

## Impact of Green Banking Initiatives on Customer Satisfaction: A Conceptual Model of Customer Satisfaction on Green Banking

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**Abstract:** Going green has become a massive trend within the global banking industry. The concept of green banking has motivated banking institutions to introduce paperless, technology driven services while minimizing environmental impact and to perform their role as a corporate citizen on sustainable development. It is important for banks to understand the demand side of green initiatives since the ultimate success or failures of such investments are influenced by perceived satisfaction of the end-user of them: the customer. An impact will be created by customer satisfaction on features of green banking initiatives, on overall customer satisfaction on green banking. Purpose of this study is to propose a conceptual model which perfectly depicts features of green banking initiatives and their relationship with overall customer satisfaction on green banking. Security and Trust Features, Convenience and Ease of use Features, Value Creation Features and Environmental and Social concern features of green banking initiatives have been incorporated into the model as independent variables. Overall customer satisfaction on green banking is supposed to be influenced by these variables.

**Key Words:** Green banking, Features of green initiatives, Customer satisfaction

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### I. Introduction

Green Banking means any form of banking from that economies get environmental benefits (Lalon, 2015). In other words it means encouraging environment friendly practices and reducing carbon foot prints from banking operations. Financial institutions, the key constituent for the development of a country, can improve their service level along with enhanced social responsibility through the practice of green financing (Islam, Yousuf, Hossain and Islam, 2014). Many modern banks, locally and globally, are making dedicated, genuine efforts to promote different forms of technology driven, eco-friendly green banking initiatives in their day-to-day activities (Silva, 2015). Thus, green banking has become a popular concept in today's banking world.

With this increasing trend towards green banking, many scholars have been researching on the concept from various aspects such as green banking practices (Narang, 2015 ; Lalon,2015), impact of green banking on sustainable development (Malliga,2016; Aizawa and Yang,2010; Kohn 2016;), customer awareness on green banking (Sindhu,2015) , customer satisfaction on green banking (Mary,2015) , adoption of green banking (Martins, Oliveira, and Popovic, 2014), Customer attitudes and perception towards green banking (Agrawal, Rastogi and Mehrotra, 2009) and Environmental management through green banking ( Singh, 2015 ; Campigilio,2015).Accordingly, there is no doubt that searching new knowledge regarding various aspects of green banking is in the practice and as well as in the need.

Keeping the concept "green banking" apart for a while, If consider the well-known term "customer satisfaction", Lucas & Spilter's study (as cited in Agrawal, Rastogi & Mehrotra, 2009) stated that understanding of different aspects which create customer satisfaction is always a matter of concern for the banking and financial service industries. Satisfaction becomes the foundation when building and developing a stable, mutually profitable and long term relationships with customers (Ravald and Gronroos, 1996). Dissatisfaction has identified as one of the major reasons why customers switch banks (Manrai and Manrai, 2007). In the studies of Gummesson, 1994; Rust, 1995; Schneider and Brown, 1995; Storbackeat,1994; Zeithamlet,1990 and Rust and Zahoric, 1991 (as cited in Ozatac, Saner and Sen, 2015),it was revealed that customer satisfaction leads to customer retention,which is very much important to survive in modern competitive banking industry. There is no doubt that customer satisfaction has been one of the famous research areas in banking.

Having noted above it is felt important to focus on "customer satisfaction" aspect of "green banking" since both concepts, without any debate, are dynamic and significant within the modern banking era.

## **II. Problem**

Bielski's study (as cited in Martins, Oliveira and Popovic, 2013) revealed that despite of potential benefits offered by innovative technology driven banking initiatives, there has been a limited adoption by customers. In addition, Martins, Oliveira and Popovic, (2013) has found that regardless of recent trend in the use of new technology to banking services, many customers are not comfortable with this new trend and prefer to use the traditional ones.

Mary (2015) analyzed the level of customer awareness and satisfaction towards e-banking services and concluded that customers were not fully aware of different e-banking services and the satisfaction level was only neutral. 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. Similar findings were witnessed from the studies of Sharma, Sarika & Gopal (2015) and Sudhalakshmi & Chinnadorai (2014) where more emphasis were given on customer awareness regarding green banking initiatives.

