

# Impact of Green Banking Initiatives on Customer Satisfaction

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## **Abstract:**

With the substantial trend towards greening the industry, banks introduce innovative green banking initiatives expecting their customers to be satisfied with them. Customers consume features of any product or service. Determining the impact generated by features of such initiatives on customer satisfaction, is important to be identified by bankers who are novel to the field of green banking in emerging economies like Sri Lanka. Present research analyzed the impact of customer satisfaction with different features of green banking initiatives on overall customer satisfaction with green banking. Accordingly, the study has identified four main features of green banking initiatives namely; Security and trust, Ease of Use, value creation and Environmental & Social concern. Data were collected from customers of public sector commercial banks. Multiple regression analysis and descriptive statistics have been used as data analysis techniques. Findings depict that all four features significantly influence the customer satisfaction on green banking. Security & trust and ease of use features have the highest impact on customer satisfaction followed by environmental and social concern features and value creation features respectively. It is revealed that none of the above features of green initiatives have satisfied the customers. Elder customers and less computer literate customers have less satisfaction on each feature in comparison to others.

**Key Words:** Green Banking, Features of Green Initiatives, Customer Satisfaction

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## **I. Introduction**

Gigantic industrialization processes around the world during the past decades have enlarged global warming, environmental pollution and use of scarce resources where an effective intervention is needed to control such negative effects on the environment. Ethics, social responsibility, sustainable development, and environmental issues have become major concerns around the world. On the other hand, customers demand high quality products and services which address social and environmental standards. As a result, world requires more consideration towards the environment since the less attention will create huge negative influences on bio diversity, forestry, water, land, energy, agriculture and human well-being. In recent history, green movement is visible in almost every industry which includes green chemicals, green buildings, green production, green packaging, green operation, green marketing, green investment, green finance, green banking etc (Asgharian, Salehi, Saleki, Hojabri & Nikkheslat, 2012)

With the concept of “greening”, industries are focusing on eco-friendly cause of action which will create positive return to the economy in achieving sustainable environment as well as sustainable economy. Banking sector by being the backbone of an economy can offer a vital support for that through their way of doing banking business and through financing various sectors of the economy. Thombre (2015) has concluded that as responsible corporate citizens, banks believe that every 'green' step taken today would go a long way in creating a greener future and in that manner each bank can contribute creating a better global environment. Lindgreen (2006) mentioned that in the globalized highly competitive environment, building more unique relationships customers is vital for companies. Customer satisfaction can be identified as the foundation for building relationships with customers. Even though banks offer more and more green banking initiatives, the success/profitability of them depends on the general preference and awareness of people/customers regarding the concept of green banking, there level of acceptability and level of satisfaction towards the green product and services offered by such banks

**The Concept of Green Banking**

Green banking can be defined as any form of banking which creates environmental benefits (Narang, 2015; Lalon, 2015; Silva, 2015 & Sindhu, 2015, Malliga 2016). Green banking business conducted in such a manner that helps the overall reduction external carbon emission and internal carbon foot print (Narang, 2015). The aspects of green banking can be green marketing, green financing, green operations and so on. Many modern banks, locally and globally, promote technology driven, eco-friendly green banking initiatives (Silva, 2015). Green banking itself is a concept relating to the 3P: people, planet and profit (Susanto, 2015). Both advanced and emerging economies have encouraged financial institutions to move towards digital channels to accelerate the path towards digitized core-banking processes. In general, green banking activities can be categorized under four segments including Greening of banking operations & infrastructure, complying with regulatory and social expectations, hands-on green banking products and services and awareness and training of stake holders.

Simultaneously several studies highlighted the importance of green banking and its impact on sustainable growth while considering mostly on environmental management for future generations (Aizawa & Yang 2010; Kohn 2016; Ciobanu , Negrea & Andreica 2014; Lalon 2015; Ginovsky 2009 and Singh 2015). According to the studies of Jha and Bhoom, Mishra and Biswas (as cited in Tara, Singh & Kumar, 2015), Green banking aims at improving the operations and technology along with making environment friendly customer habits in the banking business. According to Tara, Singh & Kumar (2015) Green banking comprises numerous products and services like green mortgage, green loans, green credit cards, greensavings accounts, green checking accounts, green money markets accounts, mobile banking, online banking, etc. Further they stated that green banking addresses a wide range of environmental problems (climate change, deforestation, issues related to air quality, loss of biodiversity, etc) and it also detects and creates various opportunities for the benefit of the customers. As a result, banking institutions have approached towards development of technology-driven strategies, with the hope of attracting customer preference, higher returns and higher market penetration. This tendency in the banking industry has gradually replaced over the-counter banking with new electronic delivery channels (Studies of Thornton & White and Yu & Guo as cited in Hossain, Ahmed & Nisha, 2015). People will contribute to making this earth a better place by being a customers of green banks (Rashid, 2015).

**Table 1: Green Banking Initiatives in Modern Banking Industry**

Using online banking – customers access account through internet, instead of physical visit to bank
Payment of utility bills etc. via online banking
Cash/cheque receipt and payment transactions , cheque book requests etc. through ATMs
Telephone banking/ Mobile banking/ SMS banking
Automated clearing systems and SLIPS transfers, which allow paperless transactions
E-mail correspondence , instead of traditional postal correspondence practices
E-statements, SMS banking alerts,
E-fund transfers
Digital filling systems with a digital archived and digital index query system
Video conferencing instead of meetings
Green Channel counters and automated cash deposit terminals
Green checking – converting checking accounts to online banking
Green money market accounts – converting savings accounts to online banking
Green loans/ green financing - special attention to energy efficient projects, promote renewable energy
Green mortgages – better interest rates and conditions for energy efficient houses/ buildings
Green CDs – bonus rates for online banking
Green building – green construction / sustainable building concept for branches
Green credit cards with easy settlement schemes
Remote deposits, express cash systems for easy domestic fund transfers
Easy online payment channels for dollar deposits
Installation of solar power / wind power facilities for branches
Use of more daylight , instead of electricity & Use power saving equipment
Using emails and internal network communication instead of paper based documentation
Introducing document management systems
Implement responsible waste management disposal systems
Promote environmental literacy - Conducting awareness programs / training programs on saving energy
Social responsibility services – Tree plantation campaigns, maintenance of parks,
Conduct energy audits, review equipment purchases and disposal policies
Employee training on green initiatives

**Customer Satisfaction / Green Customer Satisfaction**

The most widespread use of satisfaction has been in literature related with customer satisfaction (Aigbavboa & Thawla, 2013). Customer satisfaction is related to people who paid for a products or services and used the products and services (Ling, Fern, Boon & Huat, 2015). Jamal’s study (as cited in Asgharian, Salehi,

Saleki, Hojabri & Nikkheslat (2012) revealed that for most of marketers and consumer scholars, the subject of customer satisfaction is considered as one of the major issues that has both theoretical and practical importance. Despite the overwhelming quantity of literature surrounding the concept of customer satisfaction, certain issues have either gone unresolved or have recently been brought into question, with regards to a comprehensive understanding of the constructs that bring determine satisfaction in a typical consumer environment (Aigbavboa & Thawla, 2013).

