### PREFACE

Green Banking, as defined by Institute for Development and Research Technology (IBRDT, 2014), is "an umbrella term referring to practices and guidelines that make banks sustainable in economic, environment, and social dimensions. It aims to make banking processes and the use of IT and physical infrastructure as efficient and effective as possible, with zero or minimal impact on the environment". The concern for environmental sustainability by the banks has given rise to concept of Green Banking. This concept mutually beneficial to the banks, industries and the economy. It helps promoting environmental friendly practices and reducing carbon footprints from banking activities. It aims at improving the operations and technology along with making the clients habits environment friendly in the banking business. It is like normal banking along with the consideration for social as well as environmental factors for protecting the environment. It is the way of conducting the banking business along with considering the social and environmental impacts of its activities.

The aim of this study was to determine the factors influencing the intention of banks to adopt green practices in India and its impact on environmental sustainability. This study analyses the responses and represents the research findings from the data collected from the survey. Statistical formulization is employed in the research for various adopting factors of green banking and its impact on environmental sustainability. Currently in India, the concept of green banking is catching up and banks are actively looking for ways to portray themselves as a Green Bank.

This thesis Presents, "A Study of Green Banking Practices of Indian Banks to **Promote Sustainable Banking**" – a study conducted in National Capital Region (NCR).

The research design helps a researcher to draw boundaries for the research, which consists of defining study settings, type of investigations that needs to be carried out, the unit of analysis and other issues related to the research. A research design is a plan of the research project to investigate and obtain answers to research questions (Cooper

and Schindler, 2001). There are three types of research designs identified from the literature: (1) exploratory, (2) descriptive, and (3) casual or explanatory design (Cooper and Schindler, 2001). The exploratory research was employed in this study in the first stage to obtain the background information about the research problem and to generate hypotheses by thorough investigation of the literature, as suggested (Churchill, 1995). As a result, the researcher identified constructs and formulated hypotheses based on the literature and previous empirical studies, as reported in Chapter 3. The research problem was crystallised and the purpose of the research have clearly been stated such that this research study focuses on testing of an integrated model, which identifies factors affecting intention of banks to adopt green banking practices and its impact on environmental sustainability.

#### **Chapter 1: Introduction**

This chapter deals with the introduction and history of sustainability, relation with banking sector, evolution of green banking and green banking practices. This Chapter also covers history of green banking and need for promoting green banking in India. Basically, chapter one is a concept and growth oriented.

#### **Chapter 2: Review of Literature**

In the previous chapter, elaborate attempts were made to describe broad concepts related to adoption of green banking. This chapter examines the literature link with the research topic. The literature review has embraced various background and focus theories related to the topic of research. In this chapter, the literature review has been done and it started with the introduction of green banking. Then it has given insight to the theoretical framework of different models related to technology used in banking sector. The researcher has also studied the drivers to adopt green banking practices like Management Commitment and Support, Competitors Pressure and Customers Pressure. This chapter has reviewed the literature in the context of describing the relation between green banking practices and environmental sustainability. Finally, where the gap lies according to review of literature. The review of literature leads to identification of the key determinants of Green Banking Practices.

### **Chapter 3: Research Methodology**

This chapter imparts the information about the research design of the study. In this section, the factors detected from the literature are clustered into factors, and a conceptual framework showing relationship among them is presented. This chapter has discussed in detail the methodology used for research in this thesis. This chapter started by describing the problem, objectives, significance, Delimitations of the study. In this chapter researcher has also discussed the Research Model and development of the Hypotheses. Research design, the population and sampling technique used and formation of questionnaire, the procedure adopted for data collection and statistical techniques that have been used to analyse the data has also been discussed by the researcher in this chapter.

### **Chapter 4: Data Analysis and Interpretation**

This chapter deals with corroboration of the theoretical model and hypotheses testing. The data gathered via questionnaire survey has been explored through multivariate analysis to examine the association (s) amongst the dependent and the independent variables and to check the hypotheses. Factor wise analysis and its interpretation has also been discussed in detail by the researcher. Structured Equation Modeling has been applied for analyzing the data collected for this research work. Summary of the results of the hypothesis has also been discussed at the end of this chapter.

## **Chapter 5: Interpretation of Findings, Conclusions, Limitations, and Suggestions**

In view of the outcome of this research work, a detailed discussion of the findings of main variables of the study, the theoretical and practical implication is represented in this chapter. Additionally, the researcher has also discussed the limitations, suggestions and recommendations of research work. Further scope of research and conclusion has also been discussed at the end of thesis.

Besides, these five chapters, the study also includes the separate section i.e. appendix, enlisting the secondary sources, which has been used in conducting the research and related terms, definitions and questionnaire involved in collecting primary data.

Ankit Goel

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I express my sincere thanks to the participating organisations and their employees, who have participated in the survey by responding to the questionnaire. I have no words strong enough to thank the Bank Managers who agreed to be a part of the expert panel, spared their valuable time for discussions and provided immensely valuable suggestions and direction to the research work. Their efforts will benefit the Banking community at large and will give a meaningful insight to the organisations planning for implementing Green banking practices.

