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SOCIAL RESPONSIBILITY OF RECYCLING

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ABSTRACT

Recycling is the process of making or manufacturing new products from a product that has originally served its purpose. If these used products are disposed of in an appropriate, environmentally friendly way, the process of recycling has been set in motion. There is some debate over whether recycling is economically efficient. Municipalities often see fiscal benefits from implementing recycling programs, largely due to the reduced landfill costs. Fiscal efficiency is separate from economic efficiency. Economic analysis of recycling includes what economists call externalities, which are unpriced costs and benefits that accrue to individuals outside of private transactions.

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1. INTRODUCTION

1.1 OVERVIEW

Among the many things that you can do to help protect the environment, recycling is one of the most popular things to do. Recycling refers to the re-processing of used items or waste products into reusable or new products. Recycling offers a number of eco-friendly and financial benefits. Here's a more in-depth and balanced look at how recycling helps to benefit both man and the environment.

1.2 Recycling Cuts Manufacturing Costs, And Saves Money

According to environment advocates and government planners, recycling saves businesses, governments and house holds considerable sums of money. The dependent variable in this research is "PUBLIC HEALTH" & "REDUCING PRICES" which heavily depended. It is effected by the independent variables. This heavily depends upon the mentioned variables; Recycling Saves Energy, Recycling Saves Environmental Conditions and Reduces Pollution, Recycling Saves Natural Resources, Economic Benefits, Recycling Saves Space for Waste Disposal, Reducing the amount of waste you produce is the best way to help the environment

The problem statement in our research is that how we recycled the thing in a positive manner or how

we get the attention of people on it. It effect in a both way positively and negatively

PH = +P1 (SAVING NATURAL RESOURCES)
 REDUCING PRICE + (SAVING NATURAL RESOURCES) PUBLIC HEALTH + (recycling)
 public health + (recycling) reducing prices

The outline of this research is to study the relationship between saving resources which can be help in recycling and its effect on public health, reducing prices and recycling. Our idea was to carry out the recycling process.

2. LITERATURE REVIEW

Recycling is the process of making or manufacturing new products from a product that has originally served its purpose. If these used products are disposed of in an appropriate, environmentally friendly way, the process of recycling has been set in motion.

As the world's population rises and living standards increase, the global economy is using more and more natural resources, including water, wood, minerals and fossil fuels. Indeed the EU, as one of the world's largest economic blocs, ranks among their largest consumers.

Before you know about the importance and benefits of recycling and its relation to a better environmental condition, it is essential to understand what it is. Recycling refers to the process of collecting used materials which is usually considered as 'waste' and reprocessing

them. In this process, these used materials are sorted and processed to be used as 'raw materials' for the production of new products. Recycling varies from 're-use' in the sense that while re-use just means using old products repeatedly, recycling means using the core elements of an old product as raw material to manufacture new goods. Some of the most common items that are recycled are plastic, glass, paper, batteries, aluminum etc

Reducing the amount of waste you produce is the best way to help the environment. There are lots of ways to do this. For example:

- Buy products that don't have a lot of packaging. Some products are wrapped in many layers of plastic and paperboard even though they don't need to be. You can also look for things that are packed in materials that don't require a lot of energy or resources to produce. Some products will put that information right on their labels.
- Instead of buying something you're not going to use very often, see if you can borrow it from someone you know.
- Cars use up energy and cause pollution. Some ways to reduce the environmental damage caused by cars include carpooling with friends, walking, taking the bus, or riding your bike instead of driving.
- Start a compost bin. Some people set aside a place in their yard where they can

dispose of certain food and plant materials. Over time, the materials will break down through a natural process called decomposition. The compost is good for the soil in your yard and means that less garbage will go to the landfill.

- You can reduce waste by using a computer! Many newspapers and magazines are online now. Instead of buying the paper versions, you can find them on the Internet. Also remember that you should print out only what you need. Everything you print that you don't really need is a waste of paper.
- Save energy by turning off lights that you are not using.
- Save water by turning off the faucet while you brush your teeth.
- Lots of families receive a large amount of advertisements and other junk mail that they do not want. You can stop the mailings and reduce waste by writing to the following address and requesting that they take your name off of their distribution list:
- We all know that recycling is necessary to reduce waste and save natural resources, but did you know it also saves energy? Making goods from recycled materials uses less energy than making them from raw materials.