Cheng & Fong (2010) explored the area of green customer satisfaction by giving special reference to green product quality, green corporate image and green customer loyalty. They argued that previous studies have paid much attention on product quality, corporate image, customer satisfaction, and customer loyalty, but less explored them on green innovation or environmental management aspects. This study defined green customer loyalty as the customer wanted to maintain a relation with an institute which involved environmental or green concerns, and committed to rebuy preferred product consistently in the future. Green consumer satisfaction is defined the term as the outcome of consumption that the performance met or exceeded the green needs of customers, the requirements of environmental regulations, and the sustainable expectation of society (Sirdeshmuck's study as cited in Chang & Fong, 2010). Customer environmentalism and environmental regulations urge companies to embody green or environmental concept in the features, designs, packages etc of their products/services to while satisfying the environmental needs of customers. Additionally, several studies also revealed that environmental image can satisfy the customer's environmental desires and green needs (Studies of Hu & Wall; Corrigan; Chen; Hart; Peattie; Porter and van der Linde; & Shrivastava as cited in Chang & Fong 2010). The study revealed that green product quality had positive effects on green customer satisfaction and green customer loyalty. Therefore, companies' merged green ideas can satisfy the environmental needs of customers and increase green customer satisfaction. Further, study revealed that green corporate image had positive effects on green customer satisfaction (Chang & Fong, 2010).

Customers' perception towards green banking will influence their attitude towards banks participating in green banking activities (Hossain, Ahmad & Nisha, 2015). Since the present study focuses on green concept, social and environmental concern of green initiatives is also taken as a matter to be considered which is identified as a less considered variable by previous studies done in the area of customer satisfaction towards green banking initiatives. Asgharian, Salehi, Saleki, Hojabri & Nikkheslat (2012) have revealed that even though the issues which are related to customer satisfaction have been given a lot of attention to and have explored and investigated in many of the previous researches, very few of these researches have addressed green or environmental concerns.

It was suggested that banks have to put more effort to enhance awareness and satisfaction towards such green initiatives by creating confidence in the minds of customers. In private banks customers are happier as compare to public banks about the services of e-Banking (Hossain, Ahmad & Nisha, 2015). According to the study, different age group customers may have different perception towards the services. Most of the customers prefer e-banking for quickness. Online Customers are mainly concerned on safety issues in banking transactions. The study concluded that different age group of customers have different perception toward the ebanking services and the usage level of these banks' customer is different so bank should concentrate on all the age group of customers for betterment of banking system. It has also perceived that different occupation groups have different perception toward the banking services. Lucas & Spilter's study (as cited in Agrawal, 2009) stated that 'an understanding of different dimensions of creating value to the customer through use of new technology and its impact on their performance in terms of return on investment is always a matter of concern for the banking and financial service industries' p.341. Customer Awareness on such initiatives should be taken in to consideration while focusing on the impact of them on their satisfaction (Mary, 2015; Sharma, Sarika & Gopal, 2012; Sudalakshmi & Chinnadorei, 2014). Agrawal, 2009 analysed the impact of technology driven banking services on overall customer satisfaction by considering three main factors; security & trust, convenience & ease of use and value proposition. Literature in the area of study supports that quality of the service provided is also a matter to be concerned while studying about customer satisfaction

### **Service Quality and Customer Satisfaction**

Customers can observe differences in the quality of service (Saghier and Nathan, 2013). Uddain and Akhter, (2012) concluded that service quality has positive effect on customer satisfaction in banking services. Studies of Hutchinson, Cronin and Taylor, Kuo, Gerpott, Kim and Lin and wang (as cited in Uddain and Akhter, 2012) provided glimpse in to the conclusion of positive relationship between service quality and customer satisfaction. Mosahab, Mahamad and Ramayah (2010) found a positive relationship with service quality with customer satisfaction related to banking services. Customer satisfaction on internet banking will be influenced by five factors including; Service quality, web design and content, security and privacy, convenience and ease of use

(Ling, Fern, Boon and Huat,2015).Parasuraman (1988) investigated the SERVQUAL model introducing five dimensions; tangibility, responsiveness, reliability, assurance and empathy (Uddin and Akther,2012). This model is most often used for measuring quality of service in both academic and practical circles (Kuo,Wu and Deng, 2009 and Saghier and Nathan,2013). The initial model concluded with ten determinants of service quality; Reliability, Responsiveness, Competence, Access, Courtesy, Communication, Credibility, Security, Knowledge/Understanding and Tangibles (Parasuraman, Zeithmal, Berry,1985). These ten dimensions and their descriptions served as the basic structure of the service quality domain from which items were derived for the SERVQUAL model (Parasuraman, Zeithmal, Berry, 1988). According to Berry, Parasuraman and Zeithmal, (1985,1994) SERVQUAL model denotes: tangibles (physical facilities, appearance of personnel, equipment, physical representations of the service such as plastic card, personal and written materials), reliability (capability to perform the promised service dependably and accurately), responsiveness (willingness to help customers and provide quick service), assurance (knowledge and courtesy of employees and their skill to encourage trust and confidence) and empathy (individual attention a firm gives its customers). Reliability is influenced by handling customer service complications, performing service right at the initial time, deliver services at guaranteed time and keeping error-free records (Prasuraman,1988). However, applying SERVQUAL dimensions in the context of E- service seems to be inefficient due to the reasons: absence of sales staff, absence of traditional tangible elements, and selfservice of customers (Li & Suomi, 2009).

Li & Suomi, (2009) indicated that, with the increasing application of e-commerce the importance of identifying dimensions of e-service quality has been recognized. Accordingly, as per the review done by Li & Suomi, (2009) several studies have been conducted with an aim of developing such e-service quality dimensions. As cited in Li & Suomi, (2009), Sohn and Tadisina's study identified seven features of e-service quality related to online financial service as trust, speed, reliability, ease of use, customized communication, website content and functionality ; Yoo and Douthu's findings concluded that ease of use, design, speed and security as scales of quality measurements of eservice ; Jun and Cai's study provided website design, information, ease of use, access, courtesypressiveness and reliability as quality features of online banking ; Parasuraman, Zeithmal and Malhotra's studies on scale on assessing electronic service quality has found efficiency, availability, fulfillment, privacy, responsiveness, compensation and contact as quality features; Cox and Dale's study had found website appearance, communication, accessibility, credibility, understanding and availability as measurement scale of e-service; Wolfenbarger's study put forward: website design, reliability, security and customer service as indicators of quality eservice in online shopping sites; Yang and Jun's study concluded a six dimensional model including: website design, security, reliability, responsiveness, accessibility and customization.;Surjadaja's study came up with a seven dimensional model including security, interaction, responsiveness, information, reliability, delivery and customization ; Yang's study put forward a model including e-service quality features as responsiveness, credibility, ease of use, reliability, convenience, communication, access, competence, courtesy, personalization, collaboration and security ; Field's study concluded a model consists with: website design, reliability, security, and customer service; Lee and Lins's study came up with five dimensional model including website design, reliability, responsiveness, trust and personalization (As cited inLi & Suomi,2009). By reviewing all above studies, Li & Suomi, (2009) has concluded that most of researches adopted e-service quality features based on modification of SERVQUAL instrument. Zeithmal, Parasuraman, and Malhotra's studies put forward a seven dimensionalmodel and they named the model as E-S-QUAL. The model comprises with core dimensions and recovery dimensions. Efficiency, system availability, fulfillment and privacy are categorized as core dimensions. Responsiveness, compensation, and contact are categorized as recovery dimensions (Suomi, 2009 ; Zavareh, Ariff, Jusoh, Zakuan, and Bahari, 2012).

This discussion concludes that service quality features have positive influence on customer satisfaction. Further, a considerable attention was given in reviewing measurement scales of traditional services and e-services. It was found that service quality features which were recognized by previous studies can be categorized under proposed independent variables of present study, as their indicators.

