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Customer awareness on Green banking practices

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ABSTRACT

Green banking is an emerging concept in Pakistan's economy. The purpose of this paper is to identify the progress of green banking practices in the banking sector. It tries to examine the individual's perception and response to the green practices as adopted by the banks. This research is exploratory in nature and attempts to find the association between green banking awareness and customers. Structural Equation Model (SEM) is used as a measurement model and 400 responses were obtained using convenience sampling technique. The result of the study shows that customers are receptive of the change brought on by the banks' green initiative and are willing to adopt them. Education appears to have a significant positive impact on green banking awareness in the selected sample. The model determines that the green banking awareness is dependent on age, gender, occupation of the individual and is influenced by traits of sustainable banking practices.

1. Introduction

In the twenty-first century social and physical sustainability of an economy depends upon going green, adopting environment friendly services, product and procedures. Going green and environment friendly services are concepts that fall under the umbrella of green management. Green management is an evolving concept, under which the organizations tend to watch out the environmental impacts of their project and programs. Organization while providing their core services keep the sustainable development goal of cleaner and healthier environment in consideration (Garg and Sharma 2017; Loknath and Azeem 2017; Ghosh and Chowdhury 2018). All economies want to achieve economic growth and development, which comes at the expense of environment degradation. However economic growth and development does not necessarily mean sustainability. Sustainable development requires the economies to be lenient towards the environment while experiencing economic growth. Economic development and growth of developed economies has a negative impact on environmental quality (AlGore 2007). As, AlGore (2007) points out that environment pollution is a global phenomenon which is the result of both developed and developing economies.

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Environment degradation not only leads to lower productivity but also destruction of the economy as a whole. Environment degradation in terms of climate change is caused by the greenhouse gases that are emitted through anthropogenic activities that constitute use of fossil fuels for energy production. Globally, Sustainable Development Goals (SDGs) and Climate Agreements put emphasis on businesses on going green, which reduces the carbon footprint.

Banking industry is the main financer in the corporate world. Banks do not harm the environment directly but they provide financial services for projects that in return harm the environment. These projects use resources and pollute the environment (Meena 2013; Khan and Fasih 2014). The banking sector in order to stay sustainable has started to incorporate green activities in their services. While in production these projects take resources from the environment, use them and dispose waste directly into the environment without treatment. Therefore, to reduce the environmental impact of such projects the banks try to adopt those approaches that try to benefit the environment. According to Shantha (2019) and Khan et al. (2020) there are two approaches followed by banks for providing sustainable services; first by making the branch green by adopting technologies that are less energy intensive, that includes using environment friendly energy sources. To reduce environment impact, banks provide services that comprises of paper-less banking, promoting online banking and minimizing use of paper. The second approach focuses on indirect impact upon the environment, which incorporates going green through finance and investments. Green finance means to undertake measures to provide loans for environment friendly projects with the intention of promoting pollution treatment facilities and is expected to reduce greenhouse gas emissions. The concept of green banking focuses on four essential elements i.e. economy, environment, society and wellbeing (Maulani 2015; Javeria, Siddiqui, and Rasheed 2019).

In the case of Pakistan, State Bank of Pakistan has issued Green Banking Guidelines (GBG) in 2017 on the advice of Pakistan Environmental Protection Act (PEPA 1997). The purpose of the regulatory guidelines is to make the banking sector environment friendly while keeping the economy strong and climate resilient. According to State Bank of Pakistan (SBP), green banking promotes the concept of eco-friendly practices, reduction of carbon footprint which are in compliance with environmental laws of SDGs. The SBP is expected to play essential role in implementation of these guidelines along with awareness and training sessions (SBP 2017; Bhatti, Muhammad Awan, and Siddiquei 2017; Javeria, Siddiqui, and Rasheed 2019). The green banking guidelines (GBG) will lead to a positive impact on business practices by incorporating environmental consciousness among stakeholders and by making the banks review their policies and practices which might have a negative impact on the environment. These green guidelines run in correspondence to other essential guidelines such as Code of Corporate Governance and Corporate Social Responsibility and Voluntary Guidelines issued by SECP in 2013. Stakeholders effectively influence the adoption of any regulation or policy.

