

The Influence of Computerization in Public & Private Sector Banks : A Comparative Study

Abstract

This paper is a survey of public and private bank employee's responses toward computerisation of banking services. The objective of this analysis is to measure the employees' awareness, perception, and the level of satisfaction with regard to IT Services offered by the Indian public and private sector banks in the Jaipur city. The study has divided into four major segments i.e. Information Technologies Strategic advantages, Technological know-how and organizational capacity, Decision making process and, Motivations toward Information Technology.

Dr. Sourabh Sharma

Assistant Professor
MITS, Deemed University
Lakshmangarh, Sikar

Vishal Vyas

Assistant Professor
MITS, Deemed University
Lakshmangarh, Sikar

Introduction

India has a well-developed banking system. Indian entrepreneurs and visionaries founded most of the banks in India in the pre-independence era to provide financial assistance to traders, agriculturists and budding Indian industrialists. Indian banks have played a significant role in the development of Indian economy by inculcating the habit of saving in Indians and by lending finance to Indian industry. Indian banks can be broadly classified into nationalised banks/public sector banks and private banks.

Public Sector Banks

Nationalised banks or public banks dominate banking System in India. The nationalisation of banks in India took place in 1969 by Mrs. Indira Gandhi the then prime minister. The major objective behind nationalisation was to spread banking infrastructure in rural areas and make available cheap finance to Indian farmers.

Private Sector Banks

All the banks in India were earlier private banks. They were founded in the pre-independence era to cater to the banking needs of the people. But after nationalisation of banks in 1969 public sector banks came to occupy dominant role in the banking structure. Private sector banking in India received a flip in 1994 when Reserve Bank of India encouraged setting up of private banks as part of its policy of liberalisation of the Indian Banking Industry.

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Computerisation in Public and Private Sector Banks

The Financial Reforms that were initiated in the early 90s and the globalisation and liberalisation measures brought in a completely new operating environment to the Banks those were till then operating in a highly protected milieu. The arrival of foreign Banks and Financial Institutions, the setting up of a number of private banks and the measures of de-regulation that encouraged competition has led to a situation where the survival of those who do not join the race will become difficult. Unless the state-of-the-art IT was introduced as early as possible, winning new business and even holding on to the old one will become increasingly difficult. Services and products like “Anywhere Banking”, “Tele-Banking”, “Internet banking”, “Web Banking”, e-banking, e-commerce, e-business etc. have become the buzzwords of the day and the Banks are trying to cope with the competition by offering innovative and attractively packaged technology-based services to their customers.

The present level of Information System covers, basically, information needed for control, performance monitoring, decision making etc. and encompasses most activities in administrative offices like processing of statutory returns under Reserve Bank of India Act, monthly/quarterly performance reports from branches, credit information/BSR, inter-branch transactions, personnel inventory, provident fund accounting, profit and loss accounts, cash and investment management, stationery stock accounting, and branch house keeping etc.

Literature Review

The great Indian philosophy, shown to world a word “Vasudhev Kutumbkam” means world is a single society. Today world has become a global hub for business. To sustain and grow in the global market industries require a strong banking system, which can satisfy the increasing needs of customers. Indian banking system is now ready for the global market because of the Automation.

David Whiteley has given a detail description of E-Banking in his book “e-Commerce”. According to David, there are times when bank customers want to know their bank balance or make an urgent Payment and a visit to a branch is not convenient, Internet banking can solve these problems. The use of the telephone or the internet also have advantages for the bank, it reduces the cost of processing each transaction and has the potential to enable the bank to reduce the overhead of the branch network. Online banking allows the customer to check their balance or pay a bill at any time of the day or night.

The core issues faced by banks today are on the fronts of customer’s service expectations, cutting operational costs, and managing competition. Technology can help banks in meeting these objectives.

V Chandrasekhar, GM (Chief Technology Officer), Bank of Baroda, says “IT has changed the way a bank reaches out to its customers. Gone are the days where IT was deployed for automating accounting/back office functions to remove drudgery of employees. It is now massively being deployed for customer interfacing/interaction.”

