

**A RESEARCH STUDY TO IDENTIFY FACTORS RESPONSIBLE FOR USAGE OF DEBIT/CREDIT CARDS**

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**ABSTRACT**

The paper studies the factors responsible for the usage of debit/credit cards among the banking customers of Surat city in India. Primary data is compiled using structured questionnaire method along with reference of secondary information from various research articles and certified journal publications. A sample of 186 respondents was considered by drawing sample through non-probability convenience sampling method. Factor analysis was used to analyse the data. Questionnaire was framed by considering variable like Security in usage of cards, Convenience, Risk associated with carrying cash compared with cards, Suitability to Personality, Benefits available, Cheapest when compared with carrying cash, Good customer services, Discounts, Reliability, Safety and Control on Black Money. The analysis discloses that three factors namely Reliability (Safety), Discount and Personality are prime factors responsible for usage of debit/credit cards.

**Keywords:** Plastic money, Debit card, Credit card

**I. INTRODUCTION**

Today in world of rapid modernisation and expansion, businesses needs to provide services to delight their customer's, banks are no exception to it. With advancement in technology and new trends in banking system like Data Analytics, Machine Learning, Artificial Intelligence, Voices, Fintech Solutions, etc. banks can better understand the needs of customers and thereby provide quality services. As banks are primarily focused on accepting and lending money payment plays a due role in banking service. Payment for day-to-day activity is crucial part of business also. Buyer needs to make payment for every transaction being done with the seller. There are variety of option available to make payment including cash payment, cheque, bills of exchange, promissory note, bank draft and digital payment. Digital payment has become the most popular mode of payment with advancement in technology, improvement of infrastructure, availability of internet facilities and emergence of banking and

small payment banks services by public and private firms. Various modes of digital payments are payment through internet and mobile banking, debits/credit cards, online payment using applications like Paytm, Phonepe, Google Pay, etc.

#### ***A. Plastic Money***

Banks offers variety of services to its customers with the range of products like Savings account, Current account, Debit card, Credit card, Insurance, Loans, Overdrafts, Mobile Banking, Internet Banking and many more with the advent of development happening in world in context of technology. Plastic money is one such product that is available in polymer card form, with a magnetic strip and chip that reads users information with CVV (Card Verification Value) number that authenticates customer's transaction before use and thereby provides security in use.

Plastic money i.e. debit/credit cards are the most popular mode of payment in recent times. It simply means currency in plastic form and it is also known as polymer card. Debit/Credit cards are used because of the utilities available with the payment through it. Plastic money transactions are preferred by customers on variety of grounds like:

- Increase in purchasing power.
- Saves time.
- Extra safety available.
- Payment convenience.
- Reliability of transaction.
- Tracking of expenditure.
- Availability of promotional offers.

#### ***B. Debit Cards***

Debit card is even better known as ATM (Automatic Teller Machine). Debit card has replaced the cash as it allows users to transact from cash available already in their bank account making convenient for customers to reduce the risk of carrying cash and this cards are acceptable globally. With the help of debit card customers can also avail various other services of banks like registration for

mobile banking, request for cheque book, payment of utility bills, transfer of cash etc. Debit cards are issued with annual fees for services provided by banks..

### ***C. Credit Cards***

Credit card as the name suggests is a card design to lend credit by bank to its customers based on credit history the limit of amount gets decided. Thus, through credit card bank extend cash advances for limited period of say 30 days or 45 days. Based on payment cycle i.e. 30 days or 45 days if customer fails to repay the bill amount bank charges interest on outstanding bill amount. The credit cards are more often used to avail benefits of discounts while shopping through physical or online retail. For getting credit card customers are also required to pay annual fees for same.

## **II. LITERATURE REVIEW**

Different research has been carried out with respect to payment modes for commercial transactions. When compared with different modes of payment, plastic money has more merits as compared with physical cash as it brings more utilities. Debit/Credit cards are worthy products from banks but that also has associated drawbacks of excessive spending, monetary load and pressure if not used rightly. (A Jaishu, 2018). People across the world are using debit/credit cards for payments. "India's credit and debit card transactions, while lower than most countries, had a remarkable CAGR of 40% between 2012 and 2017." (Source: Reserve Bank of India, 04 June, 2019).

