

**“A STUDY OF INFORMATION SYSTEM
SECURITY CONTROLS IN URBAN
CO-OPERATIVE BANKS IN PUNE”**

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INTRODUCTION

Banks world over are increasingly being computerized and this trend is likely to continue for the years to come. Use of Information Technology has become crucial for the success and survival of Financial Institutions. Information technology has broken the barriers of time, distance and speed and has dramatically changed the way transaction is done.

The use of Information Technology has changed the way Banks work. It has had impact on the bank's Strength, Weakness, Opportunity and Threats (SWOT). Information Technology assets have become major, critical and crucial assets in the Financial Institutions. Dependence on Information Technology is on rise because it has the potential to dramatically change organizational and business practices, create new opportunities and reduce costs.

The pivotal role of Information Technology has increased the need for security and control of Information System. The information used for operating a financial institution is often entirely IT generated and controlled and the reliability of this information is crucial for the service delivery and survival.

The Indian Banking System broadly comprises the commercial banking and the Co-operative banking. The State Bank of India and its subsidiaries, public sector banks, regional rural banks and private sector banks represent the commercial banking system. The State Co-operative bank at the apex level, District Co-operative Bank at the district level and primary agricultural credit societies at the grass root level represents the Co-operative banking.

With the winds of changes blowing, the Indian Banking system is also not untouched. Most of the banks, whether commercial or Co-operative, have tried to adjust to these changes in information and technology. Most of the Banks have computerized their operations with the advancement in technology. The concepts of e-banking, telebanking, ATM's and online banking are now synonymous with most of the Indian Banks.

As per the circular UBD. BPD. Cir. No. 71/12.09.000/2013-14, The Reserve Bank of India has advised Cooperative banks across India to introduce EDP Audit to mitigate the risks and issues arising from the adoption of computer technology. As per the circular, UCBs may adopt an IS audit policy, if not already done, appropriate to its level of operations, complexity of business and level of computerization and review the same at regular intervals in tune with guidelines issued by RBI from time to time. One of the key aspect of the EDP Audit is the validation of Information System Security Control.

Since Urban Cooperative Banks are closer to the general public and because of the place specific and people specific nature, the researcher felt the need to understand the Information System security controls in the Urban Cooperative Banks. In the study the researchers have attached a risk quotient to each of the security control and have arrived at risk based analysis of the banks under study.

OBJECTIVES OF THE STUDY

1. To identify the different levels of computerization in Urban Cooperative Banks
2. To compare the implementation of the different types of controls in the various Urban Cooperative Banks.

RESEARCH METHODOLOGY

The research is divided into two parts

- a. Primary Research
- b. Secondary Research

The following methodology is used for undertaking Primary Research

1. QUESTIONNAIRE

An exhaustive Questionnaire under different headings was prepared to gather the primary information regarding the various controls in the Urban Cooperative Banks.

2. PERSONAL INTERVIEW AND DISCUSSION

Interviews and discussions were held with the various staff of the Urban Cooperative Banks to gather information to various question and queries in the questionnaire.

3. OBSERVATION

It is one of the most important methodology followed for gathering the information regarding the actual situation of the controls in the various Urban Cooperative Banks.

The following methodology is used for undertaking Secondary Research

4. LIBRARY

Initially referring books, reports and journals from libraries of University of Pune, AIMS, etc was done to gather secondary information about the topic and to get an understanding of the various aspects of the subjects.

5. INTERNET

The Internet was surfed for related sites on Information System security control like isaca.org, itgi.org, sans.org, www.rbi.org.in etc.

SAMPLING

As per the annual report of 2013-2014 of the Pune District Urban cooperative Banks Association Ltd. there around sixty cooperative banks in Pune. A convenience sampling of around 4 Urban Cooperative Banks was taken for the research paper

FINDINGS

1. Of the four branches studied two of them and multiple branches and two of them have only one branch.
2. The banks with multiple branches had implemented core banking solutions as per the RBI guidelines whereas the single branch banks had

non-core banking software.

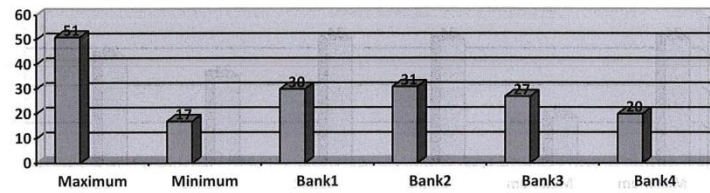
3. One of the multi branch banks had dedicated system administrator, in the other multi branch bank, the branch manager was performing task of system administrator. In the single bank branch the clerk was performing the task.
4. The multi branch banks have branded servers from Dell and IBM whereas in the single bank branches had assembled hardware.
5. All the banks had anti-virus installed on the servers and desktops.