- Recycling a pound of steel saves enough energy to light a 60-watt light bulb for 26 hours. Recycling a ton of glass saves the equivalent of nine gallons of fuel oil. Recycling aluminum cans saves 95% of the energy required to produce aluminum from bauxite. Recycling paper cuts energy usage in half.*
- And when you recycle that bottle or can, you're cutting greenhouse gas emissions and fighting global warming in two ways. Slashing energy use reduces emissions from power plants, and reducing waste cuts methane emissions from landfills

2.1 What are the benefits of recycling?

We cannot sustain our consumerist lifestyle without getting inundated by garbage and exhausting the earth's resources. The products that we use are wrapped in several layers of packaging material that are perfectly recyclable – plastic, aluminum, paper, tin, wood, etc. Solid waste disposal experts engage in an uphill struggle to contain this virtual avalanche of garbage we produce everyday. It is apparent that digging a hole, a landfill, is clearly not the answer. Sooner or later, the waste becomes uncontainable and will spill into our farming areas, forests, and water sources.

2.2 Here are 7 good reasons why we should recycle:

2.2.1 Financial Income – There is money in recycling. In the level of the individual, one of the benefits of recycling is financial income. There are a lot of things lying around the house that we no longer want or need that might just end up in a dumpsite somewhere, that we can recycle and earn money from. Cell phones, PDAs, ink cartridges, etc. Here at PaceButler, for instance, a phone sent in for recycling could net the owner as much as \$50.

- There is also the financial benefit for the communities who recycle in that there will be reduced costs of waste disposal or recycling. You think recycling is expensive? Consider these recycling facts: aluminum cans are the most valuable item in your bin. Aluminum can recycling helps fund the entire curbside collection. It's the only packaging material that more than covers the cost of collection and reprocessing for itself.

2.2.2 Recycling helps conserve limited resources

– Throwing away a single aluminum can, versus recycling it, is like pouring out six ounces of gasoline. Last year, Americans recycled enough aluminum cans to conserve the energy equivalent of more than 15 million barrels of oil.

- Here are some compelling recycling facts from the Pennsylvania Department of Environmental Protection:

- By recycling over 1 million tons of steel in 2004, Pennsylvanians saved 1.3 million tons of iron ore, 718,000 tons of coal, and 62,000 tons of limestone. Through recycling newsprint, office paper and mixed paper, we saved nearly over 8.2 million trees.

2.2.3 Recycling is energy efficient – On a larger scale, recycling could translate into huge reductions in our energy costs. Consider these facts: It costs more energy to manufacture a brand new aluminum can than it does to recycle 20 aluminum cans.

- 20 cans can be made from recycled material using the same energy it takes to make one new can.

2.2.4 Recycling builds community – In almost all communities in the country today, there is a growing concern for recycling and the environment. People are working together in recycling programs, lobbies, and free recycle organizations to help promote recycling. We will be featuring these groups in our upcoming posts and link with the various networks to help you locate the nearest recycling center or free recycle group nearest your location.

2.2.5 Recycling creates jobs – Incinerating 10,000 tons of waste creates one job; landfilling 10,000 tons of waste creates six jobs; recycling 10,000 tons of waste creates 36 jobs.

2.2.6 Recycling builds a strong economy – Done on a nationwide scale, like what we're doing here in the US, recycling has a huge impact in our economy in terms of jobs, energy cost reduction, resources conservation. Lately, as the price of oil hits close to \$120 a barrel, people have become more aware of the huge impact of recycling, particularly in reducing plastic waste material coming from the bottled water and beverage industry. We will be discussing this in detail in our future posts.

2.2.7 Recycling is Earth-friendly – No matter how safe and efficient our landfills are being billed to be, the possibility of dangerous chemicals coming from the solid waste deposited in these landfills, contaminating underground water supply is always present. Combustion or incineration of our solid waste is effective and energy-generating, but we pay the price in increased air pollution.

2.3 SAVING NATURAL RESOURCES

We all know that recycling is necessary to reduce waste and save natural resources, but did you know it also saves energy? Making goods from recycled materials uses less energy than making them from raw materials.

“Recycling a pound of steel saves enough energy to light a 60-watt light bulb for 26 hours. Recycling a ton of glass saves the equivalent of nine gallons of fuel oil. Recycling aluminum cans saves 95% of the energy required to produce

aluminum from bauxite. Recycling paper cuts energy usage in half.”

