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Current trends in green technology and the Sustainable future.

By Akshay Kumar Pusthay

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Abstract

This study illustrated the value of environmentally friendly technologies and effective E-waste management in business plans. Furthermore, a particular context has demonstrated that innovation affects the Environment in both positive and negative ways. It also showed that innovation takes time to develop, which can occasionally be difficult for green business ventures. The chapter may be considered to have concluded by describing the specific model and objectives of this research article. In the conclusions section, it is analysed critically that present developments in green technology and a sustainable future support problem-solving activities that offer reliable solutions for future generations. On the other hand, this part also examined the articles that were picked because they provide a straightforward assessment of sustainable food production and outline challenges faced by ecopreneurs. Based on this chapter, it was also learned that customer demand and marketing prospects are growing because of sustainable technology and E-waste.

In the findings section, it is also critically assessed how creative innovation affects E-waste and helps with actions that result in reliable solutions to problems. On the other hand, this section also looked at the selected publications' reviews of green technology and their descriptions of the challenges faced by Social Entrepreneurs. Furthermore, in the findings section, it is being evaluated critically that creative innovation has an impact on E-waste and aids in problem-solving activities that offer trustworthy solutions. On the other hand, this section also covered the chosen articles that assess green technology and the difficulties experienced by business owners.

Chapter 1: Introduction

Humanity has been living under a growing environmental credit since the Industrial Revolution. Natural resources are decreasing at an exponential pace, while wastes are piling up over the world at rates that are almost comparable to one another. It should come as no surprise that, beginning in the 1970s, there has been a growing uproar over the threat that human activities pose to the continued existence of humanity (Boye, 2013). Despite this, there are still doubts regarding how to approach things in a different way now. The implementation of mitigation measures may seem to be the obvious immediate answer; yet, in most cases, these efforts do little more than transfer the pollution from one location to another.

The most recent developments in Green Computing are moving in the direction of making more effective use of available resources (Sarwar, 2013). It is generally agreed that energy is the most important resource, and that carbon footprints are the most important environmental factor. As a result, the emphasis is placed on lowering the amount of energy consumption and carbon footprints while simultaneously raising the level of computing capability (Salama, n.d.).

The environment, which until recently was viewed as a limitless resource with no cost, is now perceived as a restricted and valuable resource that requires careful study. Therefore, greater emphasis should be placed on minimising environmental impacts and preventing environmental contamination. Today's food sector is highly efficient and provides consumers with a vast selection of fresh and processed foods of the highest quality. Nonetheless, each phase of the agriculture, food industrial sector is characterised by waste, by-products, air emissions with potential environmental impacts. Even though technology advances in food production have created new markets and opportunities, they must also address evolving environmental concerns. Conservation of resources, recycling and reuse of materials, exploitation of by-products and bioconversion of waste materials, as well as reduction of environmental loads, may all contribute to environmental sustainability. This awareness has highlighted the necessity for effective research to reduce the environmental impact of technology and processing methods (Kroyer, 1995).

If there was no food, there would be no life and no people. Since the dawn of time, people have needed food to survive. There were more resources available and less of a need to process and store food when the world's population was much lower in the past. An increasing number of people must spend a significant amount of time each day making sure they and their families have enough food due to limitations on how food can be processed and stored (i.e., harvesting and hunting). For agriculture to feed the expanding urban population, it had to be more industrialised. Many people were forced to change jobs as a result.

Because of industrialization, societal needs are constantly rising. This emphasises how crucial it is to create environmentally friendly methods for food production and processing,

especially given the growing global population. The delicate balance between sustainable food production methods, a healthy environment, and healthy people is in danger, as changes in climate and human health have simultaneously revealed. By 2050, FAOSTAT (Nations, 2012) predicts that there will be 9 billion people on the planet. The global social and economic system must be able to sustain itself with an adequate supply of wholesome, nutrient-rich food. We will need to produce more food while putting less stress on the environment in order for this to work. So, in order to meet the rising demand for food, we must enhance our food production techniques and create new technologies and methods to address shifting and occasionally conflicting pressures.

Global food production has increased significantly since the start of the industrial revolution, but not at the same rate as global population growth. Three billion people worldwide are undernourished as a result of food shortages, and trash production has increased significantly. Nearly 800 million people suffer from protein/calorie deficiencies, and 2 billion people are iron deficient (Scott, 2019). The majority of land and water resources are also being used up more quickly than they can be replaced. The fact that between 30 and 50 percent of all food produced is lost or wasted is even more shocking (Ionescu, 2016). The two most serious environmental issues we are currently dealing with are changes in land use and the extinction of numerous species of living things. The use of fossil fuels and enteric fermentation both contribute to global warming, as do water scarcity brought on by irrigation, ecotoxicity, and human health effects of pesticides (Boye, 2012).

Social changes are occurring as a result of increased public awareness of these problems. Farmers, food producers, consumers, and policymakers are just a few of the stakeholders who favour more effective farming and food production techniques. Some examples of these trends include the increasing use of organic materials in processing, the use of recyclable and environmentally friendly packaging, the creation of fair employer-employee relationships, the "buy local" and "whole foods" movements, and the labelling of products as "free-from" or "fair-trade." The population of the world has grown significantly over the past few centuries, and industrialization has led to an increase in both the number of people and their needs. Finding strategies to make food production and processing more sustainable is now more important than ever. Climate and health changes have simultaneously shown how challenging it is to preserve a healthy population, a healthy environment, and sustainable food production. In 2050, FAOSTAT predicts that there will be 9 billion people on the planet. For the world economy to remain in operation, there must be an adequate supply of wholesome, nutrient-rich food. In order to do this, we must increase food production while reducing our environmental impact significantly. As a result, how long-lasting our methods for producing food can be and how quickly we can create new procedures and technologies to address various, sometimes conflicting pressures will determine our capacity to meet the growing demand for food.

The world's food production has increased significantly since the industrial revolution, but not at the same rate as the global population growth, and there is now a lot more waste and

inefficient resource use. Due to a lack of food, 3 billion people are undernourished, with 800 million suffering from protein/calorie deficiencies and 2 billion from an iron deficiency (OECD, 2011). Most land and water resources are being used up faster than they should be at the same time. The fact that 30 to 50 percent of all food produced is currently wasted is even more shocking. Land use change and a significant decline in biodiversity, aquatic eutrophication by nitrogenous substances brought on by overfertilization and the use of fossil fuels, global warming brought on by enteric fermentation and the use of fossil fuels, water shortages brought on by irrigation, ecotoxicity, and the effects of pesticides on humans are some of the most serious environmental problems we face (Simpson, 2012). As people learn more about these issues, society is changing. Some people want more effective farming and food production techniques, including farmers, food manufacturers, consumers, and policymakers. Some of these trends are the increased processing of organic materials, the use of recyclable and eco-friendly packaging, and the growth of equitable employer-employee relationships. Other examples include "buy local," "whole foods," "free-from," and "fair-trade."

