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A Study on Electronic Payment Systems in India

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Abstract: The present study has made an attempt to examine the growth and performances of Electronic payment systems in Indian context. The study has considered various electronic payment and settlement systems of RBI, also analyses the impact of Demonetization on electronic payment and settlement systems.
Keywords: Electronic commerce, payment systems, secure transactions.

I. INTRODUCTION

An electronic payment in short, can be simply defined as paying for goods or services on the Internet. It includes all financial operations using electronic devices, such as computers, smart phones or tablets. The efficient functioning of the payment system makes a key contribution to overall economic performance by allowing safe and timely completion of financial transactions.

II. OBJECTIVES OF THE STUDY

A. To understand the concept of Electronic Payment System.
B. To study the impact of Demonetization on Electronic payment system.
C. To analyze the payment and settlement systems of RBI.

III. NEED FOR THE STUDY

This study will provide important insights and knowledge about the prospects of Electronic payment in the country. This study will put forward the various factors related to India that can implement technology in the country. This study will also identify the scope for improving the electronic payment systems across the India.

IV. SCOPE OF THE STUDY

The study covers all the possible options from e payment and the system available , laying equal emphasis on the pros and cons of each payment options.

The study is related to the payment and settlement systems in Indian context only.

V. RESEARCH METHODOLOGY

Data used in this study collected basically from the secondary sources. Secondary data have been collected from various sources including websites, newspapers, various published and unpublished articles.
The data of the RBI has been collected from the internet site www.rbi.org.in. The data consist of the annual payment and settlement reports from the year 2014-2019.

VI. REVIEW OF LITERATURE

Subhani in 2008 conducted a study on 'Plastic Money/Credit Cards Charisma for Now and Then'. The study was based to find 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 attitude that it is easy to use. The perception of credit card usability is associated with a psychological phenomena 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.

Lowenstein and Hafalir in 2012 conducted a study on "The Impact of Credit Cards on Spending". The study focused on two types of customers: one who carry debts and the one who do not carry debt. The one who carry debt are known as the Revolvers and the one who do not carry debt are called the convenience users. The study measured the impact of payment with credit card as compared to cash by an insurance company employees spending on lunch in a cafeteria. It was found that there was change in the payment medium of people from cash to a credit card when an incentive to pay with a credit card was given. It was then found out

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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 behavior.

JiaLokeYiing (2007) Review of network Economics, December, 6 (4). In his study "Determinants of merchant participation in credit card payment scheme" aimed at establishment of the determinants of merchant participation in credit card payment schemes. It is also found that a merchant's personal background, type of business and total value of sale play an important role in determining a merchant's acceptance of cards in making payments and it is also found that customer's usage of credit cards and other merchants' acceptance of credit cards in payments have influenced a merchant's choice significantly. Findings suggest that non-pecuniary strategic factors are the strong drivers and barriers to a merchant's involvement in credit card payments services as compared to the monetary factors.

VII. DATA ANALYSIS AND INTERPRETATION

A. *Objective 1*

To understand the concept of Electronic Payment System.

1) *E-Payment Options in India:* The Government of India with a vision to transform India into a digitally empowered society and knowledge economy. Faceless, Paperless, Cashless is one of professed role of Digital India. As part of promoting cashless transactions and converting India into less-cash society, various modes of digital payments are available:

a) *E Wallets:* Paytm, Freecharge etc.
b) *UPI:* Unified payments Interface Apps
c) *Plastic Money:* Debit/Credit Cards
d) *Net Banking:* Online Fund Transfer
e) *Aadhaar Card:* Aadhaar Enabled Payment System

i) *E Wallets:* They are similar to smart cards as they include stored financial value for online payments. Mobile wallets are digital instruments where you can store money for instant payments. You load money from your bank account via credit/debit cards or net banking. Most wallets are semi closed wallets, i.e. you can transfer money to people who have the same wallet, or make payments at merchants who are authorized to accept from that particular instrument.

