
GROWTH AND TREND OF E-BANKING: A COMPARATIVE STUDY OF PUBLIC AND PRIVATE SECTOR BANKS IN INDIA

***Ram Pal, Assistant Professor, Department of Commerce, Government College Dadasiba Kangra, Himachal Pradesh, India.**

Email: rampal173@gmail.com

****Dr Suresh Kumar, Assistant Professor, ICDEOL, Himachal Pradesh University Shimla, Himachal Pradesh, India.**

Email: suresh.commerce@gmail.com.

*****Rajneesh Kumar, Research Scholar, Department of Commerce, Himachal Pradesh University Shimla, Himachal Pradesh, India.**

Email: krajneesh170@gmail.com

ABSTRACT

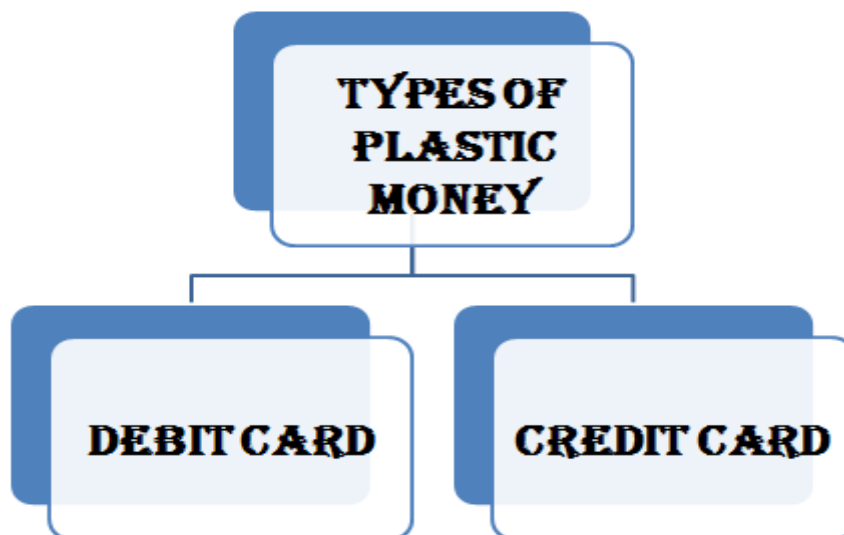
Nowadays, plastic cards are an integral part of modern banking, commercial transactions and other financial payments. Meanwhile, plastic money is gradually becoming a necessity worldwide as more developed countries are opting for plastic over paper as it has several inherent advantages. Today, the internet and technology have covered the world like a spider web. The revolution in technology has brought about drastic changes in the transaction system. With these changes, money has changed its form from cash to cashless. Nowadays, people prefer plastic money to paper money for transactions due to its convenience, security and mobility. Due to digitization, the number of plastic money users is increasing daily. These changes have made people's lives easier. In this article an attempt has been made to study the growth and trend of Credit and Debit cards in public and private sector banks in India during the last 10 years from 2013 to 2022. SBI & PNB banks from the public sector as top leading banks have been selected. And private sector banks HDFC & ICICI banks have been included in the study. The secondary data has been used from the website of the Reserve Bank of India. The study reflects that there is a significant difference between growth of credit card transactions in Public and Private sector banks. As far as the growth of debit cards is concerned it has been found that there is no significant difference between the growth of the amount of debit card transactions in Public and Private sector banks.

Keywords: Plastic Money, Debit card, Credit card, Banking transactions, Growth, Millions.

