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Research Article

Impact of information technology on the earnings efficiency of banking sector in India

***G.B.Karthikeyan and ** S.Gnana Sugirtham**

*****Assistant Professor, Department of Commerce, Chikkanna Govt. Arts College, Tirupur – 641 602
****** Assistant Professor, Department of Commerce, Sri Krishna Arts and Science College, Coimbatore – 641 008
Corresponding Author: *sugistephen@gmail.com*

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Abstract

Development in the contemporary context is a process whereby minimum progress at the socio-economic, political and technological level is ensured to fulfill the basic needs of human beings. Economic development, includes the development of agriculture, industry, trade, transport, means of irrigation, power resource etc. It thus indicates a process of development. This sectoral improvement is the part of the process of development, which refers to the economic development. The present study has made a comprehensive research regarding the impact of information technology on the earnings efficiency of banking sector in India. A sample of 23 banks from various groups has been selected. The earnings efficiency parameters were applied and the result was analyzed.

Introduction

Development in the contemporary context is a process whereby minimum progress at the socio-economic, political and technological level is ensured to fulfill the basic needs of human beings. It is also a relative phenomenon based on the comparison between the advanced and the underdeveloped countries.

The key to National prosperity and development lies, in the effective combination of three factors – technology, raw material and capital, of which technology is perhaps the most important, since the creation and adoption of new scientific techniques can, in fact, make up for deficiency in natural resources and reduce the demands of capital.

Role of commercial Banks in Economic Development:

Banking is an important segment of the service providing sector and acts as a backbone of economic progress[1]. The banks render vital services to the masses belonging to the various sectors of the economy like agriculture, industry whether small scale or large scale[2]. The banking system is one of the few institutions that impinge on the economy and affect its performances for better or worse. They act as a development agency and are the source of hope and aspirations of the masses[3].

As an economic institution, banks are supposed to be more directly and positively related to the performance of the economy than most non-economic institutions are. Schumpeter, the first modern economist, regarded the banking system as one of the two key agents (the other being entrepreneurship) in the whole process of economic development.[4]

Statement Of The Problem

At a time when the world over was undergoing a radical transformation due to the all pervasive influence of information technology one sector that has undergoing fundamental changes as a consequence of the application of it has been banking. The present study has made a comprehensive research regarding the impact of information technology on the earnings efficiency of banking sector in India.

Objectives Of The Study

To assess the earnings efficiency of commercial banks before and after the implementation of information technology enabled services.

Research Methodology

The performance of a bank can be measured by a number of indicators. For measuring the performance of Indian banking industry, various parameters were selected to analyse the earnings efficiency and a comparative study is done between partially computerized era and IT enabled era.

Earnings Efficiency Parameters

For measuring the **earnings efficiency** of commercial banks,a. the study employs the following indicators.

a. Deposit per branch
b. Advances per branch
c. Interest income per branch
d. Interest expenses per branch
e. Non-interest income per branch
f. Non-interest expenses per branch
g. Return on assets
h. Return on equity
i. Return on advances

SAMPLE DESIGN FOR DIAGONISTIC STUDY

The universe of the present study is the Scheduled commercial banks of India. The Indian Banking sector has been divided into five groups and a representative sample of 30% has been selected from each group based on its profitability.

i) Nationalized bank Group:

a. Punjab National Bank (PNB),
b. Canara Bank (CB),
c. Bank of India (BOI),
d. Bank of Baroda (BOB)
e. Indian Overseas Bank (IOB)
f. Oriental Bank of Commerce (OBC).

ii) SBI & its Associates bank Group:

a. State Bank of India (SBI)
b. State Bank of Indore (SBID).

iii) Old private sector bank Group:

a. Federal Bank Ltd (FB)
b. Jammu and Kashmir Bank Ltd (J&KB)
c. Karnataka Bank ltd (KB)
d. South Indian Bank (SIB)
e. Tamil Nadu Mercantile Bank Ltd., (TMB).

iv) New private sector bank Group:

a. ICICI Bank ltd (ICICI)
b. HDFC Bank Ltd (HDFC).

iv) Foreign banks:

a. Standard Chartered Bank (SCB)
b. Citibank NA (CIB)
c. HSBC Ltd (HSBC)
d. ABN – Ambro Bank NV (ABNB)
e. Deutsche Bank AG (DB)
f. Bank of America (BOA)
g. JP Morgan Chase Bank (JPMCB)
h. Barclays Bank PLC (BB)

Period Of Study

The period under study is divided into two parts. The first period is called as partially computerized era which includes the period from 1998-1999 to 2003-2004. This period is considered to be representative enough to indicate the broad trends of the performance of the banks in the period of partial computerization of Banks in India. The second period is called the Information Technology enabled era which included the period from 2004-2005 to 2009-2010.