Customer satisfaction on green banking initiatives has been addressed by several researches, in different dimensions. But there is limited empirical work which simultaneously captures features of green banking initiatives and the impact which is generated by satisfaction on features/attributes of green banking initiatives on general customer satisfaction on green banking. For example, Moorthi and Pradeepa, (2014) identified factors that influence customer satisfaction on green initiatives by giving their special focus to green channel counters. Ling, Fern, Boon and Huat, (2015); Nupur, (2010); Ahanger, (2011); Ibrahim, Taufic, Adzmir and Saharuddin, (2015) ; Zhu, Wymer and Chen, (2002) and Joseph and Stone, (2003) have examined the factors which influence customer satisfaction towards internet banking. Internet banking, mobile banking, e-banking, or online banking can be considered as several dimensions under the scope green banking. Some researchers have concluded that customer awareness and preference 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). Customer awareness on green initiatives is a must, simply since customers will not purchase the product or service about which they are unaware.

Consumer acceptance and adoption of technology driven green banking initiatives, have been addressed by several scholars including Awadhi, (2013); Jeong and Yoon (2013); Nisha and Idrish, (2015); Yu, (2012); Martins, Oliveira and Popovic (2014); Jayawardhane and Foley, (2000); Fernando and Wijenayake, (2015) and Tan and Teo, (2000). In most of their studies they have attempted to understand the determinants of internet banking (technology driven banking) adoption or acceptance. Customer's acceptance of an innovative service offered by an institution and customer's willingness to adopt such initiative are highly important from the institution's perspective since they will lay the foundation for a long term relationship with customers. They have identified several features of technology driven banking initiatives which urge customers to adopt them, but have not studied the impact on such features on customer satisfaction.

From the customer perspective, green initiatives may include more and more avenues to access banking services through online, mobile and other technology driven bases. Further, under the concept of green banking customer may consider the attempts taken by his bank in protecting environment through energy management, waste management, green construction, compliance with environmental regulation and green financing etc. Environmental concern and social return of green initiatives also has been a dimension for researches where which some findings are available. But most of those studies were focused not on the customers' perspective of environmental concern but on the bankers perspective on environmental concern of green banking (Relano,2010; Aizawa and Yang, 2010; Singh, 2015; Dittmer, 2015, Fernando and Fernando, 2016; Kohn, 2012 and Campiglio, 2014).

Most of green banking initiatives including products and services like green deposits, green loans, green mortgages, green credit cards, green checking accounts, green money market operations, online banking, mobile banking or environmental concerns like controlled use of energy, use of solar power, use of recycled paper and waste, environmental friendly investments, conducting awareness programs on green banking are technology driven or backed by new technology. Features/ attributes of such initiatives which influence customer satisfaction may include availability, speed, user friendliness, charges, staff response and convenience (Moorthy and Pradeepa, 2014). Arawal, Rastogi and Mehrotra (2009) had selected three main features as security and trust features, convenience and ease of use features and value proposition features of online banking initiatives. They studied the impact of customer satisfaction with above identified features on the overall satisfaction level of customers with respect to on online banking. Importance attached by customers for each feature was revealed by the analysis and thus the findings can be considered as an important source of information for banks to find ways to uplift customer satisfaction on e-banking (Arawal, Rastogi and Mehrotra , 2009). Thus, it is important to have such analyses which consider customer satisfaction on features of green banking initiatives as independent variables and overall customer satisfaction on green banking initiatives as the dependent variable. But, the available literature does not include such empirical studies.

Lalon (2015) concluded that going green should be the motto of all commercial banks. In order to implement ecologically friendly practices, banks should launch new banking products which promotes the sustainable practices and also needs to restructure their back-office operations(Ginovsky, 2009). As a result the concept of green banking is becoming a new technology driven strategic initiative in Sri Lankan banking industry. Accordingly they are in the process of introducing paperless and information technology oriented products and services to their existing and potential customers while focusing on the sustainable development (Fernando and Fernando, 2016). In the Sustainability Report of Bank of Ceylon (2015), they have mentioned that their products and services are moving towards more technology driven platforms which reduce carbon footprints. Peoples Bank has initiated a paradigm shift to its traditional banking model through the introduction of green banking concepts (Annual Report, 2015, p. 95).

