. The cashless policy is mainly instituted to enhance the effectiveness of flow of financial resources among economic agents in the economy at least cost possible as well as ensuring prompt cash transfers within the system. The Central Bank of Nigeria (CBN) cashless initiative is geared towards eliminating the continuous use of physical cash in most daily transactions at the business unit of the economy, as well as regulating, controlling, and securing the financial system. A critical analysis of the policy as contained in this report as identified major constraints that can hinder the effectiveness of the cashless banking without prompt attention by the concerned authority.”

Bansi Patel, Urvi Amin in their article “Plastic Money: Roadmap towards Cash Less Society” the world glance as per technology changes suitable changes should be adopted by the economy. In addition, among all the changes in economy lead to some drastic changes in the transaction. Nowadays in any transaction, Plastic money becomes
an inevitable part of the transaction. In addition, with it, life becomes easier and development would take better place. Relating to Indian scenario how the plastic money took place in the banking world would be the focus by the researcher over here. In addition, along with the plastic money it becomes possible that control the money laundry and effective utilization of financial system would become possible which would also helpful for tax legislation.

Bernardo Batiz-Lazo, Thomas Haigh, David Stearsin their article, “The future matters to business history, because the adoption of new technology and new organizational forms has often been driven by the acceptance of a collective sense of what the future will be. Investments are made and strategies set on an industry-wide basis, influenced by the predictions of business consultants, industry groups, and futurists. To explore the part played by the future in shaping the past we focus on the establishment and early acceptance of the idea of a rapid and inevitable Transaction to a “cashless society” in US retail financial services industry during the 1960s and 1970s.

Bhala, R. (1995), in their studies, “The legal foundations of large-value credit transfer systems and the importance of certainty, efficiency, and fairness in funds transfer law.”

Brimmer, A. F. (1971). In their studies, “The special efforts made by central banks in developing countries to orient economic growth toward the goals of economic development. Of particular importance is its assistance provided for development institutions and acting as a development adviser to the government.”

Cabral, Luis M.B. (2005) in the paper “Market power and efficiency in card payment systems: A comment on Rochet and Tirole”, commented on the main ideas of R and T models used for economic analysis of card payments and lay down a simple basic model that essentially captures the features of R and T model.

Gupta, Promod (2004) in his article “The future of plastic money”, discussed the use of plastic money and its growth in India in recent years.

Hiroshi Fujiki and Migiwa Tanaka, (2009) in their article “Demand for Currency, New Technology and the Adoption of Electronic Money: Evidence Using Individual Household Data” currency demand indicates that average cash balances do not decrease with the adoption of electronic money. Rather, it seems to increase under some specifications. Second, households at the lowest quantile of the cash balance
distribution tend to have higher cash balances after adopting of electronic money. These findings indicate that consumers do not significantly substitute cash holding with e-money holding despite the rapid diffusion of electronic money among households.

Hugh Thomas, in their article, “In observing the many paths that countries are taking to get closer to cashless, we have come to realize that local circumstances dictate both the path of the journey and the destination. There is a traditional path to going cashless, but the experience is showing that government focus and technological innovation can create shortcuts and may also change what the final destination looks like. Kenya is unlikely to take the same path to cashlessness as Sweden, and its final destination will likely look different as well.

Jain, P.M (2006) in the article “E-payments and e-banking” opined that e-payments will be able to check black money. Taking fullest advantage of technology, quick payments and remittances will ensure optimal use of available funds for banks, financial institutions, business houses and common citizen of India. He also pointed out the need for e-payments and modes of e-payments and communication networks.

James (2008), in his article Growth of Plastic Money: Prospects and Problem had discussed economic and business prospects and problems involved in the plastic money market. In his work, it clearly studied the basic terms, plastic money, electronic payment and credit cards. The study also focused on plastic money penetration in India, reasons for the growth and strong future for plastic money.

Jashim Khan, Margaret Craig-Lees, in their article, “A limited number of ‘cashless transaction’ studies addressed the issue that the mode of payment affects perceptions of money and purchase behavior, the majority of the research is in the area of the credit card payment mode. Credit card based research has shown that when a credit card based payment is used, the volume, value and type of products purchased increase. Whether this is due to the credit element or to the ‘cashless or mobile’ element of the transaction is not known. The notion that the tangibility of cash influences perceptions of money is not novel, but it is untested. This discussion paper suggests that under conditions of cash, there is awareness (conscious/unconscious) that a possession of value transferred and this perception may well have a direct impact on people’s perception of money and their spending behavior.
Lola Hernandez, Nicole Jonker and Anneke Kosse in this study, “Due to the financial crisis, an increasing number of household’s faces financial problems. This may lead to an increasing need for monitoring spending and budgets. We demonstrate that both cash and the debit card are perceived to be helpful in this respect. We show that on average consumers who are responsible for the financial decision-making within a household consider the debit card to be more useful for monitoring the total value and nature of their expenses than cash. There are however important differences across individuals. In particular, low-income people and the liquidity-constrained attach the greatest value to cash as a monitoring and budgeting tool. Finally, we present evidence that these preferences strongly affect consumers’ payment behavior at an aggregated level. We herewith suggest that the substitution of cash by cards may slow down because of the financial crisis. In addition, we show that cash still brings benefits that current electronic counterparts have not yet succeeded to provide. This suggests that consumers may be encouraged to use electronic payment instruments more frequently by incorporating enhanced budgeting and monitoring features.”

