CHAPTER 1

INTRODUCTION

1.1 Introduction

Climate change resulting in devastating natural disasters leading to downturn in economy has pushed nations across the globe to include environmental protection on their agenda (State Bank of Pakistan, 2017). Global warming has caused huge climate changes which have impacted the land, water and human resources of the world (G20 Green Finance Study Group, 2016). The growing awareness for environment has led to new innovations like ranking of nations on Environmental Performance Index, award of Golden Peacock Environment Management Award to financial institutions, and ranking of economies as per the Global Green Economy Index and so on (Sarma & Roy, 2021). On the global level, there is an increase in awareness towards global warming and extreme climatic events. Awareness has become so great now that environmentalism is identified as a big business issue (Sharma, 2017). The 2030 Sustainable Development Goals developed by United Nations have placed environmental challenges as an important factor for the stability of the global economy (G20 Green Finance Study Group, 2016).

If a transition to a green economy has to happen, the financial industry cannot be neglected (CIGI, 2015). The financial industry suffers from three types of risks because of the environmental factors, namely physical risk (damage to property and trade due to disasters); liability risks (clients suffer loss due to environmental and climatic changes and claim compensation); and lastly transition risks (financial risk faced for transforming towards a low-carbon economy) (G20 Green Finance Study Group, 2016). Arranging finances for dealing with environmental issues is a major concern for all nations. Globally, approximately, $27 trillion in clean energy investment still needs to be filled in the next 25 years (Coalition for Green Capital, 2017). This makes it important to introduce new financial instruments and strategies that can be used to raise funds globally (Julia & Kassim, 2019).

One of the newly coined concepts in this direction is Green Banking where the banks take environment into consideration in both their internal operations and their lending and investing behavior. Nations across the globe have introduced Green Banking or is in the process of doing so for dealing with the current challenges of financing the 2030 Agenda (German Development Institute, 2016).

The present chapter discusses the theoretical background of Green Banking and gives a brief outline on the evolution of Green Banking. This chapter discusses India's Green Banking scenario. The chapter also states the research gap, objectives, limitations of the study, followed by an overview of the study and a summary of the whole chapter.

1.2. Theoretical Framework

1.2.1 Conceptualizing Green Banking

Banks are important financial institutions in an economy. They act as intermediaries in an economy (G20 Green Finance Study Group, 2016). Usually, monetarily troubled banks are saved by the Government with the money of general public via taxes and hence the banking community cannot avoid their responsibilities towards the society (Wu & Shen, 2013). Banks directly or indirectly impact the natural environment. They contribute towards carbon emissions through their daily activities. Banks also sometimes finances industries that damage the natural environment. It is therefore necessary for the banks to incorporate sustainable practices (IDRBT, 2013). And that's how the concept of Green Banking comes into play.

Green Banking has been defined by different institutions and individuals. Green Banking assist banks in tackling the risks associated with the environment (State Bank of Pakistan, 2017). Green Banking makes banking procedures and techniques efficient to have minimal impact on the environment (IDRBT, 2013). It signifies performing banking functions with consideration of the environment as a whole (Sharma, 2017). Thus, Green Banking means practices, decisions, regulations which apart from taking into consideration core banking objectives, also take the natural environment under its ambit. Green Banking is often referred as modern banking; however it should not be confused with Online Banking. Online Banking is one part of Green Banking, and not the whole concept (Sharma, 2017). Green Banking focuses on better usage of energy, and reduces depletion of resources (Julia & Kassim, 2019).

Green Banking generally involves two aspects, the first one is the Internal Aspect, and the second is the External Aspect. Internal Aspect includes the way the banking business is done, that is it covers banks' day to day operations. It includes using new technologies to go paperless, replacing daily courier services with electronic deliveries, electronic transfer of salaries, e-statements of accounts, and many others (Sharma, 2017;

Bangladesh Bank, 2013; Jain, 2017; RBI, 2013). The External Aspect includes the way banks puts into use its money. Banks generally makes investments and offers loans to businesses. Bank considers whether all environmental regulations are met before extending loans or making an investment in a business (Sharma, 2017; Bangladesh Bank, 2013; Jain, 2017; RBI, 2013).

