"THE EFFECT OF GREEN BANKING PRACTICES FOR A SUSTAINABLE DEVELOPMENT OF SBI ON CUSTOMER SATISFACTION IN KERALA - A STRUCTURAL EQUATION MODELING APPROACH"

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Abstract

Around the world, awareness of sustainability is growing steadily in light of Agenda 2030. Institutions across the world are trying to reduce their carbon footprint, and the same is valid for banks and financial institutions. The banking process has bought some indirect problems for India, such as global warming, climatic changes, irregular monsoon, air pollution, heavy rainfall, losing air quality, health issues, ozone layer depletion, the use of fossil fuels, the recurrent completion of destruction of the forest for daily use, improper disposal of e-waste. Sustainable banking (Green banking) practices are commonly appreciated as an effective way to overcome all those issues, and it enhances the satisfaction and quality of life of the customers. But the motive of sustainability can be attained only when the successful acceptance of green banking by the customers as well as their level of satisfaction. Through green banking, customers can enjoy micro-level and macro-level sustainability such as Social Sustainability, Economic Sustainability and Environmental Sustainability. With a focus on India's largest public sector banking sector, this report provides a comparative review of sustainability integration into customer satisfaction. The current theoretical analysis first offers a thorough review of the concepts of social sustainability, economic sustainability, and environmental sustainability as well as the degree of customer satisfaction. This is followed by a thorough analysis of factors that make green banking practices dissatisfying factors, which includes some evidence from SBI in Kerala.

*Keywords:*Social Sustainability, Economic Sustainability, Environmental Sustainability, Customer Satisfaction, Paperless transactions, State Bank of India.

1. Introduction

The most important theme of the 21st century is the green energy and the sustainable use of renewable energy sources for future growth and development. Being green, i.e., proactive toward the environment and protecting mother earth, has become an essential part of our lives today. Over the past few decades, the world has faced serious issues of global warming, climatic changes, irregular monsoons, air pollution, heavy rainfall, losing air quality, health issues, ozone layer depletion etc... Using fossil fuels excessively, emitting excessive carbon

dioxide, destroying the forest for daily use, growing urbanization, and disposing of e-waste improperly are the factors pushing us toward the dangers of above all. Presently we are concentrating the uneven development without considering the existence and survival of the future generation. Technology has enabled people to adopt eco-friendly concepts, helped to reduce carbon emissions, and reduced their impact on the environment for the sustainable development of the country.

The idea of green banking was first initiated in the USA in 2003, and it practically came into existence after the framing of constructive legislation by the USA government in March 2009. Various legal acts, reframed policies, and representative bills were framed by the USA from time to time to ensure smooth adoption of the green banking concept. Green banking policy involvement is likely to be different in developing and developed countries. A network is created by developing financial institutions throughout the world or joining programmes laid out by international development agencies such as (International Financial Corporation) IFC and United Nations Environment Programme (UNEP) in developing their green banking policy framework. Developing Countries have mandatory laws to validate and execute an environmental and social safeguards policy and communicate applicable activities to central banks.

For a country like India which has a huge population, catering for the banking service needs of the various segments of the population and strengthening the financial inclusion measurement & sustainability in banking activities has become reality only through by the adoption of green banking practices. Moreover, the importance of green banking is becoming increasingly apparent since it effectively supports effective management of environmental issues in economic development and by installation of renewable energy-efficient energy equipment, such as: LED equipment's, solar ATM, solar panels, wind turbines, etc. Moreover, green banking practices encourage paperless practices by reducing paper usage to a minimum. State bank of India and ICICI are the first banks in Public sector and Private sector banks in India are adopting lot of green banking initiatives for the sustainable development.