Lt. Lester A. Jenkins, in their article “Tracking money internationally, will also be a critical part of fighting terrorism. We cannot afford to sit idle watching criminals develop and refine methods of cybercrime while hoping that Transitioning to a cashless system will be the panacea for crime. We need to develop new technology and adapt existing technologies to help us become more efficient and effect at fighting crime. Many of the steps we take to battle today’s criminal will be effective in tomorrow’s cashless society. Whatever the form a cashless society takes on, we can be sure of one thing, and that is that criminals will be working day and night trying to come up with ways to cheat the system. Our job will be to try to predict what actions they will take, to design systems that are difficult to cheat and processes that make it easy to prosecute the crime.

Phylis M. Mansfield Mary Beth Pinto Cliff A. Robb, in their article, “Research in the area of consumer credit card abundance of literature in the business, psychology, and public policy fields. The 1960s, the work revolved around descriptive characteristics and evolved as scholars probed deeper by investigating relationships between credit cards and psychological constructs, and the need for consumer policy. While the scope of credit card research has broadened, there is a need to pause and reflect on what we actually know about the phenomenon, given its proclivity in society.
This paper identifies the empirical research conducted over the past four decades in order to provide insights and recommendations for additional research. A total of 537 refereed journal articles from 8 databases were reviewed and evaluate to credit cards, with a final working 2012. Emerging trends are identified and suggestions for future research are provided.”

**Pulp & Paper** (1998) focuses on the US Bureau of Engraving and Printing's assessment of the possibility of using alternative materials, such as plastic, in making folding money. Australia's conversion of all its bills to plastic; Effort to lengthen the lifetime of bills and to deter counterfeiting; Canadian producer Domtar Inc.'s patents for Luminus, a polyester product that could replace paper currency.

**Slocum, J., and L-. Mathews (1970)**, in their study “Social class and income indicators of consumer credit " Studied the influence of social and income variables on credit card selection and usage among cardholders in the USA. They found that members of the lower socio-economic class tend to use their cards for instalment financing much more than higher socio-economic classes. Upper classes tend to use their cards as a convenient method of payment. Lower classes showed more impulse buying than the middle class, who feels that they should save money and postpone purchases. The upper classes do not need to save and defer gratification, and since there is no reason for instalments, they use credit cards for convenience. It also showed that age, sex, and marital status are the significant determinants of credit card selection and its usage.

**Snellman, Jussi S., Jukka M. Vesala and David Humphrey (2001)** in their study “Substitution of non-cash payment instruments for cash in Europe,” has pointed out that the substitution of non—cash ( cheque, giro, credit and debit card) payments for cash transactions is of interest for monetary policy and for determining central bank. Substitution of general-purpose (bank) cards for proprietary cards and how issuers can predict which consumers are most likely to substitute convenience and rebates are the primary reasons for using a bank card. However, consumers use their proprietary retail cards to obtain better service. These results help to explain the growth in popularity of ‘co-branded cards’.

**V. E. Ejiofor, J. O. Rasaki**, in their studies, “In an attempt for Nigeria to have a sound economy as projected in vision 20:2020, the Central Bank of Nigeria embarked on
cashless economy policy. It is universally agreed that a safe and efficient national cashless system is essential for sound banking. This paper dwelt on the meaning of a cashless system, explain information technology and internet banking techniques, and highlighted the benefits of cashless economy and that electronic payment systems have the potential to reduce if not eliminate the problems consumers face in the payment and settlement system. The paper also revealed that consumers are ready to embrace the new cashless economy policy despite the glaring bottlenecks and cashless risks. The discussion Leads to the following hypothesis

**Hypothesis no 2. The Present need of Cashless Transaction System as its uses does not differ significantly across the customer of different demographics.**

### 3.3 Review On Consumer Confidence And Satisfaction From Cashless Transaction System:-

**Klee, Elizabeth (2005)** in his paper “Paper or plastic?” the effect of time on check and debit card use at grocery stores", use scanner data from grocery store transactions to examine time costs associated with media of exchange. It shows that time factors significantly determine the use of media of exchange and sensitivity to these time factors depend on the income, age, and demographic characteristics local market.

**Olson, Elizabeth Olson, (2007)** this article offers information regarding the increasing trend of using debit cards instead of cash amongst the youth of the U.S. It states that spenders between 18-25 years of age prefer to swipe their debit cards even for petty expenses. It states that convenience and speed of such transactions are the factors responsible for the trend, however, those who do not keep a track of their bank balances face financial crisis.

**Orr, Bill (2006)** in his article “Virtually cashless society”, showed the emerging changes in the field of payment industry and bring forth the benefits of cashless society and the need for micropayments infrastructure.

**Santomero, Anthony M. and John J. Seater (1996),** in their paper “Alternative moneys and the demand for media of exchange”, analysed the various alternative moneys such as prepaid cards, cash cards electronic purse, smart cards etc. and their demand for media of exchange with the help of Baumol - Tobin Model. Important findings were - a range of asset use decreases as household income falls, usage patterns.
of media of exchange differ and households with the same income but the different allocation of income among consumption goods and households tend to use the higher interest medium of exchange to buy the good that constitutes the largest share of its income etc.