Naresh Wadhwa, Vice President-West, Cisco Systems (India), confirms “With the improved services and lowered costs of service providers such as DoT and VSNL, it became more feasible for banks to network their branches. This gave banks an impetus to network all the branches and set up centralized databases. With these developments it became possible for operations such as MIS to be truly automated and centralized.”

After the turn of consolidated databases and networks come core banking applications. Core banking applications help provide complete front and backend automation of banks.

These applications also help banks achieve centralized processing and provide 24-hour customer service. "Core banking applications provide anywhere, anytime 24 by 7 non-stop services, which is not possible with traditional localized branch automation systems that are available only between 10 am to 2 pm," says V. Chandrasekhar. Adds Joseph John, Head, Banking Products Division, i-flex solutions: "Banks are increasingly adopting core-banking solutions for retaining customers and lowering service costs to the customer."

Prof. Rekha Arunkumar and Dr. G. Kotreshwar explain in their paper "Risk Management In Commercial Banks :A Case Study Of Public And Private Sector Banks", Risk is the fundamental element that drives financial behaviour. Without risk, the financial system would be vastly simplified. However, risk is omnipresent in the real world. Financial Institutions, therefore, should manage the risk efficiently to survive in this highly uncertain world. The future of banking will undoubtedly rest on risk management dynamics. Only those banks that have efficient risk management system will survive in the market in the long run. The effective management of credit risk is a critical component of comprehensive risk management essential for long-term success of a banking institution.

Over the years several studies have been conducted both at the industry and firm level to examine the impact of IT on productivity and profitability. Some of them have drawn on statistical correlation between IT spending and performance measures such as profitability or stock's value for their analysis (Dos Santos, Peffer & Mauer, 1993). They found an insignificant correlation between IT spending and profitability measures, implying thereby that IT spending is unproductive. Brynjolfsson and Hitt (1996), however, caution that these findings do not account for the economic theory of equilibrium which implies that increased IT spending does not imply increased profitability. More recent firm level studies, however, point a more positive picture of IT contributions towards productivity. These findings raise several questions about mis-measurement of output by not accounting for improved variety and quality and about whether IT benefits are seen at firm level or at the industry level. Such issues have been discussed in detail by Brynjolfsson (1993) and to a lesser extent by Brynjolfsson and Hitt (1996).

Parsons, Gotlieb and Denny (1993), deal with the impact of IT in banking productivity per se. They conclude from their estimation of data from five Canadian banks using translog production function that, while there is a 17-23 percent increase in productivity with the use of computers, the returns are very modest compared to the levels of IT investments. The other study to examine the effect of IT investment on both productivity and profitability in the US retail banking sector is conducted by Prasad and Harker (1997). They conclude that additional investment in IT capital may have no real benefits and may be more of strategic necessity to stay within the competition. However, the results indicate that there are substantially high returns to increase in investment in IT labor. The other study conducted by Launardi, Becker and Macada (2003), found competition, products and services, and customers, the main strategic variables affecting the IT and there is no difference of opinion between IT executives and other functional executives, regarding their perception of the impact of IT on strategic variables. Another important study undertaken by offsite monitoring and surveillance division of department of Banking Supervision (2002) used financial indicators to derive indirect linkages by assuming computerization as one of the factor in the improvement in efficiency. They concluded that higher performance levels have been achieved without corresponding increase in the number of employees. Also, it has been possible for Public Sector Banks and Old Private Banks to improve their productivity and efficiency over a period of five years.

Objectives

The followings are some of the objectives of present study:

- To know the IT advantages for the four major IT uses in banking operation
- Information Technologies Strategic advantages
- Technological know-how and organizational capacity
- Decision making process
- Motivations toward Information Technology
- It will also test the identical and non identical responses of the respondents towards the said four segments

Methodology

Descriptive research methodology has been used to accomplish this research. Descriptive research can use qualitative or quantitative methods to describe or interpret a current event, condition, or situation.

