PERFORMANCE APPRAISAL OF INDIAN PUBLIC AND PRIVATE SECTOR BANKS IN CONTEXT TO AUTOMATIC TELLER MACHINES

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Abstract

Innovations are very important for any type of business specifically banking industry. In today's competitive world every bank wants to raise its profitability by using modern technology and by providing comforts the customer .It is true that every bank whether it is public or private is trying to expand its business and IT plays an important role in it .Through this paper we can make analysis that by using similar innovative methods how public and private sector banks differs in their profitability? In this paper we will compare the performance of leading banks of both sectors for last five years after fully computerized banking and correlate that which indicator shows highest average growth. How many new customers are captured by the banks after providing service such as ATM. This paper will also help us to suggest some new measures that how these banks can enhance their business.

***Key words*:** ATM's effects on business and profits per employee, Expenditures etc.

Introduction

During 1980's many banks had faced reduced profitability, loss of branches and poor customer services due to limited and expensive technology. After banking sector reforms of 1991 when many private and foreign sector banks entered in Indian banking industry with latest technology, this threatened the survival of public sector banks .Public sector banks have to increase their efficiency to compete with private sector banks.SBI and ICICI are the banks who first introduced the computerized banking and ATM's in India. Automated teller machines (ATMs**)** were the first well-known machines to provide electronic access to customers. With advent of Automatic Teller Machines (ATM), banks are able to serve customers outside the banking hall. ATM is designed to perform the most important function of bank. It is operated by plastic card with its special features. The plastic card is replacing the cheque, personal attendance of the customer, banking hour's restrictions and paper based verification. ATMs have made hard cash just seconds away all throughout the day at every corner of the globe. ATMs allow you to do a number of banking functions – such as withdrawing cash from one's account, making balance inquiries and transferring money from one account to another – using a plastic, magnetic-strips card and personal identification number issued by the financial institution.

With the aid of computers the bank can work faster. Bank can expand its working area with the same manpower. IT development in banking sector have speed up communication and transaction for clients .customers can view the account, get account statement, transfer funds in few minutes.. The reasons being that both types of banking institutions available in the area are found to have made sincere efforts especially during the Nineties to minimize the cost of inputs required for rendering their services to Account holders at cheaper rates through more and more use of the selected innovative banking services consisting of internet, inter branch banking,

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phone, mobile and debit & credit cards. In India, ATM annual fees are Rs. 100 in Govt. bank and Rs. 500 in private bank. In 2007, the Reserve Bank of India (RBI), the country's central bank, had issued a directive to all commercial banks to freeze ATM charges and, with effect from 1 April 2009, abolish ATM service charges altogether. Since 2009, customers of any licensed bank are able to use the ATMs of other banks without paying a service charge. Earlier, banks charged between INR 10 and INR 35 per reciprocal transaction. Today a person holding card of other banks can withdraw amount from other bank's ATM but the amount of transaction is limited after 5 to 6 transactions the person will be charged with a minimum fees of INR 20. All the following benefits create attraction for ATM within the consumer**:**

*Cash transactions
*Cash withdrawals
*Fund transfer
*Mini statement
*Balance enquiry
*Request for pass book
*Bill payment

Literature review

It is relevant to refer briefly to the previous studies and research in the related areas of the Subject to find out and to fill up the research gaps, if any. Literature on financial services can generally be found on securitization, profitability and productivity etc. but few studies are undertaken on the role of technology in the banking.

Kaur R. (2011) Indian Banking: Managing Transformation through Information Technology – Problems & Prospects: Though, IT leads improvement in all banks however e-banks are gaining the momentum. It is important to recognize that banks in India are not large enough to function efficiently under the emerging environment to undertake sufficient investment in skill formation and to come up and experiment with innovative ways to exploiting the opportunities and meeting the challenges thrown up under a rapidly changing economic scenario.

