

Influence Of Circular Economy on Youths' Sustainability Awareness: With Special Reference to College Students

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Abstract- Circular economy is a concept supporting sustainable development, in which all the individuals in the economy tries to preserve the resources for the future without affecting the development or without postponing or sacrificing their needs and wants. This study has been conducted on the youth with special reference to College students as they are the future of any country. The study attempts to understand the level of contribution of these students towards circular economy and the factors affecting such contribution. The study has been conducted amongst the students of 15 colleges of Karnataka and Assam, for which questionnaire was used to collect the data. Students have the exposure to many areas of study and they also interact with many people. So, this study is significant as it helps to analyse not only the sustainable economic growth of the country but also the development of the individual.

Keywords: Circular Economy, College Students, Sustainable Development

I. INTRODUCTION

Circular economy is a new concept in which the life of the product is tried to be extended. It is the process of reusing, recycling, sharing, leasing etc. so that one product can be used for a longer period. Circular economy is a visionary concept towards sustainable development. According to Economics, Human wants are unlimited and resources to fulfil those wants are limited. Also, not all resources are renewable. So, we need to preserve those non-renewable resources or resources that take lots of time to renew them. This saves resources of the economy as well as helps to reduce cost and save money. circular economy is thus an economical concept both for the producer as well as the consumer. But every concept has both pros and cons. This study tries to address both the sides of the coin. This study is mainly undertaken on students' perspective because they are the future of our country and their attitude towards this new concept will help

us analyse the success of this concept. The small contribution of them to circular economy will make a great contribution in the near future. Thus, the researcher attempted to study circular economy from students' perspective. Circular economy is also promoting many entrepreneurial ventures as many people can reuse or refurbish the products and make it into something more attractive, innovative and useful and sale those products. The demands for those products are also quite attractive due to people's attitude towards environment friendly products. The study can thus also analyse the interest of students in taking up any entrepreneurial venture to transform their creativity into profits.

II. REVIEW OF LITERATURE

In the thesis by Volchkova, Iuliia, (2022) "Exploring the Role of Youth Engagement in the Circular Economy. The Case of Restore, Trondheim", a single case study analysis from which it was concluded that youth's contribution helps in quicker and smoother transition for both government and businesses into circular economy and they also helps to develop ideas for circular solutions. But In the research paper by Krajnc Damjan, Kovačič Darko, Žunec Eva, Brglez Kristijan and Lukman Rebeka Kovačič, (2022) "Youth Awareness and Attitudes towards a Circular Economy to Achieve the Green Deal Goals, stated that youth's contribution to circular economy through their creative business plan is nominal, even if they are aware of the principles of Circular economy. A paper by Tran Mai Phuong et.al; (2024) "Improving Green Literacy and Environmental Culture Associated with Youth Participation in the Circular Economy: A Case Study of Vietnam" tried draw practical inferences for policymakers, educationist and businesses etc. relating to promotion of green literacy amongst the youths and encourage their contribution towards circular economy and

sustainable development. In the research paper by Korsunova Angelina, Horn Susanna, Vainio Annukka, (2021) “Understanding circular economy in everyday life: Perceptions of young adults in the Finnish context” found that young adults are of the opinion that circular economy is only about recycling commodities and buying and selling of second-hand goods and lacks the idea of wide potentials of circular economy. A research paper by Guerreschi Asia, Piras Letizia, Heck Ferdinand, (2023) “Barriers to Efficient Knowledge Transfer for a Holistic Circular Economy: Insights towards Green Job Developments and Training for Young Professionals” reveals that there is a lack of awareness amongst the youth about the benefits of Circular Economy. A research paper by Nguyen Thi Thu Hong (2024) “Promoting sustainable consumption and circular economy: the intention of Vietnamese youth consumers to purchase products made from recycled plastics” revealed that Youth’s awareness of consequences associated with the use of recycled products and the monetary incentives are the key factors that influence their decision of using recycled Plastic products. In another article by Nguyen Thi Thu Hong, (2024) “Predicting the Determinants of Generation Z’s Readiness to adopt Circular Economy for Plastics in Veitnam”, stated that Capability, opportunity and motivation has positive impact on Gen Z to recycle and reuse the products.

2.1 RESEARCH GAP

From the review of different literatures’, it has been seen that no study has been conducted on the influence of circular economy on students of Karnataka and Assam of India. Also, no study has been conducted concentrating both on pros and cons of circular economy from student’s perspective.

