

## CERTIFICATE

This is to certify that this project titled "An Analysis of Credit Card Transactions in India from 2010-11 to 2020-21" submitted by *Sabba Parween*, a student of 6<sup>th</sup> Semester of the Department of Economics, Raniganj Girls' College for the award of degree of *BSC Honours in Economics* has been carried out under my guidance and supervision.

Name of the student	Registration Number
Sabba Parween	KNU19113001043 of 2019-20

Place: *Raniganj*

*Pritha Goswami* 10.5.2022  
Signature of the supervisor

# **RANIGANJ GIRLS' COLLEGE**

**Name: Sabba Parween**

**Subject: Economics**

**Semester: VI**

**KNU Registration**

**Number: KNU19113001043**

**Year of Registration: 2019 - (2019-20)**

**Course Name: Project**

**Course Code: BSCHECODSE604**

**Session 2021-22**

*Sabba Parween.*

*KNU19113001043 - 2019*

***Title of the Project***  
***“An Analysis of Credit Card  
Transactions in India from  
2010-11 to 2020-21”***

# ***Acknowledgement***

I take this opportunity to express my gratitude to the Dr Chhabi De, Honourable Principal of Raniganj Girls' College. I also take this opportunity to express my gratitude to Dr Swarbhanu Mitra, Head of the Department of Economics, Raniganj Girls' College. I also express my gratitude to Dr Pritha Goswami, Assistant Professor of Economics, Raniganj Girls' College for her guidance in completing the project. Lastly, I would like to express the love for my parents, whose constant nurturing helped me to bring this project to completion.

*Sabba Parween*

Sabba Parween  
Student of Economics Honours  
Semester VI  
Batch (2019 -2022)

*Red No: KNU19U3001043 - 2019 - 20*

# **Contents**

Serial Number	Particulars	Page Number
1.	Introduction	5
2.	Digital Payments in India	6-7
3.	Digital transaction with Credit cards	8-9
4.	Factors influence the surge in Credit card transactions	10
5.	Conclusion	11
6.	References	12
7.	Appendix- Estimations	13-14

# 1. Introduction

The financial transaction and payment system in India is characterized by two forms of payments- digital and non-digital payments. In recent years, under the 'Digital India' initiatives the Government of India has undertaken measures to promote digital payments in the country. Today there are different modes for making digital payments and Reserve Bank data reveals that the volume of transaction made through these systems has been increasing steadily over time.

## Objective of Study

It is widely recognized that credit cards are an important option for making digital Erpayments in India. According to Annual Report 2021 published by Reserve Bank of India, "During 2020-21, the number of card payment transactions carried out through credit cards and debit cards decreased by 19.0 per cent and 20.6 per cent, respectively. This resulted in a decrease in value of credit card transactions by 13.7 per cent and debit card transactions by 5.9 per cent during the same period". However, an interesting development in this regard, is the sudden 'surge' in credit card spending by the Indians. This has been reported in a recent article by Krishna Veera Vanamali titled "What's behind Indians' credit card spending surge in recent months?" published in the 4<sup>th</sup> November 2021 online edition of Business Standard. In another online article by Sunainaa Chadha published in another online daily 'The Times of India' and updated on 31<sup>st</sup> December 2021, it has been reported that the average monthly credit card spending has increased and is higher than the pre-pandemic levels. This means that even though credit card transa section decreased in the financial year 2020-21, it made some recovery by the end of 2021.

The objective and purpose of this project is to

- study the share of credit card transactions in the total volume of financial transaetions in India from the years 2010-11 to 2020-21
- enquire into factors that have influenced the rise in credit card transactions in recent times

## Materials and Methods

For the purpose of analysis the project has been divided into different sections. Different statistical measures like Pearson's correlation coefficient and the Simple Regression model have been used to carry out the analysis. To estimate the trend in credit card transactions in India between the years 2010-11 and 2020-21, data was collected from Annual Reports of Reserve

Bank of India. Besides the annual reports, a list of the different secondary sources used is provided in the Reference section.

## ***2. Digital Payments in India***

### **About Digital Payments**

Digital payments are transactions which make use of the electronic medium for exchanging money between the payer and the payee and do not involve any kind physical exchange of money. In sharp contrast any type of non-digital payment will involve a physical exchange of money between the payer and the payee. The origin of digital payments can be traced back to the Electronic Clearing Service (ECS) introduced by the Reserve Bank of India (RBI) during the 1990s.