Hugar and Vaz (2008) evaluate the customer orientation in public sector banks for 5public sector, 3 new private sector and 3 foreign banks are selected. The study concludes that new private sector banks have more ATMs at the end of March 2006 followed by SBI group where 77.5 pc branches are fully computerized and 18.2 pc are partially computerized. Business per employee and profits per employee are higher in foreign banks where SBI has received more number of complaints followed by ICICI. The study also suggests adopting CRM by public sector banks to stand strong in competitive environment.

Uppal (2008) studied the extent of mobile banking in Indian banking industry during 2000-2007. The study concludes that the customers of e-banks are satisfied with the different e-channels and their services in the spread of e-banking services. It also suggests some measures to make e-banking service more effective in the future. The present study is mainly concerned with the Indian banking industry in general and particular those banks that are producing service through e-channels i.e. e-bank

A study by Kumar and Sujit (2006) concludes that e-purse is still at a nascent stage in India as compared to other e-facilities like credit/debit cards, ATMs etc. The study suggests making e-purse more user friendly like credit cards, providing wider base in terms of issuer, location and service providers to facilitate its usage at transportation services, educational institutions, shopping malls etc.

De Angeli et al. (2004) explain that underlying inhibitors to ATM adoption in India are not intrinsically different from the ones determined more than a decade ago in some western countries. They can be traced back to a few main factors, such as feelings of inadequacy, preference for human contact, lack of need and safety concerns. People tend to use ATM's if they have need for it, if they perceive the ATM to be easy to use, if they feel safe, and if they have a positive attitude towards technology in general..

Objectives of study:-

- To study the trends in below said indicators in selected bank groups G-I, G-II, G-III, G-IV due to increased use of ATM.
- To make analysis and compare the performance of these bank groups in terms of Business per employee, Profit per employee, Net profitability ratio and Expenditure ratio.
- To suggest relative measures if there is inefficiency of any kind.

Research Methodology:-

To explore the objectives of study, we have taken four groups from Indian banking industry. G-I for SBI & Associates (7), G-II for other Nationalized Banks (20)*, G-III for Old Pvt. sector Banks (15), G-IV for New Pvt. Sector Banks (7). We will take under consideration the factor increase in ATMs and its affects upon the performance of bank groups on certain parameters .We will find correlation among different parameters. Period from 2007-2011 is covered under this study. Secondary data is taken from RBI's and IBA's annual reports and websites.

*IDBI is included in nationalized banks

Selected parameters are:

Business per employee	:	Business/Total Employees
Profit per employee	:	Total Profits/ Total Employees
Net Profitability Raito	:	Net Profits/Total Assets*100
Expenditure ratio	:	Total exp/total Assets *100

Two statistical tools measures of central tendencies and correlation are used to attained results After calculating these ratios and their averages we will correlate each factor with average of percent ATM's and analysis which indicator is having high positive correlation to increase in ATM's. Different symbols used for parameters under consideration are:-

Variables	Symbols
ATM	X
Business per employee	A
Profit per employee	B
Net Profitability Ratio	C
Net Expenditure Ratio	D

Analysis and Discussion of parameters:-

We have divided public and private sector banks in four groups in above said manner.Table-1 shows the pc ATM's of branches, it will help us to analysis the trend of growth rate of ATM's group wise.G-1 is having the maximum growth rate of ATM's 199.7 pc, G-IV having lowest growth rate -12.5 pc, but on the basis of average pc it is G-IV whose average is highest say 298.48, nationalized banks stood second regarding the factor discussed. With the help of following table-1 this trend can be analyze properly:-