Analysing Food Processing Technologies:

The visualization here shows a summary of some of the main global impacts:

- The production of food is responsible for over a quarter (26 percent) of global greenhouse gas emissions.
- Agriculture uses fifty percent of the world's habitable (free of ice and desert) land.
- Agriculture accounts for 70% of global freshwater withdrawals.
- Agriculture is responsible for 78% of the eutrophication of the world's oceans and freshwaters (pollution of waterways with nutrient-rich pollutants).
- The livestock industry accounts for 94% of the total animal biomass (excluding humans). This suggests that domesticated animals have a population that is 15 times greater than that of wild mammals. On the IUCN Red List, agriculture and aquaculture are recognised as potential dangers to 24,000 of the 28,000 species that are currently considered to be in danger of extinction.
- Therefore, efforts to combat climate change, lessen water stress and pollution, restore land to forests or grasslands, and safeguard the many wildlife species found throughout the world centre on agriculture and aquaculture.

Food & Sustainability:

The food and beverage industry are worth \$7 trillion, and as concerns about sustainability have grown, investors, regulators, downstream buyers, and consumers have put more pressure on the industry to not only improve its sustainability but also be transparent enough to show that the efforts it is making in this area are real. Many businesses already know about the links, opportunities, and risks that climate change brings, and they have taken steps to become more sustainable. But an analysis of CDP reporting data by ENGIE Impact shows that only 15% of food and drink companies that report to CDP are on track to

meet the sustainability goals they have set for themselves. These businesses face a number of problems that require them to switch to more sustainable ways of doing things.

Transforming Food Production: Agriculture and related land-use practises, as well as animal production, are the key contributors to greenhouse gas emissions in the food and beverage value chain. According to the Carbon Disclosure Project's study *Fast Moving Consumers*, 56 percent of food and beverage industries have no Scope 3 emission reduction targets. Despite the fact that Scope 3 emissions account for 90% of total lifecycle emissions. To maintain the food system's resilience, it is vital to address the sources of these emissions, as well as other environmental and socioeconomic dangers. Gaining visibility in complex, worldwide, and frequently fragmented supply chains, as well as engaging suppliers in the path toward sustainability, will be critical steps in increasing influence within the sector.

Reducing Resource Intensity: In the food and beverage industry, energy and water consumption are substantial expenses. Identifying and implementing opportunities to increase resource use is vital. This approach must begin with data analysis to gain visibility into the intensity of resource consumption as well as the energy, water, and waste sources. Due to the strong relationship between water and energy in this sector of the economy, implementing measures to reduce water consumption can also lower the energy intensity necessary for heating or cooling water.

Meeting Evolving Consumer Expectations: Businesses in this consumer-driven sector will need to continue to adapt to altering client expectations in order to maintain their position as market leaders in the future. Consumers expect convenience, sustainability, ethical and transparent sourcing, and value from the food they buy, but they also want more. Successful firms will increasingly rely on their capacity to demonstrate that they are assisting their customers in living according to their environmental and ethical standards.

Green Entrepreneurship: Buying and selling products and services to generate a profit constitutes the core activities of a business (i.e., having an income or revenue that is greater than costs). Every company must be able to support itself financially. Without meeting this essential prerequisite, they will be unable to maintain their own existence, pay their employees, and continue to produce goods or provide services for the market (Jones, 2018).

Entrepreneurship in a Sustainable Field For the notion to be effective, businesses need to begin implementing the new model that will assist them in both promoting environmentally conscious projects and greening their own operations. This may take a longer amount of time to do for more established businesses because they already have a particular method of operation (team, 2015). Changes to the fundamentals will be required, but most firms do not have the financial resources to make these adjustments. However, even if we are discussing a brand-new business initiative, the finance will still be the single most significant factor. The necessary assistance will be provided to environmentally conscious businesspeople in Europe starting today and continuing into the ensuing years, The issue of sustainability is taken very seriously inside the European Union, and efforts are being made

to find environmentally friendly solutions to a variety of issues. Because of initiatives such as the European Green Deal, we are now able to observe that a growing portion of the budget is being allotted to programmes that promote actions that are kind to the environment. This has resulted in a series of "investments that will help both create new green enterprises as well as change current policies for old businesses" (switchtogreen, 2021).

Social Entrepreneur

General terms, a green business is one whose fundamental business model addresses an environmental or social issue, such as improving energy or resource efficiency, reducing greenhouse gas emissions, reducing waste or pollution, protecting or restoring ecosystems, promoting local culture, or supporting communities. These types of concerns include improving energy or resource efficiency; lowering greenhouse gas emissions; reducing waste or pollution; conserving or restoring ecosystems; and reducing waste or pollution.

The following are activities that are common among green businesses:

- Integrate sustainability concepts into its business decisions and actively monitor them.
- Ensure that employees can keep a healthy work-life balance by paying them a fair price for their labour and ensuring them to do.
- Achieve an equitable level of benefit distribution throughout the value chain.
- Maximize the business's social benefits (e.g., by employing marginalised groups). Some companies establishing foundations to aid in this endeavour is commendable, but a sustainable business does not limit its social activities.
- It is not limited to monetary contributions to charitable organisations; rather, it seeks out every opportunity to increase the social benefits provided by a company's daily operations.
- Offer eco-friendly and/or regional products and services that displace the demand for non-green options.
- Contribute to the long-term viability of its neighbourhood (e.g., by reducing energy or water consumption, or by reducing waste)
- Make an attempt to reduce resource use (energy, water, and materials) and replenish, enhance, or replace a company-utilized environmental resource (e.g., replanting trees, enhancing soil fertility, utilising recycled materials).
- Make a long-term commitment to adhering to environmental standards in the way it conducts its company.

Motivation area of an interest:

After completing my bachelor's degree in India in 2017, I interned at tourism and media companies with the goal of becoming a documentary film director. I've always had a passion for exploring new places and nature, which has only increased since I was a child. As part of my internship, I travelled to numerous tropical regions and witnessed a variety of

subcontinental climates. Later in my career, I became the social media & public relations manager for BABUL Film Society, a non-profit organisation that raises awareness about Environment, Sustainability, and biodiversity through social media and film. Early on in my involvement with Babul, I felt uneasy and even considered leaving the organisation. However, as I immersed myself in my work and interacted with many schoolchildren and inquired about their knowledge of sustainability and biodiversity, I was astonished to learn the truth about the environment (Bhavani, 2019). Gangadhar Panday, the founder and president of the Babul film society, took voluntary retirement after working as a superintendent at Central customs and Exercise of India. His passion and desire to heal the environment and educate future generations for better lives led him to this decision. After completing more than fifteen to twenty eco-shoots, my attitude towards nature shifted drastically; I learned how smallest things can have a lasting impact on the environment. Significantly the food industry and food distributary industries had impacted the nature throughout the years, I would like to take opportunity use my MBA dissertation to address the Current trends impact caused by Food Industry and sustainable future.

Chapter 2: Literature Review

A literature review is a summary of scholarly articles, books, and other resources significant to a specific area of investigation. This earlier work must be listed, detailed, summarised, appraised critically, and explained throughout the review. It provides a theoretical basis for the investigation and help you, as the author, choose the extent of your study. The fact that the literature review acknowledges the efforts of other researchers in the past instils trust in the reader that your study is well-conceived. When an author acknowledges a former work in their own field of study, it is acceptable to assume that they have read, analysed, and incorporated it into their present work (Taylor, 2021).

Several studies have analysed the factors influencing the Sustainable Future.