“And when you recycle that bottle or can, you're cutting greenhouse gas emissions and fighting global warming in two ways. Slashing energy use reduces emissions from power plants, and reducing waste cuts methane emissions from landfills”

2.4 PUBLIC HEALTH

While recycling has many environmental benefits, it carries some human health risks through the processing of waste materials.

2.4.1 Cancer Risk

Several waste recycling methods can potentially increase your risk for developing cancer

2.4.2 Nervous System Damage

Items such as computer monitors, batteries and thermostats contain several hazardous materials which can cause nervous system damage in humans

2.4.3 Respiratory Disorders

Inhalation of toxins released during recycling of waste can cause throat irritation.

2.4.4 Drinking Water Contamination

Industrial processing often uses water in order to prepare materials or as a coolant

2.5 REDUCING COST

Reducing the amount of waste you produce is the best way to help the environment. There are lots of ways to do this. For example:

- Buy products that don't have a lot of packaging. Some products are wrapped in many layers of plastic and paperboard even though they don't need to be. You can also look for things that are packed in materials that don't require a lot of energy or resources to produce. Some products will put that information right on their labels.
- Save energy by turning off lights that you are not using.
- Save water by turning off the faucet while you brush your teeth.

REUSED

- Recycling involves the collection of used and discarded materials processing these materials and making them into new products. General example:

“In your own homes you can contribute to waste reduction and the recycling and reuse of certain items. To cover your books you can use old calendars; old greeting cards can also be reused. Paper can also be made at home through a very simple process and you can paint on them.”

2.6 Hypotheses

- **H1:** Saving the natural resources has a positive impact on nation (HEALTH)

- **H2:** Saving the natural resources has a positive impact on reduction in the price of product
- **H3:** Recycling has a positive impact on nation (HEALTH)
- **H4:** Recycling has a positive impact on reduction in the price of product

3. RESEARCH METHODS

3.1 Method of Data Collection

We collected the data for this research by visiting and interviewing the different age people. There were majority of university students from whom we took the answers of the relevant questions of the research. We use questionnaire as a main source of gathering data about the research from the students and other people too. They all cooperated with us and provide us the answers. So with the help of those questionnaires we can conclude our research on the basis of the answers provided by the students.

3.2 Sampling Technique

We have used simple random sampling technique in which there is possibility to get the views by different age group people from university. The students of University were targeted and randomly questionnaire were filled irrespective of gender and semester.

3.3 Sample Size

Our research was mainly limited to the number of people and students and we consider 100 people

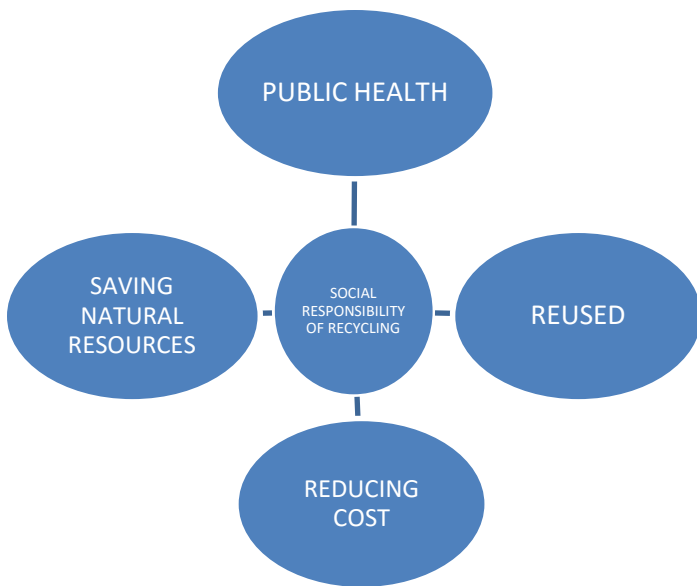
for our research. Out of 100 mostly were university students.

3.4 Instrument of Data Collection

The instrument that we used for our research was "Questionnaire". We handed over the questionnaires and get them filled by the people to conclude the result of our research.

"Closed ended Questionnaire" were used to carry out the research. In these questions it was easier for people to answer the questions related to research.

