Green Banking Initiatives: A study on Bankers' Consciousness

Dr. Tejinder Pal Singh Brar Associate Professor, CGC Landran

Abstract - Banking and financial sector has great influence on the economic growth country. Environmental issues gain greater attention these days that results in building of pressure all industries, including financial institutions to adopt, implement and provide awareness about green initiatives. Banking sector plays a decisive role in encouraging environmentally sustainable and socially responsible ventures. To support the reduction of carbon emissions, banking industry should finance green technologies projects. Electronic banking is not only responsible behind economic intensification but it also plays vital role in environmental protection. So it is essential to take into consideration bankers view point appropriate utilization of green technologies. This research article tries to highlight the green banking aspects with respect to selected Indian public and foreign sector banks.

Keywords - E-Banking, Security, Trust

I. INTRODUCTION

All over the world, financial institutions are concerned about the overall impact of depletion of environment; the main impact of climate change on banks is in fact not direct i.e. banking sector are affected to the extent that their clients' activities and economic activities in general are constrained, **IDRBT** (2013). Banks adopted various electronic channels in order to deliver services to different types of customers. According to Deputy Governor of RBI, banks themselves can adopt green practices and thereby lead the way in this global initiative and particularly emphasized on the implementation of 3R's i.e. Reduce, Reuse and Recycle IDRBT (2013). Drastic change in weather is the most problematical issue the world is facing. Across the globe there have been continuous endeavors to quantify and diminish the risk of climate change caused by human activities. Banks are considered environment friendly and do not impact the environment greatly through their own 'internal' operations but the 'external' impact on the environment through their customers activities is substantial.

Green Banking refers to the banking business conducted in selected area and this approach helps in overall reduction of carbon footprint. Banking sector can play an intermediary role between economic development and environmental protection, for promoting environmentally sustainable and socially responsible investment. According to **Meena (2013)**

banking is never considered a polluting industry but the present scale of banking operations have considerably increased the carbon footprint of banks due to their massive use of energy (lighting, air conditioning, electronic/electrical equipments, IT devices, etc), high paper wastage, lack of green buildings, etc. Therefore, banks should adopt technology, process and products which result in substantial reduction of their carbon footprint as well as develop a sustainable business. To aid the reduction of external carbon emission, banks should finance green technology and pollution reducing projects.

Jeucken (2005) describes the role of banking as intermediary actor in the economical systems due to its important function in fulfillment of transforming money by size, duration, place and/or time, and by risk. While Meena (2013) considered banks as environment friendly that does not impact the environment through their own 'internal' operations. The banking sector is one of the major sources of financing industrial projects like cement, chemicals, steel, paper, fertilizers, etc., which cause maximum carbon emission. According to Meena (2013) green banking has number of benefits like it helps in avoiding paper work and creates awareness to business people about environment. Similarly, Bahl (2012) suggests banks should finance green technologies in order to reduce carbon emissions. Turk et al. (2003) also supported this view but according to authors these potential financial savings might be countered by (additional) processes and ICT requirements. Perumal and Shanmugam (2004) shows costs per transfer by the internet are far cheaper than with traditional way of banking.

According to [Sakalauskas et al., (2009) and Rautenstrauch, C. (1999)] E-banking sustainability is closely linked with environmental and social factors. Online banking channels are considered as low cost anywhere and anytime channels because these channels not only helps in reducing carbon emissions, but also reduces the amount of paper-based documents and banking office space used. In this way, E-banking not only helps in saving environment and but also results in sustainable development. Rajesh and Dileep (2014) define "Green" as social, ethical and environmental dimensions and green banking is concerned with socio economic and environmental factors with intend to protect the environment and preserve natural resources. According to Barnes and Corbitt (2003), banks are trying to offer their customers not just anytime banking but anywhere and anytime

banking through appropriate application of developments in the information technology area. Banking business has been changed across the globe; likewise Indian banking industry also grown by 7.5 times over the last decade. According to Reserve Bank of India data, the volume of online banking transactions has risen from around Rs 1,819 crore in 2011–12 to approximately Rs 1,01,851 crore in 2014-15. Role of IT has been instrumental in the global expansion of Indian banks. According to **Sreelatha and Sekhar (2012)**, 97.8 percent public sector banks are fully computerized at end of March,

2010 whereas all branches of State Bank are completely computerized. As per the status provided by "Internetlivestats", the total Internet users in India are estimated by 2016 is 350,000,000. India has been identified as the fastest growing online market during 2014-2015, with a 41% rise in the internet usage. These benefits in fact help customers in adoption of green banking technologies. Trends in figure 1.1 shows upward growth in ECS, credit and debit card and NEFT and RTGS based transactions.