2.2 OBJECTIVES

- 1) To analyse the awareness of circular economy amongst the Students
- 2) To analyse the level of activity undertaken to contribute to circular economy and factors affecting their contribution
- 3) To analyse both the pros and cons of circular economy from the student perspective.

2.3 SCOPE OF THE STUDY

This research is essential because it tries to understand the perception of students towards circular economy. Youths are the future of any country. Educated youths help to guide more people towards a progressive society. For any revolution or change in the society to be successful the youths must take part in that. As they have the power to change the society and influence the thinking of others. This, study exclusively tries to portray the awareness of circular economy and how circular economy influenced the behaviour of the youths and what are their perception towards circular economy. This study will thus help to understand the thinking of the youth especially the students and act accordingly so as to make improvement towards the implementation of circular economy and work towards sustainable development of the society. This study also attempts to portray the prospect of circular economy on the basis of student’s awareness and perception towards it.

2.4 CONSTRAINT OF THE STUDY

This focus of the study is mainly on the students. Although these students are from two different states of the country yet the study is mostly confined into urban area.

2.5 STATEMENT OF THE PROBLEM

The study has been conducted by the researcher to understand the rate of participation of the youth especially the students towards circular economy. Circular economy is a concept towards sustainable development. As, the climatic change has been drastically experienced by everyone in the world, it has set an alarming situation for everyone to work together to protect the environment so as to help the future generation to survive in a congenial climate. But this agenda should not be at the cost of development. Every step towards better future towards sustainable development has been taken for the Youths of today and the upcoming generations. So, it is imperative to understand their contribution and attitude towards this concept.

III. RESEARCH METHODOLOGY

The study ‘influence of circular economy on Youth: with special reference to Students’ has been undertaken to analyse the awareness and the contribution of youth towards circular economy. The study is descriptive in nature and has used quantitative data collected using structured questionnaire from the students of 15 colleges across Assam and Karnataka. The population of the study were all the students. The Sample frame was the students of the 15 colleges from where data has been collected and the total sample of the study is 174. The researchers used convenience and snowball sampling techniques to collect the required data. The researchers have used tables and graphs to analyse the data. To test the relationship between state and reusability and relationship between gender and awareness of circular economy, Chi Square test has been used. The hypothesis for the study is:

H01: there is no significant relationship between state and reusability of product

H02: there is no significant relationship between gender and awareness of circular economy among students

To accept or reject the hypothesis chi-square test has been used.

$$\text{Chi- square test} = \sum \frac{(O_i - E_i)^2}{E_i}$$

Where, O= observed value

E= expected value

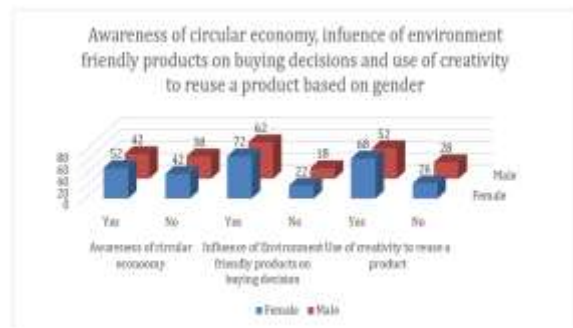
$$\text{Expected value} = \frac{\text{Row total} * \text{Column total}}{\text{Grand total}}$$

IV. ANALYSIS AND INTERPRETATION:

Table 4.1 - Awareness of circular economy, influence of environment friendly products and application of creativity to reuse a product based on gender

Gender	Awareness of circular economy		Influence of Environment friendly product on buying decision		Use of creativity to reuse a product	
	Yes	No	Yes	No	Yes	No
Female	52	42	72	22	68	26
Male	42	38	62	18	52	28

Chart 4.1 - Awareness of circular economy, influence of environment friendly products and application of creativity to reuse a product based on gender