### **Features of Green Banking Initiatives**

#### **Security and Trust Features / Convenience and Ease of use Features / ValueCreation Features**

Agrawal, Rastogi and Mehrotra (2009) analyzed the impact of customer satisfaction with the different features of e-banking, on customer satisfaction with e-banking as a whole. Authors have compared their findings with the UTAUT (Unified Theory of Acceptance and Use of Technology) model, which is about consumer adoption on new technology and found similarities between tested independent variables. They have used 14 different variables as features of e-banking and have categorized those features as, security and trust features; Convenience and ease of use features and value proposition features. Transparency, reliability, safety and privacy are tested as variable constituents under security and trust feature. Speed of transaction, congestion free, ease of use, ease of contact, easy accessibility and customer friendly website are tested as variable constituents

under convenience and ease of use feature. 24\*7 banking (365 day banking), low cost of transaction, add-on services and availability of latest information are tested as variable constituents under value proposition feature. They have found that customer satisfaction with above mentioned variables influence overall customer satisfaction on e-banking to a very significant extent. However, the customer satisfaction on security and trust had the largest impact on overall satisfaction on e-banking whereas value proposition had the least impact (Agrawal, Rastogi and Mehrotra (2009).

Consumer adoption of a good or service refers not only to the acceptance but also to the continued use of as such product or service (Musiime and Ramadhan, 2011). Wungwanitchakorn's study (as cited in Musiime and Ramadhan, 2011), pointed out that if banks need to maximize the benefits of electronic channels they have to identify the way such service is perceived by potential adopters and identify current stage of demand for such service base on usage and consumer acceptance; which indicates concern should be given to customer satisfaction.

Gao and Owolabi's study (as cited in Musiime and Ramadhan, 2011), indicate that factors which cause customers to adopt internet banking include accessibility, convenience, privacy, cost and availability of knowledge and all these factors can be found in the above mentioned study of Agrawal, Rastogi and Mehrotra (2009). Thus the present study has given an attention to the model of Unified Theory of Acceptance and Use of Technology (UTAUT), as the basis in the process of deriving individual variables; most required features of technology driven green banking initiatives.

The model of Unified Theory of Acceptance and Use of Technology (UTAUT), which is investigated and derived by Venkatesh, Davis, Davis and Morris in 2003. The model is able to explain as much as 70% of the variance in intention and is a substantial improvement over any of the eight original models used to build it. UTAUT is considered as the most complete model to envisage information technologies adoption (Martins, Oliveira and Popovic, 2014). Attuquayefio and Addo (2014) has done a review of studies with UTAUT as conceptual frame work based on 20 different researches conducted under various subjects, which were basically derived from Science Direct, Emerald, EBSCO host data bases. The model has four independent variables, effort expectancy, performance expectancy social influence and facilitating conditions., two dependent variables, intention to use technology and use behavior and four moderators which are gender , age , experience and voluntariness (Attuquayefio and Addo, 2014). Performance expectancy is the degree to which an individual believes that using the system will help him or her to attain gains in job performance (Attuquayefio and Addo, 2014, p.250). Venkatesh's study (as cited in Martins, Oliveira and Popovic, 2014) explained that performance expectancy means customer's perception regarding the improvement of performance, if internet banking is used for banking tasks. Thus, in the context of green banking initiatives, performance expectancy can be defined as the degree to which a customer perceives green banking initiatives are to be more useful than traditional banking channels. Agrawal, Rastogi and Mehrotra (2009) identified this as an aspect where banks provide more value to the customers. 24\*7 banking (365 day banking), low cost of transaction, add-on services and availability of latest information are tested as variable constituents under value proposition aspect and concluded that the value creation features can be considered to be similar to the performance expectancy variable of the UTAUT model. Effort expectancy is the degree of ease associated with the use of the system (Attuquayefio and Addo, 2014, p.250) These features make internet banking more convenient and easy for customers. Speed of transaction, congestion free, ease of use, ease of contact, easy accessibility and customer friendly website are tested under convenience and ease of use features of e-banking in analyzing their impact on customer satisfaction. Accordingly, convenience and ease of use features are concluded as correspond to the effort expectancy variable of the UTAUT model.

Thus a customer will be satisfied with a channel which is more convenient and less cumbersome than traditional banking (Agrawal, Rastogi and Mehrotra, (2009). Studies of Pikkariainen, Bussakorn and Dieter, Chan and Lu and Yiu (as cited in Martins, Oliveira and Popovic, 2014) concluded that usefulness and perceived ease of use as main factors which influence customers to be interested in e-banking. Facilitating conditions are defined as the degree to which an individual believes that an organizational and technical infrastructure exists to support use of the system (Attuquayefio and Addo, 2014, p.250 ; Martins, Oliveira and Popovic, 2014). The variables which have tested respect to security and trust aspect include transparency, reliability, safety and privacy which represent customers' preferences towards the risk free online banking operations. These relate to the variable of facilitating conditions in the UTAUT model (Agrawal, Rastogi and Mehrotra ,2009). Cunningham, Gerlach, Harper and Young's findings (as cited in Martins, Oliveira and Popovic, 2014) reveals that internet banking services are considered to be riskier than traditional banking services. Studies of Lee and Rotchanakitumnuai and Speece ( as cited in Martins, Oliveira and Popovic, 2014) concluded that customers reject internet banking services mainly because of risk, trust and security related issues. Some scholars have found similar features of green banking initiatives without the base of UTAUT model, which can be categorized under above three features. Availability, transaction speed, user friendliness, charges and convenience are identified as some of the features that influence customer satisfaction on green channel counter which is

functioning in all branches of State Bank of India (Moorthy and Pradeepa, 2014). Findings of the study done on customer interface technology declared that customers are generally satisfied with the convenience, quality, selection and value features of virtual service and less satisfied with the speed of the process and availability of information (Burke, 2002). Rajarathinam and Mangalam's study (as cited in Mary, 2015) indicated that customers are encouraged by features like quick direct access, ease of use, anytime anywhere banking, safety and security. Mary(2015) concluded that considerable attention should be given to the security feature of e-banking, which would influence customers in a larger extent, to use such service. Jani's study (as cited in Sudhalaksmi and Cinnadorai, 2014 and Malliga and Rewathy, 2016) revealed that banks should create accessible, convenient, timeliness, cost effective services with good network coverage, when using e-technology in the retail banking sector. Malliga and Rewathy, (2016) have done a comparison between e-banking and traditional banking by considering several features of ebanking including speed, anytime everywhere banking, convenience, easy to use, less cost and prestigious concern. Sharma, Sharika and Gopal, (2015) have found that data security and privacy as one of major concerns of customers in using green banking services. Lien and Yuching's study (as cited in Uddin and Akther, 2012) mentioned that perceived fairness in price of different services offered by banks has direct or indirect impact on customer loyalty. Studies of Ahamed and Alzubi, and Zhao and Saha (as cited in Ling, Fern, Boon and Huat, 2015) founded that security and privacy features have significant influence on customer satisfaction on internet banking. Findings of Shariq, Lallmahamood, Kaasim and Abdulla and Ainin (as cited in Ling, Fern, Boon and Huat, 2015) provided a glimpse that convenience is one of the main focuses of customers of internet banking and it is positively related with customer satisfaction. Further the studies of Ahamad and Alzubi, Shariq and Haque (as cited in Ling, Fern, Boon and Huat, 2015) provided an insight that speed of the process has a positive significant effect on customer satisfaction on internet banking.

Thus, present study is able to extract 'security and trust features', "convenience and ease of use features" and "value creation features" of green banking/technology driven banking initiatives, based on available literature which are backed by the popular model UTAUT as well as which are reviewed from several other aspects of green banking.

### **Environmental and Social Concern Features of Green Banking Initiatives**

With the rise of environmentalism, consumers are more interested in purchasing products and services which create minimum environmental impact. Additionally, several studies concluded that environmental image can improve sales and competitive advantage of institutions while satisfying customers' green desires. It was clearly mentioned that green corporate image is one of important sources of customer satisfaction (Chang and Fong, 2010). Hossain, Ahmad & Nisha (2015) found that customers today are highly aware and conscious of the harmful environmental impact of their banking operations. Green Banking initiatives are perceived by customers as a responsible step taken today that would go a long way in building a greener, sustainable future. Through green banking people can have more awareness about global warming and the ways in which the use of "greener" products and services benefits the environment.