RBI imposes a number of rules for the public and private sector banks for operating the environment in a sustainable manner to preserve the eco system. But the most of the banks are just thinking about how to make more money for their financial transactions and to increase market value of their share capital. In long term its consequences on environment may be very high and uncontrollable issues may arise. One of the ways to reduce the evil effect of the environmental un-sustainability is the prudent ways of using the existing technology and give proper awareness among people about the cause and pros of these green banking initiatives. So that they will accept the new changes in banking sectors in to their real life and that will ensure the sustainable banking practices. Without the interference of the government and public sector banks, the issues of uneven development of the nation can be attainable.

As the largest bank and banker in India, SBI has been actively involved in green initiatives, including implementing green channel counters and no queue banking in more than 5000 branches, encouraging wind farms in India, committing to adopting green building standards when building new buildings for utilizing the natural lighting and recycled water, implementing policies to achieve carbon neutrality, paperless transactions by using mobile apps You Need One (Yono etc..), electronic salary payment systems among staff etc... But accessing of these green banking practices by the stakeholders are different in different region due to the lack of sufficient network coverage, lack of awareness of the consumers, attitude of the stakeholders, proper monitoring and feedback from officials, lack of infrastructural development etc.. are the reasons for the hindering of the free flow

of the growth of green banking initiatives in banking systems of Kerala. Without their support and cooperation any single steps of green practices can be taken by the authorized people in our country.

In short, it can be claimed that success of green banking has right mixture of technology adoption by banking sector, technology savvy practices of bank customers and the changing habits of bank customers. . It is attained through green banking is the joint action with social progress, where socially responsible banking with human health and wealth improvement , efficient and professional service convenient to the banking customers etc…, Economic growth where economic efficiency and feasibility, productivity growth , technological convenience etc… and environmental sustainability , as reduction of paper usage, preserving of the natural resources, usage of renewable source of energy, protection of earth etc..

This paper outlines the objectives of the study that examines the effect of social, economic, and environmental sustainability of green banking practices on customer satisfaction using a structural equation modeling approach. The primary objective of this paper is to build a theorized research model and test the model through the application of techniques such as structural equation modeling and covariance-based confirmatory factor analysis. In the summary, the results of testing the hypotheses are provided.

2. Study Objectives

2.1   To study the socio- Economic sustainability of green banking practices of SBI among the customers satisfactions in Kerala.

2.2   To explore the effect of Environmental sustainability of green banking practices on customer satisfaction in SBI in Kerala using a structural equation modeling approach.

3.   Model building hypotheses

H_{01} : Social sustainability has a positive effect on customer satisfaction

H_{02}: Economic sustainability has a positive effect on customer satisfaction

H_{03}: Environmental sustainability has a positive effect on customer satisfaction

4.   Problem of Study

The banking sector plays a lesser role in directly creating environmental issues. However, indirectly they are operating traditionally, associating with the consumers and large business units that are creating the problem of emission of carbon and greenhouse gas impacts. Such uneven development without considering the existence and survival of the future generation is not accepted by the national and international world due to the unsustainable actions.

By adopting of green banking concept banks aim to promote an environmental friendly banking practice among their clients. The concept of green banking is closely associated with saving time on customers and bank, transactions cost and efforts, excessive consumption of papers and energy. Sustainable development would be the target for the present world. It can be attained through green movement through institutions.

Among the largest commercial banks in India, SBI (state bank of India) has taken the first step towards "green banking" and set higher standards of sustainability. With the promotion of green banking practices, bank authorities and policymakers expect less customer footfall into the physical bank branches and increase in the usage of electronic banking. But, in reality, now more and more customers still go to bank branches to accomplish their banking transactions. As per the World Bank Report, only 80 per cent of Indian adults maintain bank accounts and this number has increased especially after the introduction of the Prime Minister's "Jan Dhan

Yojana". Their level of satisfaction with green banking is essential for the attainment of the long-term objectives of green banking.

