

Awareness of Green Financing Among the Youth in Bangalore

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ABSTRACT: *This study aims to explore the awareness of the concept of green finance and the willingness to invest in green finance instruments within the students of the Department of Professional Studies, Christ (Deemed to be University). Green financing are emerging tools of finance that help in sustainable development of the economy. In order for this new avenue of investment to grow, it is important to understand the current awareness of the youth, who are the investors of tomorrow.*

KEYWORDS: *Green Finance, Christ University, Economy, Investment*

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I. INTRODUCTION:

After the ascent of industrialization, there has been no adequate measure in the finance sector to address the issue of climate change. However, green financing has provided a way to raise finance as well as support alternative sources of energy and promote sustainable development. Green finance refers to any financial instrument that invests in green sources of energy. The investments are done in return for positive environmental externalities. The Kyoto Protocol in 2016 was a step taken by the United Nations in order to attempt to control the carbon emissions produced by each country. Over 180 countries are signatories of this agreement, in an attempt to reduce the overall greenhouse gas emissions. This also brought forward the concept of carbon credit. Carbon credit is a tradeable instrument based on greenhouse gas emission. Carbon credit is traded over the MCX or the Multi Commodity Exchange of India, and is one of Asia's first exchanges to enable this as a tradable commodity. India has only begun its journey towards embracing this new form of finance. The first ever green infrastructure bonds in India were introduced by YesBank in 2015. Axis Bank launched its \$500 million worth green bond in 2016. IDBI bank also provides investors the opportunity to invest in green bonds. It raised about \$350 million in 2015 through the Singapore stock exchange. Green bonds and other such instruments could attract investors from the foreign market to invest in India.

II. REVIEW OF LITERATURE:

1. Re-thinking about the green banking model in the context of Bangladesh (Kulsum, 2018)

This paper at sustainable development of all aspects of banking in Bangladesh. Green banking includes green finance, climate risk funds, etc. Different types of green banking models followed by banks in Bangladesh are explained with suitable diagrams. The research conducted is based on secondary data collected from the Bangladesh Bank website. The paper also covers the extent of the awareness of the banking sector to green finance and sustainable banking. It also covers the importance of banks and financial institutions in converting the economy into a green economy. According to Lindberg, 2014, green financing includes financing of green investments, financing of public green policies, and the green financial system. The paper also puts forth the explanation of the general public's view on green financing and green banking. The new proposed model for green financing by the authors of the paper is given along with the respective stakeholders involved.

2. Biodiversity Finance (Rubino, 2000)

Public sector investment is insufficient to stave off depletion of natural resources. Thus, private sector investment is required. How companies are currently investing in sustainable activities by investing in the organic food market, etc. So far, green venture capital funds have captured only a tiny slice of the available institutional money. North American forestry funds (with over US\$7.5 billion under management) are seeking 'sustainable forestry' investments. Partnerships with government are often required to entice private sector investors into initial participation in biodiversity conservation.

3. Potential of Carbon Finance Fund
(Singh, 2008)

The CFF would introduce a holistic approach to enable project entities to explore the carbon finance window for earning resources for the project on a sustainable basis. The CFF would thereby help upscale new investments with carbon finance as an additional source. It will also help in the replication of successful projects. It suggests that the government of India should establish a Carbon Finance Fund in order to maximize the number of projects that can be registered with CDM EB. It would augment effectiveness of carbon finance operations. CFF objectives include addressing issues related to the carbon finance both ex ante and ex post.

4. Clean is the new green: Clean Energy Finance and Deployment Through Green Banks
(Leonard, 2014)

This paper discusses the need for green banks and finance. It discusses the main barriers to entry for clean energy compared to traditional sources of energy and elaborates on the need for green finance to eliminate these barriers. It discusses the principles based on which green banks function. That they aim to bridge the finance gap and reduce cost of capital for clean energy ventures. The main goal of green finance is to increase the number of clean energy ventures undertaken. They are innovating a variety of financial mechanisms to reduce the risk for private investors. Then this paper compares the difference between green finance in two places, Connecticut and New York. The paper investigates the possibility of partnerships being able to increase the popularity of green finance.

5. Climate Finance: Already in Trouble
(KANTH, 2010)

Discusses the failure of the US administration in pledging to cut their carbon emissions. Despite increase in number of natural calamities in recent time, industrialized nations are unwilling to cut back and commit to reducing carbon emissions. However, they have agreed to establish a clean energy fund to fund projects and programs in the developing world towards adaptation. When discussion moved to whether it would be raised through public or private sources, though, the developed countries said that all the funds need not be raised through public sources.

III. RESEARCH DESIGN

The reason for choosing our research topic was to make our peers aware of the green finance sector. The researchers' interest has been focused on assessing the current awareness of the green financing options available in the market among different age groups. The growth of green financing in the Indian banking sector and the large number of banks with green financing options and the awareness of this was the focus of the research. To analyze the data collected from the primary source, students of the Department of Professional Studies, Christ (Deemed to be University), Shannon index and Simpson Index were used. These indices are usually used to analyze biodiversity among species using qualitative data. This qualitative data has been condensed into quantitative data by identifying patterns within the responses and recording the responses to each pattern.

Objectives:

- 1) To assess the awareness of green financing among the students of the Department of Professional Studies, Christ (Deemed to be University).
- 2) To understand the relationship between the awareness of green banking concepts and age of the individual.

Hypothesis:

Null hypothesis

A relationship between the variables age and awareness of green finance is non-existent.

Alternate hypothesis

There is a relationship between age and awareness of green finance.

Older students (20-23) are more aware of green finance than younger students (17-19).

Sampling:

This research has been conducted using random sampling. Questionnaires were distributed randomly to students of the Department of Professional Studies. This ensured getting an unbiased and equally distributed group of respondents. The number of respondents to the survey was 313.