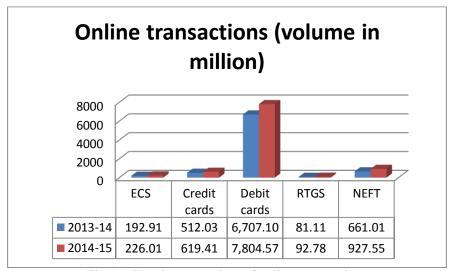


Fig.1.1: Yearly comparison of online transactions Source: RBI (2015)

As far as international scenario is concerned, **Bairagi and Nahid** (2011) predicted rise in the total number of US online bill payment from 48 million in 2009 to over 80 million in 2016. **Yongo** (2013) found increase in mobile-only banking while decline PC-only banking over the past year. The basic on-line activity is paying bills besides this E-shopping is another major online service [**RBI** (2001)]. A study across conducted by **Comscore** (2011) shows increase in visits to online banking sites by Southeast Asian customers like in Malaysia, Hong Kong and Indonesia. The effect of same can be seen in the Indian banking sector as well. But Indian banks

have been late starter in the adoption of banking technology for automation of processes and the integrated banking services. **Padmanabhan** (2012a) found that over the past few decades Indian banking sector have been investing considerable amount of money in information technology with the objective to improve product innovation, operational efficiency and competitive ability in the financial industry. **Shanbaug** (2013) in his research described about how echannels can save more money was provided by. Table 1.1 represents information on payments transactions from the industry and various participating banks.

Table 1.1: Percentage of Electronic Payment Transactions

| Metric | Overall Industry 2012-13 |
|--|--------------------------|
| Percentage of paper-based transactions | 43% |
| Percentage of electronic transactions | 57% |
| Percentage of funds transferred using paper | |
| medium | 9% |
| Percentage of funds transferred using electronic | |
| medium | 91% |

Source: IBA (2013)

Above table clearly shows that there is steep decline in traditional banking based transactions when compared to transactions conducted through E-banking. After introducing electronic banking, Indian banking sector now shifted their focus towards sustainable development. Banking sector can play a critical role not only in economic development but also to undertake green banking activities. In brick and mortar banking not only banks but customers also make use of massive quantities of paper for internal as well as external office correspondence. Switching over to electronic correspondence and reporting would be highly beneficial. Banks can reduce their carbon footprints by adopting the energy consciousness, paper-less banking and green buildings, Meena (2013). According to Jeucken and Bouma (1999), banks can develop more sustainable banking products, such as environmental or ethical investment funds. Green banking is required for sustainable economic growth. According to [Rajesh and Dileep (2014) and Spies-Wallbaum (2002)] sustainable development is crucial to protect our planet from the depredation inflicted on it by mankind.

While discussing usage of green power by Indian banks Meena (2003) stated that SBI has become the first bank in the country to venture into generation of green power by installing windmills for captive use. On the other hand as per the changing market conditions and the growing demands of the customers, banks need to re-look at their business models and the number of diverse product they offers. Corporate firms are competing aggressively to surge ahead in a business world and with opening of new geographies and the subsequent foray of business establishments, banks serving these enterprises have to provide innovative services to their rapidly growing clients. Continuous innovation in banking sector is the need of hour. Banks need to make changes in their management practices by the way of interaction with customers and put attention on relationship, communication and innovative banking techniques [Kirakosyan and Danaiaţa (2014)].

According to [Turk et al. (2003) and The Financial Development Report (2008)], increasing the energy efficiency can be considered as significant improvement opportunity and should have a prominent position in the environmental management system. But security and trust has emerged as biggest obstacles in the adoption and usage of Ebanking. According to Brar et al., (2015) customers still avoid transacting through online channels due to the insecure Internet environment. Past studies showed that security, privacy and trust constituted a key barrier in the use of Ebanking as well as long term commitment to the relationship building. Martins et al (2014) reveals that perceived risk is an important factor that affects customer's intention to use online channels. No matter how many online channels, services and green technologies are adopted by banks, the success

primarily depends upon customer's trust on secure channels and transactions. Because without assuring the customers about secured channels, there will be no adoption of green banking.

Padmanabhan (2012b) found that customers were reluctant to give up brick and mortar branches. Even the keenest E-banking customers wanted convenience of physical branches. There was an argument that E-banking involves complexity, and it also leads to increased costs. Further, security concerns like phishing and fake websites were also used to argue against the existence of E-banking. This paper is an attempt towards analyzing business customers' perceptions regarding awareness and impact of green banking. Also various aspects related to adoption and usage of E-channels is taken into consideration. [Moreland et al. (2009) and Dandash et al. (2008)] observed that trusted environment must be established between service provider and all users before carrying out any transaction. The more a user trusted the bank and its website, the higher their belief that online banking was easy [Alnsour and AL-hyari (2011)]. The main objective of this study is to check the awareness of green banking among business customers and also to analyze the factors that have direct or indirect impact on adoption and usage of green banking.