The purpose of this paper is to identify that how much green banking practices have progressed in the Banking Sector, what is the level of consumer and individuals' awareness regarding the green banking practices. The paper tries to examine the individual's perception and response to the green practices as adopted by the banks and to identify that how gender and education are adding towards SDGs.

The paper has been divided into 6 sections. Section 2 gives the theoretical background and model. Section 3 and 4 describes the data and analysis of the data respectively. Section 5 concludes the paper followed by section 6 which talks about limitations and future research.

2. Literature review

Banks play an elemental role in providing financial facilities which are often provided to the firms and corporations which implement developmental activities; because of the developmental activities there might be likelihoods of damage to the environment. To reduce the impact of development goings-on, substantial investment is required to make the energy sector green, which can be achieved by reducing emissions and promoting green finance. Green finance is basically the financial services for environment friendly projects, which means that investment in eco-friendly projects should be done which can be sustainable in the longer run for humans and for the environment (Chowdhury, Datta, and Mohajan 2013). Chowdhury, Datta, and Mohajan (2013) states that, green growth is the primary focus of green finance, where the primary focus of green growth is development of economy while curtailing climate change, energy constraints and financial crisis. In the banking sector, an initiative to save the environment and promote green growth is green financing. In the developed economies, banks are concerned with providing financial services for sustainable and environmentally responsible projects and play an efficient role between economy and the environment (Arumugam and Chirute 2018).

According to Asian Development Bank, (ADB 2019) financial institutions focus on conventional projects, which use old energy technology i.e. fossil fuels, as the renewable technology might have a lower rate of return in the beginning. Therefore, formulation of new policies to focus on the greening the 'business as usual' is essential step in keeping the economy develop sustainably (Khan et al., 2016; ADB 2017; ABD 2019). The creation of separate green banking unit in order to administer the environmental impacts is one of the defined ways to make people aware. Banks which adopt the greening process, are required to prepare a policy, conduct awareness sessions and identify the potential project to promote green growth. The greening process is achieved either by promoting the financing in eco-friendly projects or by directly altering the banking vicinity into sustainable/green building. In the developing economies like Asia, an investment of $26 trillion is needed for infrastructure development between 2016–2030 but if adaptation, mitigation and climate change response are taken in account an additional amount of $22.6 trillion will be needed.

Financial instruments such as financial technologies, green funds, green banks collectively are known as green finance. Green finance means the provision of loans in monetary terms in order to promote green growth and environment friendly development projects in the economy. Greening the finance generally incorporates green banks and green funds to support clean development initiatives. Khan and Szegedi (2019) elaborates the concept of green banking where the banking sector serve as the main economic agent which gives a boost to economic operations. Supporters of this system believe that it can provide better working conditions along with diminishing long-term impact of environment.

In developed countries green banks and bonds are already operational and provide funding for the renewable energy projects (Natural Resources Defense Council, (2016). When the global financial system suffers from revenue shortages, they adopt environmental harmful projects in the quest for more profit, that exacerbates anthropogenic climate change. In order to avoid these environmental crises, finance industry needs to incorporate Sustainable Development Goals in development and investment policies (Sachs et al. 2019; Loknath and Azeem 2017). There is need for the banking sector to implement green policies and practices. Green practices which are applicable in banks constitute of green communication, marketing and investment. Moreover, internet banking, mobile banking, paperless banking, branchless banking along with green ATMs, green marketing, green buildings in which renewable energy (solar energy) is used are few strategies which reduces the in-house environmental impact (Meena 2013; Garg 2015; Khan et al., 2016; Herath and Herath 2020). All these activities and operations help to increase bank's environmental performance and can be a prospect to reduce intensified pollution and environmental damage (Shaumya and Arulrajah 2017). Customers, consumers, community and management influence the adoption of green banking practices in the existing system (Bukhari, Fathyah, and Azlan 2019).

