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Consumer Awareness and Adoption of Eco-Friendly Banking Services by Commercial Banks in Kannur District

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Abstract

Environmental sustainability has become an important concern for businesses, financial institutions and consumers. The banking sector, although not directly associated with heavy industrial pollution, can contribute considerably to sustainable development through the adoption and promotion of eco-friendly banking practices. Green or eco-friendly banking includes paperless banking, digital transactions, electronic communication, online bill payments, mobile banking, internet banking and environmentally responsible financial products. The present study examines consumer awareness and adoption of eco-friendly banking services offered by commercial banks in Kannur district. The study is descriptive in nature and is based on primary and secondary data. Primary data were collected from 60 respondents through a structured questionnaire using convenience sampling. Percentage analysis and weighted mean analysis were used to examine awareness, adoption patterns and factors influencing the use of eco-friendly banking services. The findings indicate that awareness of basic digital banking services such as internet banking, mobile banking and Unified Payments Interface (UPI) is relatively high among respondents. However, awareness of advanced green banking initiatives, including green loans, green credit cards and solar-powered ATMs, remains comparatively low. It was found that about 70 per cent of the respondents use green banking facilities regularly which depicts a good development towards digital and green banking. However, the continued use of traditional banking implies that adoption is incomplete. Convenience, ease-of-use and perceived usefulness become the primary factors influencing adoption while environment concern becomes comparatively secondary. The results are discussed in the context of TAM. It is recommended that commercial banks must focus on educating customers, build digital capabilities and promote environmental advantages of digital banking as well as raise awareness of more sophisticated green banking solutions. Increased awareness of consumers will help to fill the gap between the availability of eco-friendly services and their adoption.

Keywords: *Green Banking, Eco-Friendly Banking, Consumer Awareness, Adoption, Sustainable Banking, Digital Banking, Technology Acceptance Model.*

Introduction

Sustainability of the environment is one of the issues that have become significant issues in affecting today's economic and business practices. Awareness about environmental degradation, depletion of resources and sustainable development has made organizations think differently about their practices. It is being increasingly required from organizations that they not only make profits but also take minimal action against the environment and promote sustainable development. The role of the banking industry is quite significant in this regard as banks affect economic activities through financial intermediation and investments.

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Green banking is another name for sustainable or eco-friendly banking that involves an effort made by banking organizations in order to minimize environmental effects caused by their activities as well as encourage sustainable economic activities. According to Bahl (2012), green banking contributes to sustainable development significantly. Green banking includes many aspects such as reduction of paper usage, electronic communications, online banking, mobile banking, electronic funds transfer, online bills payments, sustainable lending and environmentally friendly financing.

Environmental impact of banking is not limited to its direct activities. Traditional banking activities imply significant use of paper, printing, documentation, transportation and other elements. The use of digital technologies can help to decrease dependence on some of these resources. Electronic banking, online transactions, mobile banking and Internet banking allow reducing customers' visits to bank offices and thus minimizing the number of paper-related procedures. In this regard, the development of digital banking has created a very important connection between technological progress and environmental sustainability.

In India, rapid technological development has significantly changed the manner in which banking services are delivered. Internet banking, mobile banking, electronic fund transfers and Unified Payments Interface (UPI) have become important components of the contemporary banking environment. Dharwal and Agarwal (2021) observed that technological and convenience-related factors have an important role in green banking adoption. Digital banking services provide customers with the ability to perform several banking activities without physically visiting a bank branch. This provides convenience to customers while also supporting the reduction of some traditional banking processes.

However, the existence of digital or green banking services does not automatically result in their adoption. Customer awareness is an important prerequisite for adoption. A customer may have access to a particular service but may not use it if the customer is unaware of its availability, does not understand its benefits, considers it difficult to use or does not perceive sufficient value from the service. Therefore, awareness and adoption need to be examined together.

Another important issue is that customers may use digital banking services without necessarily understanding them as components of green banking. For example, a customer may regularly use mobile banking or UPI primarily because of convenience and speed rather than because of concern for the environment. Thus, there may be a distinction between the adoption of digital banking and awareness of the environmental contribution of such services.