"Debit card transactions in April record 1.21 billion transactions worth ₹3.39 trillion. Out of this, 808.91 million transactions worth ₹2.84 trillion took place via ATMs, with the rest through point of sale (POS) terminals." (Source: Live Mint, June, 2019). From end of year 2012, 331.60 million and 19.55 million debit and credit card user were noted respectively, which has grown significantly to 861.70 million and 37.49 million by the year 2017. As on 31st March, 2019 it has glorified to 925 million and 47 million correspondingly. In debit card usage India is second largest user base after China. (Source: Reserve Bank of India, 04 June, 2019). For more details, refer figure 2.1.

Credit card is considered as premium product as it has it links with the personality of individual. Banks have started penetrating usage of credit card from higher income group to lower income segment also because of the consumerism and market being hyper competitive with the emergence of

banking and non-banking financial institutions. (P. Manivannan, 2013). "The number of credit cards issued stands at 47.0 million in FY19, having grown at a CAGR of 20.0% over the last five years, and is expected to grow by 25.0% from FY19 to FY20," said the draft document. (Source: Live Mint, December, 2019).

Even banks can extend their services to customers without having branches on embracing technology based new products such as electronic transfer, debit/credit cards, net banking etc. (Venkatesan and Kumar,2007). With change in government policies to curb the black money from economy and demonetization of Rs. 500/- and Rs. 1000/- currency notes in India, the boost is given on usage of alternative delivery channels of banks that are mostly dependent on Electronic transactions like plastic money. (K. Neelavathi, et al.). Research paper titled "Consumers' Attitude towards Usage of Debit and Credit Cards" also highlights the perception on parameters like Education, Income, Gender, Risk on using debit and credit cards. (J. Qureshi, et al., 2018).

### III. RESEARCH METHODOLOGY

#### A. Objective of Study:

- The research study was undertaken considering the primary objective of knowing various factors responsible for using debit/credit cards.
- The aim was also to analyse major factors that leads to usage of debit/credit cards to frame marketing strategies for selling.

#### B. Variables Studied:

As the study is based on various factors responsible for usage of plastic money i.e. debit/credit cards. The study focus on factors which are variables like:

- Security in using debit/credit cards.
- Carrying convenience for cards.
- Risk allied.
- Suitability to the personality.
- Benefits associated.
- Carrying cards is cheaper compared with cash.
- Usage because of customer services.
- Availability of discounts.

- Reliability and safety of transactions.
- Control on black money.

### ***C. Methodology Adopted:***

Data collection source for the study is primary and secondary both. Primary data was collected by survey method using 182 sample responses from Surat city in India to be conducted using structured questionnaire, to be floated in electronic form and relationship will be established in the form of factor analysis. Sampling was done through non probability convenience sampling method.

## **IV. DATA AND EMPIRICAL RESULTS**

Table 4.1. describes Bartlett's test of Sphericity is .000 and less than .05 of error in chi-square test. So, it is significant. KMO sampling adequacy is 0.844 which clearly denotes that sample size is adequate and hence specifies enough indications to run factor analysis. As per guidelines: 0.80 or more, Meritorious; 0.70 or more Migging; 0.60 or more Mediocre; and 0.50 or more Miderable; and less than 0.50 unacceptable. (Kaiser, 1970; Kaiser 1974). This permits the researcher to study factors ahead and hence the study is carried out further.

Table 4.2. Reveals the communalities values in which four statements shows values below 0.5. The statements that have value above 0.5 can be considered for analysis ahead. However, only seven statements remain afterwards hence, complete statements are accepted ahead.

Table 4.3. Gives details on total variance explained. On execution of factor analysis with 11 components (Statements) three components got extracted. There are various approaches for deciding on number of factors to consider in factor analysis. One approach is to fix factors to be extracted. So, out of 11 components or factors data has been reduced to Three major factors. If the percentage of variance is observed it indicates that 57.027% of relationship is explained by 3 extracted components which is acceptable as 40% to 60% is normal value for variable extraction.

Table 4.4 describes, collected data factorized using Principal Component Analysis and result represented comprises eleven statements embodied by three major factors named Reliability, Discount and Personality. Reliability was explained by factors like Security, Convenience, Risk associated, Reliability, Safety and Control on Black Money while Discount factors comprises elements

like Beneficial, Cheaper, Offering more Customer Service and lastly the third factor named Personality justified by element like one that Suits the Personality.

## V. CONCLUSION

From the research study it can be concluded that usage of debit and credit cards by customers of banks is highly influenced by Reliability, Discount and Personality factors. As the objective was to identify a major factor that influence use of debit/credit cards. Three statements extracted reveals that transactions done with the help of debit/credit cards are more reliable, discount offered and one that suits personality are the prime factors that can be used for selling debit/credit cards.