Data Source:

The source of data used in this study is primary in nature. Responses to the questionnaire were collected from students of all years of the Department of Professional Studies, Christ (Deemed to be University).

IV. ANALYSIS:

The main application used to calculate the indices was Microsoft Excel. The Shannon and Simpson indices allowed us to analyze the data and evaluate the diversity among responses. The top six most preferred combinations are used to calculate the indices.

A brief introduction about the Simpson and Shannon indices has been given below:

The Shannon Diversity Index

The Shannon Index is normally used to find out the diversity within a species. We will use this method to understand the concentration of the answers that have been received through the survey. This method requires three variables. The formula is as follows:

$$H = - \sum_{i=1}^s p_i \ln p_i$$

Where H is the Shannon Index, s is the total number of species in the community, P_i is the proportion of S in the ith species. The proportion of the species is multiplied with the natural log of the proportion of the ith species.

The Simpson Diversity Index

Simpson Index was formulated by Edward H. Simpson in 1949. It is a dominance index. Simpson's diversity index is a measure of the diversity in a sample. In our research it has been used to evaluate the variety of responses given by respondents.

It is used to assess whether the range of data produced is actually diverse or whether it only seems to be so on paper.

$$D = \frac{\sum n(n-1)}{N(N-1)}$$

There are two main factors it is measuring: richness and evenness.

Richness is the number of species per sample. It does not take into account the number of respondents who chose each response, but gives each response equal weightage.

The higher the value for both the indices, means that both the samples are more diverse.

Questionnaire

Are you aware of the term green financing/banking?

Response	Code
Yes	A
Vaguely	B
No	C

Were you aware of financial instruments like green bonds?

Response	Code
Yes	A
Vaguely	B
No	C

Were you aware of carbon credit before this?

Response	Code
Yes	A
Vaguely	B
No	C

Would you be interested to invest in instruments of green finance in the future?

Response	Code
Yes	A
Maybe	B
No	C

Assessment of Responses

Age group 17-19

Pattern	n	Pi	lnPi	Pi*ln	n(n-1)
CCCB	22	0.431373	-0.84078	-0.36269	462
BCCB	8	0.156863	-1.85238	-0.29057	56
AAAB	2	0.039216	-3.23868	-0.12701	2
AAAA	5	0.098039	-2.32239	-0.22769	20
CCCA	9	0.176471	-1.7346	-0.30611	72
CCCC	5	0.098039	-2.32239	-0.22769	20
	51			1.541744	632

Shannon's Index

$$H = - \sum_{i=1}^n p_i \ln p_i$$

Pi = Probability of occurrence

n = Number of individuals

ln = Natural logarithm

$$H = - (-0.36269 + -0.29057 + -0.12701 + -0.22769 + -0.30611 + -0.22769)$$

$$= \mathbf{1.541744}$$

Simpson's Index

$$D = \frac{\sum n(n-1)}{N(N-1)}$$

N = Total Number of respondents within the age group

$$D = (398792/2550)$$

$$= \mathbf{0.00639431}$$

Age group 20-23

Pattern	n	Pi	lnPi	Pi*ln	n(n-1)
CCCB	20	0.3125	-1.16315	-0.36348	380
BCCB	8	0.125	-2.07944	-0.25993	56
AAAB	14	0.21875	-1.51983	-0.33246	182
AAAA	10	0.15625	-1.8563	-0.29005	90
CCCA	4	0.0625	-2.77259	-0.17329	12
CCCC	8	0.125	-2.07944	-0.25993	56
	64			1.67914	776

Shannon's Index

$$H = - \sum_{i=1}^n p_i \ln p_i$$

Pi = Probability of occurrence

n = Number of individuals

ln = Natural logarithm

$$H = - (-0.36348 + -0.25993 + -0.33246 + -0.29005 + -0.17329 + -0.25993)$$

$$= \mathbf{1.67914}$$

Simpson's Index

$$D = \frac{\sum n(n-1)}{N(N-1)}$$

N = Total Number of respondents within the age group

$$D = (601400/4032)$$

$$= \mathbf{0.006704357}$$

V. RESEARCH FINDINGS:

The most selected combination by a clear majority, is CCCB by both age groups. This means that they are not aware about the concept of green finance, but may still be interested to invest in these methods of finance. It also shows that the entire sample surveyed are not aware about this mode of finance. This shows that they do not know about the term green financing, and the existence of instruments such as carbon credit and green bonds.

The second most common pattern opted is the BCCB option. This also means that they are unaware of the potential green financing investment opportunities, but are at least vaguely aware of the term.

The next two highest combinations selected are AAAB and AAAA. We can see that majority of these responses are from the 20-23 age group. This points to the fact that the 20-23 age group is more informed about the concept of green finance in general and may choose to invest in the future.

The patterns CCCA and CCCC are more preferred by the 17-19 age group than the 20-23 age group. This shows that they are less informed but in the case of CCCA they are still willing to invest.

The indices demonstrate the diversity of responses within the respective age groups. The pattern diversity of the 20-23 age group is higher as compared to the 17-19 age group. This means that their responses are more varied.

VI. CONCLUSION:

There is a high scope for increasing the awareness of the youth about green finance as it is lacking according to the study. The 20-23 age group are more aware of green finance concept as compared to the 17-19 age group. We can infer that the age of the individual is linked to their awareness. The demand for green finance is high for foreign investors. It is in India's interest to develop and promote the rising demand. Awareness is vital to improve the market as the survey has shown that while it is only in its growth stage, students are interested in opting for instruments of green finance.

Green financing provides an elusive market for investors to invest while promoting sustainable development. With effective measures to spread awareness of these financial instruments, we can help the economy and environment grow.

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