II. RESEARCH METHODOLOGY

The study attempts to examine the perspective of public and foreign sector banks towards adoption of green technologies. In order to take bankers' view point, a random sample of 60 respondents who were working as IT managers, front line managers or branch managers has been taken for the purpose of present study. This study primarily concentrates on banks operating in Jalandhar and Ludhiana region and that are providing E-banking services for more than one year. In order to study banker's perspective, detailed surveys of appropriate sample of respondents have been carried out in the urban areas only and the rural sectors and rural banks have not been considered for the present study.

For analyzing the data Chi-square, Cramer's V and Garret ranking technique was used. Chi-square test can be used to test if the two variables are statistically associated with each other significantly. Cramer's V Coefficient (V) is a measure of association between two nominal variables, giving a value between 0 and +1 (inclusive). It is not affected by sample size and therefore is very useful in situations where you suspect a statistically significant chi-square was the result of large sample size instead of any substantive relationship between the variables. It is interpreted as a measure of the relative (strength) of an association between two variables. Garrett's Rank technique was conducted to determine the most important factors while deciding about bank.

III. ANALYSIS AND RESULTS

| Table 1.2: An | alyzing Usago | of Banking | Channels |
|---------------|---------------|------------|----------|
|---------------|---------------|------------|----------|

| Channel | Type of Bank | Yes | No | Statistical results |
|------------------|--------------|-------|-------|---|
| Internet banking | Public | 54.8% | 45.2% | χ^2 = 0.050, DF=1, Cramer's V= .082 |
| | Foreign | 62.4% | 39.6% | Cramer's V= .082 |
| Mobile banking | Public | 17.8% | 82.2% | $\chi^2 = 4.322$, DF=2, |
| | Foreign | | 80.2% | Cramer's V= .021 |
| Branch Banking | Public | 75.4% | 24.6% | $\chi^2 = 0.090$, DF=1, |
| | Foreign | 69.5% | 30.5% | Cramer's V= .829 |

According to majority of respondents among types of banks highest percentage of Internet banking usage was reported by foreign sector banks and lowest percentage were reported by public sector banks (refer Table 1.2). Chi-square test applied to table 1.3 shows there is association between type of bank and internet banking usage because chi-square value (.050) is significant (P>.05). While considering usage of mobile banking, it was found that majority of respondents from all the three types of enterprises were not motivated for using this channel as very low percentage of respondents reported usage of M-banking. Chi-square test applied to table 1.2 shows there is no association between type of bank and Mbanking usage because chi-square value (4.322) is insignificant (P>.05). However, highest (75.4%) respondents from public sector banks reported usage of branch banking. hi-square test applied to table 1.2 shows there is no association between type of bank and branch banking usage because chi-square value (.090) is insignificant (P>.05).

According to **Yu and Fleming** (2003) channel preferences has primarily based on satisfaction level of customers with specific channel. If customers are more satisfied only then they prefer specific channel for banking services. While **Nielsen** (2014) identified five segments with distinct demographics, banking behaviors and service desires and E-banking usage pattern mainly depends upon these patterns. Nowadays, customers expect highly personalized, convenient, and reliable service, along with 24/7 accessibility. Banks need to leverage technology to provide quick and personalized service to customers through various channels, while ensuring a consistent experience across all channels, **Capgemini** (2013).

Table 1.3: Awareness towards Environmental Benefits of Green Banking

| Group | Sub-Group | Yes | No | Statistical Results |
|------------|-----------|-------|-------|--------------------------|
| Bank group | Public | 48.0% | 52.0% | $\chi^2 = 1.592$, DF=2, |
| | Foreign | 75.1% | 24.9% | CRV=.321 |

Table 1.3 shows lowest percentage of respondents (48%) from public sector banks was found to be aware about benefits offered by green banking. On the other hand, 75% respondents from foreign sector banks were found to be aware about green banking benefits. This shows respondents from public sector banks lacks awareness about benefits of green banking. Chi-square test applied to table 1.4 shows there is no association between type of bank and awareness level towards environmental benefits of green banking because chi-square value (1.592) is insignificant (P>.05). According to **IDRBT** (2013) foreign banks are found to be more enthusiastic about green banking and they are practicing in a much serious manner as compared to Indian banks. Number of foreign banks have introduced a formal Environmental and Social

(E&S) risk policy and also participant of the Equator Principles (EP) and moved ahead reducing annual paper consumption and continue to reduce energy and water consumption, etc. On the other hand Indian banks are still taking baby steps into this form of banking.