In the adoption of latest technology-oriented services, gender has a significant role. Females support and encourage sustainable and green development. Females are considered to be more inclined towards the usage of mobile banking (Karjaluoto, Riquelme, and Rios 2010). A survey conducted by Glavee-Geo, Shaikh, and Karjaluoto (2017) shows that norms, attitude and behaviour of people are substantial attributes which affects people's decision regarding the use of mobile banking. Similarly, other factors like usefulness, ease of usage and social norms also influence the choice of customers. In the developing countries like India, with the increasing trend of globalization, green development is giving a competitive edge. If a customer is aware of the banking practices and inclined towards the concept of going green, digital and green banking will be promoted. Education and awareness are strongly corelated. Education and environment awareness persuade the customer to use digital green banking practices which results in sustainable development and growth, (Ahuja 2015). According to Noman et al. (2015) Bangladesh banks should go green and take proactive steps for the growth of economy in a sustainable manner. It was identified that changing clients' habits and behaviour can influence the promotion of green practices. Customer habits are directly associated with education and awareness regarding green banking. Similarly, in the case of Pakistan a developing economy facing environmental risks, banking sector may contribute to reduce environmental issues. Green strategies need to be implemented but customers awareness and education plays and important role (Khan and Szegedi 2019).

Developing countries like India, Bangladesh and Pakistan are on their way to adopt green policies and guidelines related to banking sector. The increasing pressure from the stakeholders and profitability sometimes act as hurdles in adoption of green banking policies, as in the case of Bangladesh, but their on-going policies and practices are much efficient as compared to India and Pakistan. Environment friendly initiatives like easy loans, resource conservation and research are being practiced in international banks already whereas, banks like SBI and ICICI in India are following the same path (Tara, Singh, and Kumar 2015). The banking sector of Pakistan faces risk due to behavioural factors which include lack of awareness, lack of environmental literacy, poor

infrastructure and lack of funds (Ghosh, Ghosh, and Chowdhury 2018; Javeria, Siddiqui, and Rasheed 2019). Therefore, an attempt is made through this research to examine the level of awareness among bank customers in Pakistan so that their willingness to adopt the green practices can be identified and to implement any policy, if required.

2.1. Theoretical model

Figure 1 illustrates the theoretical framework associated with Green banking Awareness with Green Investment, E-banking and Sustainable Banking. The observed variables that can be seen in the figure.

2.1.1. Econometric model
The regression equation the paper will be using is.

$$\text{Green Banking Awareness} = \beta_0 + \beta_1 \, E \, \text{Banking}_i + \beta_2 \text{Green Invetsment}_i$$
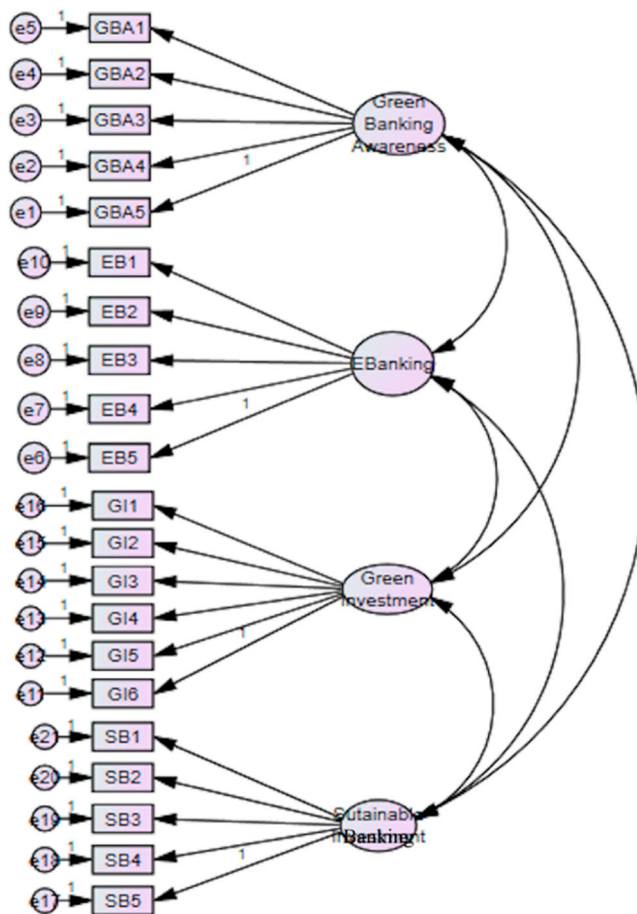$$+ \beta_3 \text{Sutainable Banking}_i \qquad (1)$$

Figure 1. Theoretical Framework.