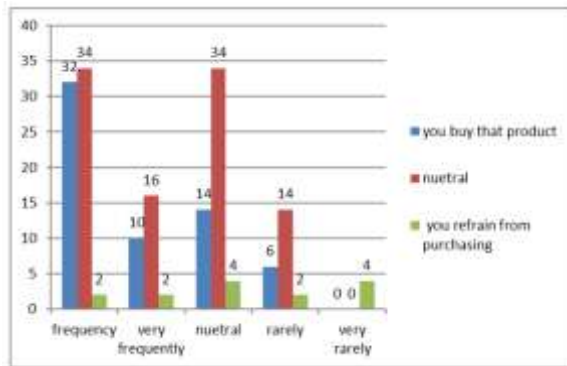
Source: Primary data

From the above table and figure it can be seen that out of 174 respondents 52 female respondents are aware of the concept of circular economy while only 42 male respondents are aware of the same. Similarly, 72 female and 62 males buying decision is influenced by the environment friendly characteristics of the product and 68 females and 52 males use their creativity to transform the product and reuse the same. Thus, from this it can be interpreted that majority of the students are aware of circular economy and are contributing to it by reusing the products and they buy products environment friendly more. Out of this majority respondents although males are contributing to a great extent still the contribution of the females are more.

Table 4.2 - Pattern of influence of environment friendly product on buying decision and the frequency of reusing products

How environment friendly product influence buying decision	Frequency of reusing a product					Total
	Very frequency	Frequently	Neutral	Rarely	Very rarely	
You buy that product	10	32	14	6	0	62
Neutral	16	34	34	14	0	98
You refrain from purchasing	2	2	4	2	4	14
Total	28	68	52	22	4	174

Chart 4.2 - Pattern of influence of environment friendly product on buying decision and the frequency of reusing products



Source: Primary data

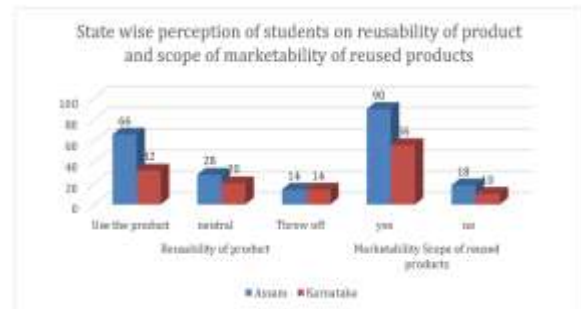
From the above table and graph it can be seen that majority respondents who buy environment friendly product, frequently reuses the product. It can also be seen that very few people refrain from using environment friendly products and out of those respondents majority of the respondents either very rarely reuses a product or have neutral opinion regarding the frequency of reusability.

Table 4.3 - State wise distribution of opinions of respondents regarding reusability of product and scope of marketability of reused products

State	Reusability of product			Marketability Scope of reused products	
	Use the product further	Neutral	Throw off	Yes	No
Assam	66	28	14	90	18
Karnataka	32	20	14	56	10

Assam	66	28	14	90	18
Karnataka	32	20	14	56	10

Chart 4.3 - State wise distribution of opinions of respondents regarding reusability of product and scope of marketability of reused products



Source: Primary data

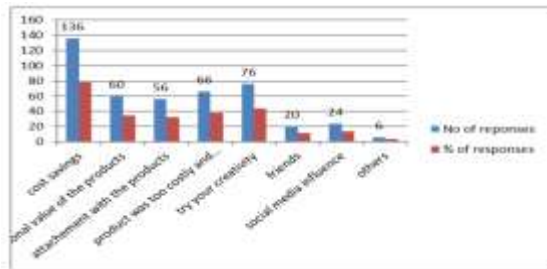
The table and figure can be seen that maximum of the respondents from Assam and Karnataka, reuses a product further and do not throw that off after one use. While, for Kolkata the number of respondents who reuses a product or are having neutral response or who throws off the product after one use are constant. Also, it can be seen that maximum of the respondents from both Assam and Karnataka and all the respondents from Kolkata are of the opinion that there is a scope of marketability of reused product.

Table 4.4 - Encouraging factors towards reusability of products

Factors that encourage reusability of products	No. of responses	% of responses
Cost savings	136	78.2
Emotional value of the products	60	34.5

Attachment with the products	56	32.2
Product was too costly and want to make optimum utilisation of that product	66	37.9
Try your creativity	76	43.7
Friends	20	11.5
Social media influence	24	13.8
Others	6	3.4

Chart 4.4 - Encouraging factors towards reusability of products

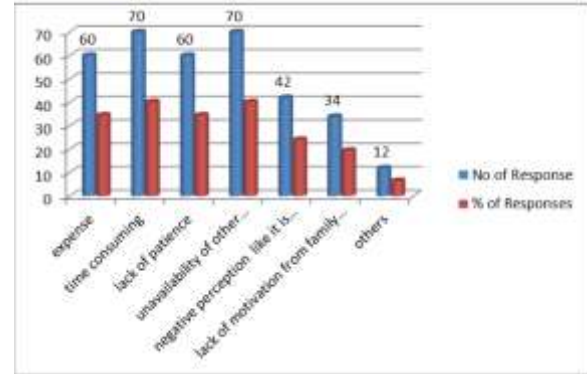


The table and graph can be seen that maximum of the respondents feels encouraged to reuse the products to save cost. Many are also there who reuses a product to try their creativity or to make optimum utilisation of the product. Many also reuse a product because of its emotional value.