Table 1.4: Importance of Various Channels

| Awareness about products & | | | | | Garret | | |
|----------------------------|------|------|------|-----|--------|---------|------|
| services | 1 | 2 | 3 | 4 | Score | Average | Rank |
| E-channels | 3400 | 1870 | 1560 | 200 | 7030 | 70.30 | I |
| Paper based mediums | 3389 | 1423 | 1186 | 123 | 6121 | 61.21 | II |
| Television | 3211 | 1289 | 990 | 32 | 5522 | 55.22 | III |
| Telephone | 3182 | 1367 | 550 | 421 | 5520 | 55.20 | IV |

It has been observed from Table 1.4 that banks prefer to provide information about their products and services through online channels. It is followed by using paper based channels like newspapers and magazines. Television medium and telephone medium take third and fourth position. This confirms that even after adopting green banking, banks are still dependent upon traditional paper based mediums. The reason behind this scenario is problems related to access to

Internet. According to Sahoo and Nayak (2008) banking sector is generally considered as environmental friendly in terms of emissions and pollutions. But if we look at respondents' responses it was found that besides adopting electronic channels, banks still prefer paper based channels which mean a step backward towards environment loss. Through their intermediary role, banks may be able to support progress toward sustainability by society, Jeucken and Bouma (1999).

Table 1.5: Important Issues Related To Banking

| Issues | 1 | 2 | 3 | 4 | Garret Score | Average | Rank |
|---------------------------------|------|------|------|-----|-----------------|---------|------|
| Importance of human touch | 4212 | 2198 | 455 | 54 | 6919 | 69.19 | I |
| Brand name and image | 3422 | 1542 | 1002 | 144 | 6110 | 61.1 | II |
| Security and privacy of data | 3200 | 1500 | 450 | 432 | 5582 | 55.82 | III |
| Environmental friendly services | 2553 | 1677 | 1080 | 200 | 5510 | 55.1 | IV |

It has been observed from Table 1.5 that human touch is the most important issues for bankers. It is followed by importance brand name in financial services environment. The main reason behind preferring human touch is fear of financial loss. Third important issue as per respondents is security and privacy of customer's data. Environmental friendly services come at the last position; it means banks have not considered it much important. Problems related to security and privacy issues were considered important by all the respondents. Business customers believe more in transacting through online channels but security of online transactions and fear of information theft has been important issue for all the respondents. In fact, due to this issue lack of adoption or less

usage of green banking has been reported [Nor and Pearson (2007); Gefen et al. (2003) and Jarvenpaa et al. (2000)]. According to Alsajjan and Dennis (2006), major benefits of Online Banking include cost savings for banks, and convenience for customers. Malhotra and Singh (2009) found that slowly but steadily, the Indian customer is moving towards Internet banking. But they are concerned about issues such as security and privacy. [Chickowski (2006) and Klein (2007)] described that over a third of bank customers would move to another bank after only a single security breach.

Table 1.6: Positive Effect on Sustainable Development

| Group | Sub Group | Yes | No | Don't Know | Statistical Results |
|------------|--------------|-------|-------|---------------|-----------------------------------|
| Bank group | Public | 52.0% | 42.0% | 6.0% | χ^2 = 0.021, DF=2, CRV= .034 |
| | Foreign | 75.1% | 17.4% | 7.5% | |

Table 1.6 shows respondents from the two bank groups think that green banking has positive effect on sustainable development, while percentage (more than 75%) of respondents who support this view were from foreign sector banks as compared to respondents from public sector banks. Significant chi-square value (0.044) show there is association between type of bank and effect of E-banking on sustainable development.

IV. CONCLUSION AND RECOMMENDATIONS

The primary objective behind green banking is to improve the energy and carbon efficiency of bank and products efficiency for the customers in relation to its impact on environment. It aids in sustainable economic growth by reducing pollution and saving the environment. It was found that foreign sector banks were ahead in terms of offering online services and using online mediums for providing awareness to customers. On the other hand public sector banks were less motivated in terms of using and motivating customers about green technologies. After adopting green banking, it was found that banks still depends upon paper based mediums for advertising their products and services.

There were number of aspects that affects adoption of green technologies by banks like enhancing environmental, social, and financial well being of communities, and choice for customers and businesses, active lending to sustainable businesses and also green credit being provided to the customers. But in developing countries like India, there has not been much initiative in this regard by financial institutions. Initially, these commitments will cause a huge financial burden for Indian banks and banking sector as a whole. Banks should motivate the use of environmental information not only in the credit extension but also in taking investment decisions. In order to properly implement green banking banks have to work closely not only with government but also with regulators, consumers, NGO's and business communities.

V. LIMITATIONS AND FUTURE RESEARCH DIRECTIONS

This study has presented some important comprehensions on green-banking which comprises number of limitations that need to be acknowledged. There are many probable environmental and economic benefits of E-banking. However, these latent investments might be countered by added processes and ICT requirements. For instance banks and corporate customers need space for IT infrastructure and also it has their own energy requirements. Moreover, E-waste is also another major problem organizations are facing.

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