INTRODUCTION TO PLASTIC MONEY

Plastic money, as its name implies, is money made of plastic that can be easily exchanged for goods and services to lessen the use of cash. In the early 1900s, plastic money emerged, and the first plastic card was used in the USA. Using plastic money was intended to eliminate cash from the payment system. ATM cards, credit cards, debit cards, etc., are examples of plastic money. Banks in India actively introduced plastic money as cards in the 1990s. However, it was not very popular

among Indian consumers at its launch. The shift in consumer demographics in terms of income, marital status, level of education, etc., as well as the advancement of technology and awareness, has led to relevant shifts in consumer preferences. These changing preferences have also changed their views and decisions regarding the acceptance or non-acceptance of certain products and services in the marketplace. Therefore, plastic cards are gaining popularity among both bankers and customers and are accepted in the market. The plastic card market in India is growing rapidly but still has a long way to go compared to the usage trends in other countries. Therefore, it has become important that the payment system in India is modernized to match the systems prevalent in other countries as our domestic financial markets become increasingly integrated with markets abroad. The Reserve Bank of India (RBI) is taking important steps to increase the use and popularity of plastic cards through initiatives such as card market regulation to maintain levels of security and build trust with bankers and customers. Despite strong advances in e-payments, an estimated 90 per cent of personal consumer spending in India is still made with cash, reflecting the enormous. (Mukaria,(2018).



Debit Card

A debit card is a physical or virtual payment instrument containing a means of identification linked to a Saving Bank/Current Account, which can be used to withdraw cash, make online payments, do POS terminal/Quick Response (Q.R.) code transactions, fund transfer, etc. subject to prescribed terms and conditions.

Credit Card

A credit Card is a physical or virtual payment instrument containing a means of identification, issued with a pre-approved revolving credit limit that can be used to purchase goods and services or draw cash advances, subject to prescribed terms and conditions.

REVIEW OF LITERATURE

Patel and Amin (2012) have concluded in their report “Plastic Money: Roadmap towards Cash Less Society” that the world glance as per technology changes suitable changes should be adopted by the economy. And among all the changes in economy lead to some drastic changes in to the transactions. Now days in any transaction Plastic money becomes inevitable part of the economic transactions. And 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 focus by the researcher over here. And along with the plastic money it becomes possible that control of the money laundry and effective utilization of financial system would become possible which would also helpful for tax legislation.

Chavali and Rao (2018) have studied the impact of plastic money on the Indian economy in their article "A Study on the Impact of Usage of plastic money in India". It has been observed that there is a relationship between the careening stage and the usage of plastic money as it encompasses their earning and job security for repayment. It has also been revealed that women feel more comfortable with plastic money as compared to men. The majority of respondents consider plastic money as a safe and secure mode of banking transactions.

Geeta (2018) in her article entitled “Plastic Money Risks and Benefits” has analysed the impact of plastic money on Indian economy. It is observed that there is a significant difference between career stage and usage of plastic money as it affects respondents earning and their job security for repayment. It has been also inferred that women are found more satisfied with plastic money in comparison with men for using of plastic money. It is also revealed that banks and other financial institutions are in cut throat competition for capturing the female customers because the less credit default has been found in case of female customers.

Beg and Veer (2019) had studied the awareness, challenges and prospectus of digital payment system for next generation in their research work entitled “Awareness and Preference toward next Generation Digital Payment Mechanism”. Primary as well as secondary data was used under the study. Primary data had been collected from questionnaire and secondary data from various online sources like websites, journals, articles, news etc. Most of the respondents preferred to use paytm and bank cards as their digital payment system. Majority of them also considered digital payments as safe and secured. They were in opinion that digital payment system would reduce the black money from the economy. 24x7 availability of internet services was the main reason for adopting the digital payment system. Lack of awareness, internet connectivity, hacking and lack of trust etc. were major challenges in dealing with digital payment system.

Patil and Chhatpar (2020), in their article "An Analytical Study on the Use of Plastic Money with Respect to Pune City", have analysed that plastic money has a very bright future in the coming years because of the increasing trend of e-commerce. The majority of people found aware of plastic money, and debit cards are preferred by them for banking transactions. Plastic money is commonly used for online shopping and payment of utility bills. The significant impact of plastic money on the spending behaviour of people has been found.