In this study, both primary and the secondary data has been collected, analysed and presented in a lucid statistical manner. For collection of primary data, stratified random sampling technique has been adopted. For collecting the secondary data internet, published authorised data and records will be reviewed like some books of E-Banking, E-commerce in India, Computerised banking system etc. have been considered as well as renowned publications, articles and magazines have also been considered. Now a days every bank have authorised websites that is the great source of retrieving the desired accurate data so some published data of websites of public and private banks has also been considered for data collection.

Collection of Data

Primary data has been collected with the help of a structured Questionnaire. The questionnaire was developed as per the following mechanism:

Questionnaire Development

For the purpose of this analysis, a structured questionnaire was developed. in two stages. In the first stage, an exploratory study was carried out using personal and focus group interviews. This was done to understand the factors influencing employees' preferences toward IT uses in banking operations. In the second stage, based on findings of the exploratory study, a 5-point Likert scale was developed. Items in the questionnaire covers four important factors of IT uses i.e. Information Technologies Strategic advantages, Technological know-how and organizational capacity, Decision making process and, Motivations toward Information Technology.

Scope of Study

Six banks have been considered for comparing the computerisation effects in public and private sector banks. State Bank of India (SBI), Punjab National Bank (PNB) and State Bank of Bikaner & Jaipur (SBBJ) have been used from public sector whereas ICICI, HDFC and UTI (Now known as AXIS) banks have been used from private sector banks for this study.

Comparative Study of Selected Public and Private Sector Banks

A Questionnaire having 22 questions covering four major IT uses i.e. Information Technologies Strategic advantages, Technological know-how and organizational capacity, Decision making process, Motivations toward Information Technology was circulated among the bank employees

for primary data collection. 125 copies of questionnaire were distributed in different branches of each bank out of which the followings number of questionnaire returned back with full information:

| | |
|--------|-----|
| SBI: | 88 |
| PNB: | 85 |
| SBBJ: | 107 |
| ICICI: | 74 |
| HDFC: | 98 |
| UTI: | 105 |

The composite weighted Likert score for various banks is given below in the Exhibit 1. These scores are collected by administering questionnaire for different statements provided in annexure 1.

Exhibit 1

Composite Likert Score

| Information Technologies Strategic Advantages | | | | | | |
|--|--------|--------|--------|--------|--------|--------|
| Statement | SBI | PNB | SBBJ | HDFC | ICICI | UTI |
| S1 | 69.545 | 66.588 | 66.729 | 65.918 | 67.297 | 70.667 |
| S2 | 75.227 | 65.882 | 69.907 | 71.020 | 74.865 | 70.857 |
| S3 | 71.591 | 65.412 | 66.729 | 67.347 | 69.730 | 69.905 |
| | | | | | | |
| Technological Know-How & Organizational Capacity | | | | | | |
| Statement | SBI | PNB | SBBJ | HDFC | ICICI | UTI |
| S4 | 49.318 | 54.118 | 49.159 | 65.510 | 67.027 | 68.952 |
| S5 | 60.909 | 59.765 | 61.682 | 65.510 | 70.270 | 68.571 |
| S6 | 67.727 | 64.000 | 63.738 | 69.796 | 75.135 | 70.667 |
| S7 | 77.727 | 75.059 | 74.019 | 71.020 | 73.514 | 72.190 |
| S8 | 76.818 | 69.176 | 70.654 | 65.306 | 68.649 | 68.190 |
| S9 | 53.864 | 56.706 | 57.570 | 66.735 | 71.622 | 69.714 |
| S10 | 59.318 | 55.294 | 62.430 | 68.776 | 74.324 | 71.238 |
| S11 | 55.227 | 54.353 | 58.131 | 61.633 | 61.892 | 62.095 |
| | | | | | | |
| Decision Making Process | | | | | | |
| Statement | SBI | PNB | SBBJ | HDFC | ICICI | UTI |
| S12 | 52.045 | 51.294 | 53.084 | 67.959 | 70.541 | 69.333 |
| S13 | 57.727 | 60.000 | 61.308 | 67.755 | 67.568 | 69.143 |
| S14 | 62.955 | 60.235 | 67.664 | 72.041 | 72.432 | 71.238 |
| S15 | 55.227 | 54.353 | 55.140 | 64.490 | 65.676 | 64.952 |
| S16 | 54.545 | 55.294 | 56.075 | 74.082 | 76.216 | 74.095 |
| S17 | 52.500 | 57.647 | 54.019 | 69.184 | 73.243 | 70.476 |
| | | | | | | |
| Motivations Toward Information Technology | | | | | | |
| Statement | SBI | PNB | SBBJ | HDFC | ICICI | UTI |
| S18 | 54.545 | 56.000 | 57.196 | 69.184 | 71.622 | 69.905 |
| S19 | 66.364 | 62.588 | 64.673 | 77.551 | 79.189 | 75.810 |
| S20 | 65.909 | 68.235 | 66.729 | 74.694 | 76.757 | 73.333 |
| S21 | 65.682 | 68.000 | 64.112 | 70.612 | 71.351 | 72.571 |
| S22 | 71.818 | 68.941 | 71.028 | 77.347 | 80.270 | 75.619 |