1.2.2 Importance of Going Green

The concept of Green Banking has great significance at present. Going green is necessary for the banking community, and there are innumerable reasons for the same. Understanding the reasons for the banks to go green will help to depict its relevance to the society as a whole. Few of the reasons are discussed below:

- *Need for transforming to a Green Economy*: Green Banking addresses the role that banks play in transforming a nation’s economy towards a Green Economy. It helps to redirect the resources from environmentally damaging to climate-friendly economic activities and help to expand green businesses.
- *Mutually Beneficial for Stakeholders*: Green Banking is mutually beneficial to the various stakeholders, including the consumers, banks, industries and the economy. For consumers, Green Banking helps to introduce more automatic systems which help customers to operate their accounts from any place in the world. For the banks, adoption of Green Banking leads to lesser use of natural resources which depicts a better picture of the banks in front of the society. Banks which have adopted Green Banking practices have been benefitted with 70% energy savings and 30% water savings (Adhikary, 2012).
- *Key Factors for Going Green*: Globally, different entities are trying to develop techniques to tackle ecological issues. There are certain key factors which creates this interest among the enterprises and entities, namely rising customer awareness, and emerging stricter legislative requirements (IDRBT, 2013). These factors also push the banks to go green.
- *Helps to Avoid Risks*: Environmental challenges can pose material risks to the banking community. Banks face three types of risks due to environment, namely credit risks, legal risks and reputational risks. Banks are likely to face credit risks, if the clients to whom the banks have given loans defaults in making payments to the banks and the reason for default being pollution cost, changes in environmental

regulations, or anything related to the environment. Banks counter legal risk when existing environmental regulations gets dishonored. Also, the banks counter reputational risks, as their reputation may be at stake if they indulge in environmentally damaging projects. Incorporating environmental concerns in its decisions and operations, a bank can if not avoid totally, at least reduce the magnitude of the impact of these risks.

- *Stability of the Financial Sector*: Addressing environmental risks may help to safeguard the stability of the financial sector. Risks related to climate change have a direct bearing on the insurance sector and they also impact the lending portfolios of banking institutions (German Development Institute, 2016). Managing environmental issues thus helps to maintain stability in the financial sector.
- *Learning from the Past*: Past experiences of the financial sector also make it necessary for the banks to go green. The Global Financial Crisis of 2008 taught the world that stability of the banking industry can only be maintained if banks are able to handle environmental risks (Coulson, 2009). Financial performance solely does not guarantee growth for a bank. It also has to commit itself to look at the needs of the society and environment in which it stands and survive.
- *External Pressures from Various Stakeholders*: With rise in awareness, there is a steady pressure from stakeholders to implement Green Banking practices in their business operations (Day & Woodward, 2009). The customers now-a-days are also in need of eco-friendly products and services. When banks go green, it helps them to increase their reputation in the eyes of environment conscious customers (Adhikary, 2012).
- *Fulfilling Corporate Social Responsibilities*: Besides the other necessities, going green may also help banks to fulfill their legislative requirements of Corporate Social Responsibility (CSR) (German Development Institute, 2016). Banks can take green initiatives and depict them as part of their CSR activities in a year.

1.2.3 History of Green Banking

Green Banking evolved in the western countries. The concept is attached to Triodos bank. In 1990, Triodos Bank initiated ‘Green fund’ for financing eco-friendly businesses (Sharifi & Hossein, 2015). Green Banking was formally started in 2002-2003. IFC and a small group of banks came together and proposed common guidelines known as Equator Principles in June 2003. The Equator Principles were voluntary guidelines that encouraged banks to incorporate environmental and social risks into the bank's assessment of credit and operational risks in large investment projects (G20 Green Finance Study Group, 2016). The Equator Principles were revised and launched in 2006.