Sources of Data

The present study is based upon secondary data. Secondary information have been collected from various relevant issued of statistical Tabled Relating to Banks, Report on currency and Finance, published by the Reserve Bank of India and Database on Indian Banking published by Indian Banking Association. In addition to it, some information is also collected from the different relevant issues of Economic survey published by the Government of India and other books and journals.

Findings Of Diagnostic Analysis

The findings of diagnostic analysis on “Impact of Information Technology on the earnings efficiency of banking in India” has been listed under different headings as follows:

Earnings Efficiency Parameters:

The analysis of various indicators had been enlisted below:

1. The ratio analysis of the indicator “Deposits per Branch” concluded that in Group 1 (Nationalized bank), the Oriental Bank of commerce registered the highest an annual growth rate of 422 in the IT enabled era, in Group 2 (SBI & its Associates), the State Bank of Indore has performed better when compared to State Bank of India. In the Group 3 (old private sector bank) Federal Bank had outperformed all the other banks in its group, by registering a growth rate of 407 in the IT enabled era, and both the banks in Group 4 (New private sector bank), HDFC bank and ICICI bank revealed the highest growth rate. The JP Morgan Chase Bank had outperformed all the other banks in Group 5 (Foreign Bank), which registered a growth rate of 898 and a CGR of 54.48%. From the

Statistical analysis it could be conclude that the Group 3 (old private sector bank) had the highest positive correlation value of .990. Similarly, the paired ‘t’ test revealed that Group 3 (old private sector bank) had the highest ‘t’ value of 4.838. Thus it was concluded that the introduction of Information Technology had positively impacted the indicator “Deposits per Branch”

2. With regard to the indicator advances per branch, It was concluded from the ratio analysis that in group 1 (Nationalized bank group), the Oriental Bank of Commerce have out-performed all other banks, in group 2 (SBI & its Associates bank) both SBI and SBI of Indore have registered highest growth rate, with a CGR of 23.02%.Similarly, in Group 3 & 4 (Old private sector bank group) &(New private sector bank group), the Federal Bank and ICICI bank had outperformed all other banks in their group. Further in group 5 (Foreign bank group) the Standard Chartered Bank had registered the highest growth rate 460. The correlation analysis revealed that the Nationalized bank group (Group 1) revealed a correlation co-efficient of .943 and Old private sector bank group (Group 3) had significant impact of Information technology with regard to the indicator advances per branch.

3. The ratio analysis for the indicator interest income per branch concluded that in Group 1 (Nationalized bank) Bank of Baroda had the maximum growth rate of 4104,in Group 2 (SBI & its Associates) State bank of Indore had a growth rate of 1672, in Group 3 (Old private sector bank group) the Karnataka Bank ranked first with a growth rate of 11918I, in group 4 (New private sector bank) ICICI bank had a growth rate of 419 and in Group 5 (foreign Bank) the Barclays bank had a growth rate of 4384.The statistical analysis of the indicator interest income per branch revealed high positive correlation in the case of Group 2 (SBI & its Associates) with a correlation co-efficient of .987.The paired ‘t’ test analysis revealed that the impact of information technology had high significant value with regard to the Old private sector bank group (Group 3) viz.,4.587.

4. Further the ratio analysis of the indicator interest expenses per branch proved that in the Nationalized bank group (Group 1) the Bank of Baroda had the maximum interest expenses growth rate of 2032 in the IT enabled era, in the SBI & its Associates Bank (Group 2), the State Bank of Indore represented a growth rate of 1919, in group 3 (Old private sector bank) the Federal Bank represented the maximum growth rate of 11210 in the IT enabled era. In the New private sector bank (Group 5), the ICICI Bank had a growth rate of 781 and in the foreign bank group (Group 5) the Barclays Bank had the highest of growth rate (2307). The correlation analysis of all the five groups under study revealed that Group 5 (Foreign bank) had the highest correlation value of 929. The foreign bank group (Group 5) recorded a ‘t’ value of 2.802 thus revealing the fact that IT had a positive significance on the indicator interest expenses per branch.