It is obvious that these kinds of decisions need huge investments to implement them. And the ultimate success of such investments depends on the end user of them and most of the time the end user is the customer. Repurchase decision taken by customers is highly important in generating returns from such investments. According to the Sustainability report, 2015 of Bank of Ceylon, they are in the focus of becoming the role modal in managing natural capital. They believe that innovative technology backed services will help them towards paperless banking. Further they consider that competitors are highly engage in green banking initiatives than them and consider it as a risk. Most importantly they have identified that the senior citizens of the country preferring conventional banking products and hence consider it as a challenge as more physical resources are needed. As per the Mid-year population estimates by age group (2013-2015) the department of Census and Statistic, population above the age group of 35-39 is very much high with compared to young generation within the age group of 20-34 years. This gives an insight to the future customer base of the bank. There is a large percentage of rural population with compared to urban population in the districts of the country except Colombo district. Green banking initiatives should satisfy that elderly population as well as the rural population of the country. Likewise, overall customer satisfaction on green banking will be influenced by different reasons, including features of green banking initiatives. The overall impact may motivate customers to repurchase as a result of the satisfaction they perceive or the overall impact may demotivate customers to refuse the service. Thus the impact generated will ultimately affect to the customers' overall satisfaction on green banking.

Thus, there is no doubt that researching on the area of green banking within the context of Sri Lankan banking industry is not a waste of time because the industry is still somewhat new to the concept and in the process of adopting it.

Impact which is created by customer satisfaction on features of green banking initiatives, on overall customer satisfaction of green banking has not been studied.

### **III. Research Objectives**

To address the problem of impact of green banking initiatives on overall green customer satisfaction, the main objective of this study is to introduce a conceptual model which sufficiently explains overall customer satisfaction on green banking with possible predictor variables. This study attempts to develop a conceptual model which includes features of green banking initiatives as independent variables and overall customer satisfaction on green banking as the dependent variable.

Specific objective of the study is to review the available literature on green banking, green banking initiatives, features of green banking initiatives, and customer satisfaction to design a conceptual model, which shows a relationship between overall green customer satisfaction and customer satisfaction on features of green initiatives.

### **IV. Methodology**

To achieve the purpose of developing a conceptual model of customer satisfaction on green banking, this study used a literature review. According to the literature review, relatively few evidences were found in the area of green banking initiatives and customer satisfaction. There were no evidences from the available literature which directly discuss about features of green banking initiatives, which are related with overall customer satisfaction on green banking. Hence, the literature was reviewed on more specific studies on banking, green banking and customer satisfaction such as, determinants of customer satisfaction in banking industry; customer satisfaction on internet banking/ online banking/ e-banking/ mobile banking ; Service quality dimensions and their effect on customer satisfaction; Customer preferences on e-banking; customers' perspective regarding e-banking; customer awareness on green banking; customer acceptance and adoption of technology ;Social return and environmental concern of green banking etc. The available literature were carefully reviewed to identify independent variables; features of green banking initiatives. Based on the literature review, a conceptual model which explains the relationship with features of green banking initiatives and customer satisfaction on green banking was proposed.

## V. Literature Review

### 5.1 Green Banking

It has been justified that ‘the adoption of green banking is basically a cultural shift within a bank and is, by definition, supposed to affect all aspects of doing businesses(Husain 2015, p.9). Organizational activities and outcomes which are harmful to environment have negative effects on the biodiversity and ecosystem integrity of nature. Being corporate citizens, banks have a vital corporate social responsibility to uphold green initiatives and remain “green” (Silva, 2015).