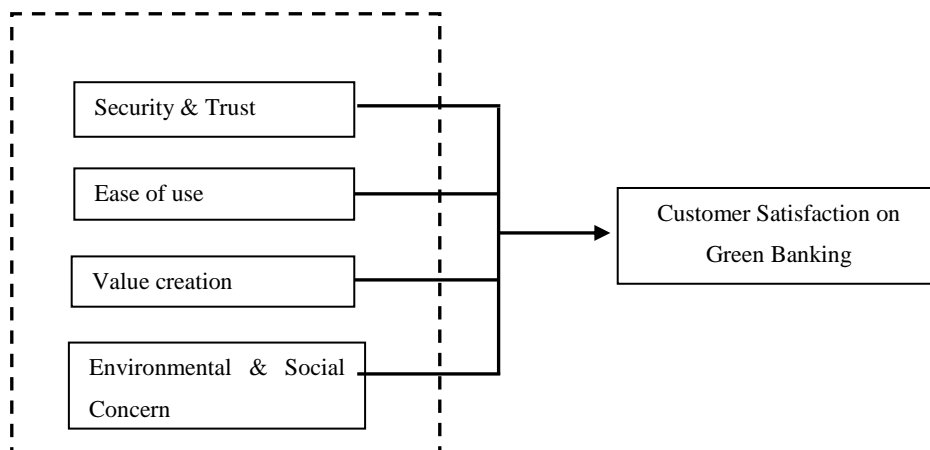
Present study focuses on features of green initiatives not only from the aspect of technology, but also from the aspect of their green concern features. According to the available literature, a less attention has been given to the aspect of environmental and social return of green initiatives, when studying customer satisfaction. Term green banking is a broader concept than just green, which is related with development of environment. According to Malliga and Rewathy, (2016) an innovative banking product should save time, create less cost and should protect environment.

Bai's study (as cited in Rahman and Perves, 2016) argues that green banking is similar to an ordinary bank, where the aim of that ordinary bank is to operate its banking activities while protecting the environment. Thus it will become an ethical bank or a sustainable bank. Green banks stimulate environmental and social responsibility (Rahman and Perves, 2016). According to (Masukujjaman, Siwar, Mahmud, and Alam, 2010) Thus, green banking protects environment, reduce resource wastage and covers corporate social responsibilities. According to Bank of Ceylon, (2015) the bank has planted 100,000 trees, recycled 389,440 Kgs of paper to save 6621 trees, safeguarded water resources during last three years alone. Under the green banking concept the bank started using solar power in selected branches, installed LED bulbs, operates environmental-friendly vehicles and minimizes paper usage through digitization. Customers will be influenced by this kind of environmental concerns of their banks. Relano, (2011) concluded that banks should maximize their social returns genuinely focusing the sustainable development of the economy. To move Asian economies towards sustainable development requires transformation of investment from greenhouse gas, fossil fuel and natural resource intensive industries to more resource saving avenues. This is referred as green transformation.

Kohn,(2012) concluded that financial sector around the world has a tremendous potential to support green investments which is referred as green financing. Further the study suggests that financial institutions should understand the demand side of such green finance products which is arising from customers side. Such an understanding will help institutions to design their green finance products. Relano, (2011) concluded that banks should maximize their social returns genuinely focusing the sustainable development of the economy. Sindhu (2015) revealed that global banks have formed a formal environmental and social risk (E&S) policy to administer lending activities. Those banks are signatory to equator principles (EP). Further, those banks are in the practice of measuring social and economic impact of lending, minimizing paper consumption, reducing water and energy consumption, etc.

The same study has found that customer demand for environmental- friendly services is rapidly increasing and people expect public institutions to be more responsible in environmental concerns. Gupta's study (as cited in Sindhu, 2015) mentioned that companies and institutions which efficiently use resources and energy will be rewarded by future markets. Hence the potential investors will move towards institutions who comply with pollution norms. Ultimately customers' perception will be affected by the level of environmental concern of such institutions. In the middle of customer environmentalism's trend and with regard to the severe international environmental regulations, companies should not only involve themselves in green or environmental concepts of the future design or package of their product in order to extend product differentiation but they also should meet the environmental needs of customers in order to create customer loyalty together with competitive advantages (Chen; Hart; Peattie; Porter and van der Linde & Shrivastava as cited in Asgharian, Salehi, Salek, Hojabri & Nikkheslat, 2012) Thus, the present study is aimed at focusing on four aspects: Security and Trust features, Convenience and Ease of use features, Value creation features and Environmental and Social concern features as features of green banking initiatives, with the use of available literature.

**Conceptual Framework.**



Source: Author constructed, 2019

**Table 01:** Variables & Respective Variable Constituents

Reference in the Questionnaire	Variable Constituents	Independent Variable
ST1, ST2	Transparency	Security & Trust Features
ST3, ST4, ST5, ST6	Reliability	
ST7, ST8	Responsiveness	
ST9, ST10	Safety	
ST11	Trust	
ST12	Risk	
ST13, ST14, ST15	Privacy	
EU1, EU2	Speed	Ease of Use Features
EU3, EU4	Congestion	
EU5, EU6, EU7	Accessibility	
EU8, EU9	Personalization	
EU10, EU11, EU12	User friendliness	
EU13, EU14	Empathy	
VC1	365 day banking	Value Creation Features
VC2, VC3	Cost	
VC4, VC5	Value addition	
VC6, VC7, VC8	Updated information	

ES1	Paper consumption	Environmental & Social concern Features	
ES2	Protecting Environment		
ES3	Environmental Regulations		
ES4	Waste Management		
ES5	Energy Management		
ES6, ES7	Prioritizing green projects		
ES8	CSR on greening		
ES9, ES10	Environmental Education		
ES11	Eco-friendliness		
	<b>Variable Constituent</b>		<b>Dependent Variable</b>
CS1, CS2	Green Customer Satisfaction		Overall Customer satisfaction on green Banking
CS3	Performance		
CS4	Success		
CS5	Word of Mouth		
CS6	Cost		
CS7	Continuous Use		
CS8	Complains		

## 1.2 Research Objectives

Main objective of the study is to analyze the impact of customer satisfaction of different features in green banking initiatives, on overall customer satisfaction with green banking in relation to public sector commercial banks in Sri Lanka. Accordingly, Specific objectives are:

- To identify different green banking initiatives and their features
- To analyze the impact of customer satisfaction with different green banking initiatives on overall customer satisfaction with green banking, in relation to public sector commercial banks in Sri Lanka

## Hypotheses

Hypothesis 1

H1: Customer satisfaction with security & trust features of green banking initiatives has a significant impact on overall customer satisfaction with green banking.

Hypothesis 2:

H1: Customer satisfaction with ease of use features of green banking initiatives has a significant impact on overall customer satisfaction with green banking.