2007 saw the beginning of individual nation's attempt to introduce Green Banking Guidelines. People's Bank of China in the year 2007 developed guideline that integrates ecological concerns in financial management (Weber, 2016). U.S.A felt the need of legislation for promoting Green Banking by making banks accountable for the wrongdoings of their clients. In March 2009, A Green Bank Act was introduced in U.S.A. The first full-fledged Green Bank was established in U.S.A (American Green Bank Consortium, 2018). The objective of the bank was to offer financial support to efficient energy usage, and reduce carbon emissions (Aubhi, 2016).

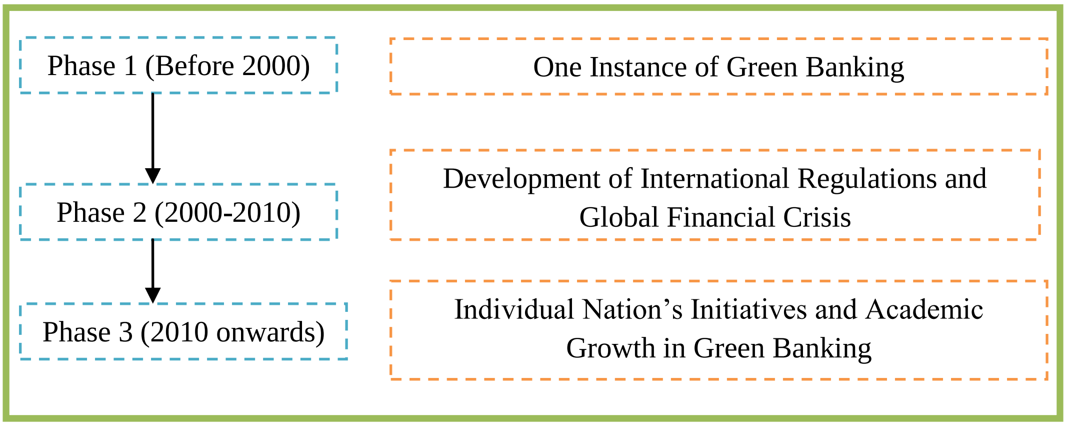
However, central bank of Bangladesh was the earliest central bank to commence the concept of Green Banking (Masukujjaman & Aktar, 2013). Bangladesh bank developed "Policy Guidelines for Green Banking" on 27th February 2011. The guidelines stated that Green Banking initiatives should be implemented in three phases in Bangladesh. There has also been an increase in academic interests from the research community in Green Banking since 2011 and maximum attention has been gained in the year 2015 (Sarma & Roy, 2021).

In, 2012, U.K introduced Green Investment Bank, which was created as a publicly capitalized Green Bank. The bank's name was changed to Green Investment Group to enable its expansion into markets outside UK (Green Bank Network, 2018).

After 2012, there has been a rise of individual guidelines of nations across the globe. Few examples include Pakistan and Sri Lanka. Pakistan has introduced Green Banking Guideline on 9th October, 2017. The guideline is prepared by the State Bank of Pakistan and it has discussed different areas of Green Banking like Environmental Risk Management, Green Business Facilitation, Environmental laws of Pakistan, Multilateral Environmental Agreement, Environmental Checklist, measures of energy efficiency etc (State Bank of Pakistan, 2017). Sri Lanka Banks' Association launched the Sri Lanka Sustainable Banking Initiative in 2015. It includes principles for integrating environmental and social considerations among the signatory banks (Central Bank of

Sri Lanka, 2019). Based on the above discussion, the evolution of Green Banking has been segregated into three phases and is diagrammatically represented below.

Figure 1.1: Phases of Evolution of Green Banking



Source: Compiled by the researcher

1.3. Green Banking in India

India has a huge renewable energy market. India ranks number four on wind and number five on solar capacity. Money required to finance India's target of the Paris Agreement is one of the main constraints for India (NRDC, 2016). India has to invest more than $160 billion over the next six years to meet its goals for solar and wind energy efficiency (NRDC, 2016). Banking community thus, by turning green can assist the nation in meeting their environmental targets.

In India, the first ATM was launched in the year 1987 by HSBC. The use of ATM was however not widespread till the year 2005, after which the ATMs were launched on a wide scale (Ramila, 2016). Another interesting fact of Green Banking in India is that, the first research article on Green Banking was written by an Indian author and is based on Indian scenario. The research article was published in 1995 and was authored by Lavanyya Rajamani (Rajamani, 1995). The study mainly discussed classical banking, banking in enlightened self-interest and how to institutionalize Green Banking.