Green banking can be defined as any form of banking which creates environmental benefits (Narang,2015; Lalon, 2015; Silva, 2015 & Sindhu, 2015). Green banking refers to the banking business conducted in such areas and in such a manner that helps the overall reduction external carbon emission and internal carbon foot print (Narang, 2015, p.5). According to Lalon (2015) the concept of green banking has been developed by western countries and initially the concept was aimed at minimizing the paper use at banking since cutting trees cause to reduce green forestation, reduce oxygen and increase carbon-dioxide in globe. Now the concept has become an umbrella term where it refers practices and guidelines which makes bank’s sustainability in economic, environmental and social dimensions (Sindhu,2015). Malliga (2016) has stated that green banking is an emerging concept for environment sustainability which promotes environment friendly practices for sustainable growth and reduces the carbon footprint from the banking industry. 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).

It has been pointed out that for many years banking & financial sector in developing countries like Sri Lanka appeared unconcerned with the responsibility towards the environment in relation to the concept, “greening of industry” ( Conde, Victor, Abainza, Aberto, Reyno & Arlene, 2015). But further they mentioned with the legal and stakeholder concerns, increasing awareness over climate change, environmental degradation and sustainable development, banking & finance sector responded positively on the concept during past few decades. A statement published by the leading public sector bank of Sri Lanka, Bank of Ceylon witnesses the positive response of Sri Lankan banking industry towards “greening of industry”. Annual Report of Bank of Ceylon, (2015) says that “Our entire research and development focus has now transformed. Through transformation process and the infusion of diverse technology platforms, our products and services are moving towards reducing carbon footprint by developing products that use technology more. SmartGen is a good example with its passbook free, mobile and internet driven application. Another is the installation of fortune branches and Smart Zones with its digitalized environment green banking concepts. BOC has also stepped up its focus on responsible lending in all categories. Environmentally driven projects are given preference and incentives, while SMEs are encouraged to inculcate better environmental practices in their business operations including product development, marketing and packaging (p.110).

The concept of green banking has been researching from various aspects such as green banking practices ( Fernando and Fernando, 2016; Narang, 2015; Lalon,2015), impact of green banking on sustainable development (Malliga,2016; Aizawa and Yang,2010; Kohn 2016; Ciobanu, Negrea and Andreica 2014; Lalon 2015; Ginovsky 2009;and Singh 2015), customer awareness on green banking (Sindhu, 2015; Mary,2015; Sarikaand Gopal,2015; and Sudhalakshmi and Chinnadorai, 2014) , customer satisfaction on green banking (Mary,2015; Moorthi and Pradeepa, 2014;Ling, Fern, Boon and Huat,2015; Ibrahlim, Taufic, Adzmir and Saharuddin, 2015 and Kuo, Wu and Deng,2009) , adoption of green banking (Nisha, Idrish and Hossain, 2015; Martins, Oliveira, and Popovic, 2014; Tan and Teo,2000; Fernando and Wijenayake, 2015), Customer attitudes and perception towards green banking (Agrawal, Rastogi and Mehrotra, 2009; Yoon and Linsey, 2012; Nisha,2015; Sohail and Shanmugham,2003) and Environmental management and social returns of green banking ( Singh,2015 and Campigilio,2015).

### 5.2 Green Banking Initiatives in the Modern Banking Industry

Green Banking Initiatives	References
Using online banking – customers access account through internet, instead of physical visit to bank	Malliga & Rewathi 2016; Silva, 2015; Sohail & Shanmugham,2003;Sudhalaksmi & Chinnadorai, 2014; Sharma , Sarika & Gopal, 2012; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015; Lalon, 2015, Narang, 2015; Sindhu, 2015; Rahman and Perves, 2016; Susanto, 2015
Payment of utility bills etc. via online banking	Malliga & Rewathi, 2016; Silva, 2015; Sudhalaksmi & Chinnadorai,2014; Sharma , Sarika & Gopal, 2012; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Sindhu, 2015
Cash/cheque receipt and payment transactions , cheque book requests etc. through ATMs	Silva, 2015;Sharma , Sarika & Gopal, 2012; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015
Telephone banking/ Mobile banking/ SMS banking	Malliga & Rewathi, 2016; Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Sindhu, 2015