5. It could be concluded from the ratio analysis of the indicator non – interest income that, in the Nationalized banks group (Group 1) Punjab National Bank ranked first in terms of growth rate (3951) and in the SBI and its associates group (Group 2), the State Bank of India revealed the highest growth rate of 2121 and a CGR of 20.22%, in the IT enabled era. In the old private sector bank group (Group 3), the ratio analysis revealed that Tamilnadu Mercantile Bank had recorded the highest growth rate of 17,200 in the IT enabled era. Similarly, in the new private sector bank group (Group 4) ICICI Bank registered a growth rate of 598 and in the Foreign Banks (Group 5) the Citi Bank had the highest growth rate of 1750 in the IT enabled era. The correlation analysis of the five bank groups under study revealed that Nationalized bank group (Group 1) had the highest correlation co – efficient of .887. It could be concluded from paired ‘t’ test that introduction of IT had a significant impact with respect to the indicator Non-interest income per branch of all bank groups under study, with the New private sector bank group (Group 4) which had the highest significant value.

6. Thus it can be concluded from the ratio analysis of the indicator non – interest expenses that, among the nationalized bank group (Group 1), the oriental Bank of Commerce witnesses the highest growth rate of 9818, of the SBI & its Associates bank group (Group 2) the State Bank of India had the highest growth rate of 896, of the old private sector bank (Group 3) the Karnataka Bank had the highest growth rate of 19200, of new private sector banks (Group 4) the ICICI Bank had the highest growth rate of 544, of foreign bank group (Group 5), the Barclays Bank registered the highest growth rate of 5100. The correlation analysis revealed that the highest positive correlation co – efficient was for the Nationalized bank Group (Group 1) with a correlation co – efficient of .979. A statistical analysis using’ paired test revealed that the Foreign bank group (Group 5), had the highest‘t’ value of 2.676.

7. The ratio analysis of the indicator return on assets concluded that in the Nationalized Bank group (Group 1) the Indian Overseas Bank had the highest growth rate of 1571, in the SBI & its Associates Bank group (Group 2), the State Bank of India had registered the highest growth rate of 100, in the old private sector Bank group (Group 3) the South Indian Bank recorded the highest growth rate of 537, in the new private Sector Bank group (Group 4), both the HDFC bank registered a growth rate of 28, in the foreign bank group (Group 5), the Bank of America registered the highest growth rate of 877. The correlation analysis revealed that the new private sector Bank group

(Group 4) and SBI & its Associates group (Group 2) had a correlation co – efficient of 1. The statistical analysis using paired 't' test of return on Assets revealed that The SBI & its Associates group (Group 2) had the highest significant value at 5% level of significance, with a 't' value of .224

8. It was concluded from the ratio analysis of the indicator return on equity that in the Nationalized bank group (Group 1) the Canara Bank recorded the highest growth rate of 374, in the SBI & its Associates Bank group (Group 2) the State Bank of India registered highest growth rate of 73, in old private sector Bank group (Group 3), the Federal bank revealed exceptionally higher growth rate of 2233, in the New private sector Bank group (group 4) also both the banks (HDFC Bank & ICICI Bank) registered growth rates of11 and 14 respectively, in the foreign bank group (Group 5), the Bank of Nova Scotia registered the highest growth rate of 159 in its group. The Correlation analysis proved that both SBI & its Associates bank group (Group2) and New private sector bank group (Group 2) had the highest positive correlation of all the five bank groups taken under study. The paired't' test revealed that the nationalized bank group (group 1) had a significant't' value of .500.

9. It was concluded from the ratio analysis of the indicator return on advances that in the nationalized bank group (Group 1), the Canara Bank had the highest growth rate of 145, in the SBI & its Associates bank group (Group 2), the growth rate of State bank of India was 5 and that of the State Bank of Indore was 13. Of old private sector Bank group (Group 2) ,the Jammu Kashmir Bank exhibited the highest growth rate of 85, In the New private sector bank group (Group 3), the ICICI Bank had the highest growth rate of 99, in the foreign bank group (Group 3), the Barclays Bank which had a growth rate of 285. The correlation analysis revealed that . It could be concluded that the introduction of information Technology had a positive impact on the indicator return on advances with regard to new private sector bank group (Group 4) with a 't' value of .333.

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