ii) *Unified Payments Interface (UPI):* Unified Payments Interface (UPI) is a payment system launched by National Payments Corporation of India and regulated by Reserve Unified Payment Interface is an electronic funds transfer instrument that enables all bank account holders to send and receive money from their smartphones without the need to enter bank account information or net banking user id/password. This requires only the recipient's mobile number or Virtual Payment Address (VPA).

iii) *Plastic Money:* Plastic money means debit cards and credit cards that are used at ATM's for cash withdrawal and POS machines while shopping. Having a debit or credit cards make you burden free from carrying cash. Also risk of theft goes down to zero as it needs a PIN carry out transactions. You don't need to carry huge amount of cash with you. Just swipe and go. Debit card payments are made through bank account.

iv) *Net Banking:* Net banking is another way for making transactions electronically. All you need is a bank account with e banking facility enabled on it. You can transfer funds to others account from the comfort of your home. There is no need of going to your bank to get transfers done.

v) *Aadhaar Enabled Payment System:* Aadhaar Enabled Payment System is a way to get money from the bank account. This system of getting money neither requires your signature nor Debit card. You don't even need to visit a bank branch for getting money through the Aadhaar Enabled Payment System. Rather, it uses Aadhaar data for the authentication.

2) *Adoption/Economic Growth of E-Payment System:* The advancement in technology has changed the skyline of payment systems, moving towards E-World. Current innovation has changed customary systems of payment into a more proficient and viable system, which is free from the cash and carry disorder. Thus, time of money based payment framework is slowly blurring out as cashless economy dominates present day financial systems.

a) *Pros*

i) Quick and Convenient
ii) Ease of Use
iii) Expense Control
iv) One-click Payment
v) Increased Sales.

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b) Cons

i) Fraud Concerns

ii) Technical Problems

iii) Increased Business Costs

B. Objective 2

To study the impact of Demonetization on Electronic payment system

1) Impact Of Demonetization On E-Payment Systems: Government of India announced the demonetization on 8 November, 2016. The unexpected announcement and prolonged cash shortages worked as an impetus to increase in digital transactions. Post demonetization banks witnessed a spurt in digital transactions across the country. People can perform online transactions such as checking account balance, bill payment, funds transfer, etc. through internet banking. It is available 24x7 for the customer's convenience. Banks offer online services under two categories:

a) Transactional activities like funds transfer, bill payments, loan applications, transactions, etc.

b) Non-transactional activities like request for cheque book, stop payment, online statements, updation of some information, etc.

The demonetization resulted in tremendous growth in Electronic payments. With the government initiative such as Digital India and increased use of mobile and internet are means to exponential growth in use of digital payment. This transformation towards digital payments benefits in more transparency in transactions which empowers the country's economy. In recent days many changes took place in the payment system like digital wallets, UPI and BHIM apps for smooth shift to digital payments. The paper talks about the services that the customers prefer from the payment banks. It also captures how convenience is helping payment banks to expand customer base. The role of demographics as deciding factors for customers in choosing payment banks is studied in this paper. The paper further studies the effect of reference groups on the customer's decision to choose a bank. Payment gateways have emerged as the most significant contributor in pushing Cashless and electronic payments. The surge of smart phones and internet connectivity of 3G and 4G is reflected in the robust growth of payment gateways in India. Payment through digital modes include banking cards, USSD, UPI, Mobile Wallets, prepaid cards, POS, Internet banking, Mobile Banking etc.

i) In November 8, 2016 when demonetisation was announced cash worth Rs 17.01 lakh crore was in circulation in India.

ii) In November 8, 2018, cash worth Rs 18.76 lakh crore was in circulation in India, according to RBI data.

iii) The data also shows that while in 2016, the currency in circulation was growing at 17.7 per cent year on year, in 2018 it has registered a higher 22.2 per cent year on year growth.

iv) Card payments (debit, credit and prepaid instruments and wallets) have also registered a growth during the same period. The value of these payments went from Rs 4.48 lakh crore to Rs 10.6 lakh crore.

v) Now, the economy is again seeing an uptrend in currency in circulation. The latest RBI data for the week ending March 15, 2019, show that outstanding currency in circulation aggregated 21.42 lakh crore, recording an increase of 17.5 percent. January 2019 and February 2019 data also similarly indicate a sharp increase in currency in circulation.