The current research was only limited to Surat city with only two products of the banks namely debit/credit cards. The study can further be extended with other products of the bank that performs the same transactions of transfer of money namely Tele-Banking, Internet Banking, Mobile Banking, Wallet Payment and UPI payments, etc. and for other geographical areas.

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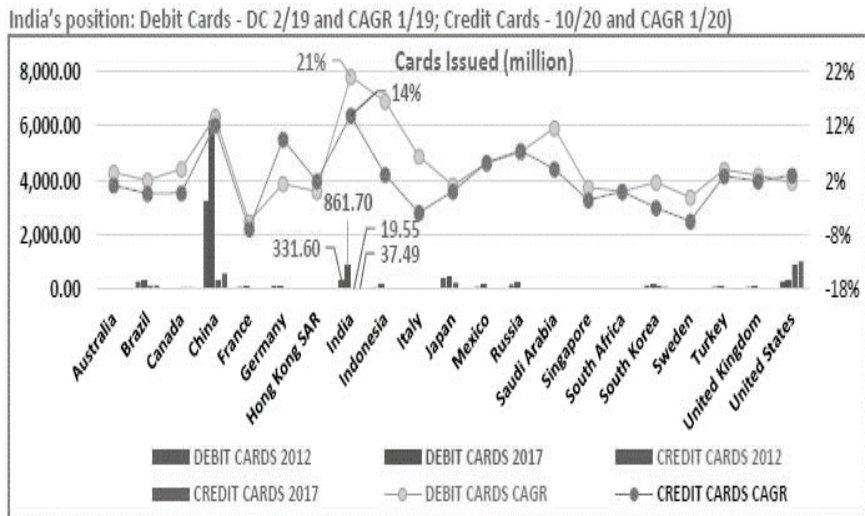
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Figure 2.1- Comparative study of Debit/Credit cards issued in year 2012 & 2017 with its CAGR.



Source: BIS Red Book 'Country Tables' compiled by the Bank of International Settlements

**List of Tables****Table 1. KMO and Bartlett's Test**

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		0.844
Bartlett's Test of Sphericity	Approx. Chi-Square	570.61
	Df	55
	Sig.	0.000

**Table 2. Communalities**

Statements (Variables)	Initial	Extraction
I feel more secure when using debit/credit cards compared with cash.	1.000	.548
Carrying Debit/Credit cards is more convenient.	1.000	.692
I feel less risk, carrying Debit/Credit cards in proportion to cash.	1.000	.610
I would like to carry debit/credit cards as it suits my personality.	1.000	.464
I use to carry debit/credit cards because it is more beneficial.	1.000	.527
I use to carry debit/credit cards because it is cheaper.	1.000	.561
I often use debit/credit cards because it offers good customer service.	1.000	.604
I do the transaction with debit/credit cards because of the discount that I received.	1.000	.612
Transactions done with the help of debit/credit cards are more reliable.	1.000	.680
Transactions done with the help of debit/credit cards are safest.	1.000	.681
Transactions done through debit/credit cards control black money.	1.000	.399

**Table 4.3. Total Variance Explained**

Component (Statements)	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	5.412	37.763	37.763	2.777	25.246	25.246
2	1.759	12.273	50.036	2.192	19.930	45.176
3	1.391	9.708	59.744	1.304	11.851	57.027
4	1.153	8.048	67.792			
5	.963	6.716	74.508			
6	.869	6.060	80.568			
7	.724	5.055	85.622			
8	.658	4.588	90.210			
9	.526	3.667	93.877			
10	.488	3.405	97.282			
11	.390	2.718	100.000			

Extraction Method: Principal Component Analysis.

Table 4.4. Factor Naming and Rotated Component Matrix.

Factors Name	Statements (Variables)	Component		
		1	2	3
Reliability	I feel less risk, carrying Debit/Credit cards in proportion to cash.	.749		
	Transactions done with the help of debit/credit cards are more reliable.	.685		
	Transactions done with the help of debit/credit cards are safest.	.654		
	Carrying Debit/Credit cards is more convenient.	.610		
	Transactions done through debit/credit cards control black money.	.606		
	I feel more secure when using debit/credit cards compared with cash.	.581		
Discount	I do the transaction with debit/credit cards because of the discount that I received.		.812	
	I use to carry debit/credit cards because it is cheaper.		.766	
	I often use debit/credit cards because it offers good customer service.		.606	
	I use to carry debit/credit cards because it is more beneficial.		.566	
Personality	I would like to carry debit/credit cards as it suits my personality.			.914

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