1. To Identify and analyze the current technology and process used in food & beverages business.
2. To Determine the Impact of E-waste and adapting the alternative solution for future sustainability.
3. To determine the damage caused to environment with food & beverages industry.
4. Recommendations for Technology of Future Sustainability and Green entrepreneurship.

2.1 Sustainable Beverages:

Most of the studies that have been conducted up to this point have focused primarily on examining consumers' intentions about their willingness to pay (WTP) premiums for organic products. Considering this, the findings of a recent analysis of the research that has been conducted on the subject indicate that more research needs to be conducted in a genuine market scenario utilising, for instance, home panel data (Isabel Schäufole, 2017). This is

significant for research on environmental problems since it is well known that consumers' intentions to buy environmentally friendly items are not always matched by their actual purchasing habits. This discrepancy is referred to as the "green gap" (Martin Grimmer, 2016). When it comes to the qualities of sustainable products, the literature has focused on production as a crucial component, which is a factor that influences the decisions that customers make when making environmentally conscious purchases. As a result, there has been a significant amount of study conducted in recent years on customer preferences and WTP for organic wine (Mann, 2012); organic milk (Helene Hill, 2002); organic beer (Poelmans & Rousseau, 2017) and organic juice. Critically, it appears that there is still some uncertainty among consumers with regard to the term "organic," and in some instances, they believe organic products to not be ecologically friendly. This is a problem because consumers should know better (Prothero, 2019).

The majority of customers primarily connect "organic" with not containing any chemicals, and they are not knowledgeable about the requirements or procedures of organic farming. As a result, it should not come as a surprise that consumers' concerns about their own health have been demonstrated to be a more crucial driver for their purchase of organic food and beverages than their worries about the state of the environment (Helene Hill, 2002).

2.2 Eco Packaging:

Certain types of beverages, such as juice, water, and beer, have a vested interest in the packaging business because they are the leading contributors of the beverage category to the overall packaging percentage (Jorgelina Pasqualino, 2012). However, to the best of our knowledge, there has been no research on the importance of packaging as a determinant in ecologically responsible beverage purchase decisions (Van Birgelen, 2009). The usage of packaging in commodity products goes beyond its practical role (such as preserving the quality and freshness of the product), which is why it is important for consumers to have options. In fact, consumers take into consideration not only the product's name and description, but also its appearance and how easy it is to open and close the box (Lynsey Hollywood, 2014).

2.3 Fair Trade:

Recent years have seen an increase in the amount of focus placed on locally produced beverages. This is because consumers of locally produced foods and beverages are increasingly motivated by environmental as well as community-based considerations (Lydia Zepeda, 2009). At this point, there may be a contradiction between purchasing locally produced goods and organic goods as wonder (Prothero, 2019). "Would it be better for the environment to purchase organic quinoa cultivated in Peru or a non-organic version that was grown locally? My hunch is that the second option is correct. The current discussion shows that organic food loses its authenticity when it is not produced locally, although additional research is required to understand the views of consumers with regard to this matter. Therefore, for many customers, the representation of sustainability (Roosen, 2012)

is food miles rather than organic labels (Moya Kneafsey, 2014). However, it is important to note that local food production appears to be more related to the social (for example, the development of a relationship between consumers and farmers that is founded on trust) and economic (for example, the provision of economic benefits for regional economies) dimensions of sustainability than it is to the environmental (Moya Kneafsey, 2013). However, it is important to note that the social (for example, the development of a consumer-farmer relationship based on trust) and economic (for example, the provision of economic benefits for regional economies) dimensions of sustainability appear to be more closely associated with the practice of local food production than the environmental one (Moya Kneafsey, 2013). Even some research cast doubt on the idea that locally produced food is better for the environment than food grown elsewhere. In either case, very few studies have been conducted to this day about how consumers feel about items that are produced locally, except for wine (Gareth Edwards-Jones, 2008). In addition, one practise of sustainable consumption is the purchase of goods that are fairly exchanged. The term "fair trade" refers to "an initiative for small farmers and wage laborers in the South, economic and/or social development has been hampered by trade conditions ('disadvantaged')," according to its official definition (Partnerships:, 2007).

2.4 Considerations in Making Sustainable Consumption Decisions:

Multiple studies have demonstrated the diversity of factors that can affect people's propensity to buy environmentally friendly beverages. These can be broken down into the following root causes (Stern, 2002): Capabilities I mental factors (e.g., attitudes, beliefs, or norms), and routines (iii) all play a role in shaping outcomes. However, since studies frequently ask for purchase intentions (e.g., WTP) in unrealistic scenarios, the following explanation should be viewed with some skepticism as it may overestimate actual behavior. It is also important to note that previous research has primarily focused on wine; therefore, results may not always be generalizable to other types of beverages.

2.5 Green Technologies in Food Production:

Organic farming methods from a few centuries ago are frequently associated with green food production. A small portion of the land is used for crops, and the remainder is used to graze beef, sheep, and goats. Farming operations were always self-sufficient, using only manure as fertilizer and no pesticides or herbicides. Organic farming is consistent with the cradle-to-grave philosophy of green technology. As beautiful as the picture may be, the sustainability of these farming methods must be considered. However, because there is such wide variation among nations, regions, farm types, and products, it is difficult to provide a generally accurate quantification of the environmental performance of organic agriculture. Additionally, various evaluation techniques produce results that are incongruent regarding the effects of organic farming on the environment. When it comes to biodiversity, soil fertility, air quality, preventing resource depletion and climate change, and lowering groundwater pollution, organic farming outperforms conventional agriculture (Boye, 2013).

A more specific aspect of the production of environmentally friendly foods is the management of nitrogen and phosphorus levels. The cropping process removes these nutrients from the soil, and the management of manure helps to partially replenish them.

These nutrients almost immediately become the factor that is limiting the growth of intensively produced crops. It is necessary to apply a little bit of fertiliser in excess so that the growth of the crops is not inhibited in any way. Because farmers who use highly specialised food production systems do not own animals, it is difficult for them to obtain manure for their crops. Growers of crops are required to use mineral nutrients with a quick release rate that come from outside sources. These products go through a variety of chemical transformations depending on factors such as the type of soil, crop, season, and weather in the immediate area. Unfortunately, this frequently results in runoff of nitrogen and phosphorus during the times of the year when it rains, in addition to the volatilization of nitrogen. On the other hand, concentrated animal production leads to an excessive amount of manure that needs to be removed from the environment. Odors and nutrients frequently make their way into surface waters and aquifers as a result of the widespread practise of spreading manure beyond its intended boundaries. Restoring soil fertility and lowering pollution levels can be accomplished through effective management of the phosphorus and nitrogen agronomic cycles. According to a comprehensive model of the nitrogen cycle that was developed by Vayssières and Rufino the sources of nitrogen losses within the nutrient cycle in agro-ecosystems are numerous, and the losses themselves are significant. Estimates suggest that approximately 15 percent of the nitrogen (N) used in mineral fertilisers and approximately 30 percent of the N excreted by domestic animals around the world are lost as harmful gases (NH_3 and N_2O). It is necessary to take a holistic approach to the production value chain in order to successfully manage these losses and reduce the adverse effects (Boye, 2013).