C. Objective 3

To analyze the payment and settlement systems of RBI.

Table no: 1 – Statistics report of Payment and Settlement systems for year 2014-15

System	Volume (14-15)in Million
1. Customer Transactions	88.39
2. Interbank Transactions	4.38
3. CCIL Operated Systems	3.03
4. Paper Clearing	1,196.51
5. Retail Electronic Clearing	1,687.44
6. Cards	8,423.99
7. Prepaid Payment Instruments (PPIs)	314.46

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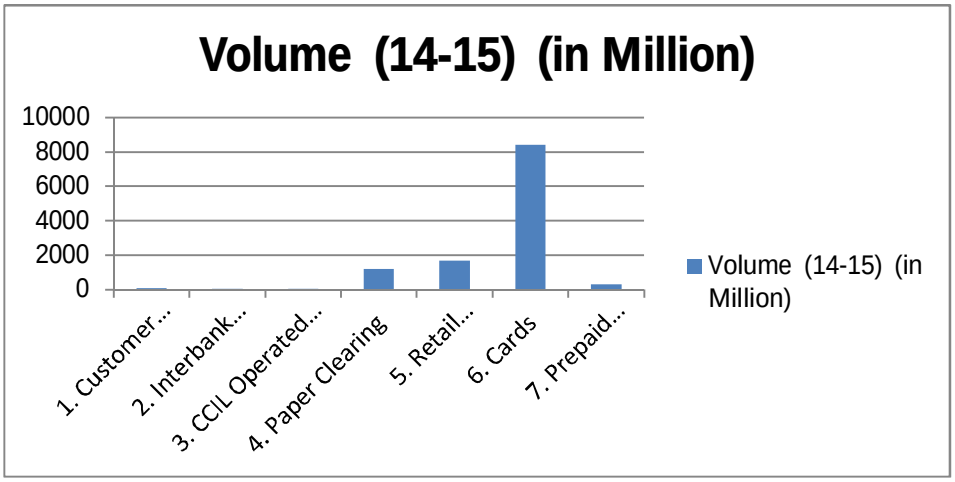
Figure no: 1- Graphical representation of Payment and Settlement systems for 2014-15



Interpretation

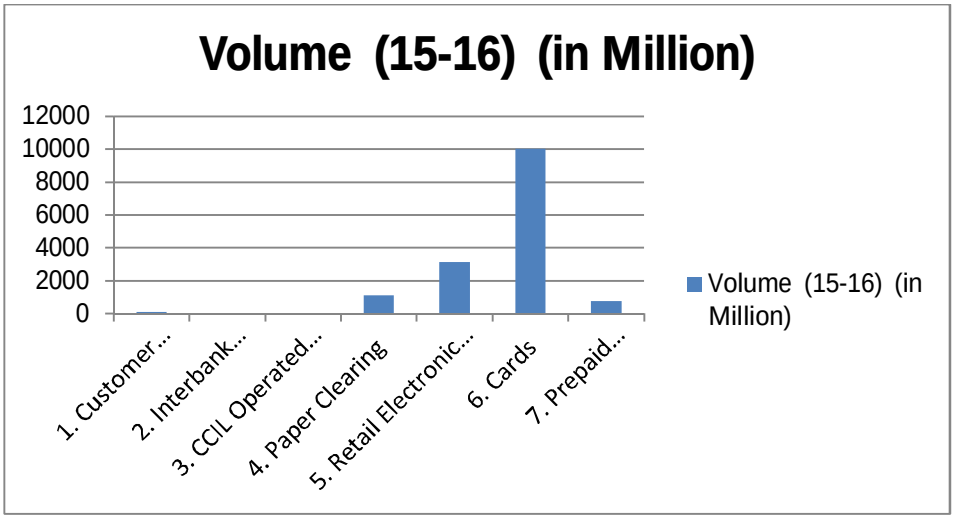
1) The payment and settlement systems year showed a high and low strike volumes.

