

A Detailed Analysis On Evolution And Influencing Factors On Plastic Money

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ABSTRACT: Banking is evolving long way from the days of the medieval money lenders counting coins on the bench to the present scenario, where it's hard to trace the trail of money from the beginning. Plastic money is to make payment system cashless. Plastic money includes credit cards, debit cards etc. The Plastic Money in the form of cards have been actively introduced by banks in India in 1990's. But it was not popular among Indian consumers at the time of its introduction. This is a study done to gather the evolution of plastic money – the origination and the functioning of the cards till date. The study also includes various types of cards introduced in various time periods and also identifies the factor that influence the usage of plastic money among consumers using Chi-Square Test.

Keywords: Plastic Money, Credit Cards, Debit Cards, Evolution, Automated Teller Machine (ATM), Mastercard, VISA, American Express, Charge Cards.

1. INTRODUCTION

The idea of using plastic money to make purchases was first brought up by Edward Bellamy in 1887. He wrote a book named, "Looking Backward", which describes his idea of a utopian society. In this book, he has coined the term "credit card." Since that time, advancements have been made that have allowed this idea to become a reality.

All these started right from the savings leaving out a few rupees in his local bank to the billions of rupee loans which were raised by syndicate banks and financial institutions which were capable of financing projects in any country in the world. Still, these banking majorities were heavily dependent upon their retail home which is the base of borrowers and savers. Mostly all of the bankers began to concentrate on this retail market segment as global competition intensified in late seventies and early eighties.

The debit card got generated from the shadows of its older sibling which is the credit card. Over previous decades, plastic money has grown from accounting for 274 million transactions in 1990 to 8.15 billion transactions in the year 2002, to challenge credit card as the preferred payment card. As it stands, the debit card industry was always a multi-billion-dollar engine which helps to drive bank profits and the point-of-purchase consumer sales - but it is also the beginning to redefine traditional payment options in the business and other

government sectors, such as food stamps, benefits, and payroll. For these functions the debit card has arrived and is here to stay.

Credit cards is one of the banking products that cater products to the needs of retail segment which has seen its number grow in GP in recent years. This growth had been strongly supported by the development in the field of technology, and without these technologies this could not have been possible.

2. RESEARCH METHODOLOGY

- The data collection is done from primary sources through structured questionnaire.
- The history of plastic money is gathered from the year 1900 to till date.
- The collected data were analyzed using pie charts and chi-square test.

HISTORY AND EVOLUTION OF PLASTIC MONEY

1900-1950's

1. The Beginning

Starting with the history of “plastic money”, charge cards cannot be ignored. These charge cards were the ones which laid the groundwork for debit and credit cards. Company-issued charge cards were formulated as far back as the early 1900's. These were the cards which kept customers loyal to the company.

2. Charg-it

“Charg-it” was the first actual bank card which was issued in the year 1946. These cards were invented by a banker in Brooklyn, whose name was John Biggins. However, with these cards only local purchases could be made.

3. The Diners Club Card

The concept of the credit cards was initially acted by the person named Frank McNamara. After finishing his dinner with a fellow business associate, Frank found himself short on cash as he forgot his wallet. This was an epiphany that led him to think on the idea of a charge card. This card was later known as the “Diners Club Card” and could be used at various locations. This novel idea was the first true model of multipurpose charge card.

4. American Express

American Express is the company which issued their first credit card in 1958. As they were present internationally, the Green Charge Cards were globally accepted. This became the first credit card which was internationally available.

5. BankAmericard

In the year 1958 Bank of America introduced a unique card that can be used to purchase anything with merchants. In other words, it was a universal card so that the cardholder will

not need multiple cards for specific destinations. These cards also set industry standards such as grace periods, credit limits, and floor limits. The pilot program in 1959 initially had 60,000 customers and it was a huge success. The program was then rolled out in state wide in California.

1960s

1. The Mag Stripe

Credit and debit cards would not be what they are today without having the Mag Stripe. This momentous leap in the banking card technology arrived when the CIA hired the company IBM to attach a magnetic stripe to all their identity cards. This technology was already available; however, the main problem was that permanently attaching the magnetic stripe to the card without any wrinkles. While working towards this problem, Forest Perry who returned home from work to find his wife ironing his clothes. When he mentioned the problem about attaching the magnetic stripe, Forest's wife asked to see the prototype card. Using the iron, she melted the stripe to the card to make it wrinkle-free. This solved the complete problem, which allowed IBM to go into full production with the Mag Stripe on all of their cards.