Stix, Helmut. (2004) on his paper “How do debit cards affect cash demand”? Survey data evidence”, analyzed how EFTPOS payments and ATM withdrawals affect cash demand. The result revealed that cash demand is significantly and sizable affected by debit card usage and that are significant differences in cash demand for individuals with different debit card usage frequencies. In addition, the effect of EFTPOS payments on cash use at the point-of-sale is also discussed.

Subhani (2011) conducted a study on ‘Plastic Money/Credit Cards Charisma for Now and Then’. The study was based on finding out the charisma of plastic money, its usability and affordability and its impact on its preference to use. The research found that the preference to use of plastic money/ credit card has its pros and cons with its usability and affordability. According to the consumer behavior, plastic money is a form of conditioning and acts as a stimulus, which qualifies a consumer to spend. The study shows that the preference to go for plastic money has a positive association with the easy use of plastic money because the precept of credit card usability is linked with a psychological phenomenon that people are likely to spend less with credit card and spend more with the same amount of cash on hand in the same budget and this precept also linked with the consumer self-convenience, i.e. convenience and easy use which delves into spending.

Worthington, Steve (1995), in the paper “The cashless society”, outlined the rationale of those who are keen to promise the cashless society and the implications for marketers charged with winning consumer acceptance for payment by plastic card. Commencing with a European-wide view of the European plastic card market focuses on recent developments within the U.K in the use of plastic cards as a means of payment. The plastic card payment product is analyzed under the three headings of pay later, pay now and pay before and a view is offered as to the future prospects for each type of plastic card in contributing to the development of the cashless society.

The discussion leads to the following hypothesis
Hypothesis no. 3. The customer confidence and their level of satisfaction do not differ significantly across different demographics.

3.4 Review on Uses pattern of cashless transaction system:-

Abdul, Alhassan G.—lumen and Ibrahim A. Alzamel (2001) “Retailers experiences with and attitudes towards the Saudi Arabian EFTPOS system” examined the experience of merchants — benefits/problems towards debit/credit cards. Overall, retailers, which have adopted this system, feel that they have benefited from such adoption. They have not experienced a serious problem. All of them showed a positive attitude towards such system.

Afshan Ahmed, Ayesha Amanullah, Madiha Hamid (2009) in their article “Consumer Perception and Attitude towards Credit Card Usage: A Study of Pakistani Consumers.” It is evident how the customer preferences vary from one age group to another. Therefore, it is recommended that product development should be based on the information taken from the market, which otherwise leads to issues like product evolution in a wayward direction such as the intricate concept of co-branding that is being introduced by a majority of banks. Similarly, reward schemes that do not result in an increased usage of the product are futile. Redemption of reward points is also a complex process. It seems that the customers hardly benefit from them. Furthermore, issues like religious reservations, cultural inhibitions towards being in debt, and the unfamiliarity with using plastic money need to be seriously addressed.

Annamalai, S. and Muthu R. Iiakkuvan (2008) in their article “Retail transaction: Future bright for plastic money” projected the growth of debit and credit cards in the retail transactions. They also mentioned the growth factors, which leads to its popularity, important constraints faced by banks and summarized with bright future and scope of plastic money.

Avery, R.B., et al. (1986), in their study “The use of cash and transaction accounts by American families”, in which credit cards were treated merely as one of the several forms of payment methods. Findings from this study were further supported the strong positive correlation between income, education, wealth, urban city and middle age and credit card use.
Canner, G.B. and A.W. Cyrnak (1986), in their study “Determinant of consumer credit card usage patterns”, examined more specifically bankcard holding and its use patterns. The study found a decline in the proportion of families with two bankcard accounts between the years 1978 and 1983. They also noted that the ‘household’ segment is likely to hold a wide variety of cards; that higher income and more financially sophisticated families are likely to be credit cardholders and that nearly half of all cardholders use their cards primarily for ‘convenience’ purposes. ‘Convenience use’ is positively related to the family’s age, income and financial liquidity and inversely related to a family’s relative debt position.

Bansal, N. K. (2006) in his article “Plastic card currency-A convenient mode of payment”, explained the role of plastic money, its various forms and the positive impact of plastic money on the lives of people of all walks of life and being accepted as a convenient mode of payment in the modern era of electronic technology-driven commerce.

Bernthal, Mathew J., Crockett, David and Rose, Randall L. in their study, “Credit cards as lifestyle facilitators” found credit cards as an important facilitator of consumer emancipation through lifestyle within the current market structure. Authors analyzed the accounts provided by consumers, credit counselors and participants in a credit-counseling seminar in order to develop a differentiated theory of lifestyle facilitation through credit card practice. The skills and tastes expressed by credit cardholders helped to distinguish between the lifestyles of those with higher cultural capital relative to those with lower cultural capital. Differences in lifestyle regulation practice are pointed to originate in cultural discourses related to entitlement and frugality. They also developed a model of credit card practices related to lifestyle regulation.

Burt, Erin, Kiplinger's (2001) in their article “Personal Finance” Examines the use of debit cards and credit cards in the United States. Similarities of cash cards, including limitations and advantages; how banks reward debit card customers if the debit card is treated as a credit card; why card issuers are steering cardholders toward paper transactions rather than personal identification numbers.