The study is relevant because improving green banking adoption requires more than technological availability. It is essential for banks to make sure that consumers know about the services and the importance as well as the convenience of those services and also know about the environmental impacts associated with those. A better understanding of consumer behavior can be of great help in designing an effective strategy for banks.

Review of Literature

Sustainability has become an important aspect of financial services due to which there has been an increasing trend of academic interest in green banking. Bahl (2012) studied green banking and its importance in sustainable growth and explained how banking practices contribute to environmental sustainability. The study shows that the banking institutions can make contributions to sustainable development by adopting environmentally responsible banking practices.

Jha & Bhome (2013) studied trends of green banking in India and explained the importance of environmentally responsible banking practices. It has been shown through this research that banking institutions can adopt environmentally responsible banking practices.

Nath, Nayak & Goel (2014) have discussed the concept of green banking practices and have explained the importance of environmentally responsible banking operations.

The study by Sharma et al. (2014) was focused on the consumer awareness of green banking. As indicated by the authors, even though the consumers use digital banking facilities often, consumer awareness of the concept of green banking can be rather poor. It is crucial to differentiate between these two concepts because usage of a digital facility does not mean that consumers are aware of the environmental significance of it.

The study of green banking and sustainability by Ragupathi and Sujatha (2015) revealed the connection between the environment-friendly bank activities and sustainable development. Therefore, it can be concluded that the banks can achieve environmental goals by changing their operation and offering services.

Customer factors and education were identified by Shaumya and Arulrajah (2017) as key elements for the adoption of green banking. Customer awareness and education are thus among the key factors that help to use sustainable banking services.

The study conducted by Kumar and Prakash (2020) considered the role of green banking for sustainable development and the development aspect of green banking in India.

Dharwal and Agarwal (2021) studied the adoption of green banking from the customers' point of view and found that practical and technical aspects have a significant bearing on customer adoption. Thus, convenience and technological aspects may have a stronger effect on customer behavior compared to environmental issues.

Masukujjaman and Aktar (2021) explored the factors affecting green banking adoption and concluded that perceived usefulness and ease of use were significant factors in adoption of green banking. This is in agreement with the Theory of Technology Acceptance, which states that technology adoption is affected significantly by perceived usefulness and ease of use.

Bose et al. (2022) explored the impact of green banking practices on environmental performance. The study emphasizes the wider organizational importance of environmentally friendly banking practices and shows how they can help achieve both environmental goals and customer-oriented results.

Several themes emerge from the literature review. Firstly, green banking has become an important element of sustainable banking. Secondly, developments in technology have provided chances to decrease dependency on conventional banking systems. Thirdly, consumer awareness continues to be an important issue. Finally, issues of convenience, usefulness, and user-friendliness may prove very influential in the process of adoption.

There still exists a chance to investigate these problems in a certain geographical context. Consumer behavior depends on demographic features, degree of technological savvy and development of banking infrastructure in a certain place. The current research is therefore devoted to the issue of awareness and adoption of green banking practices in the specific case of Kannur district.

Research Gap

Green banking has been analyzed from various aspects like environmental sustainability, banking performance and consumer awareness in the previous research. Nevertheless, there are numerous studies which are focused on geographically wider areas or urban areas. Consumer awareness and adoption issues have not been considered in much detail from the aspect of geographically narrower and semi-urban areas.

This paper tries to analyze this issue by focusing on consumers in Kannur district. Various eco-friendly banking services will be taken into consideration in relation to their awareness, usage and factors affecting their adoption. Also, issues faced by consumers will be considered. Therefore, this research paper intends to shed light on eco-friendly banking adoption from the perspective of consumer.

Objectives of the Study

- To examine customer awareness of eco-friendly banking services.
- To analyse the extent of adoption of eco-friendly banking services.
- To identify the factors influencing customer adoption of eco-friendly banking services.
- To assess the problems faced by customers in using eco-friendly banking services.

Research Methodology

The study is descriptive in nature and is based on both primary and secondary data. Primary data were collected from 60 respondents using a structured questionnaire. The questionnaire was designed to obtain information relating to the demographic characteristics of respondents, awareness of digital and eco-friendly banking services, adoption patterns and factors influencing the use of such services.