2. Automated Teller Machine (ATM)

One of the most easy and convenient aspects of plastic money is the all-serving Automated Teller Machine (ATM). The ATM was brought live in the year 1960's by a person named John Shepperd-Barron. After an unfortunate and unsuccessful trip to the banks, John waited until the next day when it opened again. On that day night, while reportedly taking a bath, John thought of a self-dispensing automated cash machine. Along with the invention of what was soon to be the ATM, he had also invented the 4-digit international pin code. John first wanted a six-digit army serial; but his wife spoke and convinced him four digits would be easier to remember and access.

3. The Chicago Debacle

In the 1960s, unsolicited credit cards caused a big problem for the Chicago market. The Chicago market was caught up by credit card companies by the mid-60s, so several companies began to mail "pre-approved cards". This mailing tactics was proved to be nearly fatal for those credit card companies, as they were mailing them by mistake to convicted felons, toddlers and even dogs. Organized crimes also took advantage by using the corrupt workers to intercept these cards. Since these intercepted cards were already pre-approved, the people residing at that address were billed thousands of dollars without even knowing about the missing stolen cards.

1970s – 1990s

1. VISA

Originally the Visa card initiated as the BankAmericard program and was never planned to go national, or international for that matter. In 1965 BankAmerica started a licensing program with most of the banks around California. After sufficient banks subscribed to the program, BankAmerica was able to invent a joint venture bank association. This rolled out on an international scale and BankAmerica changed the name of its card to VISA International. They also created a local America version named VISA U.S.A. This two card system allowed VISA International to be easily accepted across other countries as well due to having no association with America. The acronym VISA stands for Visa International Service Association; BankAmerica felt the name change was suitable since VISA would be instantly recognized in various different languages. Their success continued and also, they joined the Plus ATM network by which becoming even more accessible to all the customers around the world. These strategic branding choices allowed VISA to be one of the most recognizable and effective consumer brands today across the world.

2. Mastercard

While the BankAmericard gained precedent around California, in Kentucky their competition with others also gaining strong ground. Crocker National Bank, Wells Fargo, and Bank of California united together and launched an association Interbank Card Association (ICA) in 1966. After three years, Master charge modified their logo and came out with the iconic red and orange overlapping circle with each other. However, it was not until ten years later when Master charge was converted to the Mastercard we know today. The mid and later 80s were also a revolutionary decade for these MasterCard. They released a program called emergency card replacement program; they entered the Pacific Rim, and caught Cirrus which was the biggest ATM network in the world. After such a successful decade, MasterCard improvised on their advancements and became the other important player in the market along with VISA.

1990s – Today

To convert to an ever-evolving technological world, credit and debit cards had become the most efficient and instantly accessible cards across multiple mediums. With the new technologies such as mobile platforms and computers, this presents numerous opportunities and openings for vendors and consumers alike.

1. Chip and Pin

One of the more disruptive changes to plastic money was the adoption of chip and pin technology in the cards. This system became a standard with credit and debit cards, and was

preferred to the magnetic stripe. Chip and Pin technology makes cards much more secure and personal information fraud can be minimized because of the encrypted chip. A cloned chip can also be immediately recognizable as a fraudulent card, as every chip is uniquely encrypted for each individual card. Even though this technology on the cards has been around since the 1990's, it has become widely used across Canada, and became mandatory in the United States.

2. YesCard

The YesCard is a new way of accessing loans via online platforms and getting money immediately. The YesCard allows you to access and use your loans anywhere any time any place and faster than other means.