Caskey, John P., and Gordon H. Sellon Jr. (1994) in their article “Is the debit card revolution finally here?” analyzed the factors that have limited the debit card’s success and examined the prospects for future growth. They also proposed that consumers who
used credit cards for the benefit of having credit available were unlikely to be interested in debit cards. Most consumers based their decision of using debit cards on non-price factors such as convenience and availability. They suggested that convenience users of credit cards might find debit cards desirable because they did not need to write cheques at the end of each month to pay off credit card debts, and convenience users might find debit cards were helpful in controlling their spending since they could spend only what they had in their account.

Chakravarti, Sujit (2003) in his paper “Theory of credit card networks survey of the literature”, examined the credit cards usage and their benefit to consumers and merchants by comparing other payment instruments. Recently, credit card networks have come under scrutiny from regulators around the world. The costs and benefits of credit cards to network participants are also discussed. Focusing on interrelated bilateral transactions, several theoretical models have been constructed to study the implications of several business practices of credit card networks. The results and implications of these economic models along with future research topics are also discussed.

Chan, Ricky Yee-Kwong (1997) in the study “Demographic and attitudinal differences between active and inactive credit card holder: The case of Hong-Kong”, said that as far as demography is concerned, income is found to be the most important variable that influences the card usage rate. By employing MAA model, the survey re-confirms the positive relationship between attitude and usage rate. It also indicates that the importance of monetary incentives in influencing the attitudes of cardholders. The survey results provide the card makers with further insight into the importance of transaction and financing convenience and possibly card design in activating apathetic cardholders.

Charles Sprenger and Joanna Stavins, in this article “Approximately half of credit card holders in the United States regularly carry unpaid credit card debt. These so-called “revolvers” exhibit payment behavior that differs from that of those who repay their entire credit card balance every month. Previous literature has focused on the adoption of debit cards by people who carry credit card balances, but so far, there has been no empirical analysis exploring the relationship between revolving behavior and patterns of payment use, such as substitution away from credit cards to other payment methods.”
Chebat, J. C., M. Laroche and H. Malette (1988), in their study “A cross-cultural comparison of attitudes towards and usage of credit cards” reported some cross-cultural differences in attitude towards credit cards for English-speaking and French-speaking Canadians. For both groups, the largest factors in usage are the user’s financial situation and the preference towards credit cards. Concern about the ability to pay is unique to the English-speaking group, which is concerned about costs, accuracy, safety, practicality, and facilities. Those in the French-speaking group are concerned about costs, accuracy, over consuming and over spending indicating that they are afraid credit card use would affect their spending behavior. Income and education are positively related to the frequency of credit card usage. Their findings are consistent with the belief that credit card penetration is lower among French Canadian than English Canadian.

Delner, Ncjdet and Herbert Katzenstein (1994) in their paper “Card possession and other payment systems: Use patterns among Asian and Hispanic consumers”, explored the socioeconomic and demographic characteristics of Asian and Hispanic credit card holders. It also outlined a conceptualization of the relationship between alternative payment systems and various demographic and behavioural variables, which may serve as a preliminary theoretical framework for the analysis of payment systems. It also discussed the implications and their importance to marketers.

Dilip Soman, in their article “Effects of Payment Mechanism on Spending Behavior: The Illusion of Liquidity” the payment mechanism used to make past payments influences pending purchase decisions.

Dube, Vijaye (2005) in his article “Credit card frauds — Prevention is better than cure”, briefly explained various credit card frauds and suggested suitable measures to prevent it.

Evans, David S. and Richard L. Schmalense (1999) in their book “Paying with plastic— the digital revolution in buying and borrowing” described major innovations and developments in payment fields. The role of payment card companies on coordinating payment systems also mentioned.

Feinburg, R. A. (1986), in his paper “Credit cards as spending facilitating stimuli: A conditioning interpretation”. Showed credit cards as the causal factor in facilitating
spending and concluded that since credit card stimuli are also closely associated with spending. They might activate a sequence of behavior that increases the motivation to spend, the amount spent and the probability of spending and decrease the decision time to spend.

**Goya, Anita (2006) in her study** “Consumer perception towards the purchase of credit cards”, focused on understanding how consumers perceive and consider service product features (core benefit, facilitating services and supplementing services) in the pre-purchase evaluation and to understand the position of supplementary services at product levels. The data analysis indicated that consumers consider service product features during pre-purchase evaluation of credit cards and respondents find it easy to makes a purchase decision based on supplementary services. Responses revealed that existing supplementary service elements are perceived more of expected features than augmented features of credit cards.

**Guthrie, Graeme and Julian Wright (2003)** in their paper “Competing for payment schemes”. Presented a model of competing for payment schemes. The models highlight the fact that, in a payment system, one type of user (merchants) competes to attract users on the other side of the market (cardholders). It also analyzed how competition between card associations affects the choice of interchange fees and thus the structure of fees charged to cardholders and merchants.

**Hirschman, E. C. (1979)**, in the paper “Differences in consumer purchase behavior by credit card payment system”, focused on the influence of method of payment on purchasing behavior. It was found that individuals who possess both credit bank cards and in store, cards are more likely to buy than those who own only bank cards or in-store cards. The study also found that cardholders were more likely to make bigger purchases than non-card holders were. It was also mentioned that credit cards facilitate and induce purchases as compared to cash.