Hypothesis 3:

H1: Customer satisfaction with value creation features of green banking initiatives has a significant impact on overall customer satisfaction with green banking

Hypothesis 4:

H1: Customer satisfaction with environmental and social concern features of green banking initiatives has a significant impact on overall customer satisfaction with green banking

## II. Material and Methods

Purpose of present study was to analyze the impact of Security and Trust Features, Ease of Use Features, Value Creation Features and Environmental & social concern features of green banking initiatives on overall customer satisfaction with green banking. Findings and conclusions were generated and analyzed entirely using statistical data and with the help of SPSS and MS Excel. The unit of analysis refers to the level of aggregation of the data collected during the subsequent data analysis stage (Sekaran, 2000, p.132). Here “customers” referred to individuals who had experienced at least a one green banking initiative offered by a public Sector commercial bank. Thus the data were collected from 247 individual customers and the unit of analysis was the individual. Population of interest for the present study was defined as existing customers of public sector commercial banks in Sri Lanka who were users of green banking initiatives (at least one green initiative). The research was conducted in Kurunegala district, North Western Province of Sri Lanka. Non probabilistic Convenience sampling method is used. A questionnaire was used as the research instrument for the present research. The questionnaire was divided in to two sections. Section A consisted with information relating to gender, age, occupation, monthly income, highest educational qualification, frequency of using the bank and level of computer literacy. Section B of the questionnaire was organized to assess the degree of customer satisfaction with different features of green banking initiatives (Individual variables) and to assess the customer satisfaction with green banking as a whole (Dependent Variable). The 7-point likert scale with multiple items was used to measure the independent and dependent variables. The data which were collected from the respondents through the questionnaire were analysed by using SPSS and MS Excel. Data screening was done and Five mean scales were created for statistical analysis; Security & Trust scale, Ease of use scale, Value Creation scale, Environmental & social concern scale and Customer satisfaction scale. Descriptive analysis was conducted relating to respondent’s profiles using frequencies and percentages. To check the reliability of each



mean scale, Cronbach’s Alpha coefficient was used. Multiple regression analysis was conducted to analyze the impact of customer satisfaction with different features of green banking initiatives on overall customer satisfaction with green banking. Under multiple regression analysis, correlations among each variable, Collinearity statistics (Tolerance & VIF), Normality, Linearity, Outliers and Homoscedasticity were evaluated. Regression model was developed and hypothesis testing was done at 0.05 of significance level. Table 01 & 02 below demonstrate data screening for demographic profiles and reliability analysis of five mean scales respectively. The Cronbach’s alpha coefficient for each scale is above .7 and hence the scales can be considered reliable with the sample.

**Table 02: Data Screening for demographic profiles**

Statistics							
	Gender	Age	Occupation	Monthly Income	Highest educational qualification	Frequency of using the bank	Level of Computer Literacy
Valid	247	247	247	247	247	247	247
Missing	0	0	0	0	0	0	0

**Table 03: Reliability Analysis of Scales**

Scale	Cronbach's Alpha	N of Items
Security & Trust Scale	.968	15
Ease of Use Scale	.869	14
Value Creation Scale	.734	8
Environmental & Social Concern Scale	.838	11
Customer Satisfaction Scale	.937	8

### III. Results

#### 3.1 Descriptive Analysis of Study Variables

**Table 04: Average Level of Customer Satisfaction on Features of Green Banking Initiatives in relation to demographic profiles**

Profiles	Categories	Average Level of Customer Satisfaction			
		Security Trust &	Ease of Use	Value Creation	Environmental & Social Concern
Gender	Male	neutral	neutral	Slightly satisfied	Slightly satisfied
	Female	neutral	neutral	Slightly satisfied	neutral
Age	Below 25	neutral	neutral	Slightly satisfied	Slightly satisfied
	25 to 35	neutral	neutral	Slightly satisfied	Slightly satisfied
	35 to 45	neutral	neutral	Slightly satisfied	Slightly satisfied
	45 to 55	dissatisfied	slightly dissatisfied	neutral	neutral
	above 55	slightly dissatisfied	slightly dissatisfied	neutral	neutral
Occupation	Government sector	neutral	neutral	Slightly satisfied	Slightly satisfied
	Private sector	neutral	neutral	Slightly satisfied	Slightly satisfied
	Self employed	slightly dissatisfied	neutral	neutral	neutral
	Retired	slightly dissatisfied	neutral	neutral	neutral
	Student	neutral	slightly satisfied	Slightly satisfied	Slightly satisfied
Monthly Income	Below 25000	neutral	neutral	Slightly satisfied	Slightly satisfied
	25000 to 50000	neutral	neutral	Slightly satisfied	neutral
	50000 to 100000	slightly dissatisfied	neutral	Slightly satisfied	neutral
	100000 to 150000	slightly dissatisfied	neutral	Slightly satisfied	Slightly satisfied
Highest educational qualification	GCE O/L	slightly dissatisfied	neutral	neutral	
	GCE A/L	neutral	neutral	slightly satisfied	neutral
	Graduate	neutral	neutral	slightly satisfied	neutral
	Masters & above	neutral	slightly satisfied	slightly satisfied	slightly satisfied
Level of Computer literacy	High	neutral	slightly satisfied	slightly satisfied	slightly satisfied
	Moderate	neutral	neutral	slightly satisfied	neutral
	Low	slightly dissatisfied	slightly dissatisfied	neutral	neutral
Frequency of using the bank	Daily	slightly dissatisfied	neutral	slightly satisfied	neutral
	Once to thrice a week	neutral	neutral	slightly satisfied	slightly satisfied
	Once in two/three weeks	neutral	neutral	slightly satisfied	neutral

	Once in a month	slightly dissatisfied	neutral	slightly satisfied	neutral
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The table 04 summarises average level of customer satisfaction on each independent variable with respect to categories of selected demographic profiles.

**Table 05: Descriptive Analysis of Study Variables**

Descriptive Statistics					
	N	Minimum	Maximum	Mean	Std. Deviation
Security & Trust Features	247	1.93	6.13	4.11	1.18
Ease of Use Features	247	2.64	7.00	4.59	.90
Value Creation Features	247	3.75	6.50	5.15	.61
Environmental & Social concern Features	247	3.18	6.27	4.96	.74
Customer Satisfaction on Green Banking	247	2.00	6.00	4.71	1.21
Valid N (listwise)	247				

Accordingly, security and trust features have the minimum of 1.93 (extremely dissatisfied), maximum of 6.13 (satisfied) and a mean of 4.11 (neutral) with a 1.18 standard deviation. Ease of use features have the minimum of 2.64 (dissatisfied), maximum of 7.07 (extremely satisfied) and a mean of 4.59 (neutral) with 0.9 of standard deviation. Value creation features have minimum of 3.75 (slightly dissatisfied), maximum of 6.5 (satisfied) and a mean of 5.15 (slightly satisfied) with a 0.6 standard deviation. Environmental & social concern features have minimum of 3.18 (slightly satisfied), maximum of 6.27 (satisfied) and a mean of 4.96 (neutral/ close to slightly satisfied) with a 0.7 standard deviation. The dependent variable, overall customer satisfaction on green banking have minimum of 2 (dissatisfied), maximum of 6 (satisfied) and a mean of 4.7 (neutral) with a 1.2 standard deviation

**Table 05: Customer Satisfaction on Features of Green Banking Initiatives**  
(Frequency of responses as a percentage)

Level of customer satisfaction	Frequency of responses as a percentage (N- 247)			
	Security & Trust Features	Ease of Use Features	Value Creation Features	Environmental & Social Concern Features
Extremely dissatisfied	0.81 %	0.00 %	0.00 %	0.00 %
Dissatisfied	23.48 %	8.10 %	0.00 %	0.00 %
Slightly Dissatisfied	18.22 %	16.60 %	0.40 %	10.93 %
Neutral	27.53 %	31.98 %	36.03 %	29.55 %
Slightly Satisfied	28.34 %	41.30 %	55.06 %	52.23 %
Satisfied	1.62 %	1.62 %	8.50 %	7.29 %
Extremely satisfied	0.00 %	0.40 %	0.00 %	0.00 %

Altogether, percentage frequency of respondents representing neutral level plus dissatisfaction range is higher than the frequency representing satisfaction range for all four independent variables. Very few respondents (within the range of 0% - 8.5%) were satisfied and extremely satisfied in four tested features of green banking initiatives.