Jana et al. (2021) explained the various significant benefits of e-banking services to bank customers in their paper entitled "Digital Banking: The Future of Banking". These benefits include convenience, anytime, anywhere accessibility, digital record-keeping, easy payment of different utilities, banking transaction and account operation alerts and security etc. further study supports that rapid penetration of the internet along with the affordability of Smartphones, e-banking holds a bright future for banking.

Parecha and Dabare (2021) studied the satisfaction level of debit and cardholders of nationalized banks in Amaravati city. The study portrays that the majority of respondents prefer debit and credit cards for making any banking transactions. The volume of such banking transactions has increased, especially in the pandemic situation of COVID-19. There was no significant difference between the satisfaction level of the debit and credit card holders. Further, a very low association has been found between the age and the awareness level of the respondents.

Umeshet. Al. (2022) have measured the impact of charge with credit score card compared with cash on insurance enterprise spending on lunch in a cafeteria. It is found that majority of respondents are fully aware and satisfied with the utilization and convenient of credit card. Credit card is mostly preferred by the salaried person for making payment of bills, online payments and booking of tickets. It is revealed that credit card does not boom spending. The usage of credit card has significant impact on spending of revolvers.

Saravanan and Alamelu (2022) have analysed the trend of debit card and credit card transactions among public sector, private sector and foreign banks in India during the last ten years from 2011 to 2021. It has been found that the volume of debit card transactions is quite higher in public sector banks as compared to the private sector and foreign banks in India. And as far as the volume of credit cards is concerned, the private sector and foreign sector banks are leading in this regard. The study further portrays that debit and credit cards are the major indicators for determining the payment behaviour of customers.

RESEARCH GAP

The review of literature regarding growth of Credit and Debit Cards has been analysed from different sources. Different articles and research papers online sources have been reviewed. From the analysis of literature review it has been found that there are lot of studies has been conducted on growth of credit and debit cards and majority of them also have been conducted for less than ten years. These studies focused on awareness and satisfaction level of customers for using these e-banking services. From the above literature review it was summarized that the studies so far conducted on awareness and satisfaction and only few studies have been conducted on the growth of plastic money. Further no study has been conducted so far on growth of plastic money for the period of 2013 to 2022, which a major research gap between the existing literature and requirement of the study.

OBJECTIVE OF THE STUDY ON THE BASIS OF RESEARCH GAP

Following are the main objectives of the study;

- To study the growth of Credit Card Services in Public and Private Sector banks.
- To analyse the growth of Debit Card Services in Public and Private Sector banks.

HYPOTHESIS OF THE STUDY

Following are the main Hypothesis of the study;

H₀: There is no significant difference between the growth of credit card transactions in Public and Private Sector Banks.

H₀: There is no significant difference between the growth of debit card transactions in public and Private Sector Banks.

RESEARCH MYTHOLOGY

Under the study the secondary data has been used from website of Reserve Bank of India. Data has been furnished from 2013 to 2022 for the period of 10 years. Under the study both public as well as private sector banks has been included. From the Public Sector Banks SBI and PNB as top two leading bank in Public Sector has been included. On the other hand, from Private Sector Banks HDFC & ICICI Banks have been included. To analyse the data Average, Standard deviation, Coefficient of Variation, and Compounded Annual Growth Model has been used. Further to test the hypothesis, the Mann-Whitney U test of independent sample has been used. Under the study for the graphical presentation the chart column chart has been used.

ANALYSIS AND INTERPRETATION

The analysis of credit and debit cards in public sector and private sector banks in the context of their growth during the last ten years from 2013 to 2022 in India is as under.

PERFORMANCE OF PUBLIC & PRIVATE SECTOR BANKS ON THE BASIS OF CREDIT CARD TRANSACTIONS

The credit card industry has witnessed a whopping growth of 293.20 lakhs in credit cards. Among all the Indian banks, ICICI bank has been able to maintain its leadership status till 2005 with a 26 per cent share in the credit card industry. In 2009 ICICI and SBI Bank both held good positions in the credit card industry with a share of 21 per cent and 14 per cent, respectively. On sector-wise comparison for the period from 2005 to 2009, the private sector recorded a phenomenal growth rate of 64 per cent, followed by public and foreign sector banks at 47 per cent and 38 per cent, respectively (Vinayagomoorthy et al.,2012).