### **Types of digital payment**

The GOI in order to transform India into a digitally empowered society has introduced several methods of making digital payments . As digital payments involve only virtual transfer of cash or liquid money it helps promoting a cashless world.

the different types of digital payments are discussed below.

- **BANKING CARDS**

Banking cards are very familiar in India nowadays. It includes debit cards, credit cards and prepaid. More customers uses it because it is secure flexible in use etc. After demonetization credit/debit cards demands increases very highly and during pandemic there is a surge demand for credit cards in India.

- **UNSTRUCTURED SUPPLEMENTARY SERVICE DATA (USSD)**

USSD also very familiar in India among people with the feature that this modes of transaction doesn't need mobile internet facility. Banking customers can avail this service by dialling \*99# .

- **AADHAR ENABLED PAYMENT SYSTEM (AEPS)**

This micro ATM or POS (point of sale) is a banking model which provides online interoperable financial transaction by using Aadhar authentication.

- **UNIFIED PAYMENTS INTERFACE(UPI)**

This is basically designed for operating across all banks through a single smartphone application.

- **MOBILE WALLET**

In this modes of transaction people don't need to carry their cards or cash. They transfer their cards information to mobile devices or mobile wallet application . This method actually provides a cashless or physical plastic card less through smartphone, tablet or smart watch transaction.

- **POINT OF SALE (PoS)**

This application is actually used on a macro level may be by a mall , a market or a city. Area where customer transact to retailer.

- **INTERNET BANKING**

Internet banking is an electronic payment system we also call it e- banking. There are different types of online financial transaction they are national electronic fund transfer (NEFT), realtime gross settlement (RTGS), electronic clearing system (ECS) and immediate payment service (IMPS) .

- **MOBILE BANKING**

Mobile banking is provided by different financial institute that provide their customer different types of financial transaction remotely using a mobile device such as a mobile phone or tablet.





# ***3. Digital Transformation with Credit Cards from 2010-11 to 2020-21***

Even though card payments usually include both debit and credit card payments in digital transactions, there is a basic difference between the use of debit and credit cards. Digital payments with debit cards involve transaction with funds already available with the debit card owner's account and thus real time deductions are directly made from the payer's bank account. Credit cards are debt instruments and linked to credit worthiness of the customer. Payers are able to complete transactions with the help of credit cards on the basis of funds borrowed from the banks that are paid back to the banks at a future date.

For the project, data on the total volume of payments (including digital as well as non-digital) and volume of credit card transactions for the period 2010-11 to 2020-21 was collected and analyzed data.

## **Findings from Pearson's correlation coefficient**

The Pearson's correlation coefficient between "Credit Cards" (CC) and "Total payments" (TP) was found to be 0.916. This suggested a positive and high correlation between transaction through credit cards and total payments from 2010-11 to 2020-21.

## **Findings from Simple Linear Regression Model**

The simple regression model was estimated to be


$$TP = -6002 + 19.89 CC$$

where TP denotes "Total payments", CC denotes total transaction with Credit Cards, CC is the explanatory variable and TP is the dependent variable.

The coefficient of CC = 19.89 and indicates that as the volume of transaction through credit cards increase by 1 unit, Total payments increase by 19.89 units

R squared= 0.840. This explains that 84 % of the variability in Total Payments is explained with the volume of Credit card transactions.

The F test = 47.2 with a p value = 0.000072. This p value is less than the significance level  $\alpha = 0.05$ . This shows that the model is significant and we conclude that credit cards transaction played an important role in the total volume of financial transaction in the period 2010-11 to 2020-21



## **4. Factors influencing Credit Card transaction surge**

- **Dependance on online shopping is growing**

Currently the trend for online shopping is growing rapidly and during pandemic the dependence on online shopping grew even in non metros.

- **Utility payments**

In case of utility payments it allows users to access credit up to the credit limit of the cards.

- **Revival sentiment**

As the economy opened up banks are aggressively targetting customers with various cards.

- **Demonetization**

During demonetization cards are the primary mode of payments in the country. During demonetization transactions soar 84%.

- **Pandemic**

The recent figures shows that the credit cards uses is much higher than the pre-pandemic level. Before the first nationwide lock down credit card spends had been to the tune of Rs 67402.25 crore and Rs 62902.93 crore respectively which shows rapid hike in credit card uses.