Foods need to be processed often to make sure they are safe, keep them fresh longer, improve their quality and nutritional value, and make them easier to get. The first, second, and third ways to turn unprocessed food into foods and ingredients with more value are looked into. In the first step of processing most grains, people use methods like cleaning, sorting, grading, dehulling, and milling. In the animal sector, primary processing includes, but is not limited to, egg candling and egg harvesting; deheading, gutting, filleting, scaling, washing, chilling, freezing, or packing fish; storing, separating, homogenising, and pasteurising milk; and slaughtering, dressing, boning, acidification, salting, brining, smoking, thermal processing, refrigeration, and storing meat. Also, these foods are turned into other foods with more value by using secondary and tertiary processing methods. Using enzymes is one of the most promising technological ways to reduce the environmental impact of food processing. As biological catalysts, enzymes speed up the rate of chemical reactions, which saves time, energy, and money. Food enzymes are useful because they are specific, sensitive, non-toxic, active at low concentrations, and easy to turn off. Enzymatic methods use gentler treatments and/or less harsh reaction conditions. Because of this, they are better for the environment and would protect it better than traditional methods (Simpson, 2012). Also, because enzymes are selective about the molecules they act on (called substrates), the products they make are more uniform and consistent. Some enzymes used in food processing are amylases, pectinases, cellulases, galactosidases, and chitinases; lipases, such as pancreatic lipase and phospholipases; proteases, such as pepsins, trypsins,

bromelain, papain, amylases, and cellulases; isomerases, such as glucose isomerase; transferase (e.g., glucose oxidase and polyphenol oxidase).

Another top priority in the processing of food is food safety. To lower the number of microorganisms in food and make it safer and last longer, various methods including pasteurisation, sterilisation, aseptic processing, refrigeration, and chemical preservatives have all been used for a very long time. Since many of these tasks consume a lot of energy, alternate approaches that are more energy-efficient and environmentally friendly should be taken into account. For instance, there are a variety of brand-new techniques being used in the food processing industry to eliminate microorganisms, including microwave and radio-frequency heating (MW/RF), pulsed electric fields (PEF), high pressure processing (HPP), ionising radiation, ohmic heating (OH), treatment with ultraviolet light, and ozonization (Michael O. Ngadi, 2014).

2.6 Social view of Sustainability:

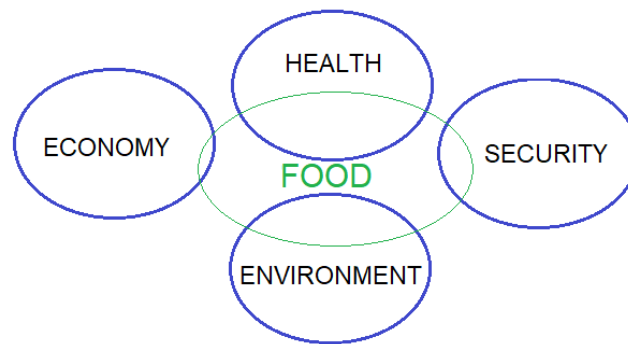
The meaning of "green technology" or "green agriculture" can change drastically depending on the user and the context in which it is used. The ultimate user of innovative products, technologies, and in this case, food, is the consumer. Therefore, when creating new products, the social ramifications of novel alternative technologies and methods should be considered. Customers are presented with a bewildering array of options every day, and they make decisions based on those options based on their perceptions, which may or may not be supported by the facts. Nevertheless, consumers' choices have a big influence on the economy as well as on producers and processors. The general public's perception of food production and processing technologies, as well as their advantages and disadvantages, dissimilar from that of scientific experts (Gauthier, 2012).

The current trend of utilising "food" to produce biofuels and bio-based products represents an additional significant social challenge. At least one hundred times the world's total net primary crop production is required to meet the current demand for petroleum. Schenk (Schenk, 2012) argues that there is simply not enough land to meet global fuel needs with biofuels and that our society is dangerously close to the breaking point, with the very real possibility that there will not be enough food to feed everyone. Biodegradable plastics face a similar argument. Agriculture is the United States' primary source of nitrous oxide (a more potent greenhouse gas than carbon dioxide, as mentioned previously) emissions (United States, EPA (Agency, 2011)). Climate-friendly agriculture that emphasises agricultural practises that reduce greenhouse gas emissions (e.g., no-till farming, mixed agriculture versus monoculture) will grow in significance.

2.7 Current and Future Obstacles:

There is a demand for innovative business models that are based on the concept of striking a healthy equilibrium between preserving the natural world and making a profit. Food, health, the economy, and other aspects of safety and security, as well as the environment, are all interconnected as shown as figure 1. For the agriculture and agrifood industries, it is imperative that the financial benefits of environmentally responsible practises become more readily apparent. It is essential that we give serious thought to the possibility of utilising agriculture not only to cut emissions but also to serve as a carbon sink for other

industries. To meet these newly arising challenges, there is an increasing demand for innovative technological solutions (e.g., novel engineering, equipment, processing, and packaging designs). This is of particular interest due to the fact that a wide variety of technologies will be required to address the challenges along the entire value chain. In addition to this, efforts need to be directed toward overcoming site-specific challenges (i.e., farm, regional, national, and international needs).



Source: (Learner, 2022) Figure.1

Illustration of the interrelationships between food, health, economy, security, and the environment.

Even more challenging will be the need for (a) technologies that can accurately predict and counter expected increases in global temperatures and sea levels and their attendant impacts on agriculture and capacity for processing; (b) sustainable methods to increase food yields; and (c) technologies that can prevent food from going bad (especially in developing countries where climate poses a threat to shelf life and there is no cold chain to preserve foods). The economic viability of these technologies that are friendly to the environment will be a determining factor in their rate of dissemination and adoption. At the moment, it seems as though there are no markets for environmental attributes (for example, eco-labels that are viable from an economic standpoint), which may necessitate the implementation of policy interventions (e.g., incentivization, rewards for uptake, and regulations) (Arcand, 2013).

"Sustainable diets" are diets that have a low environmental impact while also contributing to food and nutrition security as well as a healthy life for both the current generation and future generations. "Sustainable diets" are those that have little impact on the environment. Diets that meet all these criteria are culturally acceptable, easily accessible, economically just and affordable, nutritionally adequate, safe, and healthy, and use both natural and human resources efficiently. To address the issues of malnutrition, ecosystem degradation, and biodiversity erosion caused, at least in part, by today's modern food systems and dietary patterns, an interdisciplinary effort is required to improve food systems and create more sustainable diets (Burlingame, 2012).

To address these challenges, intensive research is required. Given the significance of lowering prices for end users, this raises the crucial question of who is responsible for footing the bill for research and development. According to the OECD, "green growth policies that put an emphasis on environmental protection may limit agricultural and fisheries output, reduce the global food supply, and require adjustments in the use of human, financial, and natural resources in the short term, but the long-term effects should be mutually reinforcing in terms of environmental sustainability, economic growth, and social well-being" (OECD, 2011).

2.8 Socio-Economic of Organic Farming:

Many people in rich countries think that organic foods are healthier, and that organic farming is better for the environment than conventional farming. This (Qaim, 2018) article took a global look at the research on the economic, social, environmental, and health effects of certified organic agriculture. Some studies show that the chemicals in organic and non-organic foods are different, but others don't. Even when differences are found, they are often small and may not be clinically important. Even though organic farming isn't the blueprint for sustainable agriculture around the world, that doesn't mean organic methods can't be useful in some situations. Organic methods are a good way to protect land and improve soil quality. However, in many cases, crop productivity and environmental efficiency could be improved even more if these methods were combined with moderate amounts of synthetic fertilisers and the latest information on how to improve plant genetics.