**Table 06: Customer Satisfaction Relating to variable constituents of each Independent Variable**

Variable – Features of Green Banking Initiatives	variable constituents	Average customer satisfaction
Security & Trust Features	Trust	Neutral
	Risk	Neutral
	Transparency	Neutral
	Reliability	Neutral
	Responsiveness	Neutral
	Safety	Slightly Dissatisfied
Ease of Use Features	Privacy	Slightly Dissatisfied
	Speed	Slightly Satisfied
	Congestion free	Neutral
	Accessibility	Slightly Satisfied
	Personalization	Neutral
	User-friendliness	Neutral
Value Creation Features	Empathy	Slightly Dissatisfied
	Cost	Slightly Satisfied
	Updated Information	Slightly Satisfied
	Value Addition	Slightly Dissatisfied
Environmental & Social	365 da banking	Slightly Satisfied
	Paper Consumption	Slightly Satisfied

Concern Features	Protecting Environment	Slightly Satisfied
	Environmental Regulations	Slightly Satisfied
	Waste Management	Slightly Satisfied
	Energy Management	Neutral
	Prioritizing	Slightly Satisfied
	CSR on Greening	Neutral
	Environmental Education	Neutral
	Eco-friendliness	Neutral

Table 06 summarizes the average customer satisfaction on each variable constituent of four independent variables. None of the variable constituents reported a level of customer satisfaction higher than “Slightly Satisfied”. Respondents’ average satisfaction had not reached the levels of satisfied and extremely satisfied for any indicator.

### 3.2 Multiple Regression Analysis

Correlations between variables in the research model are provided in the table. Security & Trust features scale, Ease of Use features scale, Value Creation features scale and Environmental & Social features scale correlates significantly with Customer Satisfaction on Green banking scale.

**Table 07:**Correlations between variables in the research model

Correlations						
		Customer Satisfaction on Green Banking	Security & Trust Features	Ease of Use Features	Value Creation Features	Environmental & Social Features
Pearson Correlation	Customer Satisfaction on Green Banking	1.000				
	Security & Trust Features	.789*	1.000			
	Ease of Use Features	.809*	.720*	1.000		
	Value Creation Features	.560*	.374*	.634*	1.000	
	Environmental & Social Features	.722*	.590*	.681*	.544*	1.000

Security & Trust features scale, Ease of Use features scale, Value Creation features scale and Environmental & Social features scale correlates significantly with Customer Satisfaction on Green banking scale

### Collinearity Statistics

Table 8 presents Collinearity Statistics on variables. This analyses the multicollinearity among independent variables. Tolerance indicates how much of the variability of the specified independent is not explained by the other independent variables in the model. Variance Inflation Factor (VIF) is the inverse of tolerance value. Very small tolerance values (less than .10), represents multicollinearity with other variables and VIF values above 10 indicates multicollinearity. These are commonly used cut-off points for determining the presence of multicollinearity (Pallant, 2005). According to the present analysis, tolerance values of each independent variable is not less than .10 and VIF values are far below 10 which indicates that the variables taken have not violated the assumption of multicollinearity.

**Table 8:** Collinearity Statistics

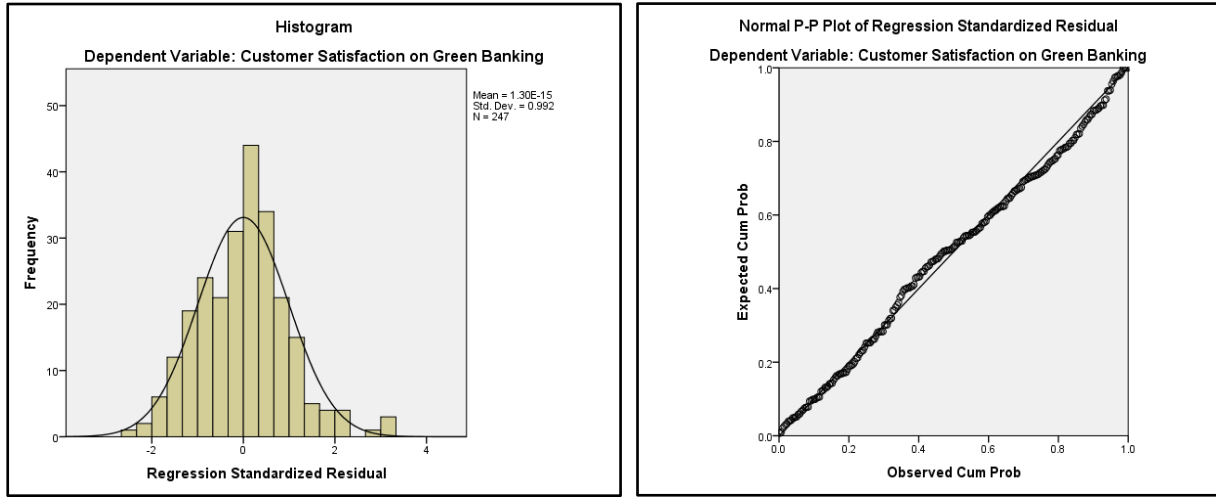
Variables	Collinearity Statistics	
	Tolerance	VIF
Security & Trust Features	.445	2.249
Ease of Use Features	.300	3.333
Value Creation Features	.552	1.813
Environmental & Social Features	.487	2.054

### Evaluation of Normality, Linearity, Outliers and Homoscedasticity

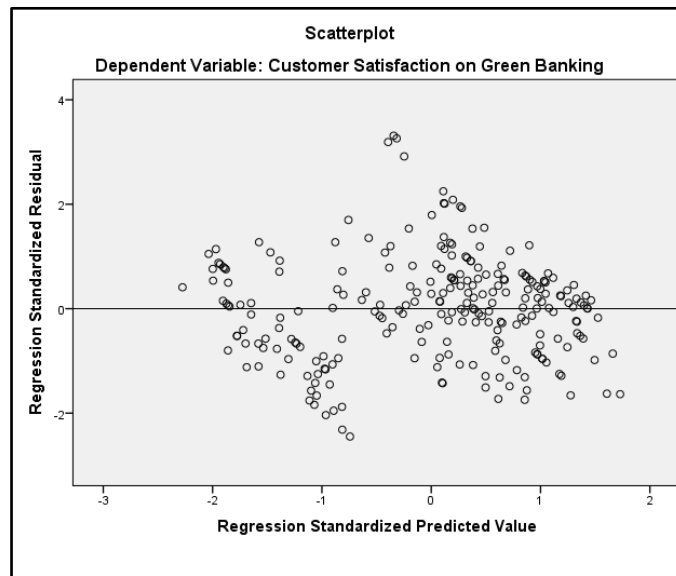
One of the ways that these assumptions can be checked is by inspecting the, residuals histogram (Figure 01), Normal Probability Plot (Figure 02) &Residuals scatterplot (Figure 3) of the regression standardized residuals as a part of the multiple regression analysis (Pallant,2005). The histogram of residuals suggests that the residuals (the error terms) are nearly normally distributed (Figure 01).Figure 02 demonstrates normality of residuals with a normal P-P plot. The plot shows that the points generally follow the normal (diagonal) line with no strong deviations indicating that the residuals (error terms) are normally distributed. This would suggest no major

deviations from normality. Since the plot shows approximately a straight line, it is reasonable to assume that the observed sample comes from a normal distribution and the relationship is approximately linear.