2) However Cards have a major contribution with 72% in the total electronic payments of the year.

Table no:2- Statistics report of Payment and Settlement systems for year 2015-16

System	Volume (15-16) in Million
1. Customer Transactions	93.95
2. Interbank Transactions	4.37
3. CCIL Operated Systems	3.12
4. Paper Clearing	1,096.37
5. Retail Electronic Clearing	3,141.53
6. Cards	10,038.67
7. Prepaid Payment Instruments (PPIs)	748.02

Figure no: 2- Graphical representation of Payment and Settlement systems for 2015-16



Interpretation

1) The payment and settlement systems year showed a high and low strike volumes.

2) However Cards have a major contribution with 66% in the total electronic payments of the year.

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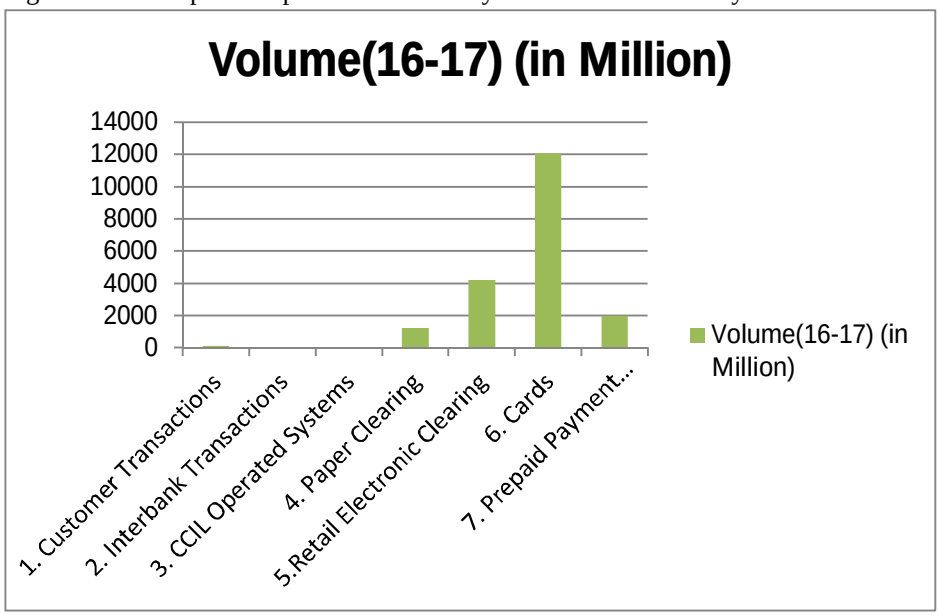
Table no: 3- Statistics report of Payment and Settlement systems for year 2016-17

System	Volume(16-17)in Million
1. Customer Transactions	103.66
2. Interbank Transactions	4.17
3. CCIL Operated Systems	3.65
4. Paper Clearing	1,206.69
5.Retail Electronic Clearing	4,204.96
6. Cards	12,055.87
7. Prepaid Payment Instruments (PPIs)	1,963.66

Figure no: 3- Graphical representation of Payment and Settlement systems for 2016-17



Interpretation

1) The payment and settlement systems year showed a high and low strike volumes.

2) However Cards have a major contribution with 60 % in the total electronic payments of the year.

Table no: 4- Statistics report of Payment and Settlement systems for year 2017-18

System	Volume(17-18) in Million
1. Customer Transactions	120.71
2. Interbank Transactions	3.72
3.CCIL Operated Systems	3.5
4.Paper Clearing	1,171.31
5. Retail Electronic Clearing	5,467.29
6. Cards	13,358.62
7. Prepaid Payment Instruments (PPIs)	3,459.05