Table1. Performance of Public and Private sector banks on the basis of amount of CreditCard Transaction Amount (in ₹ 000)

Years	PUBLIC SECTOR BANKS				PRIVATE SECTOR BANKS			
	PNB	SBI	Total (PNB+SBI)	GR	HDFC	ICICI	Total (HDFC+ICI CI)	GR
2013	4142.75	152882.49	157025.24		431276.80	159065.11	590341.91	
2014	4229.52	197176.91	201406.43	28.26	545778.68	207455.73	753234.41	27.59
2015	4143.60	272568.12	276711.72	37.39	707653.20	250207.43	957860.63	27.17
2016	6219.70	380075.07	386294.77	39.60	889939.99	325598.65	1215538.64	26.90
2017	11922.59	715093.11	727015.70	88.20	1247088.23	481404.83	1728493.06	42.20
2018	17754.89	948969	966723.89	32.97	1606446.20	6348753	7955199.20	360.24
2019	95114.09	7448598	7543712.09	680.34	11907593	4921871	16829464	111.55
2020	872788	11933565.20	12806353.20	69.76	18937792.90	8486846.34	27424639.24	62.96
2021	1380750	16853113.80	18233863.80	42.38	24354006	17047352	41401358	50.96
2022	17936701	1873611563	1891548264	10273.82	2879420562	1926056115	4805476677	11507.05
CAGR	153.54%	184.62%	184.07%		166.04%	184.23%	171.97%	
Mean	2033377	191251361	193284737		294004814	196428467	490433281	
S.D.	5608097.94	591150767.77	596743019.07		908464756.79	607753456.13	1516215209.87	
C.V.	275.80	309.10	308.74		309.00	309.40	309.16	

Source: RBI Reports

Mann-Whitney U- 9.00

P.V 0.001

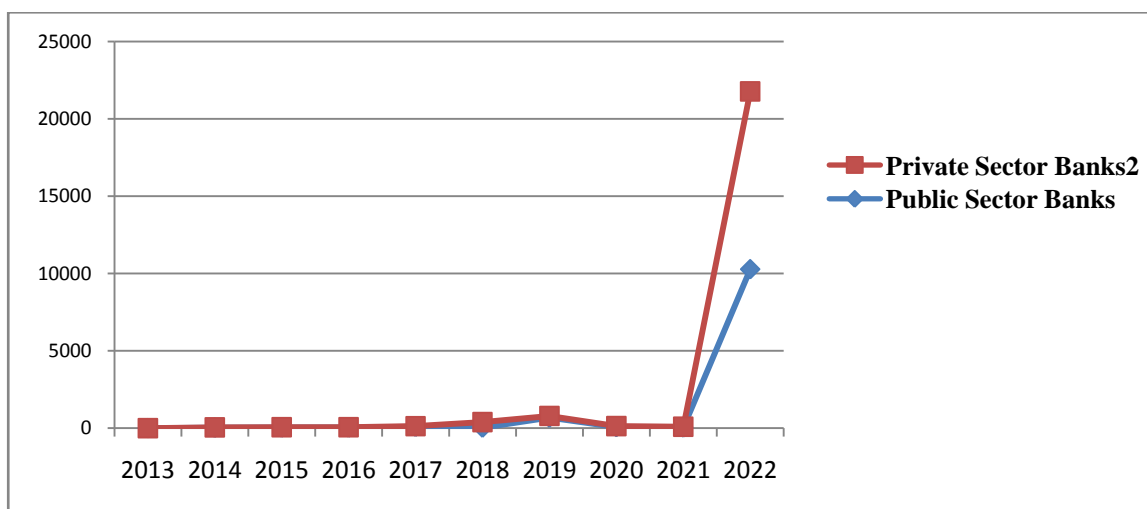
Table 1.1 shows the amount of credit card transactions of the public and private sector banks for the period from 2013 to 2022. To analyse the growth of the amount of credit card transactions in public and private sector banks in a decade, i.e. 2013 to 2022, the following Null Hypothesis has been formulated.