Convenience sampling was adopted for selecting respondents. The study is confined to Kannur district and therefore the findings should be interpreted within the context of the selected respondents. The relatively limited sample size also means that the results should not automatically be generalised to the entire banking population of Kerala.

Secondary data was obtained from journals, books and other relevant publications relating to green banking, sustainable banking and digital banking. The literature was used to establish the conceptual background and to interpret the findings.

Percentage analysis was used to present the demographic characteristics and major responses of the respondents. Weighted mean analysis was used to identify the relative importance of different banking services and factors influencing adoption. The Technology Acceptance Model proposed by Davis (1989) provides the theoretical basis for interpreting the role of perceived usefulness and perceived ease of use in technology adoption.

Theoretical Framework: Technology Acceptance Model

The Technology Acceptance Model (TAM) developed by Davis (1989) is widely used for understanding individuals' acceptance and use of technology. The model places particular emphasis on perceived usefulness and perceived ease of use. Perceived usefulness refers to the extent to which an individual believes that using a particular technology will improve performance or provide benefits. Perceived ease of use refers to the extent to which an individual believes that using the technology will require comparatively little effort.

The relevance of TAM to eco-friendly banking is evident because most contemporary green banking services involve digital technologies. Customers are more likely to adopt mobile banking, internet banking and online payment services when they perceive these services as useful, convenient and easy to operate.

In the context of the present study, convenience and ease of use are particularly important because customers can perform several banking activities without visiting a branch. The environmental benefits may be an additional benefit rather than the primary reason for adoption. This provides a useful explanation for the finding that environmental concern ranks below convenience and ease of use among the factors influencing adoption.

The application of TAM also highlights the importance of customer education. If customers are not familiar with the functions of a digital banking service, they may perceive the service as difficult or unnecessary. Therefore, improving awareness can contribute to perceived usefulness and ease of use and, consequently, increase adoption.

Data Analysis and Interpretation

- **Demographic Profile of the Respondents**

The demographics form the essential back story in the analysis of the adoption patterns in the research. Out of 60 people, 35 people (58.3 percent) are male, 23 people (38.4 percent) are female, and two people (3.3 percent) do not wish to reveal their gender.

As far as the age groups are concerned, out of the 60 people, 46 people (76.7 percent) belong to the 21-40 years age bracket. The number of people belonging to the 41-50 years age group is nine (15 percent), and four people (6.7 percent) belong to the above 50 years age bracket. There is one person who falls under the below 20 years age group. This is significant in the context of digital banking adoption as this age group constitutes a considerable part of the respondents.

With regard to educational qualification, 32 respondents (53%) are graduates and 19 respondents (32%) have post graduate or higher educational qualifications. The remaining five respondents have SSLC level education, three respondents have HSC level education and one respondent is in the other category. Hence, many respondents have higher educational qualifications.

With regard to occupation, 28 respondents (47%) belong to public sector employment, 12 respondents (20%) are students, eight respondents (13%) belong to private sector employment and another eight respondents (13%) are retired. Four respondents (7%) are engaged in business or professional occupations.

The income pattern of the respondents reveals that 27 respondents (45%) have income in the range of ₹10,000-₹25,000 per month. Sixteen respondents (26.7%) have income below ₹10,000 per month, while ten respondents (16.7%) have income in the range of ₹25,000-₹50,000 and seven respondents (11.6%) have income above ₹50,000 per month.

Regarding residential location, 27 respondents (45 percent) belong to semi-urban locations, 22 respondents (36.7 percent) belong to rural locations and 11 respondents (18.3 percent) belong to urban locations. It is pertinent here to note that the inclusion of respondents from semi-urban and rural locations is significant for the research objectives as it allows the researcher to examine adoption in a non-urban context.

Generally, from the demographics of the sample, it can be seen that a significant number of the respondents are fairly young and educated, besides belonging to various residential and occupational backgrounds. This provides a good foundation for studying digital and green banking adoption.

- **Awareness Regarding Eco-Friendly and Digital Banking Services**

As far as location of residence is concerned, there are 27 respondents (45 percent) who come from semi-urban areas, 22 respondents (36.7 percent) from rural areas and 11 respondents (18.3 percent) from urban areas. Here, what is important to note is that inclusion of respondents from semi-urban and rural areas plays an important role for the purposes of this research as it helps the researcher to examine adoption in non-urban environment.