2.9 Limitations of Sustainable/Organic farming:

Already, developing nations produce a vast array of organic items, and a substantial many of them are enjoying tremendous success. However, most of them face several obstacles, including a lack of technical know-how, such as organic farming practices and production methods, and a lack of market information, such as which products to cultivate, which markets and distribution channels to select, competition, market access, etc. These are only a handful of the difficulties they face. with producers in wealthy countries is certification, which not only provides a technical obstacle but also increases the product's price significantly. Not only does this create a problem, but it also adds substantial costs. Despite this, importers, food processors, retail groups, and individual consumers all desire organic origin certification the high price of organic products is still another obstacle that must be surmounted. Millet and peanut yields improved by 75 percent to 195 percent and 75 percent to 165 percent, respectively, because of the use of rock phosphate, composting systems, applications of green manure, water collection systems, and green manure. Changes in crop yield between years of high and low precipitation are less noticeable due to the increased capacity of soils to store water. Another initiative in Honduras that prioritized soil conservation practices and organic fertilizers resulted in a tripling or even a fourfold increase in crops. All of this suggests that organic farming is a more sustainable and environmentally friendly method, particularly in underdeveloped countries. Yields in Honduras increased by a factor of three to four because of another program that placed an emphasis on methods of soil conservation and organic fertilizers. All of this demonstrates

that organic farming is a sustainable and environmentally friendly method that can be used in impoverished countries (Parrot, 2002).

2.10 E-waste in India:

As one of the waste categories with the fastest rates of growth over the last 10 years, trash management has recently attracted a lot of attention (Anwesha Borthakur, 2018). The academic and policy communities must appropriately address the issue of electronic waste in India since it has specific characteristics that are unique to that country (Govind, 2018). As an illustration, India's average age of electronic waste is higher than that of its counterparts in industrialised nations. This is one of the key factors relating to e-waste in India. People in India are hesitant to dispose of electronic waste right immediately because it is typically viewed as a commodity there with certain inherent values tied to it. This is one of the causes of the condition (Sinha, 2008). The nation's lower-income consumers so frequently stand to gain from the sale of secondhand or even third-hand electronics (Sinha-Khetriwal, 2006). This type of consumer behavior has the advantage of slowing the flow of toxic trash that includes technological waste, which makes it simpler to conserve resources and lessen pollution. Indian residents can get a decent price for their used electronics from door-to-door scrap collectors, or "kawariwalas" as they are known in the local dialect. A well-established network in the nation's informal economic sector includes electronic waste collectors, dealers, dismantlers, and recyclers (Manomaivibool, 2009). Accordingly, the recycling of electronic waste in India has mostly been a market-driven industry (Dwivedy, 2016) and a number of informal operators have dominated the market. In India's informal sector, which has a large number of workers, more than 90% of the country's electronic trash is processed (Pandey, 2014). Urban poor women and children make up the majority of the workforce in this industry.

While the majority of developed nations are able to successfully manage their e-waste through "the formulation of effective legislations, the development of recycling infrastructures, and the strict adherence to the principle of EPR to command electronic manufacturers and importers to take-back used electronic products" (Afroz, 2014), developing nations like India struggle with the problem of inefficient and inadequate e-waste management systems. For example, Extended Producer Responsibility (EPR), which is one of the methods recognized by the Waste Electrical and Electronic Equipment (WEEE) Directive of the European Union, has been instrumental in refocusing waste management efforts in Europe on recycling while reducing the impact of disposing of obsolete electronic equipment (Niza, 2015). EPR, on the other hand, has not been adequately implemented in India despite being a prominent policy approach in both the E-waste (Management and Handling) Rules, 2011, and the E-waste (Management) Rules of 2016. These rules were enacted in 2011 and 2016 respectively. There are a few aspects of India's system for the handling of electronic trash that can be to blame for these challenges. For instance, Indian customers opt to follow the EPR guidelines rather than giving their obsolete EEs to the kawariwalas in exchange for financial incentives. This decision was made because of the EPR. Such activities stand in stark contrast to those that are taken in the vast majority of industrialised nations, which either require producers to pay under a framework known as

"Extended Producers Responsibility" (EPR) or require consumers to pay an "Advanced Recycling/Disposal Fee."

2.11 Sustainable E-waste management

In effective electronic waste management, a combination of cradle-to-cradle policies and recycling activities is essential (Adanu, 2020). The availability of peripheral technologies, economic and social affordability, a sustainable and resilient environment, and consumer awareness should all be considered in the context of these strategic initiatives. Based on existing management practises, an effective E-waste management plan must include a sustainable roadmap as well as strategic intervention. Some of these interventions include

i) a precautionary approach; (ii) an assessment of all waste activities; (iii) strategic collaboration and team building; (iv) the implementation and amendment of regulations and legislation; and (v) monitoring and reporting. The availability of e-waste-related peripheral technologies (such as hydrometallurgy, pyrometallurgy, and informal practises) should be dealt with in ecologically benign and financially efficient ways. Biohydrometallurgy is one of the better alternatives to such techniques for controlling the flow of heavy metals into the environment. It is one of the approaches that could be used for this aim. Other connected technologies include preventive methods, such as the design of environmentally friendly electrical and electronic equipment (EEE) products and the development of value from waste (Shashi Arya, 2020). The former is the first step toward developing a sustainable road map for safe and efficient urban e-waste mining (Luppi, 2012). When developing a comprehensive evaluation of a waste operation, it is vital to include collection, secondary sources, and suitable segregation. According to the conclusions of one study (Forti, 2020), just 17.4 percent of electronic rubbish was collected, while the rest 82.6 percent was discarded. This shows that there are significant gaps in the regulatory framework governing electronic waste management. As a result, the only way to build a sustainable road map for the effective collection of e-waste is for all stakeholders to divide up the jobs. Under the watchful eye of government regulatory agencies, the reciprocal connections that exist between manufacturers, producers, distributors, consumers, traders, and recyclers must be considered. Recycling, resource recovery, reusing working gadgets that have been abandoned, and final disposal should be incorporated into the system and carried out under the supervision of the nation's governing and functional bodies.

2.12 Recycling E-waste:

By putting less pressure on natural resources that are already in short supply, recycling can help make more things. People in Accra and Tema, Ghana, think that there are between 6000 and 9000 renovations going on. Many unemployed people help clean up the environment by picking up trash and finding new uses for it. Recyclers and other businesses want to take advantage of these kinds of opportunities, which can lead to green jobs and help support sustainable development. Here are some ways that e-waste can be recycled. Employment: Recycling e-waste gives jobs to a lot of young people without skills, and the value chain employs a lot more skilled people. 2. People who pick up e-waste can make money from it. Many people in the informal sector make money by collecting WEEE from

homes, offices, factories, and other places and taking it to recycling centres (usually people in the lower economic bracket). 3. Trying to make the world a better place. Many unofficial handlers who collect and scavenge for e-waste help clean up the environment by taking it out of the waste stream. This helps deal with the huge amount of e-waste that is made by the common use of EEE in communication, IT, business, industry, and schools. If this wasn't done, the hazardous parts of e-waste would pose health and environmental risks. 4. Refurbishment for the sale of cheap EEE—refurbishment of near-end-of-life equipment for sale and reuse, which gives consumers cheaper alternatives to EEE and employs between 6000 and 9000 people in Accra and Tema (Ghana) alone. Waste extraction for parts replacement is the process of taking printed wired boards, hard drives, and chips out of e-waste and reusing them. 6. Recovering precious metals for industry: the economic benefits of getting gold, copper, brass, and iron out of old computer parts. 7. Benefits of recovered metals over mineral mining: Reducing the need for primary raw materials like gold, palladium, etc., through metal recovery through recycling (city mining), has a lot of benefits. Low costs to make, b. Less use of energy and carbon, and c. Minimal environmental pollution and climate impact (Tetsuro Agusa, 2019).