H₀: There is no significant difference between the growth of credit card transactions in public and private sector banks.

The public sector banks have secured the highest growth rate of 10273.82 per cent in the year 2022, whereas it has remained the least (28.26 per cent) in the year 2014. As far as the growing amount of credit card transactions in private sector banks, it has remained highest (11507.05 per cent) in the year 2022 and least (26.90 percent) in 2016. It is analysed that both sector banks will have attained substantial growth rates in 2022. The average score of the amount of credit card transactions of SBI bank (191251361) is higher than that of PNB (2033377) within the public sector banks. On the other hand, HDFC Bank is leading with 294004814 credit card transactions and followed by ICICI Bank (196428467) in private sector banks. On sector-wise comparison, Private sector banks are leading to public sector banks with credit card transactions of 490433281 and 193284737, respectively. SBI bank has a high value of the coefficient of variation, i.e. 309.10 per cent, within the public sector banks, which further indicates that there is more variability and less consistency for the volume of transactions in SBI bank as compared to the PNB bank. As far as private sector banks are concerned, ICICI bank is leading in this regard with the higher value of coefficient of variation, i.e. 309.40 per cent. Further, it is revealed that public sector banks hold more consistency and low variability for the amount of credit card transactions as compared to the private sector banks. The analysis of compounded annual growth rate (184062%) is most satisfactory for SBI banks in public sector banks. Among the private sector banks, it is satisfactory in the case of ICICI bank with the value of CAGR 184.23%. On sector-wise analysis of CAGR, public sector banks hold the most satisfactory results as compared to the public sector banks.

On applying the Mann-Whitney U test to analyse the Null Hypothesis on the growth of amount of credit card transactions, it has observed that the calculated P value of the Mann-Whitney U test is 0.001, which is less than 0.05; hence Null Hypothesis is rejected.

Figure 1. Growth of Credit card transactions amount in Public and Private Sector Banks.



Type of Hypothesis	Results
H ₀ : There is no significant difference between growth of amount of credit card transactions in Public and Private sector bank.	Rejected
H ₁ : There is no significant difference between growth of amount of credit card Transactions in Public and Private sector bank.	Accepted

It is concluded that the growth of amount of credit card transactions in public and private is not on a similar pattern from 2013 to 2023.

Performance of Public & Private Sector Banks on the Basis of DebitCard Transactions.

As per Data published by RBI in the year 2018-19, there are around 924.63 million debit cards were outstanding, and the transaction amount was consolidated to 39.14 trillion. Due to the effective policy implications, the magnification of debit cards shot up by 40 per cent in the year 2014-15. The government of India used issuing of new debit cards as a tool of financial inclusion. The no. of debit cards reached 14.27 billion in 2018-19 from 5.40 billion in 2011-12. The amount of debit card transaction value has also hiked at the same growth rate from 14.21 trillion to 39.04 trillion from 2011-12 to 2018-19 (Shilpa et al. 1,2019).

Table 2. Performance of Public and Private sector banks on the basis of amount of Debit Card transaction Amount in millions