**Hopton, D. (1983)** in their studies, “The use of technology in payment systems is most likely to benefit everyone if the main providers and the regulatory authorities can reach a consensus. Such a consensus would be preferable to the alternative of ad hoc solutions to payment system problems and would provide a more equitable and sound base upon which payment system providers could formulate their competitive strategies.”
Hugh Thomas, Exclusive insights from MasterCard Advisors in his study “Cashless Payment will soon redefine the way people pay. The payment methods have evolved from a simple barter system to monetary exchange through magnetic stripe enabled credit & debit cards and further to digital wallets and online payment systems. The big feature of this evolution is the advancement of security methodologies and smart algorithms and the emergence of new hardware technologies. The next step forward is to have all payment methods in one single entity that is easily portable with the total elimination of hard cash transactions. It is here that cashless contactless payment comes in the façade, which requires only a mobile phone to pay. However, it also comes with some specific challenges like securing and encrypting the user data on the mobile phone, developing new types of payment terminals, establishing secure means of information exchange between the mobile and the payment terminal, etc.”

Jajoo Rupa Dwarkadas, (2011) in their articles “Consumers perspectives towards Credit Card” carried out to understand the card industry that includes the types of providers, types of cards, features of cards, and the acceptability of the card among the Indian consumer. It also involves finding consumer's perception towards different providers. The above research concluded that that public bank like SBI scores on factors like low cost, penalty charges and long credit periods but a bank like ICICI is being considered as costly, but definitely provides better and efficient service in terms of additional features and benefits.

Jia Loke Yiing (2007) in his study “Determinants of merchant participation in credit card payment scheme" aimed to empirically establish the determinants of merchant participation in credit card payment schemes. it is also found that a merchant’s personal background, type of business and the total value of sale are significant in determining a merchant’s acceptance of cards in payment transactions. Further, it is also found that customer’s usage of credit cards and other merchant’s acceptance of credit cards in payments have a significant influence on a merchant’s decision. Findings also indicated that non-pecuniary strategic factors are stronger drivers and barriers to a merchant’s participation in credit card payments services compared to monetary related factors.

Jin, Rui and Sharon A. Deviancy (2005) in their study entitled “Determinants of debit card use: A study from the consumers perspectives”, investigated the debit card use from the perspective of the demand side. The consumer. The impact of the consumer is
demographic. Socio-economic and credit-related characteristics on debit card use was examined by using data from the 2001 Survey of Consumer Finances (SCF). Logistics regression analysis showed that household heads who were younger, more educated and with more income were more likely to use debit cards. In addition, household heads who were Hispanic, renters and credit card revolvers were more likely to use debit cards than household heads who were white, homeowners and convenience users of credit cards.

Kataria, Neera (2005) in the article “Credit cards-challenges ahead”, pointed out the growth of credit cards in India, market share of each individual banks, challenges faced by bankers etc.

Kaynak, Erdener, Orsay Kueukemiroglu and Ahmet Ozmen (1995) in their study “Correlates of credit card acceptance and usage in an advanced developing Middle Eastern country”, indicated that there is a certain relationship between socio-economic and demographic characteristics of Turkish consumers and their credit card holding and usage behaviors. In light of the survey findings, a number of marketing strategies were developed for remaining competitive in this growing service industry.

Kaynak E. and T. Harcar (2001) in their study “Consumers attitudes and intentions towards credit card usage in an advanced developing country”, have attempted to investigate consumer attitudes and intentions towards credit card ownerships and usage in an advanced developing country. In particular, knowledge structure, beliefs, likes and dislikes, as well as attitudes of credit card owners in the possession and the use credit cards, are investigated. Data for the study were collected from 673 credit card holders and non-card holders in the largest Turkish city of Istanbul with a total population of over ten million managerial and public policy implications for banks and credit card issuing firms are offered for orderly decision-making purpose.

Kaynak, E. and K. Ugur (1984), in their study “A cross-cultural study of credit card usage behaviors: Canadian and American credit card users contrasted”, evaluated cardholder’s attitudes towards credit cards. Both Canadian and American cardholders agreed that credit cards are useful in a sense that cards are safer than cash and help to make impulse buying payments. The conclusion of the study was that both Americans and Canadians have similar patterns in attitudes toward ownership of credit cards, but their behavioural characteristics are different.
Khurana, Sunayna Singh, (Sep2012) in their article “Reports on Credit Card Uses” the choice of a credit card depends on income, gender, and profession of the respondents. Customer satisfaction depends on upon income, frequency of usage in a month and amount of usage per month. The article reports on the plan of the Indian government to introduce a plastic currency that will have enhanced security features to counter the growing problem of counterfeiting in the country.

Loewenstein and Hafalir (2012) conducted a study on “The Impact of Credit Cards on Spending”. The study focused on two types of customers, revolvers (who carry debt) and convenience users (who do not carry debt), and measured the impact of payment with a credit card as compared with cash by an insurance company employees spending on lunch in a cafeteria. It was found that there was a change in the diner’s payment medium from cash to a credit card when an incentive to pay with a credit card was given. It was then found out that credit cards do not increase spending. However, the use of credit cards has a differential impact on spending for revolvers and convenience users. Revolvers spend less when induced to spend with a credit card, whereas convenience users display the opposite pattern.

Manas Ratha (1997), in his research work The Credit Card Model, studied the usage of credit cards and its conceptualization of credit card system. He discussed the system and stock flow in the credit card, which helps to identify the important variable in the system such as balance payable, credit card purchase, interest charges, and other payments. James2 (2008), in his article Growth of Plastic Money: Prospects and Problem had discussed economic and business prospects and problems involved in the plastic money market. In his work, it clearly studied the basic terms, plastic money, electronic payment and credit cards. The study also focused on plastic money penetration in India, reasons for the growth and strong future for plastic money.