2.13 Literature Deficit

In the section that discusses the literature review, there are various points of consideration that address the process of determining which elements are dependent and which are independent. The full lexicon of terms associated with the utilization of creativity and originality in business ventures has been covered in this investigation. Despite this, there are some subjects that were not a primary focus of attention in this study. The expansive spectrum of procedures that comprise entrepreneurship includes recruitment, selection, and professional knowledge of sustainability and E-Waste Impact. According to this phrase, all procedures are connected; hence, if there are difficulties with the process Green Tech, such difficulties must also affect the other steps, including innovations and creativity in entrepreneurialism. The research was unable to cover all the creative and original processes involved in the green entrepreneurial process.

Summary:

The discussion leads to the conclusion that innovation is highly necessary in all areas of business, not only those that deal with current trends and sustainability. The study's main area of emphasis is green entrepreneurship, which is a byproduct of sustainable future is impossible without it. The conceptual framework and connections between the three aspects—entrepreneurship, creativity, and innovation—are other crucial portions that follow from this. The discussion of the benefits and drawbacks of organic farming and E-waste in entrepreneurship includes both elaboration and a plan for reducing the difficulties experienced by social entrepreneurs.

Chapter 3: Research Methodology

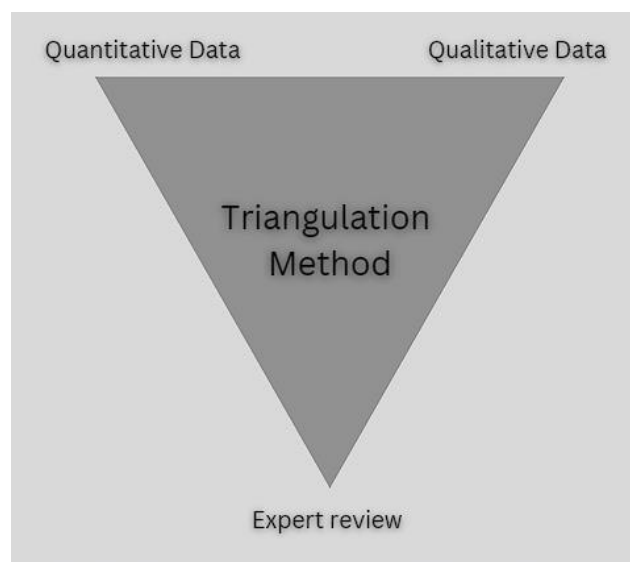
Research methods are analysed in a methodical and theoretical manner in the study of methodology. Methodology is the study of research procedures. A theoretical investigation of a collection of methodologies and principles relating to an area of study is what this term

refers to. It often includes ideas like a paradigm, a theoretical model, stages, and either quantitative or qualitative methodologies (Irny, 2005).

Research methodology is a field of study that looks at how scientific research should be done. A way to work through the steps needed to solve the study topic in a methodical way. With the help of methodology, you can understand both the results of scientific research and how scientific research is done. The goal of research methodology is to explain and evaluate techniques, define limitations and resources, shed light on assumptions and consequences, clarify limitations and resources, and connect potentials to the "frontiers of knowledge" that are in the grey area (Sridhar, 2008).

3.1 Triangulation Design:

There is a tradition that promotes the employment of a variety of research strategies in the corpus of academic work relevant to the methods of social science research. According to (Campbell, 1959) this method of conducting research is known as convergent methodology, multimethod/multitrait, convergent validation, or triangulation (Jick, 1979). All of these divergent points of view revolve around the same fundamental idea: qualitative and quantitative research methods should not be seen as rival schools of thought but rather as complementary approaches. Given the benefits and drawbacks of single-method designs, most textbooks place an emphasis on the value of combining strategies. The most ardent proponents of triangulation (Smith, 1975) omit to describe how the necessary triangulation is conducted and concluded. In contrast to teaching us how to effectively mix techniques, our graduate education frequently simply trains us to apply a single methodology at a time, depending on its relevance and preference. On average, even those who use many approaches fail to describe their "method" in order to make it clear how convergent data are gathered and analysed.



Source: (Learner, 2022) Figure.2

According to (Denzin, 1971) triangulation can be defined as "the combination of methodologies in the analysis of the same phenomena." Where does the comparison to triangulation originate from?

the practice of using several different reference points to determine the precise location of an object in navigation and military (Smith, 1975). Given the underlying premises of geometry, numerous views make it possible to achieve greater precision. In a manner analogous to this, researchers conducting studies on organisations might improve the reliability of their findings by compiling many kinds of data relevant to the same issue.

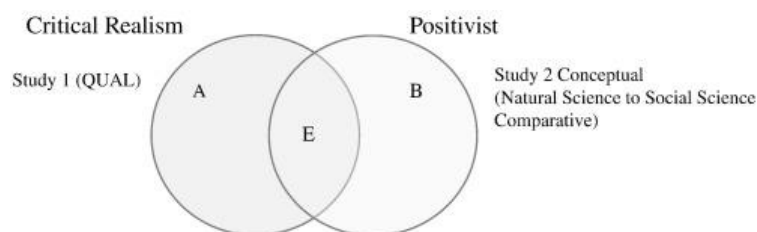
In the field of social sciences, triangulation can be traced back to Campbell and Fiske (Campbell, 1959), who are credited with the development of the notion of "multiple operationists. They argued for the use of many methods in the validation process to ensure that the variation mirrored that of the trait and not the technique. This would ensure that the trait was responsible for the variance and not the method. When two different methods "converge" or "agree" with one another, this "improves our belief that the results are valid and not a methodological artefact" (Bouchard, 1976). The most typical use of triangulation is what (Denzin, 1971) calls the "between (or across) procedures" type of triangulation. This is the most common application of triangulation. Cross validation is primarily accomplished when two or more distinct techniques are found to be congruent and yield comparable results. This can be considered a vehicle for cross validation. Because of this, organisational researchers would need to use a variety of methods to investigate the same part of a study problem. An investigation of the effectiveness of a leader, for instance, can involve conducting an interview, observing their behavior, and evaluating their performance. Even though there are many different approaches of data collection, the effectiveness of the leader is invariably the primary focus. The picture of the leadership phenomenon becomes more solid when many measures, each of which is independent from the others, arrive to the same findings.