The following tables and graphs depict the different levels of the risk in the various banks with references to the various types of controls :

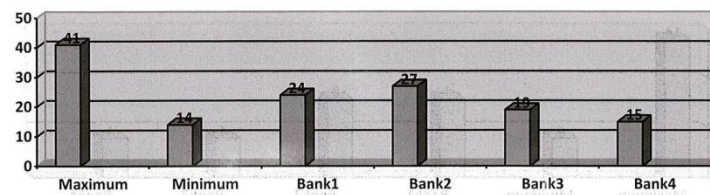
Parameter	Maximum	Minimum	Bank1	Bank2	Bank3	Bank4
Shareholders			8240	2555	8878	15417
Deposits in Rs Lakhs			1604.44	2277.48	5918.84	12448.72
branches			1	1	4	9
Risk Calculation for Logical Access Control (Security administrator)	51	17	30	31	27	20
Risk Calculation for Logical Access Control (Client)	41	14	24	27	19	15
Calculation of Risk for Backup and Recovery	29	8	12	12	12	10
Calculation of Risk for Physical Access Control	39	15	21	21	18	18
Calculation of Risk for Environmental Control (Fire)	26	10	26	19	16	15
Calculation of Risk for Environmental Control (Water)	12	4	4	5	5	5
Calculation of Risk for Environmental Control (Energy Variations)	26	9	11	12	11	11
Calculation of Risk for Environmental Control (Others)	11	5	11	9	5	5
IS Security Policy	14	6	14	14	7	14
Implementation of IS Security Policy	20	7	20	20	17	15
Training	14	4	8	8	4	4
Total Value	283	99	181	178	141	132

(Table 1 :- Comparative risk Analysis of the four banks with reference to the different types of controls.)

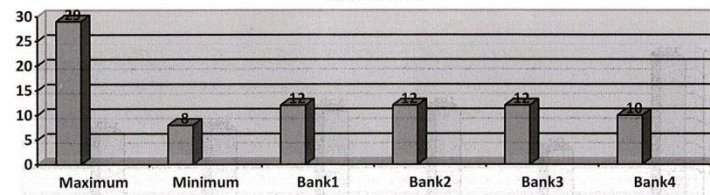
Risk Calculation for Logical Access Control (Security administrator)



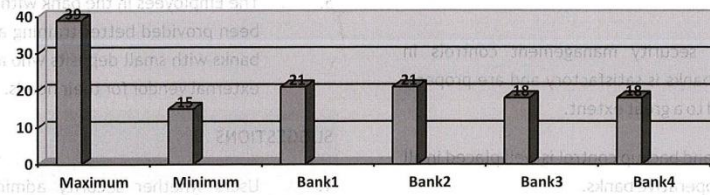
Risk Calculation for Logical Access Control (Client)



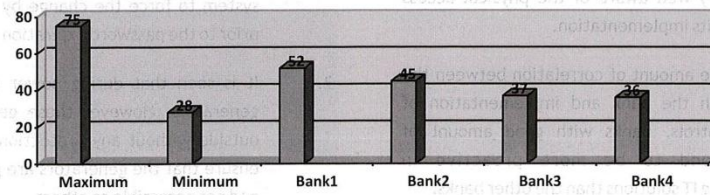
Risk Calculation for Backup and Recovery



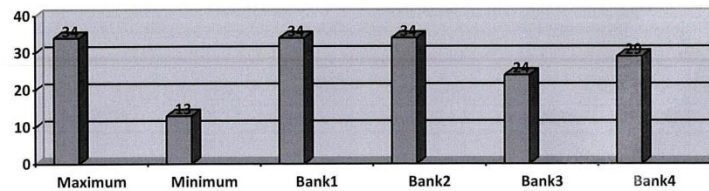
Risk Calculation for Physical Access Control



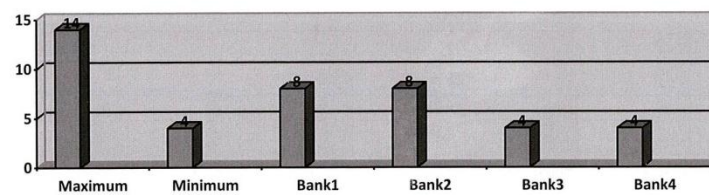
Risk Calculation for Environmental Control



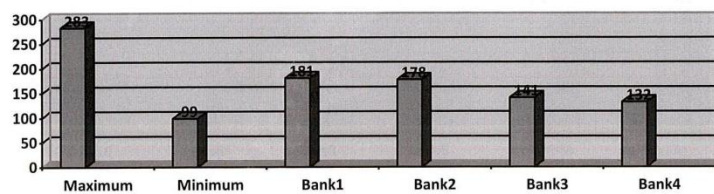
Risk Calculation for IS Security Policy



Risk Calculation for Training



Overall Risk



INFERENCES

1. The present security management controls in cooperative banks is satisfactory and are properly implemented to a great extent.
2. The security and backup control is well placed in all the urban cooperative banks.
3. Most of the banks being in the business for long time are very well aware of the physical access controls and its implementation.
4. There is some amount of correlation between the deposits with the bank and implementation of security controls. Banks with good amount of deposits tend to be more proactive in implementing IT solutions than the other banks.

5. The Employees in the bank with high deposits have been provided better training as compared to the banks with small deposits who are relying more on external vendor for their needs.

SUGGESTIONS

1. Users whether security administrator or client should be forced to change their passwords periodically. The best method is for the computer system to force the change by notifying the user prior to the password expiration date.
2. It is seen that during power off the bank uses generators. However these generators are kept outside without any protection. The bank should ensure that the generators are properly protected and not accessible to others.

3. Fire Drills should be conducted to make the employees understand their duties in the event of Fire.
4. Consumption of food and beverages should be strictly not allowed near the machines.
5. If possible the bank should have paper shredders for disposing of waste papers.
6. If possible the bank should try to have a redundant wiring system and place the wires in fire resistant panels and conduits.
7. It is seen that most of the banks don't have a documented IS security policy. The banks should look into it seriously.
8. Users should be educated about the importance of password security, the procedure they can use to choose secure passwords and the procedure they should follow to keep password secure.

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