2.2. Hypotheses

In light of the literature review, following hypotheses have been developed.

H1: Individual adoption of E-banking services show positive association with Green Banking Awareness

H2: Individual awareness of green investment by banks show positive association with Green Banking Awareness

H3: Individual awareness of sustainable banking by banks show positive association with Green Banking Awareness

2.3. Objectives

This research is exploratory in nature. The paper tries to find the association between customers and the green banking awareness. It is expected that results of the study will confirm that green banking is influenced by gender and traits of sustainable banking practices. The intend to study the direction of these predictions. Our research objectives hence are:

1. To find out that people in Pakistan are aware of Green Banking.
2. To find out that gender has an impact on green banking.
3. To validate the instruments used for measuring E-banking, Sustainable banking and Green Investment.
4. To find how much each construct explains the variation in the variables.

3. Methodology

3.1. Data sample and variables

The sample for the paper was done using convenience sampling technique and the survey was constructed on Google docs. Survey link was made viral by sending emails to various people belonging to Insurance Sector, Banking Sector, Academics and General Public which included students and house wives. This sampling technique was used to avoid time delays and ease of data entry. Total 400 responses were received due to time constraint. The survey was made online for 4 weeks. The slow response of the individuals due to understanding of green banking awareness restricted our time and sample size. The variables on which data was measured are shown in Table 1. GBA is dependent where EB, GI and SB are independent variables.

Table 1. Categories of study variables.

Variable Measurement
Green Banking Awareness (GBA)
E Banking (EB)
Green Investment (GI)
Sustainable Banking (SB)

3.2. Descriptive analysis

The following Table 2 shows the demographic information and descriptive analysis for the sample of green banking awareness. In the sample of 400 individuals, 51 percent of the sample survey is from the individuals in the age bracket of 26–30 and 30% percent of the survey is from18 to 25 age. This shows that young individuals were keen to take part in the survey. The education level of the surveyed sample is high, as 60% of the sample has a master's degree and 37% has bachelor's degree. 65% of the individuals are full time employees that indicates they are concerned with efficiency. The female sample in the survey is more than 50%.

3.3. Dependent variable

3.3.1. Green banking awareness

Table 3 shows results of dependent variable 'Green Banking Awareness' which tries to measure that how much of an individual is aware of green banking practices initiated by their respective banks, their knowledge and satisfaction. In the sample 77% are aware of the concept of environmentalism and green products, 69% of the sample population indicates that green banking is clearly a new concept for them and they are unaware about it. The green banking practices adopted in the bank are not communicated to the customers, as nearly 85% people are unacquainted of green practices which are followed in their banks.

3.3.2. Independent variables:

3.3.2.1. E banking. Table 4 shows the data for the first independent variable 'E Banking' which is one of the key steps to move towards green banking by cutting off paper and introducing internet banking. In this set of question individual are able to identity whether they prefer digital communication and their satisfaction. Interestingly, 78% of the individuals prefer to use paperless and e-banking. Around 80% of the people favour moving towards

Table 2. Demographic characteristics of the study.

Variables	Description	Frequency	Percentage
Age	18–25	123	30.8
	26–35	205	51.2
	36–45	37	9.3
	More than 46	35	35
Education	Intermediate	3	0.8
	Bachelors	149	37.3
	Masters	238	59.5
	PhD	7	1.8
	MPhil	1	0.3
	CFA	1	0.3
	ACCA	1	0.3
Occupation	Full Time	259	64.5
	Part Time	30	7.5
	Own Business	29	7.2
	Free lancer	14	3.5
	Student	52	13
	House wife	16	4
Gender	Male	152	38
	Female	248	62

Table 3. Characteristics of Green Banking Awareness.