**Figure 01:** Normal Probability Plot of the regression Standardized Residuals **Figure 02:**Normal P-P plot of regression standardized Residuals



**Figure 03:** Residual Scatter plot



According to the plot of the standardized residuals versus the predicted Y' values, it is shown that residuals are randomly dispersed around the horizontal axis with a rough rectangular shape and considerably most of the scores are concentrated in the center. There cannot be seen a systematic pattern for residuals. This approximately suggests that a linear relationship between the outcome variable and the independent variables is reasonable and a linear regression model is acceptable for the data. If the variances of the residuals are same for predicted scores the assumption of homoscedasticity is not violated and with above mentioned characteristics of the scatter plot, it is quite reasonable to conclude that homoscedasticity assumption is (approximately) met. As cited in pallant (2005), Tabachnick and Fidell (2001) defined outliers as cases that have a standardised residual (as displayed in the scatterplot) of more than 3.3 or less than -3.3. Accordingly, a very few cases can be observed within the upper part of the scatter plot as outliers and the reason may be the nature of the study which is qualitative and responses are subjective to each individual.

**Evaluating the Model**

Table 9 presents summary of analysis for the research model. Accordingly, R Square value .780 indicates that 78.0% of the variance in the dependent variable is explained by the research model which includes four independent variables. The adjusted R Square value .776 (77.6%) here has a slight difference with compared to R Square value.

**Table 9: Model Summary**

Model Summary <sup>b</sup>			
Model	R	R Square	Adjusted R Square
1	.883 <sup>a</sup>	.780	.776

Statistical significance of the result is shown in Table 10. The present model reaches statistical significance at 0.01 level of significance (Sig= .000 which means P < .01). Rejection of null hypothesis (Model has no explanatory power), concludes that the model has an explanatory power. Customer satisfaction on: Security & Trust Features of Green Banking Initiatives, Ease of Use Features of Green Banking Initiatives, Value Creation Features of Green Banking Initiatives and Environmental & Social concern Features of Green Banking Initiatives are fit to explain Overall customer satisfaction on green banking

**Table 10: Statistical Significance**

ANOVA <sup>a</sup>		
Model	F	Sig.
1	214.008	.000 <sup>b</sup>

Table 11 summarizes the results generated relating to each independent variable. Each of the independent variables is found to significantly influence overall customer satisfaction on green banking at 5% level of significance (p < .05). From the unstandardized values of regression coefficients, it is observed that all four tested independent variables are creating positive impacts on overall customer satisfaction on green banking. Customer satisfaction with Ease of use features (.419) and Customer satisfaction with Security and trust features (.411) have the maximum unique influences on overall satisfaction level of customers with green banking. The impact of Environmental and social features (.368) is observed as the third important variable while Value creation features had the least unique impact (.182). Constant takes a negative value indicating when customer satisfaction towards all independent variables (features) becomes zero, overall customer satisfaction on green banking has a negative impact (dissatisfaction).

**Table 11: Evaluation of each independent variable**

Variables	Coefficients (B)	Standardized Betas	Sig.
(Constant)	-1.675		.000
Security & Trust Features	.411	.399	.000
Ease of Use Features	.419	.310	.000
Value Creation Features	.182	.092	.025
Environmental & Social Features	.368	.225	.000

**Regression Model**

$$\text{OCSGB} = -1.675 + 0.411 \text{ STF} + 0.419 \text{ EUF} + 0.182 \text{ VCF} + 0.368 \text{ ESF}$$

Where,

OCSGB = Overall Customer Satisfaction on Green Banking

STF = Customer Satisfaction on Security and Trust Features

EUF = Customer Satisfaction on Ease of Use Features

VCF = Customer Satisfaction on Value Creation Features

ESF = Customer Satisfaction on Environmental and Social concern Features

Hypothesis	Result
1: Customer satisfaction with security & trust features of green banking initiatives has a significant impact on overall customer satisfaction with green banking	Accepted
2: Customer satisfaction with ease of use features of green banking initiatives has a significant impact on overall customer satisfaction with green banking	Accepted
3: Customer satisfaction with value creation features of green banking initiatives has a significant impact on overall customer satisfaction with green banking.	Accepted
4: Customer satisfaction with environmental and social concern features of green banking initiatives has a significant impact on overall customer satisfaction with green banking.	Accepted

#### **IV. Discussion**

As per the descriptive analysis it was observed that, Customers are not extremely satisfied, satisfied or even slightly satisfied with each variable constituent of security & trust features. They are neutral regarding trust, transparency, reliability and responsiveness of green initiatives and slightly dissatisfied relating to risk, safety and privacy elements of green initiatives. Customers are not extremely satisfied or satisfied with each variable constituent of ease of use features. They are slightly satisfied on speed and accessibility constituents. They are Neutral regarding congestion free, personalization and user-friendliness constituents of ease of use features and slightly dissatisfied regarding empathy element of ease of use features. Customers are not extremely satisfied or satisfied with each variable constituent of value creation features. They are slightly satisfied on cost, 365 day banking and updated information constituents. Customers are not extremely satisfied or satisfied with each variable constituent of Environmental & Social concern features. They are slightly satisfied on paper consumption, protecting environment, environmental regulations, waste management, and prioritizing on lending constituents. They are neutral regarding energy management, CSR on greening, environmental education and eco-friendliness constituents of Environmental & Social concern features.

According to frequency analysis, majority of respondents are not satisfied with security and trust provided with green banking initiatives. With relation to demographics, being a male or female has not affected to the customer satisfaction towards security and trust features. Higher the age, there observed tendency towards dissatisfaction on security & trust features. Relating to occupation, retired and self-employed customers were dissatisfied while employed and students were neutral on their opinion. Higher the income, tendency towards dissatisfaction on security and trust features was observed. With the increment of educational qualification, it can be observed a slight increase in the level of satisfaction they perceive relating to security & trust features. Those who use the bank most frequently were dissatisfied with security & trust provided, which is to be highlighted. It was observed a slight increase in the level of satisfaction with the increase of computer literacy.

Majority of customers were slightly satisfied and neutral with ease of use features of green banking initiatives. With relation to demographics, being a male or female has not affected to the customer satisfaction towards ease of use features. Higher the age, there observed tendency towards dissatisfaction on ease of use features. Relating to occupation, major differences were not observed, customers were within the range of neutral to slightly satisfaction. Changes in the monthly income does not affected to the satisfaction on ease of use features which is in neutral level. With the increment of educational qualification, it can be observed a slight increase in the level of satisfaction they perceive relating to ease of use features. Frequency of using the bank has not changed the satisfaction here, which was neutral to all categories. It was observed a considerable increase in the level of satisfaction with the increase of computer literacy.

Majority of customers (more than 50%) were slightly satisfied with value creation features of green banking initiatives. With relation to demographics, being a male or female has not affected to the customer satisfaction towards value creation features. Higher the age, there observed tendency towards less satisfaction on value creation features. Relating to occupation, employed and student categories were slightly satisfied while retired and self employed were neutral. Changes in the monthly income do not affected to the satisfaction on value creation features which were in slightly satisfied level. With the increment of educational qualification, it can be observed a slight increase in the level of satisfaction they perceive relating to value creation features. Frequency of using the bank has not changed the satisfaction here, which was slightly satisfied in all categories. It was observed a slight increase in the level of satisfaction with the increase of computer literacy.

Majority of customers (more than 50%) were slightly satisfied with environmental & social concern features of green banking initiatives. With relation to demographics, being a male or female has not affected to the customer satisfaction towards environmental & social concern features. Higher the age, there observed tendency towards less satisfaction on environmental & social concern features. Relating to occupation, Government sector employees, private sector employees & Student category are slightly satisfied with Environmental & Social concern features. Retired and customers who are in the self-employed category are neutral on their satisfaction. Changes in the monthly income do not much affected to the satisfaction on environmental & social concern features which were in approximately in slightly satisfied level. With the increment of educational qualification, it can be observed a considerable increase in the level of satisfaction they perceive relating to environmental & social concern features. Frequency of using the bank has not affect much on satisfaction on environmental & social concern features. It was observed a slight increase in the level of satisfaction with the increase of computer literacy.