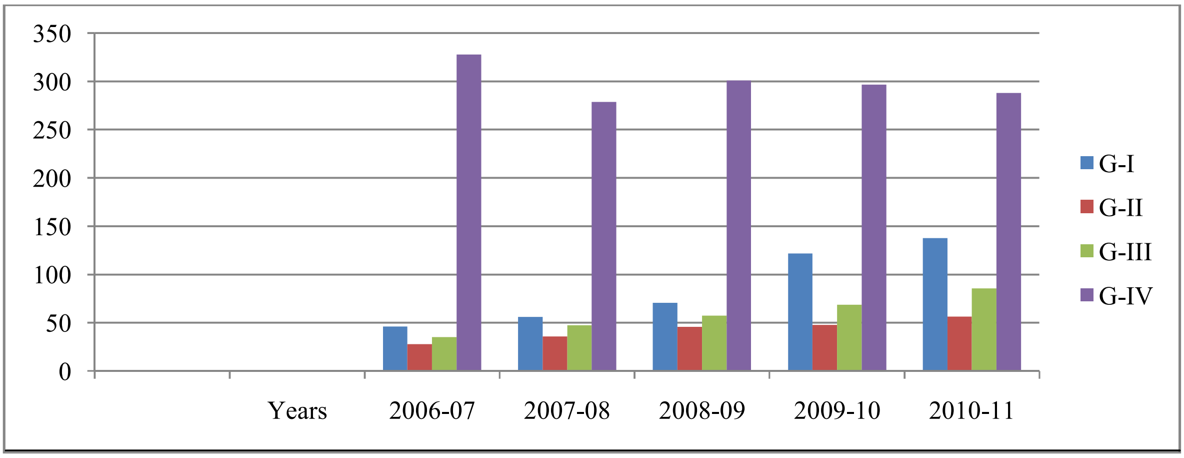
Table-1 Trends in Average Percent ATM's of total Branches (2006-11)

Bank Group / Years	G-I	G-II	G-III	G-IV
2006-07	45.9	27.7	34.9	328.1
2007-08	55.8	35.4	47.2	279
2008-09	70.6	45.5	57.2	300.8
2009-10	121.8	47.4	68.5	296.7
2010-11	137.6	56.1	85.7	287.8
Average	86.34	42.42	58.7	298.48
Growth rate	199.7	102.5	145.6	-12.5

*Source: Trends and Progress of Banking in India **(2006-2011)**

The following chart will help us to understand the trend at a glance:

Chart-1



Trend analysis of Business per Employee:-

Business per employee is the annual business of a bank divided by total numbers of employees. With this parameter we may judge the efficiency and productivity of a bank. As per table 2.1 all four groups are having an increasing trend but on average G-II and G-I are performing better. Taking Average of percent ATM branches as independent variable and business per employee as dependent variable, there exists a moderate positive correlation say 0.41.G-II is having the highest growth rate of business per employee 122.16 as compared to other bank groups

Table-2 Trends in Business per employee Group wise (2006-11)

Bank Group / years	G-I	G-II	G-III	G-IV
2006-07	4.38	5.19	4.39	7.14
2007-08	5.39	6.62	5.11	7.45
2008-09	6.89	8.11	5.86	7.44
2009-10	7.21	9.66	6.57	8.47
2010-11	8.55	11.53	7.09	9.80
Average	6.48	8.22	5.80	8.06
Growth rate	95.21	122.16	61.50	37.24

*Source: Trends and Progress of Banking in India **(2006-2011)**

Profit per Employee:-

Per employee profit is the annual profit of a bank divided by a number of employees. It may be observed from the table – 3 that the profit per employee of G-IV increasing during the period 2006-2011 as compare to G-I, G-II, G-III. This increase is significantly higher for G-IV (2.13 times) as compared to G-I (1.04 times) during the period of given five years. So G-IV shows the highest average profit per employee as compared to other bank groups even it has the negative growth rate of ATM (– 12.5) As showed in table -1 . There is a high degree correlation between percent ATM and profit per employee i.e. + 0.83 .G-I is showing a poor growth in profit per employee with least pc i.e. 4.78 .It may be due to some inefficient strategies, otherwise G-I has the highest growth rate in ATM 199.7 pc as discussed in table-1

Table-3 Trends in Profit per employee (2006 - 2011)

Bank Group / Years	G-I	G-II	G-III	G-IV
2006-07	2.72	3.1	3.14	4.67
2007-08	3.20	4.19	4.42	4.65
2008-09	3.19	3.98	5.22	5.58
2009-10	2.78	4.57	3.98	7.46
2010-11	2.85	5.49	4.91	9.93
Average	2.95	4.27	4.33	6.46
Growth rate	4.78	77.1	56.4	112.6