However, access to these green banking practices by the stakeholders are different in the different region due to the lack of sufficient network coverage, operating conservatively, lack of awareness of the consumers, the attitude of the stakeholders, proper monitoring and feedback from officials, lack of infrastructural development, population are moderately educated, usage of English language is minimal as the people learn in their state linguists, only marginal populations of the nation are white-collar employees, and significant populations found to middle-income class population etc. are the reasons for the hindering of the free flow of the growth of green banking initiatives in banking systems of Kerala. Present-day sustainability is the major focus of governmental and large corporations. A system has to be sustainable only when they have supported the people's health and maintains risk-free life, the economic feasibility of the transactions and is environmentally hazardous. Authorities have to consider the social-economic benefits along with environmental impacts also to facilitate the present needs without compromising the future. Awareness, expectations and satisfactions of the consumers are different in different financial institutions primarily because of the large-scale acceptance of the consumer base by the public sector banks. Triple bottom line evaluation helps to identify to what extent the system ensures the feasibility of the system, to ensure the sustainability of the banking practices. In short, sustainability has gained more attention for the successful implementation and satisfaction of green banking practices in SBI.

5. Literature Review

Sustainable development aims to raise living standards in contemporary communities without concentrating solely on economic growth. Strategies for sustainable development are particularly focused on enhancing the quality of life for current generations. They want to make sure that neither the environment nor the resources are used up at the expense of future generations nor that political unpredictability and socioeconomic inequality endanger social cohesiveness. Sustainability is defined as economic, social, and environmental development.

International Finance Corporation, (2005). found that sustainable banking is an up-and-coming business trend, which has been practiced by smaller and larger banks (Triodos Bank, Co-operative Bank of the UK). The concept of sustainable banking, however, has evolved from "defensive banking" (sustainable processes generate costs), to "preventive banking" (sustainable regulation), and onward to "offensive banking" (sustainable as a novelty) and "sustainable banking" (sustainable as vision), in order to integrate sustainability development fully into their core strategy.

Sustainable banking is defined by **Bouma et al.** as banks finance only customers whose activities benefit society and the environment. As a result of sustainable banking, internal and external banking activities are managed in a way that meets the sustainability requirements of internal stakeholders and external stakeholders, respectively. It is in this context that banks are accountable to their boards of directors, existing shareholders, workers, customers, suppliers, competitors, mass media, non-governmental organizations, government, communities, societies, and the environment.

N. V. & Usha, (2016). This paper has made an attempt to understand and scrutinize the role of Green Banking towards sustainable development. In the present world sustainable development is becoming an essential part of

all businesses. Every sector of the world has understood the importance of sustainable development and has shifted their approaches from single bottom line to triple bottom line i.e; conversion of a narrow approach to wider approach. The time has come for green banking. The concept of "Green Banking" will benefit banks, industries, and the economy as a whole. Aside from facilitating the greening of the industries, "Green Banking" will also help improve the assets and services of banks in the future.

Malu, Agrawal, & Jajoo, (2014) The study examined how crucial a role banks can play in lowering society's carbon impact. Prior to 1987, the World Commission on Environment and Development defined economic development as "development that meets the needs of the present without compromising the ability of the future generation to meet its own needs." Sustainable development, on the other hand, means "development that meets the needs of the present without compromising the ability of the future generation to meet its own needs." According to the study, "there are two ways that sustainability in the banking industry can be achieved: 1. through recycling programmes, paperless banking, the use of energy-efficient resources, and 2. through support for local events that aim to reduce pollution. 2. They can use lending and investing techniques to support initiatives that are environmentally friendly, and they can also create green products to assure the sustainability of their core business."

OmidSharifi, Bentolhoda, & KarbalaeiHossein, (2015) The importance of green banking in maintaining environmental sustainability in Indian public sector banks has been discussed in the study. Eco-friendly banking is an entirely new concept that greatly reduces the cost of the banking activities and improves the quality of the customer services. Providing funds to social and sustainable investment projects is one of the most important ways for banks to promote environmental sustainability. To conduct eco-friendly business, banks should adopt environmental standards of lending as this will improve their asset quality. In addition, this activity has a very significant impact on the long-term sustainability of its clients. Not only does this enhance the reputation of the bank, but it also helps them to comply with government regulations in a successful manner and enhance legal risk management. Loans are normally granted by banks at low rates of interest to their clients. Consequently, more and more entrepreneurs start environmentally friendly businesses, and as a consequence there is a greater awareness of environmental protection activities across the economy as a whole. The banks have therefore adopted a win-win strategy where they are giving consideration not only to the environment but also their customers also.