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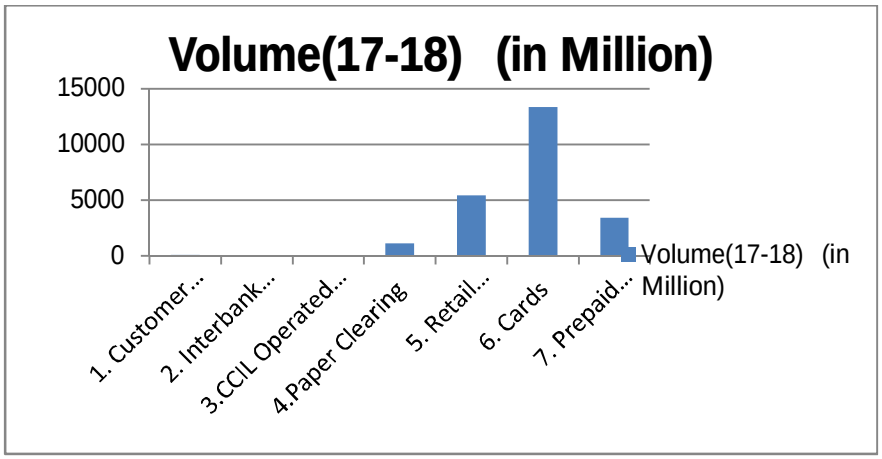
Figure no: 4- Graphical representation of Payment and Settlement systems for 2017-18



Interpretation

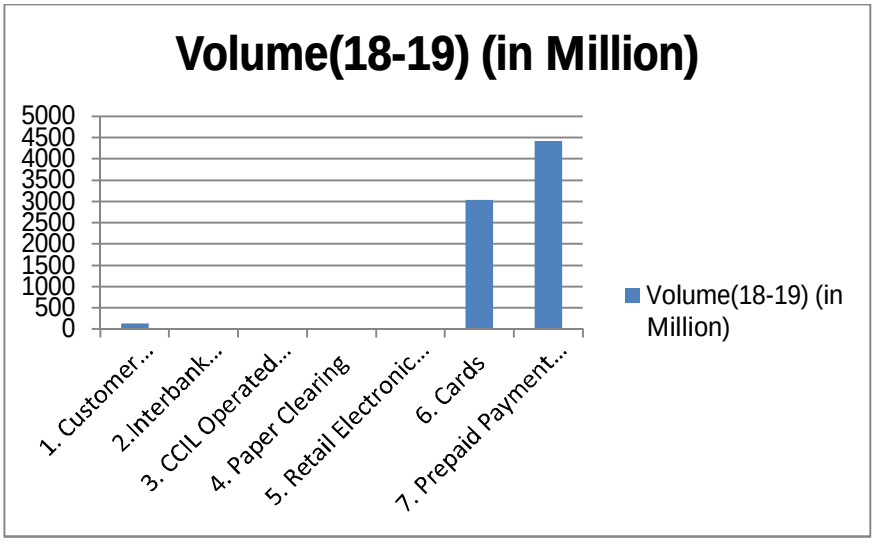
1) The payment and settlement systems year showed a high and low strike volumes.

2) However Cards have a major contribution with 56% in the total electronic payments of the year.

Table no: 5- Statistics report of Payment and Settlement systems for year 2018-19

System	Volume(18-19)in Million
1. Customer Transactions	133.3
2.Interbank Transactions	3.31
3. CCIL Operated Systems	3.62
4. Paper Clearing	2.38
5. Retail Electronic Clearing	12.09
6. Cards	3,035.17
7. Prepaid Payment Instruments (PPIs)	4,414.28

Figure no: 5- Graphical representation of Payment and Settlement systems for 2018-19



Interpretation

1) The payment and settlement systems year showed a high and low strike volumes.

2) However PPI's have a major contribution with 59% in the total electronic payments of the year.

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VIII. FINDINGS AND CONCLUSION

A. *Findings*

1) Electronic payment lowers costs for businesses. The more payments they can process electronically, the less they spend on paper and postage.

2) Offering electronic payment can also help businesses improve customer retention. A customer is more likely to return to the same e-commerce site where his or her information has already been entered and stored.

B. *Conclusion*

1) Now days online transaction are going at very high speed, be it be online shopping or money transaction, crediting debiting account and online money management. So demand a better E-payment system is of prime importance and that can't be without considering E-security.