Mandel, L. (1972), in his research “Credit card use in the US”, found that primary determinants of credit card usage were family income and education of the cardholders. Higher income and better-educated families were more likely to use credit cards than lower income families. This is because the credit card was initially marketed to higher income people. Another finding of his research was that families living around the largest cities are more likely to use credit cards. This finding matches with the Greek cardholder’s demographic profile, where a very high concentration of cardholders is
observed in urban areas. He also found that families with different incomes perceived differently the advantages and disadvantages of credit cards. Lower and middle-income families considered the credit facility as a definite advantage, while high-income families found safety and convenience to be definite advantages.

Mann, Ronald J. (2005) in his paper “Credit cards, consumer credit and bankruptcy”, analyzed the effects of credit card use on broader economic indicators, specifically consumer credit. Savings and consumer bankruptcy filings. Using aggregate national level data from Australia, Japan, the UK and the US, it is found that credit card spending, lagged by 1-2 years has a strong positive effect on consumer credit. There is no significant relation between credit card use and savings. There is a strong relation between credit card debt and bankruptcy and the weaker relation between consumer credit and bankruptcy. The relations are robust across a variety of different lags and models that include variables to control for the effects of economic cycles on bankruptcy.

Mc Andrews, James J. (2003) conducted a survey on “Automated teller machine network pricing-A review of literature” and disclosed the ways that ATMs have altered the relationship between banks and their depositors as well as the competitive relationships among banks and concluded with suggestions for further research.

Metwally, M. M. and J.N. Prasad (2004) in their paper “Factors restricting the use of credit cards in GCC countries”, used Logit and Probit Regression Analysis to examine factors determining the probability of using credit cards more frequently in domestic transactions in the members of the GCC (Gulf Corporation Council) which include: Bahrain, Kuwait, Oman, Qatar, Saudi Arabia and the UAE. The state of Qatar is used as a case study where a sample of 385 consumers was surveyed. respondents, who hold credit cards, were asked to indicate their degree of agreement using a five - point scale, with 23 statements relating to their reluctance to use credit cards frequently in domestic transactions. The paper also tested the effect of demographic variables on use of credit cards in GCC countries. The Logit — Probit Regression results suggest that there is a high degree of similarity between the GCC countries and the Developed countries regarding the impact of these variables on the intensity of use of credit cards.

Modigliani and Brumberg (1954) investigated that plastic money particularly credit cards are dynamic and simply the accessible mean of funds and a useful payment tool
for buying. Plastic Money is useful to keep life standard in times when consumers are faced much income scarcity conditions.

**Mudd, Douglas A.** (2007) in their article “Credit Control” presents a perspective on the history of a credit card in the U.S. According to the author, the future of money in the country is increasingly identified with the credit card. The author indicated that Americans are used to easily available credit. Furthermore, credit cards have become an important factor in the American market.

**Munro, J. and J. B. Hirt (1998),** in their paper “Credit cards and college students: who pays, who benefits?”, studied about credit card usage patterns among college students. They found that there was a significant difference between demographic factors such as race and academic qualification with credit card payments.

**Nayak, Tapan Kumar and Manish Agarwal (2008)** in their paper “Consumer’s behavior in selecting credit cards” discussed the factors influencing the selection of credit cards among consumers. The major factors point out by them are service offers, promotional offers, interest benefits, cash benefits, ease of payments, payment charges, card benefits, and time benefit.

**Prince, C. J.,** (2005) in this article presents credit cards as the best payment option for entrepreneurs. Paying by credit card is convenient, it allows business owners to maximize their cash flow, and it offers the accumulation of rewards or points that can add up to thousands in free services. For regularly recurring bills, however, nothing beats the convenience of automatic bill payment, the kind typically offered online through consumer and business checking accounts. Paying recurring bills automatically by credit card, which offers the best of both worlds, is catching on big with small businesses.

**R. Shenbagavalli, A. R. Shanmugapriya, and Y. Lokeshwara Chowdary**, in their studies “Risk Analysis of Credit Card Holders” time has come where the customers need to know the degree of risk involved in the usage of plastic money, and the study had helped to identify the factors and the degree of risk exposed and the protective measures available to minimize the financial and operational risk. It is clear from the study that the awareness of the customer is comparatively less and the credit card issuing banks is processing a strategy to educate the users of a credit card.
Ramalingam (2009) in his paper Usage Pattern of Credit Card Holders had analyzed the purpose and use of credit card, behavioural changes of credit card holder and the consumption pattern of the cardholders.

Rangaswamy and Ramesh Kumar S. (2007) in his article “Plastic money in retail distribution” highlighted the growth of plastic money particularly ATM cum debit cards, its importance in retail distributions, cost effects, benefits, suggest some tips avoid frauds and necessity of increasing its usage.

Rao, Durga S. (2004), in his study “marketing strategies: Study of bank credit cards”, aimed at comparing the marketing strategies of two of the commercial banks — Citi Bank and Andhra Bank. He also evaluated the customer satisfaction. with respect to their credit cards and suggested necessary steps for promoting credit card business by considering its benefit and scope in the business.

Reddy, Ramakrishna (2006) in his article “Card products in India”, commented about the reasons for not attaining full growth potential among card products and suggest remedies for growth in this field for the benefit of all players.