Overall, taking into account the demographics of the selected respondents, it becomes evident that the majority of the respondents have certain youthfulness and education along with different backgrounds both in terms of residential and occupational aspects.

- **Adoption of Eco-Friendly Banking Services**

Seventy per cent of the respondents frequently utilize green banking services. It implies that the digital as well as eco-friendly approach to banking has found a wide recognition with respect to the selected respondents. The findings reveal that electronic methods have become increasingly important in conducting everyday operations in banks.

At the same time, full-scale adoption of new methods is not observed since traditional approaches to banking are being used. Customers may need some transactions to be conducted personally at the bank office or they may have no choice but to resort to traditional methods if any help from a bank employee is needed. Hence, it can be concluded that eco-friendly banking must be considered a long-term process, which does not presuppose immediate substitution of traditional banking.

Online bill payment and mobile banking are two popular services, according to the results. They are convenient for customers since transactions can be made quickly and easily without the necessity of visiting a bank or service provider.

The adoption pattern therefore supports the idea that customers are more likely to adopt eco-friendly banking services when environmental benefits are accompanied by direct personal benefits such as convenience, accessibility and time saving.

- **Factors Influencing Adoption**

As far as the results of the weighted mean analysis go, the two main determinants of adoption are the factors of convenience and easiness of use. In addition, perceived usefulness plays an important role. The findings are in line with the Technology Acceptance Model criteria.

Convenience means that the efforts connected with transactions decrease. It means that a person can access the bank services by means of mobile phones or computers without coming to a particular branch. Easiness of use is also very important, as customers would be more willing to adopt the services which are easy to understand and operate.

Perceived usefulness is connected with the practical benefits which people get from using particular technology. People may perceive online banking useful because it allows performing transactions at any chosen place and time. Practical benefits could turn out to be the motives for further usage.

Environment concern does not play such an important role and is on a comparatively low level. It means that consumers do not adopt green banking technologies because they want to help the environment. Environmental benefits appear to be an indirect consequence of adopting services.

Discussion

Findings of the study have been in general accordance with the Theory of Technology Acceptance Model formulated by Davis in 1989. This theory considers perceived usefulness and perceived ease of use as major determinants of acceptance of technology. In the current study, convenience, ease of use and perceived usefulness are identified as major factors in customer adoption.

Also, findings of this study agree with those of Kumar & Prakash (2020) and Dharwal & Agarwal (2021), who focused on the significance of practical and technological considerations in adopting green banking. Customers are primarily interested in saving their time and effort, making things easy for them. Environmental considerations, even though significant from a sustainability standpoint, may not necessarily become the primary factor.

Yet another important insight from the research is the difference between basic and advanced green banking facilities. The respondents have shown relatively high awareness about internet banking, mobile banking and UPI while the awareness level for green loans, green credit cards and solar powered ATMs is low. This suggests that the idea of green banking might not be well understood by the customers even when they make use of digital banking facilities.

Also, the results are in agreement with the findings of Sharma et al. (2014) who have observed that the customers may make use of digital banking facilities without having a very good understanding of the idea of green banking.

These findings further confirm the need for customer education that was emphasized by Shaumya and Arulrajah (2017). There exists potential for customer education concerning the role that digital transactions, electronic statements and paper communications may play in conserving resources. Simultaneously, customers can be educated about specialized green banking products if such products are offered.

The findings of the study provide guidance for banking communication. In case environmental concern is secondary, banks would benefit from combining their messaging with the message of convenience, speed, and accessibility, thus reinforcing their marketing strategies with the message of environmental concern.

This study, therefore, proves that the adoption of eco-friendly banking depends on technology and behavioral factors. The environmental sustainability is possible where sustainable practices are convenient for the customer.