The basic goal of qualitative research is to collect data through open-ended dialogue and debate. This technique considers not only "what" but also "why" people believe the things they do. Consider a quick-service restaurant that wants to expand the number of customers it serves. An extensive analysis indicated that men are more likely than women to shop at this specific establishment. For example, conversations with potential customers in the category are an effective way to determine why female customers were not shopping at the store, after successfully interviewing female customers, visiting nearby businesses and malls, and selecting them at random, it was discovered that the store does not stock enough items for women, discouraging women from visiting the business. This was revealed after it was determined that the store does not sell enough items for guys, which prevents women from entering. Because there were more male products than female things, it was necessary to question the female consumers to find out why they avoided shopping there (Hernandez, 1996). The social science disciplines of psychology, sociology, and anthropology serve as the foundation for qualitative research. As a result, using qualitative research methodology allows the interviewer or researcher to ask detailed questions of respondents, follow up on their comments, and strive to understand their feelings and motivations. Drawing conclusions from market research may be an easy undertaking if you understand how people in your target market make decisions (Scott, 2010).

3.2 Philosophical triangulation:

There are a number of various types of triangulations, but the great majority of research on the topic has concentrated on minimising the influence of bias and bolstering the reliability of predicted occurrences. This is a typical use of the initial four triangulation types: data, observer, methodology, and theory/lens. By presenting many interpretations of a phenomenon, the literature on philosophical triangulation indirectly helps to the enhancement of validity (Mitchell, 1986). This begins a departure from the four prior triangulation approaches. Philosophical triangulation can contribute to the creation of numerous viewpoints that can either support or reject competing hypotheses by limiting the early acceptance of reasonable justification and enhancing confidence in the formulation of ideas for theory development (Banik, 1993).

The research undertaken on philosophical triangulation has been mainly on how combining many perspectives might bolster confidence in a widely accepted theory. There is a gap in the study on the use of philosophical triangulation to identify intriguing events that were not necessarily included in the original research topic. This disparity can be due to the metaphor of triangulation, which requires only two points to triangulate the third point. Figure 2 further emphasizes this point. 2 in which the phenomena "E" has been triangulated using alternative philosophical perspectives from three interconnected research. What if, however, there are two additional phenomena, "A" and "B," from the first and second study, in their respective order? Using the philosophical triangulation depicted in Fig. 2, it is demonstrated that phenomenon "A" from study 1 was observed using a critical realism ontology (and qualitative epistemology QUAL), which cannot be explained from the positivist perspective used in study 2 (Natural Science to Social Science Comparative–Conceptual). Similarly, if phenomena "B" in the second conceptual research was observed from a positivist perspective, it cannot be explained from a critical realism perspective in the first conceptual research and is therefore technique specific. This poses a conundrum for the researcher, who must evaluate whether the unanswered questions pertain to the same events or entirely new occurrences. There is a possibility that the researchers will stop examining the data at this stage, resulting in them only reporting their findings and being unable to contribute to the creation of a new theory. Based on the results of studies 1 and 2, the wealth and depth of information that could have been used to discover and comprehend a new phenomenon E reduced. If A and B were also identified as phenomena, then it is possible that they are associated with phenomenon E. Therefore, they would impact the recognition and understanding of the phenomenon E, as well as the construction of a theory that combines A, B, and E.



2-point Triangulation. Figure.3

With the help of tri-philosophical triangulation where the metaphor triangulation should be viewed from standpoint of what is used to observe rather than what is observed. Here, it is feasible to triangulate an additional set of three phenomena E, D, and F, allowing for a more in-depth and comprehensive identification and comprehension of the phenomenon's face G with E, D, and F (Robert Joslina, 2016).

3.3 Triangulation Limitations:

Triangulation has its detractors. The disadvantages of the triangular method include (a) the longer time required compared to single strategies, (b) difficulty in dealing with massive amounts of data, (c) the possibility of disharmony due to investigator biases, (d) conflicts due to theoretical frameworks, and (e) a lack of understanding regarding the rationale for using triangulation strategies (Robert Joslina, 2016).

However, "a philosophical understanding of the perspectival and pluralistic outcomes of the application of each philosophy," according to some researchers and others, is the topic that attracts the most attention in the discourse (Weaver, 1994). The concern is whether distinct ontological perspectives can be maintained, which would entail preserving diverse results while emphasising the interconnections and interdependencies among the various bits of information. Due to the ontological nature of this question, it is impossible to determine whether it is accurate or incorrect, or whether it is even possible. The researcher's ability to accept that there are multiple "versions of the truth" that can be reconciled into a bigger picture based on integrated worldviews or will remain separate entities based on diverse worldviews is reliant on the researcher's worldview acceptance (Robert Joslina, 2016).

3.4 Research approach

Methodological triangulation refers to the practise of utilising a variety of research techniques in order to investigate a phenomenon. It has proved helpful in giving confirmation of findings, more extensive data, higher validity, and a better understanding of the phenomenon that is the subject of the inquiry. Although a large number of researchers have implemented this tried-and-true method, there are relatively few examples of it that have been documented. The acquired qualitative data complemented and clarified the quantitative findings, aiding in the identification of recurring themes. The qualitative data helped researchers better understand how to increase participants' "pulling" characteristics and combat their "pushing" elements. Four evaluative criteria were utilised by the authors to verify that the research was conducted rigorously, and four focused research questions were used to express the research's goal. The standards included "truth value," "applicability," "consistency," and "neutrality" (Bekhet AK, 2012).

3.5 Research Strategy

A single research topic can benefit from combining and integrating qualitative and quantitative research methodologies through the use of mixed methods of research. Collection and examination of the qualitative and quantitative data is required in order to achieve a deeper understanding of a phenomenon and provide solutions to the questions posed by the research.

Mixed-methods research is based on the principle that it makes the most of the positive aspects of each form of data while minimising the drawbacks of each method. Combining qualitative and quantitative approaches is a common practise among researchers since it allows them to extend the body of their data, improve the validity of their conclusions, and evaluate how the results of one method compare to those of another.

3.6 Sampling Method

Making an accurate inference from results, choose a sample that is typical of the total population. Two types of sampling techniques are possible:

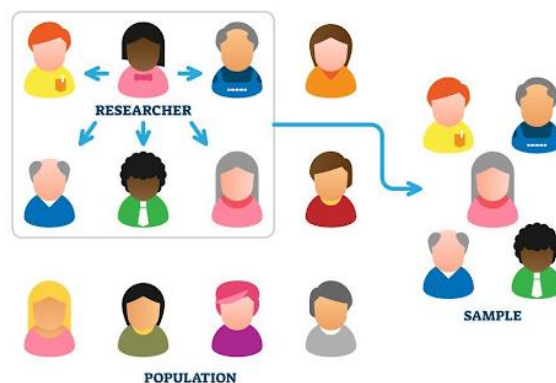
- Probability sampling involves making a choice at random, which enables precise statistical inference for the entire group. Selection bias is less likely, in general (McLeod, 2019).
- The collecting of data can be made extremely simple by using a method known as non-probability sampling, which involves making decisions based on convenience rather than at random (McLeod, 2019).

3.6.1 Convenience Sampling type

I have opted to use two types sampling methods i) Convenience sampling ii) Purposive sampling

- **Convenience** sampling type in contrast to other sampling approaches, convenience sampling has no limits or selection criteria; all that is required is to discover of the public. It is collected from available resource to the researcher, it is cost effective and easy to access for conducting surveys
- **Purposive** sampling Researcher can focus attention in detail on relatively small sample sizes by using deliberate sampling. It's possible that you're undertaking research on a subject that is likely to have a small number of solitary cases or that you want to communicate with a certain group of people who share particular traits. When conducting research that calls for participants with a high level of expertise in a certain field, experts are sampled. Specialists are chosen based on their level of experience or skill set as presented.