*Source: Trends and Progress of Banking in India **(2006-2011)**

Net profitability ratio:-

Net profitability ratio can be calculated dividing net profits by total assets and multiplied by 100. The table-3 shows the trend that every bank group is having a positive growth rate but G-III has attained maximum growth rate 42.86 and G-I shows minimum growth rate of 3.66 for last five years. Introduction of new ATM's has raised the net profits of all bank groups for last five years. The study shows a positive correlation i.e. + 0.90 between growth of ATM and net profitability. G-I AND G-II are showing poor growth rate 3.66 and 5.95 respectively in spite of good ATM growth rate and high business per employee as discussed earlier. The value of co-relation shows that this parameter is highly affected by the growth of ATMs.

Table-4 Trends in Net Profitability Ratio (2006-2011)

Bank Group / Years	G-I	G-II	G-III	G-IV
2006-07	0.82	0.84	0.70	0.91
2007-08	0.89	0.88	1.02	1.01
2008-09	0.93	0.91	1.24	1.13
2009-10	0.88	0.90	0.86	1.22
2010-11	0.74	0.89	1.00	1.34
Average	0.85	0.88	0.96	1.12
Growth Rate	3.66	5.95	42.86	23.08

*Source: Trends and Progress of Banking in India **(2006-2011)**

Expenditure ratio:-

Expenditure ratio is annual expenditures of a bank divided by total assets and multiplied by 100. A ratio is the one that measures a bank's earnings before interest and taxes (EBIT) against its total net assets. The ratio is considered an indicator of how effectively a bank is using its assets to generate earnings before contractual obligations must be paid. The table-5 shows that among all groups G-IV has the highest average than that of others but having negative growth rate with -9.35 pc which is more than G-II but lesser than G-I and G-III group. This indicates G-IV is using only -9.35 pc of its profits on the banking activities but G-I show the remarkable expenditure growth rate with 94.82 pc which is maximum among all the groups. As the number of branches of ATM's are increasing in G-I, expenditures are also increasing but growth rate of ATM's are more than expenditure. Likewise G-IV shows the negative growth of ATM's branches with -12.5 pc which is more than the expenditure growth rate.

Table-5 Trends in Expenditure Ratio (2006-2011)

Bank Group / Years	G-I	G-II	G-III	G-IV
2006-07	3.09	5.91	6.24	6.52
2007-08	3.89	6.50	6.78	7.45
2008-09	6.39	6.72	7.23	7.79
2009-10	6.48	6.15	6.99	6.27
2010-11	6.02	5.90	6.59	5.91
Average	5.17	6.24	6.77	6.79
Growth Rate	94.82	-.17	5.61	-9.35

*Source: Trends and Progress of Banking in India **(2006-2011)**

Combined analysis of growth rate:-

To obtain results all the parameters may be collectively studied in terms of growth rate for the period of 2006 – 2011 as shown in Table – 6. Through this table a relevant conclusion can be obtain:

Table-6 Trend Analysis of Average Growth rate of all Parameters (2006-2011)

Bank Groups / Parameters	G-I	G-II	G-III	G-IV
Growth rate of ATM	199.70	102.5	145.6	- 12.5
Growth rate of Business per Employee	95.21	122.16	61.50	37.24
Growth rate of Profit per Employee	4.78	77.1	56.40	112.6
Growth rate of Net Profitability	3.66	5.94	42.86	23.08
Growth rate of Expenditure ratio	94.82	- 0.17	5.61	- 9.36

*Source: trends and progress of banking in India **(2006-2011)**

Trends in G-I:-
G-I has attained the maximum growth rate of ATM's 199.70 in last five years as showed in table-5.As a result its business per employee jumps to 95.21 percent. But growth in profit per employee 4.78 and growth in Net profitability 3.66 is not justified as per the ATM's growth. The growth rate of total expenditure 94.82 percent can be justify due to establishment of high technology based ATM's. In brief G-I need an improvement in its profitability, it has to follow the strategies adopted by the other groups to maintain high profit rates.