Tara & Singh, (2014) The paper discusses the various approaches taken by the Indian banking industry to preserve the environment and how to turn these approaches into developments for a sustainable society. As far as the economy goes, the world has progressed considerably and is also on its way to even greater progress. It is, however, with regard to the neglect of the issues of the environment that the real concern lies. This means that environmental concerns were not taken into consideration as part of the economic development process. Consequently, many environmental problems have developed. Thus, society and corporations are shifting their emphasis to sustainable development as opposed to solely focusing on economic gains. Their focus has shifted from a single bottom line of profit to a more holistic "triple bottom line", which includes economic, social, and environmental performance simultaneously for achieving sustainable development.

Rajesh & Dileep, (2014) Using Green Banking as an umbrella term, refer to "practices and guidelines that make banks more sustainable in terms of economic, environmental, and social factors. By reducing pollution and saving the environment, green banking promotes sustainable economic growth. It is imperative for banks to consider

environmental risks before deciding whether to finance a project, as well as ensuring project players have environmental safety measures in their plans, such as recycling facilities or smoke and gas arresting units. For the development of green banking, it is essential to develop a framework for rewarding responsible banks and dis-incentivizing polluting activity.

6.   Confirmatory Factor Analysis for the sustainability and customer satisfaction constructs
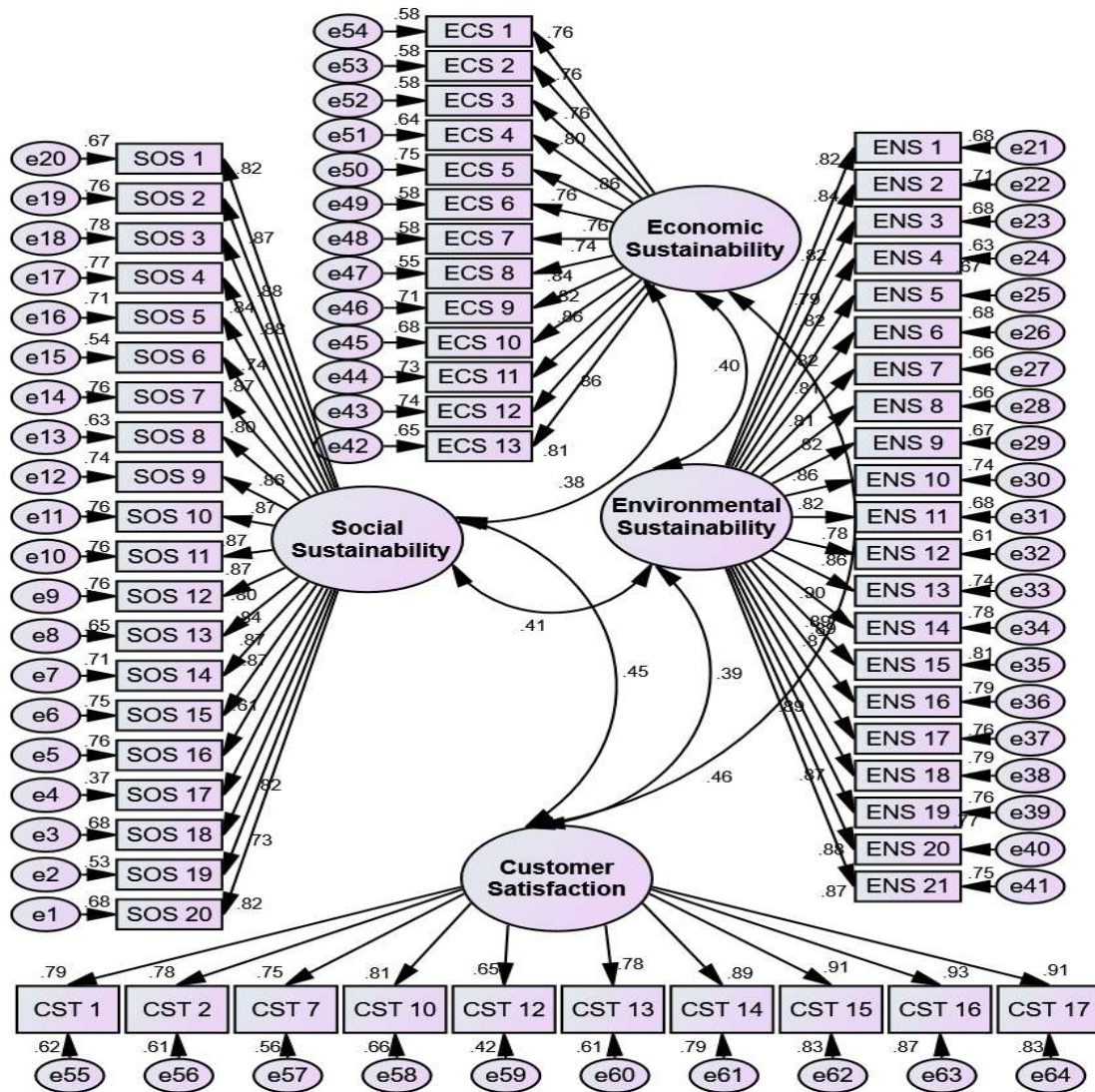
Source : Primary Data