Table 4.5 - Discouraging factors towards reusability of products

Factors that discourages reusability	No. of Response	% of Responses
Expense	60	34.5
Time consuming	70	40.2
Lack of patience	60	34.5
Unavailability of other additional materials required	70	40.2
Negative perception like it is wastage of time	42	24.1
Lack of motivation from family members	34	19.5
Others	12	6.6

Chart 4.5 - Discouraging factors towards reusability of products



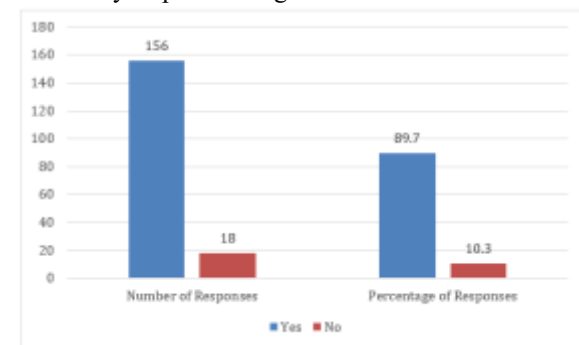
Source: Primary data

The data table and chart can be seen that maximum of the respondents feel discouraged to reuse a product because its time consuming and the additional materials required to transform the product and reuse it is unavailable. Another class of respondents are also there who feel discouraged to reuse a product because of expense and lack of their patience.

Table 4.6 - Factors showing opinion of respondents if reusability of product is good or bad

Reusability of product is good	Number of Responses	Percentage of Responses
Yes	156	89.7
No	18	10.3

Chart 4.6 - Factors showing opinion of respondents if reusability of product is good or bad



Source: Primary data

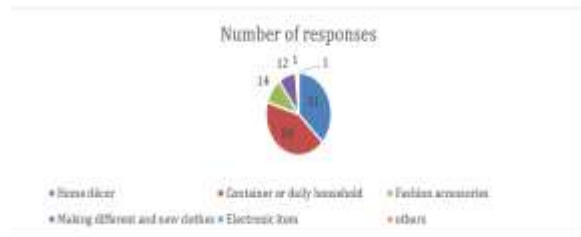
The table and graph can be seen that greater part of the respondents is of the opinion that reusability of a

product is good but few respondents disagree with the same.

Table 4.7 - Purpose of reusability of product

Purpose of reusability	Number of responses
Home décor	51
Container or daily household	59
Fashion accessories	14
Making different and new clothes	12
Electronic item	1
others	1

Chart 4.7 - Purpose of reusability of product



The table and graph it can be seen that larger part of the respondents reuse a product as container or daily household accessories or for home décor.

Table 4.8 - Chi square test to test the relationship between State and Reusability of product

Observed value				
State	Reusability of product			total
	Use the product	Neutral	Throw off	
Assam	66	28	14	108
Karnataka	32	20	14	66
total	98	48	28	174

Expected Value				
State	Reusability of product			Total
	Use the product	Neutral	Throw off	
Assam	60.8	29.7	17.3	107.8
Karnataka	37.1	18.2	10.6	65.9

total	97.9	47.9	27.9	173.7
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Null hypothesis H0: there is no significant relationship between state and reusability of product

Level of significance at 5% = 0.05

Degree of Freedom = (r-1) (c-1) = (2-1) (3-1) = 2

Expected value: 0.975124

Table value: 1.386

The answer value of chi-square is lower than the P-value. The null hypothesis will be accepted.

Table 4.9 - Chi square test to analyse the significance between gender and awareness of circular economy

Observed Value			
Gender	Awareness of circular economy		Total
	Yes	No	
Female	52	42	94
Male	42	38	80
Total	94	80	174

Expected value			
Gender	Awareness of circular economy		Total
	Yes	No	
Female	50.7	43.2	93.9
Male	43.2	36.7	79.9
Total	93.9	79.9	173.8

Null hypothesis H0: there is no significant relationship between gender and awareness of circular economy among students

Level of significance at 5% = 0.05

Degree of Freedom = (r-1) (c-1) = (2-1) (2-1) = 1

Expected value: 0.7234

Table value: 0.455

The answer value of chi-square is greater than the P-value. The null hypothesis will be rejected and alternative hypothesis will be accepted.