Trends in G-II:-
As per the above table G-II has attained 102.50 pc growth in ATM's, in last five years G-II gains highest growth rate of business per employee in all bank groups in spite of negative expenditure growth rate of – 0.17. Profit per employee ratio also shows good performance of 77.10 pc. Overall we can say G-II has performed well during last five years with minimum expenditure by adopting good strategies

Trends in G –III:-
G-III is having 145.60 percent growth in ATMs, 61.50 growth rate in business per employee, 56.40 growth rate of profits per employee, net profitability growth rate 42.86, at a very affordable increase of 5.61 in expenditure ratio. Overall we can conclude G-III is performing better at all levels.

CHART-II
BUSINESS PER EMPLOYEE

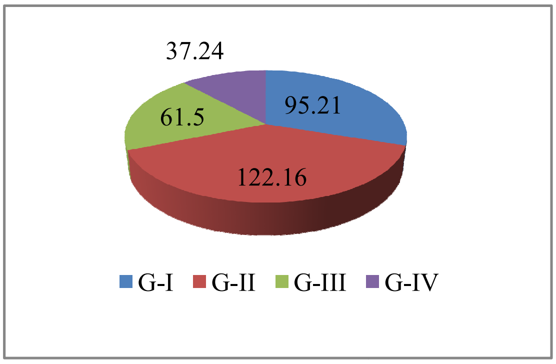
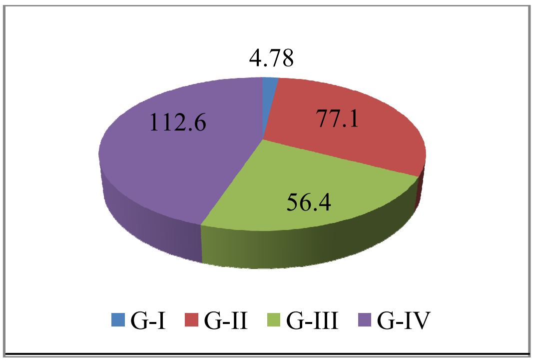


CHART-III
PROFIT PER EMPLOYEE



Trends in G - IV:-

G-IV has a negative growth rate of ATM – 12.50, but still it earning good profitability ratio of 112.60 pc. Its expenditure rate also falls to – 9.36 pc may be due to mergers of many new private sector banks which also brings reductions in expenditure ratio. In spite of all this it has the highest profit per employee growth rate in comparison to other groups.