I thank God for his blessings bestowed upon me and giving me such supportive and encouraging parents. I feel indebted for their endless love and care. I am fortunate to have a life partner, Mrs. Nancy Goel, who has not only been pillar of strength to me but also a true guide and a driving force in my research work. I also wish to make a special mention of the innocent and silent support that I got from my lovely daughter Anaya.

Ankit Goel

## LIST OF ABBREVIATIONS

Following are the abbreviations which have been frequently used throughout the thesis while discussing, explaining, and analysing and interpretation of data.

Abbreviations Used	Full Form
ABM	Automated Boarding Machines
AGFI	Adjusted Goodness-of-Fit Index
AMOS	Analysis of Moment Structures
ATM	Automated Teller Machine
AVE	Average Variance Extracted
BBP	Banking by Phone
BI	Behavioural Intention
BOB	Bank of Baroda
BNHS	Bombay Natural History Society
BSE	Bombay Stock Exchange
BSFI	Banking, Financial Services and Insurance sector
CDM	Clean Development Mechanism
CER	Certified Emission Reductions
CERCLA	Comprehensive Environmental Response,
	Compensation and Liability Act
CERES	Coalition for Environmentally Responsible Economies Principles
CFA	Confirmatory Factor Analysis
CFC	Choloro Fluoro Carbon
CFI	Comparative Fit Index
CI	Continuance Intention
СР	Competitors Pressure
CSR	Corporate Social Responsibility
CR	Construct Reliability
CRM	Customer Relationship Management

Abbreviations Used	Full Form
CsP	Customers Pressure
DTT	Deloitte Touche Tohmatsu
DV	Dependent Variable
E-Banking	Electronic Banking
E-Commerce	Electronic Commerce
ECS	Electronic Clearing Services
EFA	Exploratory Factor Analysis
EFT	Electronic Fund Transfer
EOU	Ease of Use
EPs	Equator Principles
ES	Environmental Sustainability
ETF	Exchange-Traded Funds
E&S	Environmental and Social
EXIM	Export Import Bank of India
EPI	Environmental Performance Index
ETF	Electronic Transfer Funds
FR	Financial Risk
GB	Green Banking
GBP	Green Bond Principles
GBS	Green Banking System
GFI	Goodness of Fit Index
GHG	Green House Gass
GOF	Goodness of Fit
GRI	Global Reporting Initiative
HDFC	Housing Development Finance Corporation
IAGB	Intention to Adopt Green Banking Practices
IBM-SPSS	International Business Machines- Statistical Package for the Social Science
ICICI	Industrial Credit Investment Corporation of India
IDBI	Industrial Development Bank of India

Abbreviations Used	Full Form
IDV	Independent Variable
IFC	International Finance Corporation
IMPS	Interbank Mobile Payment Services
IOB	Indian Overseas Bank
IRBDT	The Institute for Research and Development Banking Technology
IREDA	Indian Renewable Energy Development Agency
IT	Information Technology
IUCN	International Union for Conservation of Nature
КМО	Kaiser-Meyer-Olkin
MCS	Management Commitment and Support
MLE	Maximum Likelihood Estimation
MCA	Ministry of Corporate Affairs
MSV	Maximum Shared Variance
NABARD	National Bank for Agricultural and Rural Development
NBFC	Non-Banking Finance Corporation
NCR	National Capital Region
NFI	Normed Fit Index
NGOs	Non-government Organizations
NMEEE	National Mission on Enhanced Energy Efficiency
NOC	No Objection Certificate
NREGS	National Rural Employment Guarantee Act
NSE	National Stock Exchange
NTP	National Treatment Policy
OLB	Online Banking
OTP	One Time Password
PBC	Perceived Behavioural Control
PC	Personal Computer
PCA	Principal Components Analysis
PEU	Perceived Ease of Use

Abbreviations Used	Full Form
PNB	Punjab National Bank
POS	Point-of-Sale
PU	Perceived Usefulness
RBI	Reserve Bank of India
RRB	Regional Rural Bank
RTGS	Real Time Gross Settlement
RMSEA	Root Mean Square Error of Approximation
SBI	State Bank of India
SCB	Scheduled Commercial Banks
SEBI	Securities Exchange Board of India
SEET	Social, Environmental, Ethical and Trust
SEM	Structural Equation Modelling
SEMSP	Social, Environmental Management System Plan
SIC	Squared Inter-Construct Correlations
SIDBI	Small Industries Development Bank of India
SMS	Short Message Service
SMART	Specific, Measurable, Attainable, Realistic and Timely
SN	Subjective Norm
SRI	Socially Responsible Investment
SST	Smart & Sustainable Technology
SSBT	Self-Service Banking Technologies
TBL	Triple Bottom Line
TAM	Technology Acceptance Model
TPB	Theory of Planned Behaviour
TR	Technology Readiness
TRA	Theory of Reasoned Action
UK	United Kingdom
UN	United Nations
UNEP	United Nations Environment Programme

Abbreviations Used	Full Form
UNEPFI	United Nations Environment Programme Finance Initiative
UNESCO	United Nations Educational, Scientific and Cultural Organization
UNFCCC	United Nations Framework Convention on Climate Change
UNSD	UN Conference on Sustainable Development
UTAUT	Unified Theory of Acceptance and Use of Technology
VAS	Value Added Service
WWF	World Wildlife Fund

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