3. DATA ANALYSIS AND INTERPRETATION:

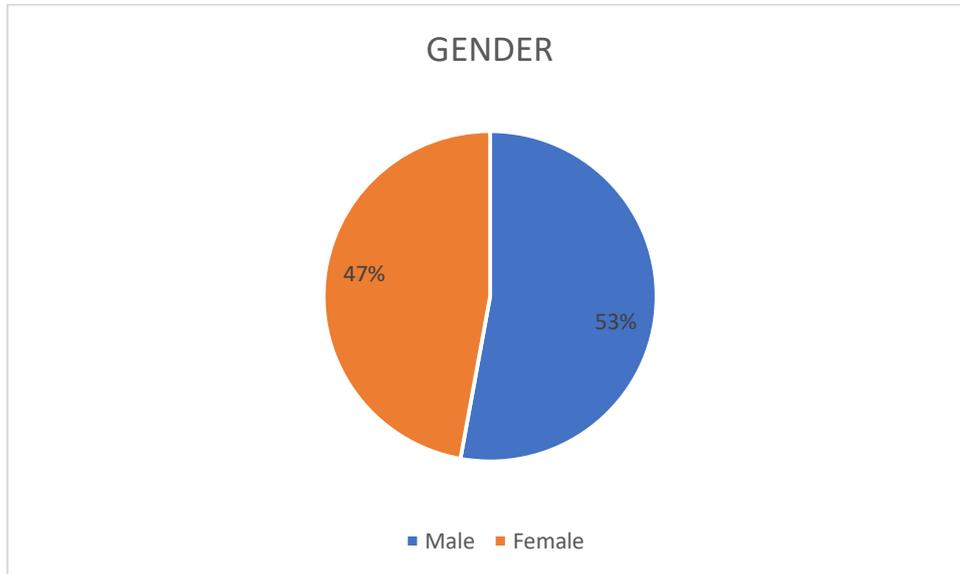
DATA COLLECTION:

Primary data was collected using various questionnaires from 70 respondents. Based on data collected, we could interpret the below graphs on the usage of plastic money among respondents.

DEMOGRAPHIC	Number	Percent
Gender		
Male	37	52.86
Female	33	47.14
Age (Yrs)		
15-25	17	24.28
26-36	30	42.86
36-45	23	32.86
Profession		
Student	18	25.71
Salaried (Office Workers)	21	30
Entrepreneurs (Businessman)	24	34.29
Others	7	10
Income		
1000-5000	5	7.15
5000-20000	18	25.72
21000-35000	21	30
36000-50000	15	21.44
51000 & above	11	15.72

Gender wise pie chart representation:

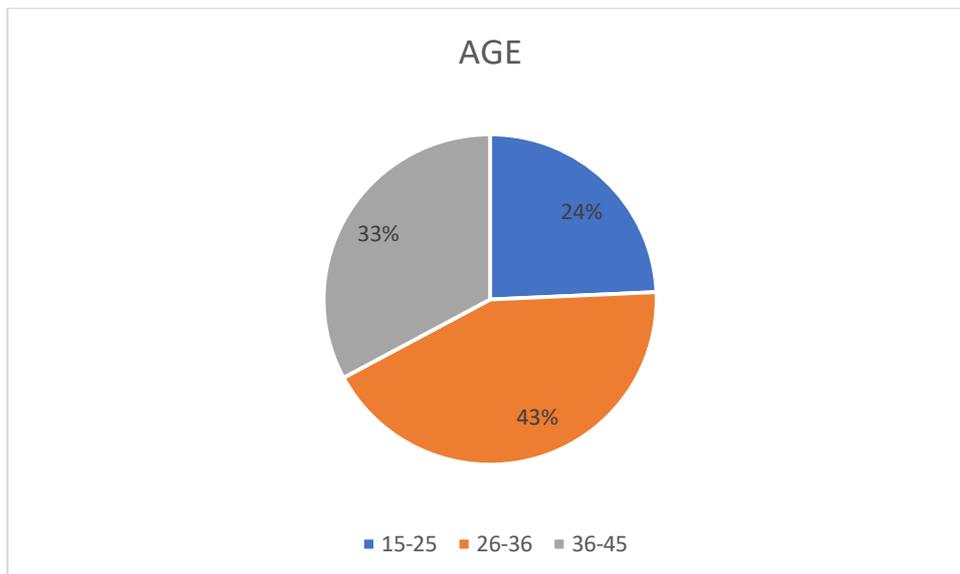
Gender wise proportion of male respondents are more than females. i.e. 53% are male respondents use plastic money and only 47% of females use plastic money.