Data Analysis

The following two statistical tools have been used for data analysis:

1. ANOVA
2. Tukey - Kramer

1. ANOVA

In statistics, analysis of variance (ANOVA) is a collection of statistical models, and their associated procedures, in which the observed variance is partitioned into components due to different explanatory variables. In its simplest form ANOVA gives a statistical test of whether the means of several groups are all equal, and therefore generalizes Student's two-sample *t*-test to more than two groups.

There are three conceptual classes of such models:

- Fixed-effects models assume that the data came from normal populations which may differ only in their means. (Model 1)
- Random effects models assume that the data describe a hierarchy of different populations whose differences are constrained by the hierarchy. (Model 2)
- Mixed-effect models describe situations where both fixed and random effects are present. (Model 3)

Hypothesis

ANOVA is a statistical procedure for determining whether three or more sample means were drawn from populations with equal means. In everyday language, ANOVA tests the null hypothesis that the population means (estimated by the sample means) are all equal. If this null hypothesis is rejected, then we conclude that the population means are not all equal. A more precise formulation of the null and alternative hypotheses for comparing *k* means is:

$$H_0: \mu_1 = \mu_2 = \dots = \mu_k$$

$$H_1: \text{at least one pair of means is different, } \mu_1 \neq \mu_2$$

The F test statistic indicates that there is a significant difference in the mean performances of responses given for concerned samples. Here this computed value is compared with critical values of each group. If F exceeds the critical value for F at some significance level (usually 0.05) it means that there is evidence to reject the null hypothesis in favour of the alternative hypothesis.

In Present study we have used ANOVA for each segment. As we discussed earlier there are following four segments in the questionnaire:

- I Information Technologies Strategic advantages
- II Technological know-how and organizational capacity
- III Decision making process
- IV Motivations toward Information Technology

There can have two types of Hypothesis coming from ANOVA

- i. H_0 : All mean of responses are equal (NULL Hypothesis)
- ii. H_1 : Not all mean of responses are equal (Alternative Hypothesis)

2. Tukey- Kramer

Tukey's test, also known as the Tukey range test, Tukey method, Tukey's honest significance test, Tukey's HSD (Honestly Significant Difference) test, or the Tukey-Kramer method, is a single-step multiple comparison procedure and statistical test generally used in conjunction

with an ANOVA to find which means are significantly different from one another. Named after John Tukey, it compares all possible pairs of means, and is based on a studentized range distribution q (this distribution is similar to the distribution of t from the t -test).

The test compares the means of every treatment to the means of every other treatment; that is, it applies simultaneously to the set of all pairwise comparisons $\mu_i - \mu_j$ and identifies where the difference between two means is greater than the standard error would be expected to allow. The confidence coefficient for the set, when all sample sizes are equal, is exactly $1 - \alpha$. For unequal sample sizes, the confidence coefficient is greater than $1 - \alpha$. In other words, the Tukey method is conservative when there are unequal sample sizes.