Measured variables (items)	Description	Frequency	Percentage
Green Banking Awareness			
I am an environment conscious person.	Agree	208	52
	Disagree	15	3.8
	Neutral	63	15.8
	Strongly Agree	101	25.3
	Strongly Disagree	13	4.53
I am aware of the concept of green products.	Agree	213	53.3
	Disagree	18	4.5
	Neutral	72	18
	Strongly Agree	93	23.3
	Strongly Disagree	4	1
I have knowledge about green banking.	Agree	8	22
	Disagree	133	33.3
	Neutral	108	27
	Strongly Agree	25	8.8
	Strongly Disagree	26	9
My bank provides satisfactory services.	Agree	216	54
	Disagree	11	2.8
	Neutral	103	25.8
	Strongly Agree	67	16.8
	Strongly Disagree	3	8
I am aware of green banking practices being followed in my bank.	Agree	43	10.8
	Disagree	154	38.5
	Neutral	127	31.8
	Strongly Agree	11	2.8
	Strongly Disagree	65	16.3

Table 4. Characteristics of E Banking

Measured variables (items)	Description	Frequency	Percentage
E banking			
I prefer paperless banking.	Agree	190	47.5
	Disagree	14	3.5
	Neutral	71	17.8
	Strongly Agree	119	29.8
	Strongly Disagree	6	1.5
I prefer e-banking/online banking.	Agree	171	42.8
	Disagree	9	2.3
	Neutral	60	15
	Strongly Agree	155	35
	Strongly Disagree	5	2
I like to use mobile banking/internet banking.	Agree	189	47.3
	Disagree	2	5
	Neutral	61	15.3
	Strongly Agree	140	35
	Strongly Disagree	8	2
I like to use e-statements instead of paper statements which are dispatched to my address monthly.	Agree	179	44.8
	Disagree	14	3.5
	Neutral	47	11.8
	Strongly Agree	154	38.5
	Strongly Disagree	6	1.5
I like to use digital receipts after transactions instead of paper receipts on ATMs.	Agree	174	43.5
	Disagree	28	7
	Neutral	48	12
	Strongly Agree	137	34.3
	Strongly Disagree	13	3.3

digital receipts and e- statements, which is a good indicator for banks to plan out cutting their paper consumption. This variable indicates the consumers of Banking sector are aware that how much paper is utilized in paper record of banking process.

3.3.2.2. Green Investment. Table 5 shows the result of second independent variable 'Green Investment' which basically constitutes the facilities provided by banks in adopting green practices. The facilities that the bank is providing are coming from sustainable and recycled material. 65% of the consumers never heard of any green facility provided by their banks such as green loans, mortgages etc. and have never used any such facility. Although, 85% of sample urges banks to promote digital and e banking along with green facilities. 95% of the people wanted their banks to be environment friendly where 80% of the individuals agree that their credit & debit cards should be made of recycled material, promoting the concept of 'going green'.

3.3.2.3. Sustainable Banking. In Table 6 results of the third independent variable 'Sustainable Banking' are shown. Sustainable banking tries to measure the environment

Table 5. Characteristics of Green Investment.

Measured variables (items)	Description	Frequency	Percentage
Green Investment			
I think internet banking and mobile banking are less environment damaging.	Agree	170	42.5
	Disagree	7	1.8
	Neutral	75	18.8
	Strongly Agree	145	36.3
	Strongly Disagree	3	0.8
I have heard of green facilities (green loans, green mortgages, green investments) provided by your bank.	Agree	50	12.5
	Disagree	175	43.8
	Neutral	86	21.5
	Strongly Agree	9	2.3
	Strongly Disagree	80	20
I have used green facility (green loans, green mortgages, green investments) provided by my bank.	Agree	28	7
	Disagree	182	45.5
	Neutral	60	15
	Strongly Agree	5	1.3
	Strongly Disagree	125	21.3
I prefer that reduction of paper wastage through e-statements and digital receipts should be implemented in my bank.	Agree	170	42.5
	Disagree	4	1
	Neutral	52	13
	Strongly Agree	174	43.5
	Strongly Disagree	0	0
I prefer that Debit and Credit card should be made from recycled material by my bank.	Agree	165	41.3
	Disagree	15	3.8
	Neutral	61	15.3
	Strongly Agree	153	38.3
	Strongly Disagree	6	1.5
I prefer my bank to be environment friendly.	Agree	179	44.8
	Disagree	0	0
	Neutral	21	5.3
	Strongly Agree	200	50
	Strongly Disagree	0	0

friendly energy adoption by the banks and to be part of the SDG goals. 50% the respondents prefer that the bank should make branches green by efficient recycling and energy conservation, no one negated the statement. Whereas, 84% of the respondents did not ever see or know about any advertisement of green products or services by their banks and about 60% of the sample population wants their banks to adopt sustainable practices like solar ATMs. However, 55% sample population is willing to switch to a bank which is more environment friendly in the future.