3.5 Research Model Developed



4. RESULTS

4.1 Findings and Interpretation of the Results

- **H1: Saving the natural resources has a positive impact on nation (HEALTH)**

Model Summary

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .277 ^a | .077 | .058 | .53229 | 1.849 |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Public Health

R square value of H1 in model summary statistic is .077 which is less than 1 which show the relationship of natural resources and public health

ANOVA^b

| Model | Sum of Squares | Df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 2.284 | 2 | 1.142 | 4.030 | .021 ^a |
| Residual | 27.484 | 97 | .283 | | |

| | | | | | |
|-------|--------|----|--|--|--|
| Total | 29.768 | 99 | | | |
|-------|--------|----|--|--|--|

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Public_Health

The mean value of H1 is nearer 2 which show the significant relationship between saving natural resources and public health

Coefficients^a

| Model | Unstandardized Coefficients | | t | Sig. |
|----------------------------|-----------------------------|------------|-------|------|
| | B | Std. Error | | |
| 1 Saving_Natural_Resources | 2.730 | .305 | 8.948 | .000 |

a. Dependent Variable: Public_Health

The significant value is less than .005 which means there is a some kind of relationship between public health and saving natural resources

- ***H2: Saving the natural resources has a positive impact on reduction in the price of product***

Model Summary^b

| Model | R | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|-------------------|----------------------------|---------------|
| 1 | .113 ^a | -.008 | .63858 | 1.935 |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Reducing_Prices

R square value of H2 in model summary statistic .013 which is less than 1 indicates the relationship between the reusing and reducing prices

ANOVA^b

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|------|-------------------|
| 1 Regression | .514 | 2 | .257 | .630 | .535 ^a |
| Residual | 39.555 | 97 | .408 | | |
| Total | 40.068 | 99 | | | |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Reducing_Prices

The mean value of H2 is nearer 2 which show the significant relationship between reusing and reducing prices

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | | | |
| 1 (Constant) | 2.751 | .366 | | 7.517 | .000 |
| Saving_Natural_Resources | .076 | .092 | .084 | .829 | .409 |
| Reusing | .058 | .087 | .068 | .666 | .507 |

a. Dependent Variable: Reducing_Prices

The significant value is less than .005 which means there is a some kind of relationship between reusing and reducing prices

- **H3: Recycling has a positive impact on nation (HEALTH)**

Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate |
|-------|-------------------|----------|-------------------|----------------------------|
| 1 | .277 ^a | .077 | .058 | .53229 |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Public_Health

R square value of H3 in model summary statistic is .077 which is less than 1 which show the relationship of natural resources and public health

ANOVA^b

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|-------|-------------------|
| 1 Regression | 2.284 | 2 | 1.142 | 4.030 | .021 ^a |
| Residual | 27.484 | 97 | .283 | | |
| Total | 29.768 | 99 | | | |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Public_Health

The mean value of H3 is nearer 2 which show the significant relationship between saving natural resources and public health

Coefficients^a

| Model | Unstandardized Coefficients | | t | Sig. |
|----------------------------|-----------------------------|------------|-------|------|
| | B | Std. Error | | |
| 1 Saving_Natural_Resources | 2.730 | .305 | 8.948 | .000 |

a. Dependent Variable: Public_Health

The significant value is less than .005 which means there is a some kind of relationship between public health and saving natural resources

- **H4: Recycling has a positive impact on reduction in the price of product**

Model Summary^b

| Model | R | R Square | Adjusted R Square | Std. Error of the Estimate | Durbin-Watson |
|-------|-------------------|----------|-------------------|----------------------------|---------------|
| 1 | .113 ^a | .013 | -.008 | .63858 | 1.935 |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Reducing_Prices

R square value of H4 in model summary statistic .013 which is less than 1 indicates the relationship between the reusing and reducing prices

ANOVA^b

| Model | Sum of Squares | df | Mean Square | F | Sig. |
|--------------|----------------|----|-------------|------|-------------------|
| 1 Regression | .514 | 2 | .257 | .630 | .535 ^a |
| Residual | 39.555 | 97 | .408 | | |
| Total | 40.068 | 99 | | | |

a. Predictors: (Constant), Reusing, Saving_Natural_Resources

b. Dependent Variable: Reducing_Prices

The mean value of H4 is nearer 2 which show the significant relationship between reusing and reducing prices