Source: Primary Data

Age Wise Pie Chart Representation:

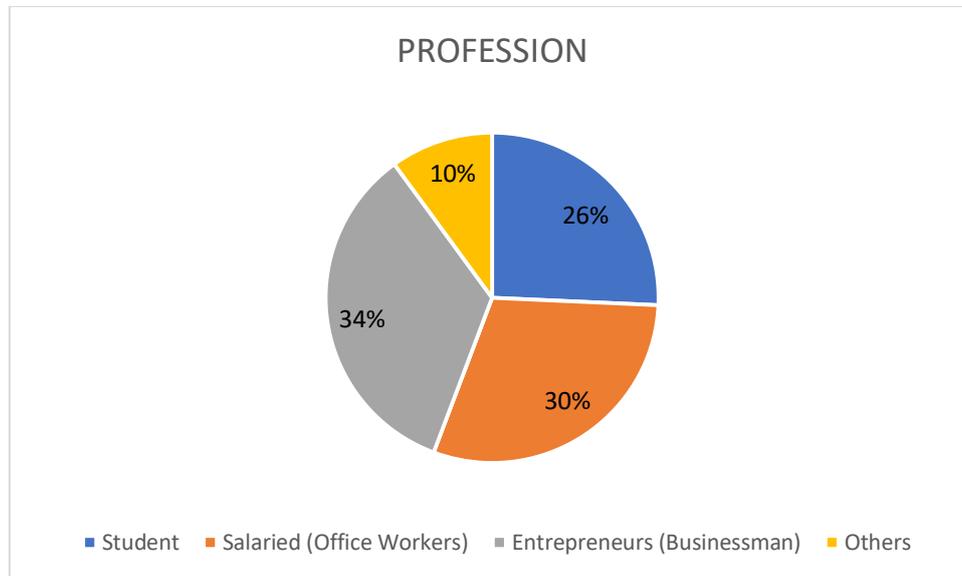
From the diagram and data collection we see that between the age groups 36 to 45, 33% of people use plastic money.



Source: Primary Data

Profession wise Representation:

Based on Profession, Entrepreneurs use plastic money around 34% and others are less as expected.



Source: Primary Data

CHI-SQUARE TEST:

Easy to use feature increase interest in plastic money

Customer View	% of Respondents
Handy Money	79.3
To avail different offer	19.7
More credit line option	1

H0: There has been no significant relation between consumer usage and plastic card benefits.

H1: There has been significant relation between consumer usage and plastic card benefits.

EXPECTED AND OBSERVED RESPONDENTS:

O (Observed)	E (Expected)
79.3	34
19.7	50
1	40

Chi-Square Test $X^2 = \sum \frac{(O-E)^2}{E}$

	O (Observed)	E (Expected)	O-E	(O-E) ²	(O-E) ² /E
Handy Money	79.3	34	29.3	858.48	17.17
To avail diff.	19.7	50	30.3	918.09	18.36

Offer					
More Credit Line Option	1	40	39	1521	38.02
Total	100	124			73.55

INFERENCE:

	Calculated Value	Degree of Freedom (n-1)	Tabulated Value
Chi-Square	73.55	2	5.991

The table value for X^2 for DOF at 2 at 5% level of significance is 5.991. The identified value is much higher than the table value. Therefore, we reject the hypothesis and accept H1, which provides enough evidence that card usage benefits have significant impact on consumer behavior and around 80% of consumers' usage behavior is influenced by card benefits.

4. CONCLUSION:

According to this study, the frequency of using plastic cards is expected to go up in the upcoming years. However, in the developed countries of Australia, Singapore, Hong Kong and New Zealand, the number of credit cards were expected to remain the same, as it is due to saturation.

But corporate cards continue to have good increase in market. According to American Express, there are about 30,000 mid-market companies present in India, with sales revenues starting from Rs 5 crore to Rs 500 crore incurring a total travel and entertainment expenditure was about \$2.7 billion. This expense in India is anticipated to grow at the rate of 8 per cent and is formulated to exceed \$5 billion. The use of corporate cards brought up to 40 per cent for the middle market companies through process purchase savings.

The credit card market in India, according to American Express, is developing at 20-25 per cent per annum. From the half-a-million cardholders in 1992, the population was at a whopping nine million currently. Also, the complete billings on the cards are estimated at around Rs 10,000 crore, which is growing at 20 per cent per annum.

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