Though traces of electronic modes of operating bank transactions dates back to late 1980s, however it took 20 years for the Indian Banking System to bring their focus on Green Banking. It was in the year 2007 that RBI issued a note for the banks to add to sustainable development (IDRBT, 2013; Ramila, 2016; Harshila, 2017). In the year

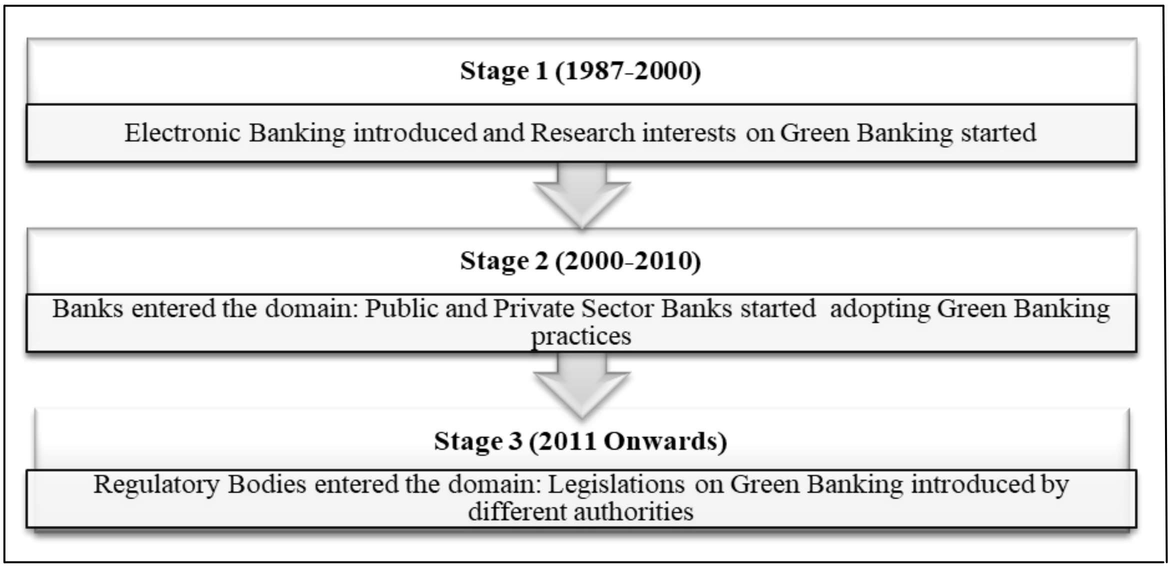
2008, State Bank of India launched the Solar ATM for the very first time in India (BusinessToday, 2018).

The private banks soon jumped into the field of Green Banking. The first Private Sector Bank to introduce Solar ATM is IndusInd Bank. IndusInd Bank introduced solar ATM in the year 2009 (Business Standard, 2013). The second research article on Green Banking in context of India was published in 2007 and was written by Pravakar Sahoo and Bibhu Prasad Nayak. The article was titled 'Green Banking in India' and was published in The Indian Economic Journal. This paper mainly discussed significance of Green Banking. The roots of Green Banking were thus seeded through all these efforts and the concept started gaining attention thereafter.