   Figure 1: Confirmatory Factor Analysis for the sustainability and customer staisfaction constcucts

Table 1 : Model fit indices of the CFA model

ATTRIBUTES	CMIN/DF	P-VALUE	GFI	AGFI	CFI	RMSEA
Study model	3.88	0.000	0.932	0.916	0.977	0.053
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08
Literature support	Hair et al., (1998)	Barrett (2007)	Hair et al. (2006)	Hair et al. (2006)	Hu and Bentler (1999)	Hair et al. (2006)

Source : Primary Data

From the table 1 shows that "the value of Chi-Square to the degrees of freedom ratio is 3.88 which are very well within the suggested maximum value. The RMSEA score is 0.053, below the accepted threshold score of 0.08. The GFI and AGFI values are above 0.9 and CFI is above 0.9 for which 1.0 indicates exact fit. Thus, the model is a good fit and can be considered for further analysis."

Table 2: Discriminant Validity among the sustainability and customer staisfaction constructs

Constructs	SOS	ECS	ENS	CST
SOS	(0.83)			
ECS	0.38**	(0.80)		
ENS	0.41**	0.40**	(0.85)	
CST	0.45**	0.46**	0.39**	(0.82)

Source: Primary Data

*** denotes significant at 1% level*

The above table 2 demonstrates the discriminant validity of the sustainability and customer satisfaction constructs. The numbers in parentheses are the square roots of the AVE scores, which must be greater than the inter construct latent variable correlation values to rule out any relationship. As a result, it is possible to conclude that there is no discriminant validity issue among the constructs, and discriminant validity among the sustainability and customer satisfaction constructs has been established.
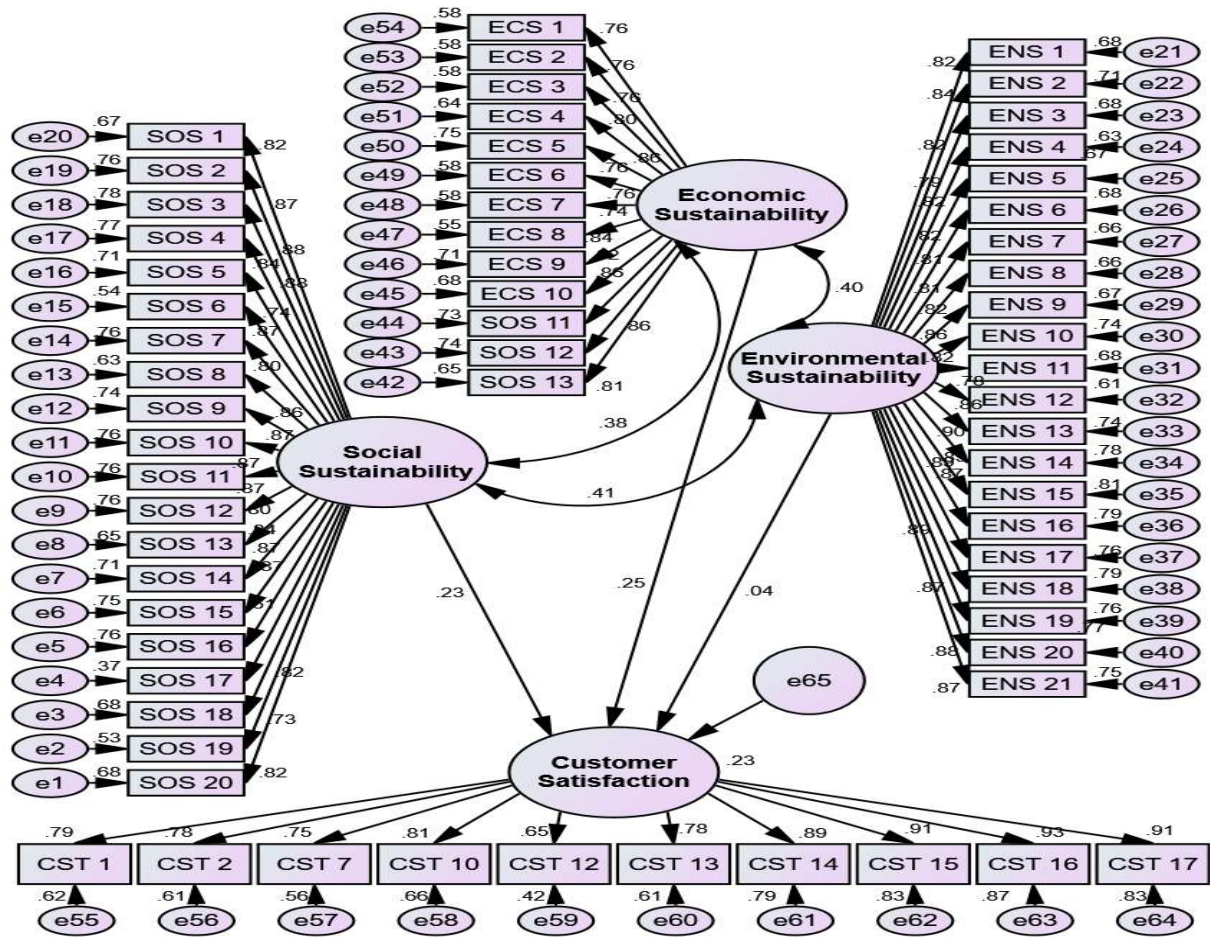
Figure 2: Tested Structural Equation Model (SEM) Model for green banking practices of SBI

Table 3: Model fit indices of the SEM

Source: Primary Data

The ratio of CMIN/DF is 4.27, which is significantly lower than the acceptable threshold. All of the other

MODEL	CMIN/DF	P-VALUE	GFI	AGFI	CFI	RMSEA
Study model	4.27	0.000	0.938	0.917	0.978	0.065
Recommended value	Acceptable fit [1-5]	Greater than 0.05	Greater than 0.9	Greater than 0.9	Greater than 0.9	Less than 0.08

fit indices, including RMSEA, GFI, AGFI, and CFI, fall below the suggested cut-off ranges. As a result, one reasonable conclusion is that the SEM is a good fit.