3.4. Instrumentation

Table 7 gives a brief look into the Cronbach alpha and item loading of the variables.

3.5. Structural Equation modelling

The Structural Equation Model (SEM) is used for the measurement model and to see whether the hypotheses which were proposed in the literature are significant for the given sample. The model determines that the green banking awareness is dependent on age, gender, occupation of the individual as it point to the time management and trust in the current banking system. The model also identifies that E-banking, green investment and sustainable banking tools effect the green banking awareness. There were no missing values in the data.

Table 6. Characteristics of Sustainable Banking.

Measured variables (items)	Description	Frequency	Percentage
Sustainable Banking			
I would prefer my bank to make the branches green by efficient recycling and energy conservation.	Agree	198	49.5
	Disagree	0	0
	Neutral	33	8.3
	Strongly Agree	168	42
	Strongly Disagree	0	0
I would prefer to pay my bank to follow sustainable practices, i.e. solar ATMs.	Agree	135	33.8
	Disagree	32	8
	Neutral	91	22.8
	Strongly Agree	105	26.3
	Strongly Disagree	37	9.3
I have seen my bank advertising or promoting green banking practices.	Agree	54	13.5
	Disagree	142	35.5
	Neutral	90	22.5
	Strongly Agree	15	3
	Strongly Disagree	99	24.8
I would switch my bank just because it is not a green bank.	Agree	75	18.8
	Disagree	112	28
	Neutral	165	41.3
	Strongly Agree	24	6
	Strongly Disagree	24	6
I would switch to a bank which is more environment friendly as a better option.	Agree	171	42.8
	Disagree	39	9.8
	Neutral	129	32.3
	Strongly Agree	47	11.8
	Strongly Disagree	14	3.5

Table 7. Factor Loading.

Latent variables (Cronbach's Alpha)	Measured variables (items)	Item loading
Green Banking Awareness (0.3645)		
GBA 1	I am an environment conscious person	0.2330
GBA 2	I am aware of the concept of green products	0.2094
GBA 3	I have knowledge about green banking.	0.3752
GBA 4	My bank provides satisfactory services.	0.4063
GBA 5	I am aware of green banking practices being followed in my bank.	0.3174
E banking (0.888)		
EB 1	I prefer paperless banking.	0.9046
EB 2	I prefer e-banking/online banking.	0.7869
EB 3	I like to use mobile banking/internet banking.	0.7616
EB 4	I like to use e-statements instead of paper statements which are dispatched to my address monthly.	0.7634
EB 5	I like to use digital receipts after transactions instead of paper receipts on ATMs.	0.7984
Green Investment (0.904)		
GI 1	I think internet banking and mobile banking are less environment damaging.	0.9076
GI 2	I have heard of green facilities (green loans, green mortgages, green investments) provided by your bank.	0.7727
GI 3	I have used green facility (green loans, green mortgages, green investments) provided by my bank.	0.7749
GI 4	I prefer that reduction of paper wastage through e-statements and digital receipts should be implemented in my bank.	0.7597
GI 5	I prefer that Debit and Credit card should be made from recycled material by my bank.	0.7855
GI 6	I prefer my bank to be environment friendly.	0.7849
Sustainable Banking (0.661)		
SB 1	I would prefer my bank to make the branches green by efficient recycling and energy conservation.	0.5874
SB 2	I would prefer to pay my bank to follow sustainable practices, i.e. solar ATMs.	0.4915
SB 3	I have seen my bank advertising or promoting green banking practices.	0.7002
SB 4	I would switch my bank just because it is not a green bank.	0.4113
SB 5	I would switch to a bank which is more environment friendly as a better option.	0.4415

3.6. Confirmatory Factor Analysis

In the CFA analysis seach construct item was loaded and only those were retained which showed significant relationship. The model showed no relationship between the error term of the items. Table 8 gives the model fit of the constructs to our model. It is recommended by Hu and Bentler (1999) to use a mix of these values since each one has its own strengths and weaknesses.

4. Results

4.1. Measurement model

The three-stage developed by Shah and Goldstein (2006) was used to check the reliability, uni-dimentionality and validity of the data.