From 2011, new regulatory measures started penetrating Indian Financial System. In 2011, Guidelines on Social, Environmental and Economic Responsibilities of Business was introduced by MCA (Ministry of Corporate Affairs). These are voluntary guidelines which consists of 9 principles and two of them (Principle 2 and Principle 6) are related to the environment. Securities and Exchange Board of India (SEBI) in the year 2012 introduced the concept of Business Responsibility Report (BRR). Companies need to report three issues in BRR which include Environmental, Social and Governance. Best 500 corporations according to market capitalization need to include BRR in their annual reports (SEBI, 2015). State Bank of India has captured the 20th position among the top 40 Greenest Bank at global level as per 2012 report issued by Bloomberg (Ramila, 2016). In April 2013, Dr. K.C. Chakrabarty, the then Deputy Governor of RBI in one of the speeches stated that Green Banking has two dimensions, first the way the banking business is done and secondly how bank invests their money (RBI, 2013). In August 2013, Institute for Development and Research in Banking Technology (IDRBT) developed a framework for Green activities of Indian banks. IDRBT is a body established by RBI for the development of the banking community of India. IDRBT defined Green Banking as concept that makes bank sustainable in economic, environment, and social dimensions (IDRBT, 2013). This was followed by Reserve Bank of India's modification in the Priority Sector Lending norms (PSL). RBI included 'renewable energy' as one of the priority sectors in its PSL Norms in 2015. Indian Bank Association got involved in the year 2014 and defined Green Banking as "Green Bank is like a normal bank, which considers all the social and environmental / ecological factors with an aim to protect the environment and conserve natural resources" (Sharma, 2017).

After several attempts by different organizations to define Green Banking and regulate Indian banks, it is disappointing that there exists no mandatory regulation as such till date. The banks are at their liberty to not take up any environment-friendly activities in a year. This widens the gap for the banks, as some banks may indulge hugely in Green Banking activities, while others may not. It has already been stated many times that Green Banking is yet to gain its momentum in India. In fact, Indian research theses on Green Banking have focused only on Stakeholders' perception on Green Banking. There is however a growing interest on Green Banking among the Indian researchers. A study which was conducted for the period from 1995 to March 2019 confirmed that the highest number of research articles on Green Banking was found in case of India (Sarma & Roy, 2021). The number of research articles in India has definitely gained momentum, however the variation in research is yet to be gain pace. Based on the above discussion, evolution of Green Banking in India is diagrammatically represented below:

Figure 1.2: Stages of Evolution of Green Banking in India



Source: Compiled by the researcher

1.4. Research Gap

This section briefly outlines the research gap that exists on Green Banking. The first sub-section [1.4(a)] discusses the research gap relating to Green Banking, followed by gap that exists specific to India. Section 1.4 (a) discusses the quantum of literatures that already exists on Green Banking. The purpose of this sub-section is to depict the nature and number of literatures that exists on Green Banking. Thereafter, the next sub-sections [1.4 (c), 1.4 (d), and 1.4 (e)] specifically discusses the knowledge that exists in past literature on Green Banking and the knowledge that is to be advanced by this work.

a) Gap Specific to Green Banking

A Scientometric Study revealed that there lies ample scope for researchers to work on Green Banking. In an analysis conducted for a period of 24 years that is from 1995 to 2019 March, total number of research articles on Green Banking found across 17 portals was only 178 (Sarma & Roy, 2021). The number of articles reflects the need for greater attention of researchers. The study further confirmed that 67% of the studies on Green Banking are one-dimensional studies that are researchers prefer to base their study on one-dimension of Green Banking. This again reflects that scope for research exists in multi-dimensional studies on Green Banking. The term multi-dimensional means different aspects or many dimensions (Vocabulary.com, 2023). With reference to Green Banking, multi-dimensional studies means covering different aspects of Green Banking, for example studying the stakeholder's perception (stakeholder aspect) or analyzing the models on Green Banking (model aspect) etc. When more than two different aspects are studied together, then it can be said as multi-dimensional study. There is a need for researchers to increase and diversify their research on Green Banking.

b) Gap Specific to India

Speaking specific to India, the doctoral theses found on Green Banking are all stakeholder based studies (Sarma & Roy, 2021), which again leaves scope for covering multiple other aspects on Green Banking in research studies. Indian research literature suffers from a lack of in-depth studies on Green Banking (Goel, 2017).

c) Gap Specific to the 1st Objective

Despite past experiences indicating the need to embrace sustainability by the financial sector and international organizations like UNEP Inquiry coming forward for the same, yet there has not been a significant change in the financial sector in this regard (Weber, 2016). Till date, very little progress has been made in research on banks' response to Green Banking and how banks disclose this type of information (Bose et al., 2018).