Years	PUBLIC SECTOR BANKS				PRIVATE SECTOR BANKS			
	PNB	SBI	Total (PNB+SBI)	GR	HDFC	ICICI	Total (HDFC+ICICI)	GR
2013	1220993.69	8102719.81	9323713.50		1720796.59	1763240.80	3484037.39	
2014	1425287.47	9038196.52	10463483.99	12.22	1909907.11	2070745.42	3980652.53	14.25
2015	1597383.94	9865258.91	11462642.85	9.55	2170380.25	2220897.92	4391278.17	10.32
2016	1693076.57	10055987.10	11749063.67	2.50	2283811	2212485.38	4496296.38	2.39
2017	1893481.89	12623728.58	14517210.47	23.56	2289229.75	2234432.76	4523662.51	0.61
2018	2140928.26	14552749.90	16693678.16	14.99	2867294.50	2614124.60	5481419.10	21.17
2019	12879515.71	81805711	94685226.71	467.19	18729726.30	15425781.10	34155507.40	523.11
2020	18494435	124807939	143302374	51.35	29346106	22257551.60	51603657.60	51.08
2021	30285688	129892874	160178562	11.78	35657385	24552833	60210218	16.68
2022	615271534	10047027588	10662299122	6556.51	3089845139	1883594402	4973439541	8160.13
CAGR	99.65%	120.65%	118.68%		129.92%	117.03%	124.13%	
Mean	68690232.45	1044777275	1113467508		318681977.6	195894649.5	514576627	
S.D.	192301221.59	3163454969.38	3355636004.80		973771271.21	593066042.80	1566836253.85	
C.V.	279.95	302.79	301.37		305.56	302.75	304.49	

Source: RBI Reports

Mann-Whitney U- 27. 00

P.V 0.089

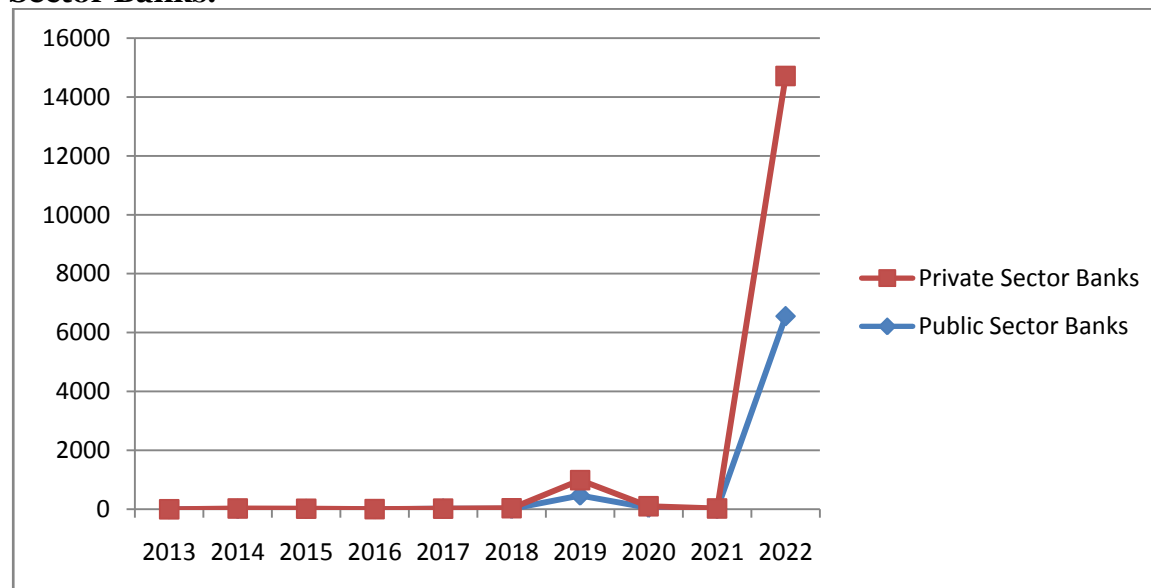
Table 2. shows the amount of credit card transactions of the public and private sector banks for the period from 2013 to 2022. To analyse the growth of the number of debit card transactions in public and private sector banks in a decade, i.e. 2013 to 2022, the following Null Hypothesis has been formulated.

H₀: There is no significant difference between the growth of Debit Card transactions in Public and Private Sector Banks.