Since the null hypothesis for Tukey's test states that all means being compared are from the same population (i.e. $\mu_1 = \mu_2 = \mu_3 = \dots = \mu_n$), the means should be normally distributed (according to the central limit theorem). This gives rise to the normality assumption of Tukey's test.

Data Analysis

The value of F is less than the value of F critical (Exhibit 2), so it can accept the NULL hypothesis i.e. all the mean of the responses are equal and there is no significant different between the responses received for the different factors under this segment.

Exhibit 2 Segment I: Information Technologies Strategic advantages

| SUMMARY | | | | |
|---------|-------|--------|---------|----------|
| Groups | Count | Sum | Average | Variance |
| SBI | 3.00 | 216.36 | 72.12 | 8.28 |
| PNB | 3.00 | 197.88 | 65.96 | 0.35 |
| SBBJ | 3.00 | 203.36 | 67.79 | 3.37 |
| HDFC | 3.00 | 204.29 | 68.10 | 6.93 |
| ICICI | 3.00 | 211.89 | 70.63 | 14.93 |
| UTI | 3.00 | 211.43 | 70.48 | 0.25 |

| ANOVA | | | | | | |
|---------------------|--------|-------|-------|------|---------|------------|
| Source of Variation | SS | df* | MS | F | P-value | F critical |
| Between Groups | 77.74 | 5.00 | 15.55 | 2.74 | 0.07 | 3.11 |
| Within Groups | 68.21 | 12.00 | 5.68 | | | |
| Total | 145.95 | 17.00 | | | | |

* Degree of freedom

Exhibit 3
Segment II: Technological know-how and organizational capacity

| SUMMARY | | | | | | |
|---------|-------|--------|---------|----------|--|--|
| Groups | Count | Sum | Average | Variance | | |
| SBI | 8.00 | 500.91 | 62.61 | 111.14 | | |
| PNB | 8.00 | 488.47 | 61.06 | 59.65 | | |
| SBBJ | 8.00 | 497.38 | 62.17 | 60.27 | | |
| HDFC | 8.00 | 534.29 | 66.79 | 8.99 | | |
| ICICI | 8.00 | 562.43 | 70.30 | 19.40 | | |
| UTI | 8.00 | 551.62 | 68.95 | 9.57 | | |

| ANOVA | | | | | | |
|---------------------|---------|-------|--------|------|---------|------------|
| Source of Variation | SS | df* | MS | F | P-value | F critical |
| Between Groups | 604.56 | 5.00 | 120.91 | 2.70 | 0.03 | 2.44 |
| Within Groups | 1883.16 | 42.00 | 44.84 | | | |
| Total | 2487.71 | 47.00 | | | | |

* degree of freedom

The value of F is more than the value of F critical(Exhibit 3), so it will reject the NULL hypothesis i.e. all the mean of the responses are not equal and there is a significant different between the responses received for the different factors under this segment.

Exhibit 4
Segment III: Decision making process

| SUMMARY | | | | | | |
|---------|-------|--------|---------|--|--|--|
| Groups | Count | Sum | Average | | | |
| SBI | 8.00 | 500.91 | 62.61 | | | |
| PNB | 8.00 | 488.47 | 61.06 | | | |
| SBBJ | 8.00 | 497.38 | 62.17 | | | |
| HDFC | 8.00 | 534.29 | 66.79 | | | |
| ICICI | 8.00 | 562.43 | 70.30 | | | |
| UTI | 8.00 | 551.62 | 68.95 | | | |

| ANOVA | | | | | | |
|---------------------|---------|-------|--------|-------|---------|------------|
| Source of Variation | SS | df* | MS | F | P-value | F critical |
| Between Groups | 1612.82 | 5.00 | 322.56 | 20.33 | 0.00 | 2.53 |
| Within Groups | 476.02 | 30.00 | 15.87 | | | |
| Total | 2088.84 | 35.00 | | | | |

* degree of freedom

The value of F is more than the value of F critical (Exhibit 4), so it will reject the NULL hypothesis i.e. all the mean of the responses are not equal and there is a significant different between the responses received for the different factors under this segment.