CHART-IV
Net profitability ratio

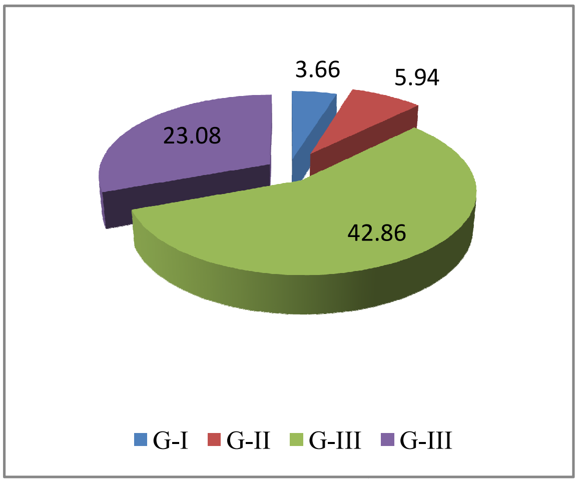


CHART-V
Net Expenditure ratio

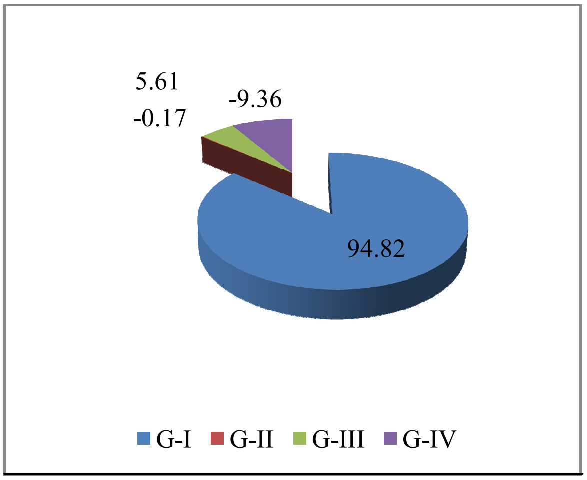


Table-6 Coefficient of co-relation between ATM and all parameters

VARIABLES	XA	XB	XC	XD
COEFFICIENT OF CORRELATION	+ 0.41	+ 0.83	+ 0.90	+ 0.36

We have found in Table-6 profit per employee and Net profitability ratio is having high degree positive correlation i.e. + 0.83 and + 0.90 it shows increase in ATM positively affected the Profitability ratio. Increase in expenditure is having a moderate correlation i.e. + 0.36. So in brief, ATM's put a positive effect on G-II and G-III on average. The following table shows that B & C parameters are highly affected by the installation of new ATM's in a positive direction. Only G-I is bearing high expenditure ratio but others are on the downward trend. We have found in Table-6 profit per employee and Net profitability ratio is having high degree positive correlation i.e. + 0.83 and + 0.90 it shows increase in ATM positively affect the profitability ratio. Increase in expenditure is having a moderate correlation i.e. + 0.36 .So in brief, ATM's put a positive effect on G-II and G-III on average. The following table shows that B & C parameters are highly affected by the installation of new ATM's in a positive direction. Only G-I is bearing high expenditure ratio but others are on the downward trend

Suggestions:-

- G-I banks must find out new techniques to reduce its increment in expenditure to keep profit rates at higher level.
- G-I and G-IV should follow the strategies adopted by G-II and G-III to work more efficiently.
- Each bank group should follow the ATM's software based on regional languages in rural areas instead English to show high productivity.

Conclusion:-

This study concludes that all the bank groups are showing better performance in different parameters i.e. G-I has maximum growth in business per employee, G-II has good growth rate in business per employee and profit per employee even it has a minimum increase in total expenditure, it is a good sign of high productivity. G-III is performing on average in all parameters .G-IV has the maximum profit per employee growth rate with negative increase in total expenditure. We conclude that G-II, G-III, G-IV are performing good even having less growth in ATMs than G-I. Two variables profit per employee and net profitability are highly effected parameters due to increased ATMs during period from 2006-2011 with correlation respectively 0.83 and 0.90.

References

De Angeli, A., Athavankar, U., Joshi, A., Coventry, L. and Johnson, G.I., 2004. Introducing ATMs in India: a contextual inquiry. *Interacting with Computers*, Volume 16, Issue 1, February 2004, pp. 29-44.

De Angeli A, Lynch, P., Johnson G.I., 2002. *Pleasure vs. efficiency in user interfaces; towards an Involvement framework*, Taylor & Francis, London, pp.97-111

Hatta, K., Iiyama, Y., 1991. Ergonomic study of automatic teller machine operability. *International Journal of Human–Computer Interaction*, 3 (3), 295–309.

Hone, K.S., Graham, R., Maguire, M.C., Baber, C, and Johnson, G.I. (1998) Speech Technology for Automatic Teller Machines: An Investigation of User Attitude and Performance, *Ergonomics*, 41(7), pp. 962-981.

Hugar, S.S. and Vaz, N.H., 2008. An Evaluation of Customer Orientation of Indian Public Sector Banks. *Indian Journal of Marketing*. 38(6), June, 31-41.

Indian Banks' Association, Indian Banking Year Book (various issues), An IBA Publication, Mumbai

Kaur, R., 2011. *Indian Banking: Managing Transformation through Information Technology*. Ph. D. Panjab University, Chandigarh.

Reserve Bank of India, Report on Trend and Progress of Banking in India (various issues) [pdf]. Available at <bankreport.rbi.org.in/> [Accessed 10 January 2012].

Uppal, R. K., 2008. Extent of mobile banking in Indian banking industry during 2000-2007

Uppal, R. K. and Kaur, R., 2007. E-Banking: A Survival Factor for Indian Public Sector Banks. *International Journal of Management Sciences*. 3(1), July, 31-40.