Coefficients^a

| Model | Unstandardized Coefficients | | Standardized Coefficients | t | Sig. |
|--------------------------|-----------------------------|------------|---------------------------|-------|------|
| | B | Std. Error | | | |
| 1 (Constant) | 2.751 | .366 | | 7.517 | .000 |
| Saving_Natural_Resources | .076 | .092 | .084 | .829 | .409 |
| Reusing | .058 | .087 | .068 | .666 | .507 |

a. Dependent Variable: Reducing_Prices

The significant value is less than .005 which means there is a some kind of relationship between reusing and reducing prices

4.2 Hypotheses Assessment Summary

| S.NO | Hypotheses | T | SIG. 2-tailed | Empirical Conclusion |
|----------------|------------------------------------|-------|---------------|----------------------|
| H ₁ | Saving the natural resources has a | 8.948 | 0.000 | ACCEPTED |

| | | | | |
|----------------------|---|-------|-------|-----------|
| | positive impact on nation (HEALTH) | | | |
| H₂ | Saving the natural resources has a positive impact on reduction in the price of product | 9.012 | 0.000 | ACCEPTED |
| H₃ | Recycling has a positive impact on nation (HEALTH) | 8.948 | 0.000 | ACCEPTED |
| H₄ | Recycling has a positive impact on reduction in the price of product | 9.012 | 0.000 | ACCCEPTED |

5.1 Conclusion

For recycling to work, everyone has to Participate in each phase of the loop. From government and industry, to Organizations, small businesses, and People at home, everyone can make Recycling a part of their daily routine. The recycling process should be in action because its give lots of benefits to society, like cost, resources, reused the things

REDUCE: to use less

REUSE: to put back into use without changing

Recycle: to put back into use with changing

3 R's of Recycling

5.2 Future Research

The advice for the future research is that if this topic is selected for research so the survey should be done on a larger scale and mainly in multinational organizations. It will provide a more clear picture of the research result. And few other and different independent variables can be included to improve the research.

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• STRONGLY DISAGREE
4 I feel that it is essential to save earth from Air pollution and to save natural resources.

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

APPENDIX

Questionnaire

SAVING THE NATURAL RESOURCES (INDEPENDENT VARIABLE)

1 I unplug the appliances that are rarely used.

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

2 I switch off the lights when I leave a room

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

3 I save gas by using our public bus transportation

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE

5 I save water and time when recycling cans and bottles.

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE
-

REUSE THE THINGS (INDEPENDENT VARIABLE)

1 I use recycle product such as: newspaper, aluminum, steel, plastic and batteries
STRONGLY AGREE

- AGREE
- NEUTRAL
- DISAGREE

- STRONGLY DISAGREE
- 2 I bring my own mug to get coffee, avoid paper cups
- STRONGLY AGREE
 - AGREE
 - NEUTRAL
 - DISAGREE
 - STRONGLY DISAGREE
- 3 I buy products that are made with recycled materials
- STRONGLY AGREE
 - AGREE
 - NEUTRAL
 - DISAGREE
 - STRONGLY DISAGREE
- 4 Typical waste reduction help to clean up factory waste
- STRONGLY AGREE
 - AGREE
 - NEUTRAL
 - DISAGREE
 - STRONGLY DISAGREE
- 5 I feel that use of steady stream of plastic is consistently remade and sold to the market.
- STRONGLY AGREE
 - AGREE
 - NEUTRAL

- DISAGREE
 - STRONGLY DISAGREE
- PUBLIC HEALTH (DEPENDENT VARIABLE)**
- 1 I feel that natural resources helps natural beauty replenish the natural beauty
- STRONGLY AGREE
 - AGREE
 - NEUTRAL
 - DISAGREE
 - STRONGLY DISAGREE
- 2 I think that environment itself needs to remain at a level of homeostasis so that all life can survive.
- STRONGLY AGREE
 - AGREE
 - NEUTRAL
 - DISAGREE
 - STRONGLY DISAGREE
- 3 I feel that psychologically citizens can feel better
- STRONGLY AGREE
 - AGREE
 - NEUTRAL
 - DISAGREE
 - STRONGLY DISAGREE

REDUCING PRICE (DEPENDENT VARIABLE)

1 I start promoting non conventional Sources of energy like solar energy

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

2 I feel restoring natural resources can create jobs.

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

3 Natural resources account for a large share of my society as well.

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE

4 Personal taxes invested in waste reduction infrastructure saves individuals money in the long run

- STRONGLY AGREE
- AGREE
- NEUTRAL
- DISAGREE
- STRONGLY DISAGREE