Automated clearing systems and SLIPS transfers, which allow paperless transactions	Silva, 2015; Sohail & Shanmugham, 2003; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015
E-mail correspondence , instead of traditional postal correspondence practices	Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015; Sindhu, 2015
E-statements, SMS banking alerts,	Silva, 2015; Sudhalaksmi & Chinnadorai, 2014; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Sindhu, 2015
E-fund transfers	Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015
Digital filling systems with a digital archived and digital index query system	Silva, 2015
Video conferencing instead of meetings	Silva, 2015, Sudhalaksmi & Chinnadorai, 2014;Sindhu, 2015
Green Channel counters and automated cash deposit terminals	Moorthy & Pradeepa, 2014 ; Silva, 2015
Green checking – converting checking accounts to online banking	Sudhalaksmi & Chinnadorai, 2014; Sharma , Sarika & Gopal, 2012;Silva, 2015
Green money market accounts – converting savings accounts to online banking	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014 ; Sindhu, 2015
Green loans/ green financing - special attention to energy efficient projects, promote renewable energy	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014; Sharma , Sarika & Gopal, 2012;Silva, 2015; Narang, 2015 ; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Lalon, 2015; Sindhu, 2015; Kohn, 2015; Rahman and Perves, 2016
Green mortgages – better interest rates and conditions for energy efficient houses/ buildings	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014 ; Sharma , Sarika & Gopal, 2012;Silva, 2015; Kohn, 2015
Green CDs – bonus rates for online banking	Malliga & Rewathi, 2016 ; Sudhalaksmi & Chinnadorai, 2014; Sharma , Sarika & Gopal, 2012;Silva, 2015 ; Sindhu, 2015
Green building – green construction / sustainable building concept for branches	Singh, 2015; Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Sharma , Sarika & Gopal, 2012; Lalon, 2015
Green credit cards with easy settlement schemes	Malliga & Rewathi, 2016; Sudhalaksmi & Chinnadorai, 2014; Silva, 2015 ; Sindhu, 2015
Remote deposits, express cash systems for easy domestic fund transfers	Malliga & Rewathi, 2016; Silva, 2015
Easy online payment channels for dollar deposits	Silva, 2015
Installation of solar power / wind power facilities for branches	Sharma , Sarika & Gopal, 2012;Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Sindhu, 2015
Use of more daylight , instead of electricity& Use power saving equipment	Silva, 2015
Using emails and internal network communication instead of paper based documentation	Sharma , Sarika & Gopal, 2012;Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015 ; Sindhu, 2015
Introducing document management systems	BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015, Silva, 2015
Implement responsible waste management disposal systems	Singh, 2015; Sharma , Sarika & Gopal, 2012;BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015, Silva, 2015, Sindhu, 2015
Promote environmental literacy - Conducting awareness programs / training programs on saving energy	Sudhalaksmi & Chinnadorai, 2014; Sharma , Sarika & Gopal, 2012;Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015; Narang, 2015 ; Kohn, 2015
Social responsibility services – Tree plantation campaigns, maintenance of parks,	Sharma , Sarika & Gopal, 2012;Silva, 2015; BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015; Sindhu, 2015; Rahman and Perves, 2016
Conduct energy audits, review equipment purchases and disposal policies	Singh, 2015; Sharma , Sarika & Gopal, 2012; Sharma , Sarika & Gopal, 2012;Narang, 2015
Employee training on green initiatives	Lalon, 2015, BOC Annual Report, 2015 ; Peoples Bank Annual Report, 2015, Narang, 2015; Rahman and Perves, 2016; Susanto, 2015

### 5.3 Features of Green Banking Initiatives and Customer Satisfaction.

#### 5.3.1 Security and Trust Features / Convenience and Ease of use Features / Value Creation Features of Green Banking Initiatives

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. 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).

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. 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 (Musiiime and Ramadhan, 2011). Wungwanitchakorn's study (as cited in Musiiime 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. Thus there may have similar features/aspects of technology driven products which urge customers to adopt and lead them towards satisfaction. Gao and Owolabi's study (as cited in Musiiime 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) where they used the model as the basis to examine indian customers' attitude, satisfaction and acceptance on e-banking. 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 Pikkarainen, 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 Sudhalakshmi 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 e-banking 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.