The result of post-hoc analysis (Exhibit 5) has been carried with Tukey- Kramer procedure. The results at Q statistic of 4.31 are confirming that the means of public banks are significantly different from means of private banks.

Exhibit 5

| Comparison | Absolute Difference | Std. Error of Difference | Critical Range | Results |
|--------------------|---------------------|--------------------------|----------------|-------------------------|
| Group 1 to Group 2 | 0.64 | 1.63 | 6.99 | Means are not different |
| Group 1 to Group 3 | 2.05 | 1.63 | 6.99 | Means are not different |
| Group 1 to Group 4 | 13.42 | 1.63 | 6.99 | Means are different |
| Group 1 to Group 5 | 15.11 | 1.63 | 6.99 | Means are different |
| Group 1 to Group 6 | 14.04 | 1.63 | 6.99 | Means are different |
| Group 2 to Group 3 | 1.41 | 1.63 | 6.99 | Means are not different |
| Group 2 to Group 4 | 12.78 | 1.63 | 6.99 | Means are different |
| Group 2 to Group 5 | 14.48 | 1.63 | 6.99 | Means are different |
| Group 2 to Group 6 | 13.40 | 1.63 | 6.99 | Means are different |
| Group 3 to Group 4 | 11.37 | 1.63 | 6.99 | Means are different |
| Group 3 to Group 5 | 13.06 | 1.63 | 6.99 | Means are different |
| Group 3 to Group 6 | 11.99 | 1.63 | 6.99 | Means are different |
| Group 4 to Group 5 | 1.69 | 1.63 | 6.99 | Means are not different |
| Group 4 to Group 6 | 0.62 | 1.63 | 6.99 | Means are not different |
| Group 5 to Group 6 | 1.07 | 1.63 | 6.99 | Means are not different |

| Other Data | |
|-----------------------|-------|
| Level of significance | 0.05 |
| Numerator d.f. | 6 |
| Denominator d.f. | 30 |
| MSW | 15.87 |
| Q Statistic | 4.301 |

Exhibit 6

Segment IV: Motivations toward Information Technology

| SUMMARY | | | | |
|---------|-------|--------|---------|----------|
| Groups | Count | Sum | Average | Variance |
| SBI | 5.00 | 324.32 | 64.86 | 39.71 |
| PNB | 5.00 | 323.76 | 64.75 | 30.38 |
| SBBJ | 5.00 | 323.74 | 64.75 | 25.20 |
| HDFC | 5.00 | 369.39 | 73.88 | 14.72 |
| ICICI | 5.00 | 379.19 | 75.84 | 17.41 |
| UTI | 5.00 | 367.24 | 73.45 | 5.91 |

| ANOVA | | | | | | |
|---------------------|---------|-------|--------|------|---------|------------|
| Source of Variation | SS | Df* | MS | F | P-value | F critical |
| Between Groups | 707.42 | 5.00 | 141.48 | 6.37 | 0.00 | 2.62 |
| Within Groups | 533.30 | 24.00 | 22.22 | | | |
| Total | 1240.72 | 29.00 | | | | |

* degree of freedom

As shown in the Exhibit 6 for this segment, the value of F is more than the value of F critical so we will reject the NULL hypothesis i.e. all the mean of the responses are not equal and there is a significant different between the responses received for the different factors under this segment The result of post-hoc analysis (Exhibit 7) has been carried with Tukey- Kramer procedure. The results at Q statistic of 4.373 are confirming that the means of public banks are significantly different from mean ICICI banks. A motivation toward Information Technology is high for ICICI banks and employees are akin to work in an environment which is computerized.