V. FINDINGS OF THE STUDY

The study conducted to understand the influence of circular economy on youths: with special reference to Students, have revealed the following findings:

- 1) It has been found that majority of the Students are aware of circular economy. While, females are comparatively more aware than the males.
- 2) It has been found that majority of the respondents reuses their product and they also use their creativity to transform the goods into something new to reuse the product.
- 3) It has been found that there is no relationship between states and reusability of products
- 4) It has been found that majority of the respondents are of the opinion that there is scope of marketability of reused product.
- 5) It has been found that majority of the respondents are motivated to reuse the products to save cost, to test their level of creativity, to make optimum utilisation of the product and because of the emotional value of the product.
- 6) It has been found that majority of the students buying behaviour gets influenced by the environment friendly products. But, majority of them have neutral response on whether they buy that product or refrain to buy that.
- 7) It has been found that majority of the students are discouraged to reuse the product because they lack patience, the additional materials used to transform the product to reuse it are unavailable, and because they are of the opinion that transforming the product into reusable state is expensive.
- 8) It has been found that majority of the respondents mostly reuse the product for home décor or as kitchen Accessories.
- 9) Greater part of the respondents are of the accepted that reusability of the products is good because they are aware that reusing a product will help in waste management and will help in sustainable development by protecting the environment. They are also of the opinion that reusing a product is useful as it also reflects their creativity but they oppose to reuse products to store their food or for packing foods.

- 10) Many people are of the opinion that reusing a product has both pros and cons. While reusing a product helps in protecting environment and also to save money, on the other hand it can deteriorate the health condition of the people as many of them feel that reusing a product is not hygienic enough and can spread diseases. They are also of the opinion that reused products lack the beauty that new products hold and hence it's a disadvantage and thus many might refrain from buying reused products for such reason.
- 11) It has also been found that respondents are of the opinion that one should share their products with those in need as things which are waste for us might be useful for someone else.

5.1 SUGGESTIONS OF THE STUDY:

The Findings of the research has provided the basis to the researcher to come up with the following suggestions:

- 1) As it has been seen that females are more aware about circular economy and more into reusing products. Concentration on males should be increased so that they are made aware of the circular economy its usefulness and motivate them to reuse products by taking them into confidence that it is a good thing to do and it is not just confine into female activities.
- 2) People should be encouraged to use old products telling them now a days using reused product is a status symbol or luxury. So that more people can buy reused products so as to increase the marketability of reused products.
- 3) People should be encouraged to learn to have patience and use their creativity to transform a product and reuse that. They can be encouraged by saying that transforming a product to reuse it will contribute to their learning to have patience and also towards their creativity. Which will be helpful to them in long run in different aspect of their life?
- 4) People now a day is very much career oriented. They tend to do everything that would make their profile attractive and help them to rise in their career. Accordingly, transforming a product into something new and reusing that product should be made an item that can be introduced in one's

resume and employers should consider their dedication and appreciate and value them for the same.

- 5) We know that everything that is meaningful has both pros and cons. Similarly, through this study it has been tried by the researcher to understand the perception of the students about the pros and cons of reusing a product. Similarly, priority should be given and further studies should be conducted on the respective fields to meet the cons of reusing a product and find a proper solution for the same. Also, the students should be explained that whatever are the perceived risks of reusing a product has been taken care of and there exists a solution to all their problems.

VI. CONCLUSION

In conclusion, the circular economy offers various opportunities for youth especially students by reshaping the way they accept and engage with sustainability this circular economic encourages young people to rethink resources use, prioritize waste reduction and innovate for environment resilience for the students especially from science, engineering, design and business. It provides diversified framework to develop critical skills and contributes to employability and inspire sustainable entrepreneurship by integrating circular economy principles into education, circular economy empowers the next generation to become proactive leaders in a sustainable future fostering and mind-set shift towards responsible consumption, save the available resources for upcoming generation, sustainable development and contribution towards circular economy. The circular economy and influence on youth not only benefits the environment but also prepares them to meet the demands of green economy will promote innovative and responsible global citizenship which also contributes to sustainable development goals of our country.

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