Table 4: Path analysis values and R^2 values of the SEM

Constructs path index			Standardized co-efficient (Beta)	R^2 Value	Critical Ratio	P value
Customer Satisfaction	←	Social Sustainability	0.23		4.25	<0.001**
Customer Satisfaction	←	Economic Sustainability	0.25	0.23	4.98	<0.001**
Customer Satisfaction		Environmental Sustainability	0.04		1.201	0.457[NS]

Source: Primary Data

** denotes significant at 1% level; NS denotes Not Significant

7.   The results of SEM hypothesis testing.

SM.H1: Social sustainability has a positive effect on customer satisfaction

Keeping the other pathways fixed the standardized beta coefficient of 0.23 shows the partial impact of social sustainability on customer happiness. The positive sign that's been calculated shows that such an effect is positive in that the satisfaction of the customers of SBI bank regarding green banking would increase by 0.23 for every unit of standard deviation increase in social sustainability practices of green banking by SBI, and the value of this coefficient is significant at the 1 percent level. As a result, it will get the conclusion that the hypothesis, which states that social sustainability has a positive effect on customer satisfaction, is accepted. It suggests that the social sustainability as part of SBI's green banking practices enhances the amount of satisfaction experienced by SBI's clientele, as indicated by the data.

SM.H2: Economic sustainability has a positive effect on customer satisfaction

When all other pathways are held constant, the standardized beta coefficient of 0.25 quantifies the impact of sustainable economics on consumer pleasure. Each unit of increased economic sustainability would result in a 0.25 rise in customer satisfaction, according to the computed positive sign, and this coefficient value is significant at the 1% level. As a result, the hypothesis that economic sustainability has a positive effect on customer satisfaction is accepted. It implies that the SBI's economic sustainability, as accomplished through its green banking window, will result in consumer satisfaction.

SM.H3: Environmental sustainability has a positive effect on customer satisfaction

Holding all other factors fixed, the standardized beta coefficient of 0.04 depicts the partial impact of environmental sustainability on customer satisfaction. The calculated positive value shows that such effect is positive, whereas the P value indicates that this effect is not statistically significant. Therefore, it is possible to draw the conclusion that the environmental sustainability does not have any effect on the level of satisfaction customers. It denotes that environmental sustainability as a component of the green banking operation of the SBI is not capable of achieving the degree of customer satisfaction desired by the customers of the SBI.

8.   Suggestions of the study

8.1 The SBI bank Kerala consuming 24 x7 electricity for the operation of its ATM. Only though the roof top solar installed ATM for its operation and non receipt transactions will increase the level of satisfactions regarding the environmental sustainability.

8.2 Even though bank is using centralized data base for its banking operations, the process borrowing is time consuming as well as excessive paper consuming also. So that they don't believe that green banking reduce the consumption paper usage.

8.3 Broader legislation should be appointed to ensure the successful implementation of green banking practices in SBI to educate and impart knowledge regarding social, economic and environmental sustainability among all classes of people.

8.4 There are given incentives to consumers who are involved in environmental protection, usage of renewable energy sources, reducing carbon emissions and helping create green activities" through the effective usage of green banking practices of the Bank. Best customer awards should be given to those customers who are using it for an effective manner.

9.   Conclusion of the Study

Three hypotheses were developed and tested in this paper. In addition, a model for the State Bank of India's green banking activities was formed based on the results of the hypotheses. The theoretical models provide support for two of the hypotheses, and one hypothesis is not supported. Presently consuming 24x7 electricity for running ATM/CDM , Air conditioner , excessive consumption of papers for loan applications, physical visit into the bank for making transactions reducing the confidence level of consumers. In this technological era without the support and cooperation of the customers' sustainable goal of the country can attain its objectives. So the awareness and motivation of the customers must be created for the proper utilisation of green initiatives for the present and future generations' wellbeing.

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