Exhibit 7

| Tukey- Kramer | | | | |
|--------------------|---------------------|--------------------------|----------------|-------------------------|
| Comparison | Absolute Difference | Std. Error of Difference | Critical Range | Results |
| Group 1 to Group 2 | 0.11 | 2.11 | 9.22 | Means are not different |
| Group 1 to Group 3 | 0.12 | 2.11 | 9.22 | Means are not different |
| Group 1 to Group 4 | 9.01 | 2.11 | 9.22 | Means are not different |
| Group 1 to Group 5 | 10.97 | 2.11 | 9.22 | Means are different |
| Group 1 to Group 6 | 8.58 | 2.11 | 9.22 | Means are not different |
| Group 2 to Group 3 | 0.01 | 2.11 | 9.22 | Means are not different |
| Group 2 to Group 4 | 9.12 | 2.11 | 9.22 | Means are not different |
| Group 2 to Group 5 | 11.08 | 2.11 | 9.22 | Means are different |
| Group 2 to Group 6 | 8.69 | 2.11 | 9.22 | Means are not different |
| Group 3 to Group 4 | 9.13 | 2.11 | 9.22 | Means are not different |
| Group 3 to Group 5 | 11.09 | 2.11 | 9.22 | Means are different |
| Group 3 to Group 6 | 8.70 | 2.11 | 9.22 | Means are not different |
| Group 4 to Group 5 | 1.96 | 2.11 | 9.22 | Means are not different |
| Group 4 to Group 6 | 0.43 | 2.11 | 9.22 | Means are not different |
| Group 5 to Group 6 | 2.39 | 2.11 | 9.22 | Means are not different |

| Other Data | |
|-----------------------|-------|
| Level of significance | 0.05 |
| Numerator d.f. | 6 |
| Denominator d.f. | 24 |
| MSW | 22.22 |
| Q Statistic | 4.373 |

Findings

The following are the findings:

- The ANOVA test for Information Technology Strategic Advantages accepts the NULL Hypothesis i.e. all mean responses of different banks for this segment is identical.
- Whereas the same test for Technological Know how and Organisational capacity, Decision Making Process and, Motivation Toward Information Technology rejects the NULL Hypothesis i.e. all mean responses of different banks for these segments are not identical.

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- For segment III “Decision Making Process”, the result of post-hoc analysis has been carried with Tukey- Kramer procedure. The results at Q statistic of 4.31 are confirming that the means of public banks are significantly different from means of private banks.
 - For segment IV “Motivation Toward Information Technology”, The result of post-hoc analysis has been carried with Tukey- Kramer procedure. The results at Q statistic of 4.373 are confirming that the means of public banks are significantly different from mean ICICI banks. A motivation toward Information Technology is high for ICICI banks and employees are akin to work in an environment which is computerized.

Conclusions

Nearly 70% of ICICI Bank transactions take place electronically, resulting in lower cost of transactions, high productivity and better profitability. Private Banks are the early adopter of technology and took more IT initiative than public sector banks.

In present study, ANOVA accept the NULL hypothesis for first segment i.e. Information Technology Strategic Advantages which means that the responses received for this segment from different banks are more or less identical and for rest segments NULL hypothesis is not accepted i.e. all mean responses of different banks for these segments are not identical.

In this study, Tukey-Kramer for segment III and IV also have used. The results at Q statistic of 4.31 for Decision Making Process segment are confirming that the means of public banks are significantly different from means of private banks. Similarly the results at Q statistic of 4.373 for Motivation Toward Information Technology segment are confirming that the means of public banks are significantly different from mean ICICI banks. A motivation toward Information Technology is high for ICICI banks and employees are akin to work in an environment which is computerized.

Limitations

The followings are few of the limitations of this present study:

1. There may have some response biasness of respondents because some of them were in hurry while data collection.
2. There may have some place biasness because data has collected only from Jaipur city.
3. Lack of English knowledge of public bank employees was also a limitation because in many places it was needed to translate the meaning of questions in Hindi.
4. Questionnaire distributed to bank employees for data collection did not returned back in full extent.
5. The population selected of bank employees for data collection was non parametric in nature.

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