Robert, Till and Hand David (2003) in their paper “Behavioural models of credit card usage”, examined the repayment and transaction behavior with credit cards by using behavioural models. They describe the development of Markov Chain Models for late repayment, investigate the extent to which there are different classes of behavior patterns and explore the extent to which distinct behaviors can be predicted. They also developed overall models for transaction time distribution used to predict likely future behaviors and can serve as the basis of predictions of what one might expect when economic circumstances change.

Roberts, James A. and Eli Jones (2001), in their study, “Money attitudes and intentions towards credit card use and compulsive buying among American college students”, used a causal modeling approach to investigate the role of money attitudes and credit card use in the campus buying within a sample of American college students. It was found that the money attitudes, power, prestige, distrust, and anxiety are closely related to compulsive buying and that credit card users often moderate these relationships.
Ron Borzekowski, Elizabeth K. Kiser, Shaista Ahmed in their studies “Debit card use at the point of sale has grown dramatically in recent years in the U.S., and now exceeds the number of credit card transactions. However, many questions remain regarding patterns of debit card use, consumer preferences when using debit, and how consumers might respond to the explicit pricing of card transactions. Using a new nationally representative consumer survey, this paper describes the current use of debit cards by U.S. consumers, including how demographics affect use. In addition, consumers’ stated reasons for using debit cards are used to analyze how consumers substitute between debit and other payment instruments. We also examine the relationship between household financial conditions and payment choice. Finally, we use a key variable on bank-imposed transaction fees to analyze price sensitivity of card use, and find a 12 percent decline in overall use in reaction to a mean 1.8 percent fee charged on certain debit card transactions; we believe this represents the first microeconomic evidence in the U.S. on price sensitivity for a card payment at the point of sale.”

Russell G Smith (1997), in his paper Plastic Card Fraud, had analyzed the plastic card industry criminals, plastic card frauds, or crimes of deception committed through the use of credit card, debit cards, and stored value cards.

Rysman, Mare (2004) in his paper “An empirical analysis of payment card usage” exploited a unique data set on the payment card industry to study the issues associated with network effects and two-sided markets. The study showed that consumers concentrate their spending on a single payment network (single homing), although many maintain unused cards that allow the ability to use multiple networks (multi-homing). A regional correlation between consumer usage and merchant acceptance within the four major networks (Visa, Master Card, American Express and Discover) were established. This correlation is suggestive of the existence of a positive feedback loop between consumer usage and merchant acceptance.

Saha, Tapas Ranjan (2005) in the article “Credit card and frauds”, provided awareness about various credit card frauds, the suggestion about precautionary measures and tips for safety use of it.

Saha, Tapash Ranjan (2006) in the article “Debit cards overtaking credit cards in India”, provided comparative features of both credit cards and debit cards and its
volume of transactions from 1995 to 2005, shows that debit cards growth is placing the credit cards.

**Sarangapani, A. and T. Mamatha** (2008) in their article “The growing prominence of debit cards and credit cards in the Indian banking industry”, highlighted the growing prominence of debit and credit cards by giving necessary statistics, comparative features of both cards and pointed out more popularity of debit cards than credit cards.

**Shaffer, Sherril** (1999) in his paper “The competitive impact of disclosure requirements in the credit card industry”, tested the impact of the Fair Credit and Charge Card Disclosure Act of 1988, enacted specifically to increase the degree of competition in the credit card industry. Results revealed the failure of the Act to achieve its objectives.

**Shy and Tarrka** (2002) in their article, “customers used cash for smaller transactions and used debit cards for making more expensive purchases They found that the cost of each transaction to the customer was a critical factor behind which medium they used to carry out the purchase”

**Simiyu, Justo Simiyu, Momanyi, Gedion, Naibe, Kiprotich Isaac, Odondo, Alphonce Juma** (2012) in their studies the study intended to establish the use and management of credit cards on various cash transaction and determine the effect of credit cards and debit cards on card holder’s cash flow. The study aimed at assisting the cardholders in ensuring proper use of their cards, help the commercial bank to educate their customers on proper use of the cards, benefit the community through economic growth resulting from the proper use of the cards.

**Slagel, Shayna Lee**, in their study “Credit card debt reduction and developmental stages of the lifespan” examined the link between theory based developmental stages of the lifespan and factor associated with troubling debt and change. Results are based on survey responses of 263 participants. Stages of the lifespan were linked to anxiety over credit card debt and the confidence participants felt in their ability to get out of debt. Results were tied to events at each lifespan that encourage credit card usage.

**Slagel, Shayna Leetal.** (2006) in their study, “Credit card debt reduction and developmental stages of the lifespan” examined the link between theory based developmental stages of the lifespan and factor associated with troubling debt and
change. Results are based on survey responses of 263 participants. Stages of the lifespan were linked to anxiety over credit card debt.

Srinivas, N. (2006) in his study “An analysis of the defaults in credit card payments”, has tried to analyze the socio-economic profile of the defaulters of credit cards, to identify the set of factors, which contributed to such defaults and suggest relevant measures to minimize the default cases. Analysis of reasons indicated that economic hardship is the major reason identified by the majority of the sample units follows by rigid payment structure and loss of job/business. The main suggestion is that the banks concerned should redesign the payment structure of credit card defaulters in a flexible and affordable instalment.