4.1.1. Reliability testing

The average variance was extracted to test for reliability of the construct which are important for the test of construct reliability. The usual acceptable levels of are for AVE to be greater than 0.5 and for composite reliability to be more than 0.7 (Salman,

Table 8. Confirmatory Factor Analysis– A model fit summary.

Index	Recommended Value	Observed Value
Chi-square/df	It should be between 1 and 3 (Segars and Grover 1998)	2.440
NFI		0.514
GFI	It should be > than 0.8 (Segars and Grover 1998)	0.701
CFI		0.538
TLI		0.470
RMSEA	It should be < than 0.10 (Hair et al. 2006)	0.079

Khan, and Saif Aly Gul 2014). The given Table 9 shows the reliability values for each construct.

4.1.2. Uni- dimensionality testing
The uni-dimensionality test is done to determine the authenticity of the used item scales for the measurement of the constructs. The results showed no uni-dimensionality. (Chi-square p value = 0.000, X2/df = 2.440, GFI=0.701, NFI=0.514, TLI=0.470 and RMSEA = 0.145).

4.1.3. Validity testing
The validity of the of the results are analyzed by using discriminate validity, which is defined as the extent to which the constructs are divergent to each other (John and Reve, 1982). The convergent reliability is equated with average shared variance (which is the average of squared correlation of all the constructs). The value of convergent reliability needs to be less than AVE for the results to hold.

4.2. Correlational Analysis

When the validity and reliability for all the constructs was identified, all the constructs were examined for the correlational analysis. Correlation between the independent and dependent variables can be seen in Table 10. Green Investment is positively correlated to Green banking awareness and significant at 0.05, which indicates that investing into the idea of green banking only happens when you are aware what green banking is. E banking is part of green investment and sustainable banking that is why it shows significant relationship.

4.3. Result Estimations

Given is the summary of SEM in which hypotheses were tested based on, one on one regression. Table 11 shows regression estimated for the whole sample inclusive of men and women. There is a positive and significant relation between Green Banking

Table 9. Reliability of Constructs.

Constructs	Convergent Reliability (AVE)	Construct Reliability	Discriminant Validity
Green Banking Awareness	0.101	0.3645	0.013694 (HOLDS)
E Banking	0.613	0.888	0.073613667 (HOLDS)
Green Investment	0.61	0.904	0.081052333 (HOLDS)
Sustainable Banking	0.288	0.661	0.046934667 (HOLDS)

Table 10. Correlational Analysis.

Variables	GBA	EB	GI	SB
GBA	1.000			
EB	0.109	1.000		
GI	0.151**	0.384***	1.000	
SB	0.080	0.248***	0.270***	1.000

*** p<0.01, ** p<0.05, * p<0.1

Awareness and green investment and sustainable banking at 99% confidence interval. While doing the one-on-one relation E banking come out to significantly and positively related to green banking awareness at 99% confidence interval. Same results appear for green investment and sustainable banking. When the model considers the control variables like age gender and occupation it is observed that education significantly positively related to green banking awareness. Age and gender do not influence the dependent variable.

4.3.1. Result Estimations for women sample

Table 12 shows the regression analysis for female sample only. The purpose behind the model was to see whether that the female population in Pakistan is more concerned about and aware of green banking. The above table clearly shows that green investment, E banking and sustainable banking are positively and significantly related to green banking awareness. The interesting point of the result is the for female sample education does not have significant impact on being aware about the green banking practices. Age and occupation have no impact to results.

4.3.2. Result Estimations for men sample

The regression estimates for men sample are in Table 13, which indicates that green investment, E banking and sustainable banking are significant and positively related. In the

Table 11. Hypothesis testing.

VARIABLES	(1) GBA	(2) GBA	(3) GBA	(4) GBA	(5) GBA
EB	0.0481	0.197***			0.0485
	(0.0390)	(0.0372)			(0.0396)
GI	0.432***		0.542***		0.392***
	(0.0687)		(0.0576)		(0.0708)
SB	0.115***			0.259***	0.123***
	(0.0436)			(0.0416)	(0.0441)
Gender					0.0580
					(0.0541)
Age					0.0150
					(0.0301)
Education					0.0970**
					(0.0403)
Occupation					-0.00740
					(0.0173)
Constant	1.287***	2.600***	1.480***	2.540***	1.067***
	(0.215)	(0.154)	(0.206)	(0.141)	(0.255)
Observations	400	400	400	400	400
R-squared	0.201	0.066	0.182	0.089	0.214

Standard errors in parentheses
*** p<0.01, ** p<0.05, * p<0.1

Table 12. Hypothesis testing, Female Sample.