India lacks mandatory guidelines in respect to incorporating Green Banking. This leaves it to the Indian banks to adopt green initiatives at their own convenience. Some banks may choose to take more environment-friendly initiatives, and some banks may choose to not adopt any. There lies the discrepancy which makes it difficult to know how banks in India are performing in the field of Green Banking. This is supported by the fact that no parameter or index exists worldwide which can be adopted to measure Green Banking Performance. There lies the gap in measuring Green Banking Performance of Indian Banks which has yet not been explored. Also, no study could be found in reference to India that has attempted to explore popular Green Banking Practices of India banks. The researcher could not find any study that measured Green Banking Performance and explored Green Banking Practices of Indian banks.

d) Gap Specific to 2nd Objective

Empirical research on whether corporate governance impacts Green Banking Performance in the banking sector is inadequate [Bose et al., 2018]. Corporate characteristics may be financial characteristics (profitability, income, debt etc) and non-financial characteristics (age of corporation, number of women directors, and many more). It is important to find if corporate characteristics have any association with the Green Banking Performance.

Evidence of CSR studies trying to find relationship between CSR performance of banks and their corporate characteristics are abundant. However, relationship between Green Banking Performance and their corporate characteristics could not been found in the context of India. The researcher could find two studies in this regard. However, in one study only net profitability was taken into consideration as corporate characteristics and Green Banking tools considered in the study were restricted to only online banking and electronic banking (Ramila, 2016). In another study, Green Banking Performance was measured as whether a bank has implemented Green Banking or not (Rajput, et al., 2013). The study lacked specificity with regard to Green Performance of banks.

Thus, there is a need for a study to find out the association between Green Banking Performance based on individual green practices and corporate characteristics of banks.

e) Gap Specific to 3rd Objective

The Stakeholder theory states that corporations have to deal with varieties of stakeholder groups. Earlier, shareholders proved to be the most important stakeholders. However, lately this view has changed. Now, consumers, media, Government, employees are considered equally significant. Environmental activities of a business have a significant impact on the society. Hence, it is important for corporations to not undertake any activity that are detrimental to the various stakeholder groups (Hossain et al., 2016).

Stakeholders view voluntary disclosures as a tool that reduces information asymmetry (Joshi, 2015). Researches catering to stakeholders' view on disclosure habits of corporations are relatively scarce in numbers (Wong, 2011). Hence it is important to study stakeholders' view on disclosures practices of banks.

Capturing stakeholders' view on Green Banking practices including Green Banking Disclosure is important to know about the popularity of Green Banking. No study catering to the stakeholders' perception on Green Banking Disclosure could be found in reference to India. Also, in reference to India many researches focused on stakeholders of a single bank or considered only one stakeholder group that is the bankers (Rao, 2018).

There is a necessity to understand stakeholders' perception on Green Banking and Green Banking Disclosures. Also, it is essential to capture the views of different stakeholder groups. It is equally significant to capture stakeholder perception in a wider geographical space. Thus, considering the above research gaps, this study tries to fill the above gap by capturing the views of two stakeholder groups (customers and bankers) towards Green Banking and Green Banking Disclosures in Delhi and Mumbai.

1.5. Need of the Study

Measuring Green Performance of banks is necessary because banks act as a mediator of funds and information between savers and borrowers (Bimha & Nhamo, 2017). Measuring Green Performance of banks is important in understanding the contribution made by banks towards the environment. Also growing awareness among stakeholders makes it necessary to explore the green practices of banks.

Banks have adopted various mechanisms to reduce information asymmetry and increase stakeholder’s information. One of those mechanisms is by disclosing information about their activities. Banks in India have been disclosing their green activities in the annual reports and other standalone reports. Studying and measuring green performance of Indian Banks is important because till date India lacks regulatory guidelines on this front. This makes it difficult to compare Indian banks’ performance based on their green activities. Till date, one cannot say which bank in India is performing well and which bank is performing relatively bad in the Green Banking front. Also, there is no evidence as to which Green Banking practices are most popular among the Indian banks. The above issue demands attention and needs to be filled up. Also, exploring stakeholders’ perception on Green Banking Disclosures will help to reveal the type of communication medium, and type of information which are preferred by the stakeholders. Thus, this study will also try to see the ground reality of Green Banking Disclosures among the stakeholders.