### **5.3.2 Features of Green Banking Initiatives, Service Quality and Customer Satisfaction**

In modern economies, service sectors are highly concerned about their quality of service and client satisfaction. It has gained a significant interest in research (Saghier and Nathan, 2013). Lim and Tang's study (as cited in Saghier and Nathan, 2013) provided a glimpse that when it comes to the banking industry, service quality feature influence bankers to offer identical kind of services, due to rapidly increasing competition and innovations within the industry worldwide. The difference between customers' expectation and actual performance of service is defined as service quality (Parasuraman, Zeithaml and Berry, 1985). Nupur's study (as cited in Ling, Fern, Boon and Huat, 2015) has mentioned that service quality dimension has a significant relationship with customer satisfaction. Higher service quality will create highly satisfied customers. Customer satisfaction has become one of most important issue for service organisations and it has significant relationship with service quality (Ozatac, Saner and Sen, 2015). 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's study (as cited in Mosahab, Mahamad and Ramayah, 2010) revealed that SERVQUAL is a long-lasting and reliable scale of service quality and the model can be applied in an extensive range of service domains, including financial institutions. Many researches have used this model in different service territories (Mosahab, Mahamad and Ramayah, 2010).

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, Zeithaml, 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, Zeithaml, Berry, 1988). Reanalysis concluded with five determinants of

service quality; Tangibles, Reliability, Responsiveness, Assurance & Empathy. According to Omar, Ariffin & Ahmad (2015) all five dimensions have significant relationship with customer satisfaction.

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). Yang's and study (as cited in Saghier and Nathan, 2013) mentioned that reliability further consists with accurate fulfillment, accurate record, accurate in billing, accurate calculation of commission and maintain service promise. Parasuramn's study (1985) also provide accuracy in billing, keeping records correctly and performing the service at promised time as features of reliability. Further they mentioned as features of responsiveness as: mailing a transaction slip immediately, calling the customer back quickly and giving prompt service such as setting up appointments quickly. Ananth's study (as cited in Saghier and Nathan, 2013) referred empathy regarding banks as providing individual attention, convenient operating hours, offering personal attention, humble interest and understand customer needs. Ananth's study (as cited in Saghier and Nathan, 2013) referred tangibility regarding banks as modern equipment, facilities, and materials.

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 self-service of customers (Li & Suomi, 2009). The concept of green banking mostly implement by offering electronic services. Green banking is going green via digitalization (BOC,2015). With the paradigm shift towards green banking, the bank hopes to gradually transfer the entire banking process in to a secure electronic platform (Peoples Bank,2015). 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 : 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 e-service ; Jun and Cai's study provided website design, information, ease of use, access, courtesy, responsiveness 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 e-service 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 in Li & 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 dimensional model 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 previously mentioned three independent variables of present study, as their indicators.

### **5.3.3 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).

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 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 Rewathi, (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.

Thus, the present study focuses 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.

## **VI. Research Model**

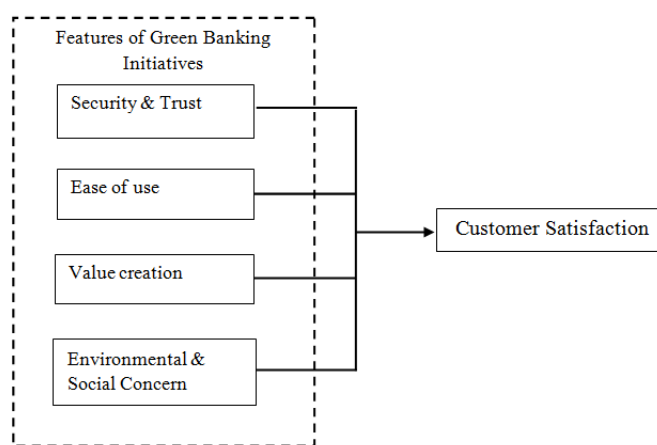
Available literature suggests that there is a massive trend among all service providers including bankers in adopting paperless technologies while protecting environment for future generations. The concept of green banking can be considered as a new technology driven strategic initiative within the Sri Lankan banking industry. With the trend, banks are offering paperless digitalized services and further they are promoting sustainable development through their role as a corporate citizen (Fernando and Fernando, 2016). Bank of Ceylon, (2015) has stated that bank's success depends on their customers' success and through digital transformation they guarantee to deliver the best possible banking experience to their customers.