The same public sector banks have secured a marvellous growth rate of 6556.51 per cent in the year 2022, whereas it has remained the least (2.50 per cent) in the year 2016. As far as the growing amount of debit card transactions in private sector banks is concerned, it has remained highest (8160.13 per cent) in the year 2022 and least (0.61 per cent) in 2017. It is analysed that both sector banks will have attained substantial growth rates in 2022. The average score of the number of debit card transactions of SBI bank (1044777275 million) is higher than that of PNB (68690232.45 million) within the public sector banks. On the other hand, HDFC Bank is leading with an amount of 318681977.6 million debit card transactions and followed by the ICICI bank (195894649.5 million) in private sector banks. On sector-wise comparison, Public sector banks are leading to private sector banks with the amounts of debit card transactions of 1113467508 million and 514576627 million, respectively.

SBI bank has a high value of the coefficient of variation, i.e. 302.79 per cent, within the public sector banks, which further indicates that there is more variability and less consistency for the number of transactions in SBI bank as compared to the PNB bank. As far as private sector banks are concerned, HDFC bank is leading in this regard with the higher value of co-efficient of variation, i.e. 305.56 per cent. Further, it is revealed that public sector banks hold more consistency and low variability for the number of debit card transactions as compared to the private sector banks. The analysis of compounded annual growth rate (120.65 per cent is most satisfactory for SBI banks in public sector banks. Among the private sector banks, it is satisfactory in the case of HDFC bank with the value of CAGR 129.92%. On sector-wise analysis of CAGR, private sector banks hold the most satisfactory results as compared to public sector banks. On applying the Mann-Whitney U test to analyse the Null Hypothesis on the growth of amount of debit card transactions, it has observed that the calculated P value of the Mann-Whitney U test is 0.089, which is more than 0.05; hence Null Hypothesis is accepted.

Figure 2. Growth of Debit Card Transaction Amount Services in Public and Private Sector Banks.



Type of Hypothesis	Results
H ₀ : There is no significant difference between growth of debit card transactions in Public and Private sector bank.	Accepted
H ₁ : There is no significant difference between growth of debit card transactions in Public and Private sector bank.	Rejected

And it may be concluded that the growth of amount of credit card transactions in public and private is on a similar pattern for the period of 2013 to 2023.

FINDINGS OF STUDY

The main findings of the study are as follows;

(a) Growth and Development of Credit cards in Public and Private Sector Banks

The average amount of credit card transactions of SBI bank (191251361) is higher than that of PNB (2033377) within the public sector banks. On the other hand, HDFC Bank is leading with 294004814 credit card transactions and followed by ICICI Bank (196428467) in private sector banks. On sector-wise comparison, Private sector banks are leading to public sector banks with credit card transactions of 490433281 and 193284737, respectively. Further, it is revealed that public sector banks hold more consistency and low variability for the amount of credit card transactions compared to the private sector banks. On sector-wise analysis of CAGR, Public Sector banks hold the most satisfactory results as compared to the private sector banks. There is no significant difference between the growth of the amount of credit card transactions in Public and Private sector banks.

(b) Growth and Development of Debit cards in Public and Private Sector Banks

The average score of the number of debit card transactions of SBI bank (1044777275 million) is higher than that of PNB (68690232.45 million) within the public sector banks. On the other hand, HDFC Bank is leading with an amount of 318681977.6 million debit card transactions and followed by the ICICI bank (195894649.5 million) in private sector banks. On sector-wise comparison, Public sector banks are leading to private sector banks with debit card transactions of 1113467508 million and 514576627 million, respectively. Further, it is revealed that public sector banks hold more consistency and low variability for the number of debit card transactions as compared to the private sector banks. On sector-wise analysis of CAGR, private sector banks hold the most satisfactory results as compared to public sector banks. The growth of debit card transactions in Public and Private sector banks is the same.

SUGGESTIONS OF THE STUDY TO THE POLICY MAKERS OF PUBLIC & PRIVATE SECTOR BANKS

For the Credit and debit Card, Private sector banks should focus on maintaining the more consistency in credit card transactions. Further private sector banks are advised to improve their compounded annual growth in context of credit and debit card transactions. The banks from the both sector are needs to focus on spreading the awareness for usage of these e-banking services along with growth of plastic money.

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