According to correlation analysis, Customer satisfaction with security and trust features, ease of use features and environmental and social concern features of green banking initiatives have a strong positive relationship with overall customer satisfaction with green banking. Customer satisfaction with value creation features of green banking initiatives has a moderate positive relationship with overall customer satisfaction with green banking.

As per multiple regression analysis, Customer satisfaction with Security and Trust features of green banking initiatives has a significant positive impact on overall customer satisfaction with green banking. Hence, hypothesis 1 is supported. Accordingly, customer satisfaction with security and trust provided with green banking initiatives (Transparency, Reliability, Responsiveness, Safety, Trust, Risk and Privacy), has a positive impact on overall customer satisfaction on green banking with relation to public sector commercial banks in Sri Lanka.

Customer satisfaction with ease of use features of green banking initiatives has a significant positive impact on overall customer satisfaction with green banking. Hence, hypothesis 2 is supported. Customer satisfaction with ease of use features has the maximum unique influence on overall satisfaction level of customers with green banking. This implies that customer satisfaction with ease of use (Speed, Congestion free, Accessibility, Personalization, User-friendliness, and empathy) provided with green banking initiatives, has a positive impact on overall customer satisfaction on green banking with relation to public sector commercial banks in Sri Lanka.

Customer satisfaction with value creation features of green banking initiatives has a significant positive impact on overall customer satisfaction with green banking. Hence, hypothesis 3 is supported. Customer satisfaction with value creation features has the least unique influence on overall satisfaction level of customers with green banking. Customer satisfaction with value creation (Cost, Updated information, value addition and 365 day banking) provided with green banking initiatives, has a positive impact on overall customer satisfaction on green banking with relation to public sector commercial banks in Sri Lanka.

Customer satisfaction with environmental and social concern features of green banking initiatives has a significant positive impact on overall customer satisfaction with green banking. Hence, hypothesis 4 is supported. Customer satisfaction with environmental and social concern (Paper consumption, Protecting Environment, Environmental Regulations, Waste Management, Energy Management, Prioritize lending, CSR on greening, Environmental education & eco-friendliness) provided with green banking initiatives, has a positive impact on overall customer satisfaction on green banking with relation to public sector commercial banks in Sri Lanka.

## **V. Conclusion**

As a summary, Analysis of the impact of customer satisfaction with different features of green banking initiatives on customer satisfaction with green banking as a whole, revealed that customer satisfaction with ease of use features and security and trust features have the equal maximum impact on overall customer satisfaction with green banking followed by customer satisfaction with environmental and social concern features. Customer satisfaction with value creation features offered by banks through green banking initiatives was found to have the least impact. These findings reveal the importance that customers put relating to different features of green banking initiatives. Bankers can use this information to find the ways and means to increase customer satisfaction with green banking. Variables under ease of use features include; Speed, Congestion free, Accessibility, Personalization, User-friendliness, and empathy. These features make banking with green banking initiatives more convenient and easy to customers. Ease of banking is one of major demands of modern customers whether it is traditional banking or technically driven banking. However, present study has found that customers are not satisfied with the ease of use features of green initiatives. This indicates customers are not satisfied with the feature which is having highest impact in determining overall customer satisfaction on green banking. Thus Bankers are provided with very important information. The second highest equally important factor includes security and trust features offered by green initiatives. Variables under security and trust features include Transparency, Reliability, Responsiveness, Safety, Trust, Risk and Privacy. These elements collectively indicate the risk free operations through green banking which is one of the main determinants of customer satisfaction on green banking. Here also present study reveals that customers are not satisfied with security and trust constituent variables offered by public sector commercial banks in Sri Lanka. Here also bankers are provided with very important information which can be used to understand and take actions to increase customer satisfaction on green banking. It should be emphasized that the third important factor which is identified by the present research is environmental and social concern features. Green banking means environmental friendly banking. Present research reveals that majority of customers are slightly satisfied with variable constituents but none of them were satisfied. Paper consumption, Protecting Environment, Environmental Regulations, Waste Management, Energy Management, Prioritize lending, CSR on greening, Environmental education & eco-friendliness were included as variable elements. Here also bankers are provided with important information that customer satisfaction towards green concern of green initiatives should be increased in order to uplift overall satisfaction on green banking. The least impacting factor which is customer satisfaction on value creation features. The variable constituents under value creation include Cost, Updated information, value addition and 365 day banking. As per the findings majority of customers are slightly satisfied but not satisfied regarding value creation features offered by public sector commercial banks in Sri Lanka. It

should be emphasized that, as an average, customers are not satisfied with all four features of green banking initiatives which are introduced by present research, relating to public sector commercial banks in Sri Lanka.

Further, as mentioned in the research problem, it is observed that elder customers have less satisfaction on features of green banking. Higher the age of the customer, he/she perceives a less satisfaction towards all four features. This is a problem identified by one of major public sector commercial banks in Sri Lanka relating to green/technology driven banking and it is proved with the findings of present study. Another important finding can be stated as higher the level of computer literacy and higher the educational qualification, customers perceive high satisfaction on features of green banking initiatives. These facts are important for bankers when designing, marketing, promoting their green initiatives for different customer groups. Results of hypothesis testing were collectively supported by several empirical studies which were found during the literature review.

Present research has found that there is a significant impact of environmental & social concern features in predicting overall customer satisfaction on green banking. During the literature review, it was revealed that less attention was given by previous studies, to the aspect of environmental and social return of green initiatives, when studying customer satisfaction relating to green banking. Thus the environmental & social concern feature is has added novelty to the present study.

Ability to predict customer expectations and ability to understand customer perception on green banking is crucial for the success of green initiatives introduce by bankers. Findings revealed that, Customer satisfaction on green banking is mostly influenced by ease of use and security and trust features. Therefore, present research recommends bankers to improve ease of use features and security and trust features to attract more customers and to retain existing customers. Environmental and social concern features of green initiatives are also playing a considerable role in predicting customer satisfaction on green banking. Attention towards protecting natural environment should be increased within the general public as a country. Bankers can contribute in this by promoting their green initiatives by emphasizing their value. Bankers are suggested not to focus different segments of customers equally since different clusters of customers have different views on features of green initiatives. Bankers are responsible for building their reputation among customers and for improving customer confidence in green initiatives, since the greening of banking industry is recognized as highly important. Bankers need to understand that green initiatives introduced by banks should not only fulfil ease of use, security and trust, green concern and value creation demands of present and potential customers but also should address the demands of future customers in wider scale since green banking helps economy in achieving sustainable development.

The present study has focused only on one specific geographical area and hence the findings depend on the responses of customers attached to that specific area. Customer attitudes, perceptions, values, beliefs, vary with the geographical areas depending on the cultural, religious and socio economic differences. Therefore, a barrier is identified regarding the generalizability of findings to national level or international level. The research can be extended to wider geographical areas for more accurate findings in future. The study has given special reference to public sector commercial banks and hence the customer sample represents public sector commercial banks. Convenient sampling was used and entire customer population on green banking is not addressed. A further research can be executed targeting both public and private sector banks. The sample size was limited to 247 customers hence the predictions on population is limited by the selected sample. However, further studies are possible with a higher sample which will help to generate more generalizable findings. Since the questionnaire is used as the research instrument, there may be problems relating to the honesty of responses given by respondents. However, this limitation cannot be ignored. Since the green banking is an emerging concept within Sri Lanka, further researches in the area is needed not only with relation to customer satisfaction aspect but also in relation to the aspects of technical, marketing etc. In order to be more successful in the field of green banking, bankers, policy makers, legislators, marketers and other related parties will require accurate and deep understanding of what exactly customers expect and want. Thus there is a need of undertaking more researches in this field since extensive accurate research findings will influence bankers and policy makers in taking accurate decisions and implementing accurate practices.

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