VARIABLES	(1) GBA	(2) GBA	(3) GBA	(4) GBA	(5) GBA
EB	-0.00270	-0.00799	0.133***		
	(0.0492)	(0.0504)	(0.0486)		
GI	0.301***	0.286***		0.459***	
	(0.0867)	(0.0877)		(0.0728)	
SB	0.236***	0.231***			0.349***
	(0.0616)	(0.0619)			(0.0540)
Age		-0.0340			
		(0.0444)			
Education		0.0482			
		(0.0501)			
Occupation		-0.00881			
		(0.0188)			
Constant	1.528***	1.586***	2.826***	1.758***	2.188***
	(0.268)	(0.313)	(0.197)	(0.255)	(0.184)
Observations	248	248	248	248	248
R-squared	0.189	0.196	0.030	0.139	0.145

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

model estimate with controls it is seen that for men, E banking and green investment are significantly positively related where the sustainable banking is not significant. Comparing Eq in Table 13 with Eqn 2 of Table 12 we see that for men education does play a positive significant role for green banking awareness whereas for women it does not.

5. Discussion & conclusion

The result of the study shows that the individuals in Pakistan are aware of the green practices adopted by the banks. The customers are receptive of the change brought on by the banks' green initiative and are willing to adopt them. The results indicate that people are aware of the environmental consequence of conventional banking practices and for that reason they are keen to adopt and change their attitude. The paper estimation shows that

Table 13. Hypothesis testing, Male Sample.

VARIABLES	(1) GBA	(2) GBA	(3) GBA	(4) GBA	(5) GBA
EB	0.103	0.129*	0.260***		
	(0.0639)	(0.0657)	(0.0595)		
GI	0.564***	0.504***		0.664***	
	(0.118)	(0.118)		(0.0996)	
SB	0.0158	0.0412			0.174***
	(0.0631)	(0.0628)			(0.0643)
Age		0.0619			
		(0.0432)			
Education		0.147**			
		(0.0671)			
Occupation		0.0377			
		(0.0668)			
Constant	0.927**	0.288	2.382***	1.050***	2.904***
	(0.375)	(0.461)	(0.256)	(0.367)	(0.218)
Observations	152	152	152	152	152
R-squared	0.243	0.286	0.113	0.228	0.047

Standard errors in parentheses
*** $p<0.01$, ** $p<0.05$, * $p<0.1$

the adoption of the e banking services provided by the banks is related individual awareness about what constitute green banking. As the literature points out, education is one of the main factors in creating environment awareness. Education appears to have a significant positive impact on green banking awareness in the selected sample. The paper looks at the individual gender perception of the sustainability, it is clearly seen through the results that for female participants education is not significant implying that women are aware regarding the importance of environment regardless of getting higher education. Whereas, in the male sample awareness of green initiative by the banks is associated with higher education. The sample of both men and women, banks investment in green facilities and sustainable green practices are positively significantly related to the individual green banking awareness. Furthermore, the females in our society are more mindful of the services of banks that constitute green investment and all methods adopted by banks to become sustainable. On the other hand, the sample constituting male participants, has knowledge regarding e banking services by their respective banks. The male respondents have knowledge of environment friendly investments made by banks.

6. Limitations and future research

Following limitation are faced by the paper:

1) The data was not collected based on locality, the data is mainly from Lahore Pakistan.
2) The data sample is only 400 individuals; it could be increased to see whether such results would hold true for larger sample size and across various cities.
3) The survey was not extended beyond 4 weeks as the people are not aware of green banking initiative. They are also not aware whether such practices have been adopted by banks to be part of SBP green banking guidelines and Sustainable Development Goals.

It would be interesting to interrogate how these constricts of the variables will hold true with respect to localities. Increased sample size may also give greater insight into these results. Future research on implementation status of green banking policies can be conducted and its effectiveness can be measured.

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