ABSTRACT

A) This abstract provides a concise sketch of the complete thesis to appreciate the overall structure of the report and to help navigate through this text of over three hundred pages. It may not be out of place, however, to mention that the degree of detail and thoroughness of the whole thesis is hard to be found in the abstract.

B) Contents that are purely of a prelude nature (and hence placed before the main chapters) are i) Abridged Table of Contents, ii) List of Tables, iii) List of Figures, iv) Detailed Table of Contents, v) Acknowledgements, vi) Declaration, and vii) Abstract i.e. the current section. All these form a preparatory sections before the thesis delves into the main treatment of the topic.

C) Various chapters in the thesis as under:

1. Preamble

Chapter 1 gives a bird’s eye view of Indian Banking, its origin & history of different phases through which it has passed, e.g. social control, nationalization, mass orientation, later wave of privatization in nineties, etc. It also depicts the other streams of rural banking through RRB’s, etc. It then tracks the progress in terms of number of banks, the constitution of banks like public
sector, private sector, cooperative and regional rural banks and also briefs on the size-wise categories of the banks. It tells about the branch network, population served per branch, business transacted per branch, followed by the initial efforts of automation starting from mid eighties till date. Finally the chapter offers a curtain raiser on the ever evolving IT scenario in Indian banks like Advanced Ledger Posting Machines (ALPM’s), Partial Branch Automation (PBA), Total Branch Automation (TBA), inter- connectivity among branches, Automated Teller Machines (ATMs) and Core Banking Solution (CBS).

Main sections in this chapter are dimensions of diversity in Indian banking (section 1.1), major landmarks in the Indian banking as it evolved (section 1.2), key indicators on economic contribution (section 1.3), computerization phases (section 1.4 to 1.14), two major milestones in IT deployment at global scenario ((section 1.15), regulatory initiatives for IT from RBI (section 1.17) and finally some reflections by the researcher in the remaining sections.

2. Research Background

Chapter 2 tells how the researcher started to have a feeling that IT security training in Indian banks needs certain improvements. It is during his corporate training and consulting assignments on
IT security for many Indian banks, that he observed a sort of adhocism in the whole process and decided to treat this wide guess in a systematic manner using the structured and scientific research methods.

Before taking it up, the researcher also confirmed the hunch by consulting a few veteran bankers and IT executives in banks that they also shared the same apprehension that security training is minimal and the ignorance is aghast among the staffers.

Main sections in this chapter are the researcher’s background (section 2.1), his interaction with and observations on banks (section 2.2), a kind of adhocism felt in IT security training (section 2.3), few glaring points of ignorance in the workforce (section 2.4), and other musings by the researcher in rest of the sections.

3. Problem Statement, Objectives & Hypothesis

Chapter 3 formulates the problem statement and then proceeds to set out the objectives that drove the research. The problem perceived was that the bankers at large have been obsessed with the IT as an enabling factor and they are not paying necessary attention to the flip side of the IT, i.e. IT security.

These objectives have fulfilled two-fold purpose: Firstly, they helped to articulate the Hypothesis of this research. Secondly,
they also provided some indicators to the research methods and the sample drawn from Indian banks. The objectives also helped to maintain the direction in which the research proceeded in the past few years and did not allow it to digress along side.

Main sections in this chapter are problem statement (section 3.1 & 3.2), research objective (section 3.3, 3.4 & 3.5), working hypothesis (section 3.6), research methods (section 3.7 to 3.10 and 3.22 to 3.26), population and sample (section 3.11 to 3.21).

4. Secondary / Literature Survey

Chapter 4 is planned for giving a detailed account of the umpteen sources traced during the research. This scanning and searching went in a cyclical manner, as one triggered other continually. The researcher has provided his train of thoughts that strings together these references in a coherent manner across the four broad sub-sections here, as under.

4.1 Indian Banking: This traces the fantastic progress the Indian banking has witnessed in the past few decades on any key factors like number and spread of branches, the deposits mobilized, advances deployed, the colossal workforce employed, etc.

4.2 IT Security: This section throws light on the IT security scenario on a very broad worldwide canvas and across several
walks of life (mainly the banking and finance). IT also enlightens on the cyber crimes, the related techniques, scale of operations, innovative means, the victimized populace, the ruins they had to suffer, etc.

4.3 Training: In this part, the researcher has taken a stock of the training in general and IT training in particular. It also dwells on the administrative problems in IT training as faced by Indian banks like deputing the branch people to far off training centers, the periodic transfers causing the bottlenecks in the knowledge management, ever-changing IT scenario necessitating the refreshing IT training etc.

4.4 Experience Survey: This is the first-hand experience of the researcher as collected across his umpteen IT security training programs he has conducted for many a banks constituting almost half the Indian banks. It talks of the modalities for training, the batch sizes, granularity of modules, the participation techniques he deployed, etc. The section also describes some path-breaking techniques used by the researcher, viz. the real life case studies / security snippets drawn from his training / consulting for cyber cell of police, etc. and also the suit of PC based games on the theme of IT security that he has developed and used successfully for numerous training programs.
5. Primary Data Collection

Chapter 5 sets out the primary data collection methods of questionnaire and structured / depth interviews. It then moves ahead with the quantitative techniques of tables, factors, clusters, frequency distribution, etc. that researcher has used to analyze this data. Actual results of these analyses are provided in the next chapter. This portion also classifies the survey questions into various categories and narrates how the survey was done not only by sending out the questionnaires, but also hopping on to institutes of national repute like NIBM, ASCI, NIA, etc. to get the questionnaire filled up from a broad cross section of bankers belonging to various rungs of organizational ladders, from all regions, from all types of banks and from all types of IT deployments.