Based on the available literature, it can be argued that due attention for the collective impact of green banking initiatives on green customer satisfaction was not given. Previous studies have paid considerable attention on more narrow aspects of green banking such as internet banking, mobile banking, technology adoption, awareness of green banking etc. Oliver's study (as cited in Chang and Fong, 2010, p. 2837) mentioned cumulative customer satisfaction as overall evaluation based on the overall experience with the goods and services of a particular firm over time. Available literature not supports for such a study which addressed impact of features of green banking initiatives on cumulative customer satisfaction on green banking. On the other hand, impact of such more specific green initiatives on Customer satisfaction has been addressed by many researches, by giving more attention on technological features of them. Environmental and social features were not identified as underlying features of green initiatives (Chang and Fong, 2010).

This gap in previous findings provides a signal for proposing a study, comprises with independent variables which perfectly represent features of green banking initiatives to analyze the cumulative customer satisfaction on green banking. Based on the above argument, research model depicted in figure 1 is proposed.

**Figure 1: Research Model**

The following research model is developed within the framework of the study. Overall customer satisfaction on green banking is considered as the dependent variable. The model considers “features of green banking initiatives” as its main independent variable and the same is further divided in to four sub independent variables as Security and trust features, ease of use features, value creation features and environmental and social concern features. Thus the model depicts the relationship between features of green banking initiatives and overall customer satisfaction on green banking. Several indicators were identified under each independent variable by considering the available literature on service quality and E-service quality. Transparency, reliability, responsiveness, safety, risk and privacy characteristics of green initiatives will be considered as variable constituents under security and trust features. Speed of transaction, level of congestion, accessibility, personalization, user friendly and empathy characteristics of green banking initiatives will be tested as variable constituents under convenience and ease of use feature. 24\*7 banking (365 day banking), cost of transaction, value added services and updated information characteristics will be considered as variable constituents under value creation features. Characteristics such as: Paper consumption, waste management, energy management, prioritizing of green projects, protection and development of environment, and corporate social responsibilities on greening will be considered as variable indicators of environmental and social concern features. With above mentioned variables and their indicators, the proposed conceptual model will measure the impact of customer satisfaction on features of green banking initiatives, on overall customer satisfaction on green banking.



**Source: Author constructed, 2017**

**VII. Discussion**

As the literature review reveals overall customer satisfaction on green banking will be influenced by features of green banking initiatives, which were categorized under four main titles. Accordingly the model shown in figure 1 proposes four direct positive relationships between customer satisfaction on security and trust features, ease of use features, value creation features, environmental and social concern features of green banking initiatives and customer satisfaction on green banking. It assumes that mentioned four independent variables positively related to customer satisfaction on green banking.

**VIII. Data Analysis**

Primary data will be collected from 500 customers of Bank of Ceylon by using a structured questionnaire. Likert scale with seven points will be used to measure the customer satisfaction on features of green banking initiatives and overall customer satisfaction on green banking. Descriptive statistics and the regression analysis will be used to analyze data with the help of SPSS package which is the most applicable statistical package for social sciences. Findings will be presented in graphical and tabular form together with descriptions.

**IX. Conclusion**

The conceptual model proposed in this paper suggests four categories of features related to green banking initiatives which were depicted from a comprehensive literature review. Security and trust, ease of use and value creation features were backed by mostly accepted research models in the areas of technology adoption, service quality and e-service quality. Environmental and social concern features were most rarely taken in to the concern by previous studies but present study has justified the importance and need of concerning such features when proposing a perfect set of variables which describes features of green initiatives. The

proposed conceptual model will describe the level of impact created by each set of feature, on overall customer satisfaction relating to green banking. Strong understanding of these relationships in the context of customer satisfaction on green banking will apparently be important. Bankers and policy makers will be able to understand the level of customer satisfaction regarding different aspects of green initiatives. Most importantly, they will be able to understand the level of impact generated by each category on overall green customer satisfaction. Hence they can decide necessary actions to be done regarding their green initiatives, in order to uplift customer satisfaction on overall green banking.

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