## 5. Conclusion

In my project "AN ANALYSIS OF CREDIT CARD TRANSACTION IN INDIA FROM 2010-11 TO 2020-21" the analysis carried out in the last two sections helps us to conclude the following

- The pearson's correlation coefficient is very high.
- It is positive to 84% of the variability.
- Total payments from 2010-11 to 2020-21 can be explained with the increase in the volume of credit cards transaction over time.
- This shows credit card transaction plays a significant role in the total volume of financial transaction (both digital or non-digital transaction in the period 2010-11 to 2020-21).
- The study also found that there are five factors that influence the credit card surge like growth in the dependence in the online shopping , payments made for utility services , aggressive behaviour of banks for making credit card holders , demonetization and the pandemic situation helps in certain surge in the credit card transaction in the economy.

This project is not above limitations.. We could not cover all the literature related to " An analysis of credit card transactions in India from 2010 -11 20 -21" in this small Canvas more over in the regression analysis carried out the summary output shows that the standard error is very high which means sample size should be increased. Be aware with this limitations we go to carry out more analysis in this subject in the near future.

## 6. References

1. <https://timesofindia.indiatimes.com/business/india-business/decoded-in-charts-what-is-fuelling-indias-credit-card-splurge-despite-the-rise-of-upi-payments/articleshow/88612339.cms>
2. [https://www.business-standard.com/podcast/economy-policy/what-s-behind-indians-credit-card-spending-surge-in-recent-months-121110400038\\_1.html](https://www.business-standard.com/podcast/economy-policy/what-s-behind-indians-credit-card-spending-surge-in-recent-months-121110400038_1.html)
3. <https://www.indiafilings.com/learn/electronic-payment-systems-india/>
4. <https://razorpay.com/learn/digital-payments-india-definition-methods-importance/>
5. <https://www.investopedia.com/ask/answers/050415/what-are-differences-between-debit-cards-and-credit-cards.asp>
6. <https://rbidocs.rbi.org.in/rdocs/AnnualReport/PDFs/9IXPSSITECHNOLOGY9C2902875BBF4CE796CFC600F580B13C.PDF>
7. [https://www.business-standard.com/article/economy-policy/demonetisation-impact-card-transactions-soar-84-in-sept-to-rs-74-090-cr-117111900104\\_1.html](https://www.business-standard.com/article/economy-policy/demonetisation-impact-card-transactions-soar-84-in-sept-to-rs-74-090-cr-117111900104_1.html)
8. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1006>
9. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1046>
10. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1087>
11. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1127>
12. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1155>
13. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1182>
14. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1209>
15. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1236>
16. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1264>
17. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1293>
18. <https://m.rbi.org.in/Scripts/AnnualReportPublications.aspx?Id=1322>
19. [http://cashlessindia.gov.in/digital\\_payment\\_methods.html](http://cashlessindia.gov.in/digital_payment_methods.html)

## 7. Appendix

VOLUME OF TRANSACTIONS (2010-11 to 2020-21) (IN MILLIONS)		
YEAR	TOTAL PAYMENTS	CREDIT CARD
2010-2011	2346.90	265.10
2011-2012	2558.20	320.00
2012-2013	3010.20	396.60
2013-2014	3708.00	509.10
2014-2015	4717.40	615.10
2015-2016	7046.60	785.70
2016-2017	10991.20	1087.10
2017-2018	15888.50	1405.20
2018-2019	24511.90	1762.60
2019-2020	35386.90	2177.30
2020-2021	44382.10	1764.10

SOURCE: RBI ANNUAL REPORTS

Pearson's Correlation Coefficient

	TOTAL PAYMENTS	CREDIT CARD
TOTAL PAYMENTS	1	
CREDIT CARD	0.916	1

Estimated Simple Regression Model  
 $TP = -6002 + 19.89 CC$

SUMMARY  
OUTPUT

<i>Regression Statistics</i>	
Multiple R	1
	0.840
R Square	
Adjusted R Square	1
Standard Error	6156
Observations	11

ANOVA					
	<i>df</i>	<i>SS</i>	<i>MS</i>	<i>F</i>	<i>Significance F</i>
Regression	1	1790386934	1790386934	47.2	0.000072
Residual	9	341103547.9	37900394.22		
Total	10	2131490482			

	<i>Coefficients</i>	<i>Standard Error</i>	<i>t Stat</i>	<i>P-value</i>
Intercept	-6002	3457.93	-1.736	0.117
CREDIT CARD	19.89	2.89	6.87	0.00

✓  
foswami  
10.5.2022