6. Quantitative Analysis

Chapter 6 picks up from the earlier one that dwelt upon the ‘how’ of the analysis. What is presented here is the ‘What’ of the analysis, i.e. the actual findings based on the quantitative techniques, duly supported by numerous tables and also correlation of certain observations that collectively try to throw a new light on the topic. This is done by tabulating the data not alone by frequency tables, but also clustering it together to
invoke some stunning results. It then moves to few segmented compilations e.g. as grouped by internal auditors, all IT Security professionals, Top executives, Faculty members, etc. working within the banking population.

Major section in this chapter are as follows: Section 6.2 provides a quick analytical look at the sample of the survey through seven tables, Section 6.3 presents approx. twenty-five tables for a simple / one factor analysis, Section 6.4 offers some multi-factor analyses by way of six tables, and finally a revealing section 6.5 on segmented queries that built up fourteen tables of responses from individual departments / functions within the banks.

7. Qualitative Analysis

Chapter 7 throws light on some of the interesting observations the researcher made during the current exercise. These observations, due to their very nature, would transcend any efforts of merely quantification and tabulation. As the observations have a solid bearing on the IT security literacy among the Indian bankers, they are produced here with little ramifications and interpretation by the researcher, wherever needed. Such observations are based on the depth interviews the researcher took and the necessary sources are also listed wherever applicable. This section is one of the real findings that
evolve during deft discussions with the senior thought leaders / opinion makers within the banking circles.

8. Model Proposed for IT Security Training

Chapter 8 narrates IT Security Training Capability Model (IT STCM) devised by the researcher after contemplating all the past contents of research. The model aims to provide a mould that takes into account all the relevant inputs for IT Security training, attaches certain weights to these artifacts and transforms it into the training design. This mapping from paradigm to prescription should add value to the field. In all there have been fifteen causal factors identified and they are grouped under three heads. Similarly, a set of six training aspects that get impacted with the said fifteen causal factors is also identified. Furthermore, the interplay among these fifteen causes is also tracked. Finally, the six impacted factors also influence each other and that is also accounted for. After this primary stage setting, the simulation process takes off which refines the results with each cycle to help the banks decide upon the training design for IT security. It is expected that this IT-STCM model would come handy to the banks which are otherwise going more by hunch or adhocism.

Major sections in this chapter are Overview of the model
(sections 8.1 to 8.4), fifteen causal factors in training and their multi-dimensional rubric (sections 8.5 to 8.11), Six impacted training aspects and influence of fifteen causal factors on these six aspects (sections 8.12 to 8.21), interplay within the group of fifteen causal factors (sections 8.22 to 8.23), interplay within the group of six training aspects (sections 8.24), final version of the model (sections 8.25 to 8.26), experimental implementation / pilot of the model (sections 8.27 to 8.31) and in the end the implementation guidelines for IT STCM model (sections 8.32 to 8.37).

9. Summary of Report Findings and Conclusion

Chapter 9 collates and consolidates the research findings as a recap of all the earlier discerning and also to prove the hypothesis. This chapter also includes the recommendations from qualitative points as well as quantitative analysis, plus the model of IT-STCM discussed earlier. Some clear pointers for the IT Security in Indian Banks are provided in the course as general recommendations and that would be a true contribution of research that would find certain application in the field in near future.

10. Road Ahead

Chapter 10 provides some pointers to the future course of action
by way of post-doctoral research. In the process of investigation, researcher came across some interesting findings that were not directly / proximately connected with the research on hand, or were complex & compounded with other topics. In either case, these observations merit further and closer scrutiny that is not within the purview of the current research. Such cases are narrated here and planned to be taken up after the doctoral research is accomplished.

11. Annexures

Chapter 11 consists of few annexures. Lot many details have at times prompted the researcher that if they are presented there itself, it may break the train of thoughts and mar the lucidity of presentation. Hence following points are placed separately in the annexures, as follows:

- Annexure 1  Articles/ Papers written during research span (1-page gist of about six articles written)
- Annexure 2  List of IT security Training Modules (75 different modules of IT security training)
- Annexure 3  Proposal submitted to University at the start of this Research that has served as a guiding post all along the survey and thesis writing.
Annexure 4  Glossary of Terms: It provides quick reference to all technical terms used in banking and IT

Annexure 5  Abbreviations: Certain acronyms are common in each walk of life and banking and IT are no exceptions. All short forms are enlisted here

12. Bibliography

Chapter 12 contains bibliographical references. Wealth of past literature immensely helped the researcher to enlighten, support the researcher’s views and at times to refute the wrong notions, too. Such bibliographical references are mentioned here as ‘End Notes’ pinpointing all those references embedded in this thesis. In addition, for a couple of chapters some footnotes and chapter-end notes are provided, e.g. chapters 1 and 3 have a footnote each while the chapter 7 has got chapter-end notes.