2) For any MNC company to survive in the field of E-marketing these two are most important parameters i.e. E-payment and E-security as they always go hand in hand.

3) RBI's interventions on promoting electronic modes of payment appear to have facilitated a reduction in the usage of paper-based instruments, such as cheques.

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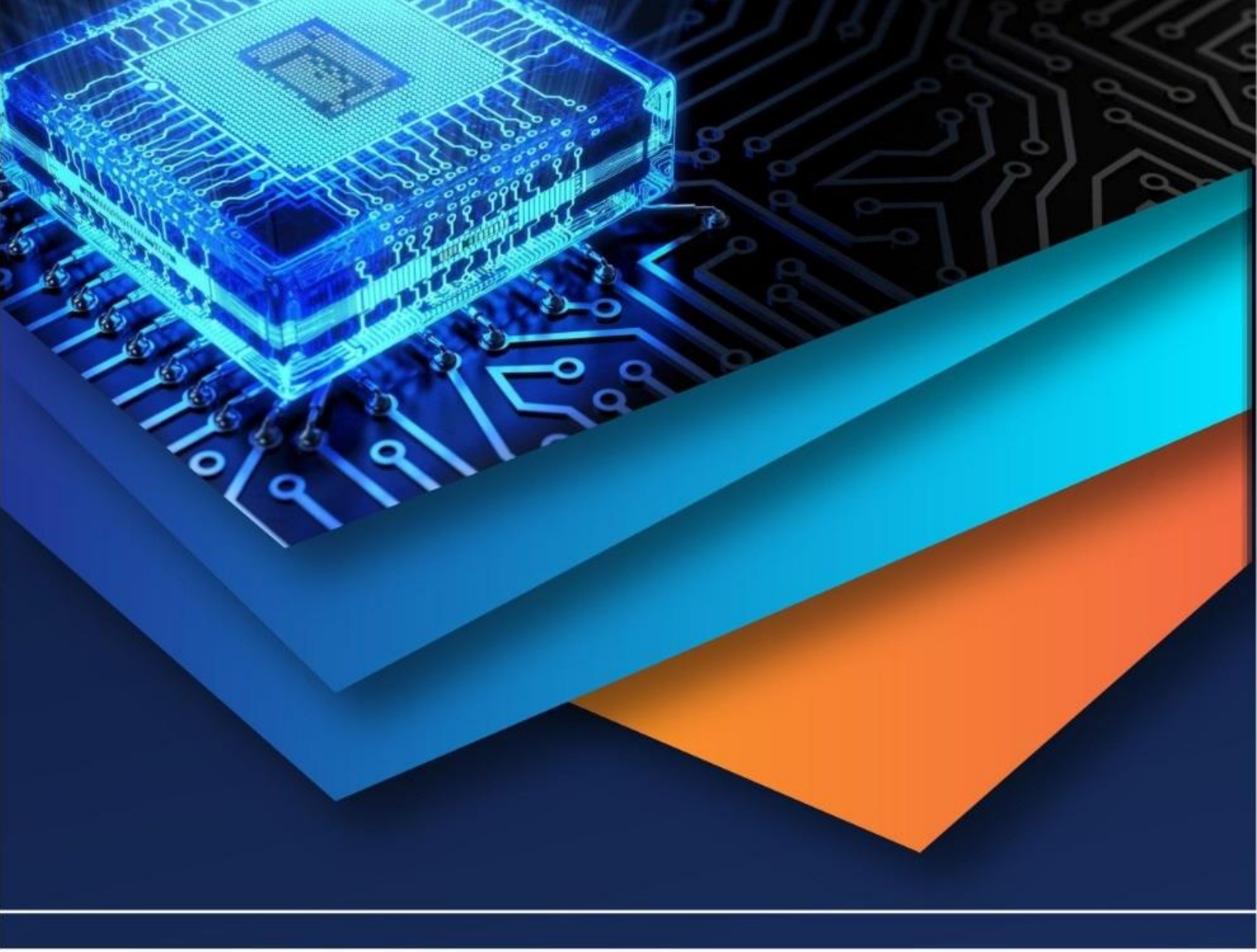

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