Also, multi-dimensional studies on Green Banking are need of the hour in case of India, as most of the existing studies have mainly focused on one-dimension on Green Banking. One-dimensional studies are those that have covered only one aspect of a research topic. With reference to Green Banking, if a particular study has focused on stakeholder’s perception, then it can be said that the study is one-dimensional study. This study explores Green Banking through four different aspects: Model Aspect, Green Banking Performance, Relationship between Green Banking Performance and corporate characteristics of banks and Stakeholders’ Perception.

1.6. Research Objectives

The objectives of the study are:

1. To analyse Green Banking practices and performances of selected Indian banks.
2. To examine the relationship between Green Banking Performance and corporate characteristics of banks.
3. To study the perception of selected stakeholders of banks with regard to Green Banking.

1.7. Limitations

Despite best of efforts that have been made to address all aspects, however the study is not free from limitations. The index used to measure Green Banking Performance cannot be used in any other sector. The index is designed specifically in relation to the banking community. The study measured Green Banking Performance of only public Sector and Private Sector Banks. The Cooperative Banks, Regional Rural Banks, Foreign Banks, Payment Banks do not form a part of the sample for this study. Hence, the results cannot be extrapolated to other banks. The study considered only 6 variables for measuring the impact of corporate characteristics on Green Banking Performance. There are many other financial and non-financial characteristics of a bank that might have an association with the Green Banking Performance which could not be covered in this study. Also, the study surveyed stakeholders in two metropolitan cities which are Delhi and Mumbai. So, the results cannot be generalized to other parts of India. This leaves scope for future work in the field of Green Banking.

1.8. An Overview of the Study

There are seven chapters in this study. Each of the chapter starts with an Introduction and ends with a summary of the chapter.

Introduction is the first chapter and it introduces the topic of the study. It describes the theoretical background of the topic, history of Green Banking, research gap, objectives, limitations and the need of this research. Review of Literature on Green Banking constitutes the second chapter. This chapter discusses previous works of literature for each of the three objectives of the study. Works of literature from across the world and literatures specific to India are discussed for each of the three objectives. The third chapter outlines the objectives and the methodologies used in this study. It defines the sample size, sample elements, sample units, geographical extent, academic scope, and time period of data collection, the formulae, the variables, the hypothesis, and the statistical tools used to attain each of the three objectives. The study used and proposed a Green Banking Performance Evaluation Index to measure Green Banking Performance and to explore Green Banking Practices of Indian Banks. The fourth chapter provides detailed analysis of Objective 1. Green Banking Practices and Green Banking Performance of Indian banks are described in this chapter. Comparison of

Green Banking Performance between Private and Public Banks is also illustrated in this chapter. The analysis includes descriptive results, inferential statistical outputs using Independent t-test and One-Way Anova, diagrams and tables. The fifth chapter includes the results of Objective 2. Six corporate characteristics of banks are considered in this study, namely bank size, return on assets, non- performing assets, board size, number of women directors and age of bank. Panel Data Regression is used to explore the linkage between Green Banking Performance and corporate characteristics in this chapter. The sixth chapter includes the results of analysis of objective 3. Stakeholder perception with regard to Green Banking and Green Banking Disclosures are analyzed using the following inferential statistical tools, namely Independent Sample t-test, Mann-Whitney U Test and Chi-Square Test. The seventh chapter describes the major findings of the study. The theoretical and managerial contributions of the study are also pointed out in the chapter. The scope for future studies is also stated in this chapter.

1.9. Chapter Summary

This chapter offers a brief discussion on how important it is for banks to go green. The chapter also discusses India's Green Banking status. It is seen that Green Banking is of recent origin and thus has limited research work dedicated to it. Moreover, it is reflected in this chapter that Green Banking requires to be studied across multiple aspects. This chapter also states the urgency to explore Green Banking Practices, Performance and Stakeholders' Perception in India. The next chapter delves into review of literature of the study.