Major Findings

- The respondents have a high level of awareness about the basics of digital banking services like internet banking, mobile banking and UPI.
- The respondents are comparably less aware about the advanced form of green banking like green loans, green credit card and solar powered ATM.
- About 70 per cent of the respondents frequently use green banking services.
- The traditional forms of banking practice still prevail, which shows that complete adoption is yet not achieved.
- Internet bill payment and mobile banking are the most popular among the respondents.
- Convenience and user friendliness are the major factors driving the adoption.
- The usefulness is one of the key drivers in the case of eco-friendly banking service adoption.
- The environmental concern is comparably less important driver in terms of customer adoption.
- The results are in agreement with the Technology Acceptance Model.
- There seems to be a gap between the usage of digital banking services and the awareness of their environmental impact.
- The customers' education and promotional activity from banks are vital for the awareness about advanced green banking services.

Suggestions

- **Strengthen Customer Awareness**

Commercial banks must undertake proper awareness programs regarding eco-banking. It is important to enlighten customers about what green banking is, its characteristics and benefits.

- **Promote Advanced Eco-banking Services**

Since there is a little awareness regarding green loans, green credit cards and solar powered ATMs, there is need to promote such advanced eco-banking services more.

- **Educate Customers about Digital Services**

Banks could organize awareness seminars concerning digital literacy, especially among those customers who may not be aware of advanced digital services.

- **Highlight Convenience and Usability**

Since convenience and usability are key considerations for adoption, banks need to highlight them.

- **Communicate Environmental Benefits**

Banks must make explicit linkages between digital banking and sustainability of environment. The use of paperless statements, electronic transactions, and digital communications in saving physical resources should be communicated to the customers.

- **Bank's Digital Infrastructure**

A reliable and user-friendly digital infrastructure is needed for continuous usage.

- **Customer Education by Bank Staff Members**

Bank staff members can prove helpful in educating people.

While interacting with customers, bank staff members can inform customers about digital and green banking facilities and help them in availing such facilities.

- **Provision of Suitable Incentives**

Appropriate incentives could be provided by banks to motivate customers to use paperless and digital banking.

Managerial and Practical Implications

There are a number of implications that arise from this research for commercial banks. Firstly, banks must understand that having technology is not enough to get people to adopt. People need to find value and ease in using the services offered. This implies that banks must continually work on improving the customer experience with respect to their use of digital channels.

Secondly, banks must understand the difference between digital banking and green banking promotion. While many digital services are environmentally friendly, customers may not necessarily know about this aspect. Communication plays an important role in strengthening this connection.

Finally, banks must understand that there are various means through which they can communicate with their customers. There is branch-based communication, digital communication, mobile applications and websites among others.

Fourth, the results show that environmental consideration is not the major factor motivating adoption. In this case, banks have to use a two-pronged communication approach, whereby tangible benefits, along with environmental benefits, are conveyed. This could help to make sustainability more meaningful to daily consumer choices.

Lastly, banks can assist in sustainable development by slowly moving consumers away from a paper-based and branch-based process towards digital options without disenfranchising consumers requiring traditional options.

Conclusion

Green banking has assumed increasing significance in light of sustainable development and digital revolution within the realm of finance sector. Commercial banks can help promote environmental sustainability by reducing their dependency on manual and paper-based processes through encouraging online transaction and green financial products.

The current research paper analyzed awareness and adoption of eco-friendly banking services among 60 respondents in Kannur district. The results of this research paper show that there is high level of awareness regarding the basic online services offered by the banks but lower level of awareness about other green banking services. About 70 percent respondents use green banking services; however, traditional banking services continue to be used, implying partial adoption.

A key result from this study shows that consumers prioritize convenience, usability and usefulness above all. Environmental concern comes next in terms of influencing adoption of eco-friendly banking services. This supports the Technology Acceptance Model.

It is also worth pointing out the difference between the usage of digital banking and the notion of green banking. In other words, a customer can be using mobile banking or UPI but not be aware of the green aspects of using these banking services, namely reduction of paper use and need for physically visiting banks. This means that banks have a crucial role in the education of consumers regarding the environmental aspect of the services that they already use.

In addition to this, it is also necessary to educate consumers regarding the advanced forms of green banking services. For example, green loans, green credit cards and all the other initiatives aimed

at improving the environmental aspect of banking services will not be popular among consumers until they understand what they are and how to use them. It means that banks have to combine technological innovations with effective education of customers.

In general, it is possible to say that in the future the development of eco-friendly banking services will require both the technology access and customer awareness.

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