Srinivas, Y. (2004) in the article “Bio- metric ATMs” mentioned the use of biometric technology in ATMs for preventing the frauds connected with it and points out some of its limitations.

Subramanian Ravi and Shiva Kumar (2010) in their work It’s Your Number it’s Your Life have been analyzed plastic cards (both credit and debit cards) which posed universal presence and acceptance is being used for a variety of general purchases including for cash withdrawals.

Sujit Chakravorti in their articles, “Credit cards provide benefits to consumers and merchants not provided by other payment instruments as evidenced by their explosive growth in the number and value of transactions over the last 20 years. Recently, credit card networks have come under scrutiny from regulators and antitrust authorities around the world. The costs and benefits of credit cards to network participants are discussed. Focusing on interrelated bilateral transactions, several theoretical models have been constructed to study the implications of several business practices of credit card networks. The results and implications of these economic models along with future research topics are discussed.”

Sumit Agarwal, Jian Zhang, in their article, “With increasing access to personal credit, credit cards are now pervasively held by most consumers in developed countries. This report summarizes the academic findings on credit card choice and uses by consumers in the last two decades. The credit card market is becoming more competitive and consumers are generally behaving rationally to maximize their own
utility. However, consumers are still shown to misuse their credit cards, make obvious mistakes, suffer from various behavioural biases and sometimes suffer exploitation by the banks. This calls for the protection of consumers in the credit card market, which is also the main statutory objective of many public policy regulators.”

**Trask, N.T. and M. V. Meyerstein (1999)** in their paper “Smart cards in electronic commerce” explored the areas where smart cards are becoming a critical enabler for electronic commerce and discussed the short-term barriers to the widespread adoption of smart cards. The important influences in terms of standards, working groups and the action of major players in the smart card arena are also highlighted.

**V. Vimala**, in her studies “The Impact of Credit Cards on HDFC Bank Customers in Shimoga – An Evaluative Study” the role of credit card services and its impact on the development of credit card services was analyzed. The banking products and services are the key activities for the development of the Banking sectors. The study contributes to increasing the quality services and usefulness from the innovations of banking products in India.

**Vincent, L. (2005)** in the article “Credit cards - Modern payment system”, provided information about credit card functioning in India and settlement and concluded that it is a blessing to both the traders and customers.

**Vivek, T. R. (2005)** in his article “A gentle swipe”, showed the growth of credit cards, the spending patterns at the restaurant, jewelry etc. and demand the need for issuing fresh guidelines by RBI connected with payment cards to prevent frauds.

**Worthington, Steve (1992)** ‘in his paper “Plastic cards and consumer credit”, discussed how recent changes in credit card terms and societal attitudes influence the consumer borrowing. It is also said that plastic cards, in general, will be used more as paper transactions decline. In Europe, there may be a convergence of plastic cards usage with eventual reduction in the number of credit card issuers.

**Worthington, Steve (1994)**, in the paper “Retailer aspirations in the plastic card and payment systems - An international comparison”, seeks to focus attention on the power relationships between retailers and their suppliers of financial services. Using an international example, it draws attention to the different ways in which retailers are seeking to enhance their position in the payment system supply chain. The economics
of this supply chain are explained and the rationale behind the acceptance of payment by plastic card is developed. Hypotheses are advanced; for each of international examples, as to how aspirations might affect the payment system, supply chain and the concluded that the balance of power is shifting from traditional payment system provides to the payment system users the retailers.

**Worthington, Steve (1996)**, in the paper “Smart cards and retailers - Who stands to benefit?”, explained that the smart card is increasingly being held and used by consumers in the U.K. It also described the current major payment options open to consumers and accepted by retailers with a review of the costs and benefits of each payment options. It includes that the acceptance of smart card as a new payment option depends heavily on retailers attitudes and this will be formed by the so-far unquantified balance of costs and benefits that will accompany the introduction of the smart card.

**Wright, Julian (2000)** in his paper “An economic analysis of a card payment network”. Presented a model of a tour-party card payment system to address the social optimality of the rules that govern such systems based on Rochet and Tirole (1999) model. They showed that no-surcharge rule which credit card associations have adopted to prevent merchants surcharging customers for the use of their cards is generally welfare improving. They also characterized the socially optimal interchange Fee and explained why regulating interchange fees based on cost is likely to be inefficient.

**Wright, Julian (2004)**, in the paper “The determinants of optimal interchange fees in payment systems”. Presented a model of a card payment system as a two-sided market that allows for partial participation by heterogeneous consumers and merchants. Taking into account the strategic effects arising from competition between merchants, the model is used to characterize the optimal structure of fees between those charged to cardholders and those charged to merchants and more specifically, the level of the interchange fee that banks charge each other. It examining the existing characterizations of the interchange fee and explain the source of potential deviations between the privately and socially optimal levels of the fee.

**Zhu Wang**, in their studies, “We worst investigate the regulations empirical impact on deferent players in the debit card market. That and we the regulation has substantially reduced interchange revenues of large issuers who are covered by the regulation, while small issuers who are exempt have been shielded well so far. We also and that merchant
is elected unevenly by the regulation. While merchants as a whole have berated from the reduced interchange rates, merchants specializing in small-ticket transactions have been adversely affected.

The discussion leads to the following hypothesis

**Hypothesis no. 4.** There is no significance difference in the preference of users of Cashless Transaction System among the customers of difference demographics.
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