CONVENIENCE SAMPLING



Source: (blog, 2022)

3.6.2 Sample size:

One hundred is the absolute minimum sample size required. The vast majority of statisticians feel that a sample size of at least 100 must be utilised to provide statistically significant results. This research study has more than 130 replies gathered via Google Forms.

3.6.3 Sample Type:

This study report includes demographic information such as name, age, and relevant industry experience, allowing for the collection of varied perspectives on the topic.

3.7 Data Collection:

This research paper consists Primary Data, Secondary Data and Expert Reviews from the Industry.

- ❖ The core data were collected using a Google Survey that consisted of ten to fifteen questions (Refer to Appendix) and required a response time of less than ten minutes. Most questions were rather routine and related to the beverage and food industry. There were questions with a linear scale as well as ones with multiple choices. The survey was administered by **Google**.
- ❖ Expert Reviews were collected through expert telephone interviews. **Hemanth Kumar** and **Gangadhar Panday** (Panday, 2021), Gangadhar Panday is the founder of the Indian non-governmental organisation **Babul**, which works for sustainability, biodiversity, and the environment. **Hemanth Kumar** (pusthay-hemanth-kumar, 2020) is an experienced journalist for a leading English-language daily in India called **The Hans India**. He has almost 35 years of experience.
- ❖ The Books, journals, articles, web pages, and blogs are of secondary data sources. The commonly used keywords for extracting the data are “**Sustainable future**”, “**Green entrepreneurship**”, “**E-Waste Impact Globally**”, “**E-waste recycling solutions**”, “**Eco-prenuer**”, “**Environment damage caused by restaurants**”, “**organic farming**”. All the data has been collected through relevant sources with proper citations in the paper

3.8 Data Analysis

To gain the knowledge and insights you need to make better business decisions, then sound survey data analysis is the key. However, it is essential to be aware of any potential obstacles that may make the analysis more challenging or even cause the results to be skewed. Because it offers qualitative results that are not based on numbers, asking an excessive number of open-ended questions might make your study more complicated and take up additional time. On the other hand, closed-ended questions produce findings that can be analysed more quickly. In addition to this, analysis can be harmed by the use of leading or biased questions, as well as questions that are confusing or overly complex. A simple and fruitful examination of survey data can be ensured by a person's possession of the appropriate tools and knowledge in this area. The data is analysed in the framework of Pie Charts, Bar Charts through google forms.

Chapter: 4. Summary on Findings

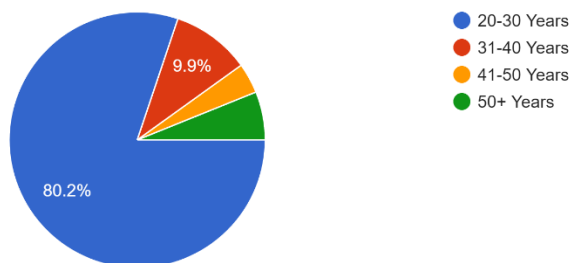
The outcomes, conclusions, data, statistics, and other material collected or generated while a study project is what are meant to be referred to as the "findings" of the research. In this context, "empirical evidence" and "theoretical speculation" are included alongside databases, software, and equipment that were developed during the study process.

Age

In 13 responses, the age of respondents is represented as a percentage using a pie chart. The 50+ age group reported a response rate of 6.4%, demonstrating that older persons are not that comfortable with online surveys, whereas the 31-40 age group had a response rate of almost 10.5%. Over 79 percent of respondents between the ages of 20 - 30 are the most engaged in this study, recording their comments. This obviously demonstrates that young people are more likely to participate in these types of surveys, which can aid in identifying solutions for a sustainable future. In contrast, just 4% of respondents reported their comments inside the age bracket of 41 -50.

AGE GROUP	COUNT
20-30 Years	105
31-40 Years	13
41-50 Years	5
50+ Years	8

Age
131 responses



Source: (Learner, 2022)

Gender

Gender-specific survey questions are often used to figure out a person's gender. There could be questions about gender in different types of surveys, like market research. Using the gender of the respondents as a parameter could help surveys figure out how gender affects a person's choices. Sociologists are interested in how individuals perceive gender roles for a variety of reasons. It is believed that people's support for gender equality depends on how they feel about gender roles (Bergh, 2007).

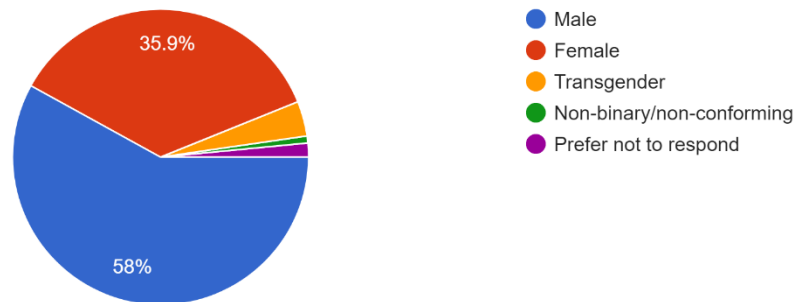
GENDER	COUNT
MALE	76
FEMALE	47
TRANSGENDER	5
NON-BINARY/NON-CONFIRMING	1

PREFER NOT TO RESPOND	2
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Inferring from the pie chart below that Survey is well-known among all demographics and has handled men and women with dignity.

Gender

131 responses



Source: (Learner, 2022)

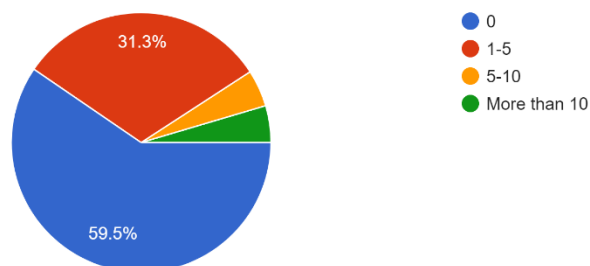
Experience in F&B Industry (Food & Beverages)

We frequently recommend the public to conduct their own surveys in order to see how people answer for themselves. Most of the time, they realise through experience that they need to hire skilled individuals to assist them in designing a survey that would provide them with the data they require. The research business must realise that it is insights, not surveys, that are most essential. When we create a responder experience that yields the best quality output—accurate, actionable data—we maximise the value of our study.

YEARS OF EXPERIENCE	COUNT
0	78
1-5	41
5-10	6
10+	6

Do you have any experience in F&B (Food & Beverages) Industry? If so how many ?

131 responses



Source: (Learner, 2022)

Over 31% of responses are collected from persons with 1-5 years of experience in the Food & Beverage sector, providing us with an accurate and clear perspective of their insights and

examining the approaches utilised by their organisations or companies. Valuing other groups that lack experience is common; these are the people who are mainly unaware of F&B procedures. Experts with 5-10 and more than 10 years of expertise share a large amount of 4.6 percent. The study survey is placed in Multi-Dimensional Perspective after recording replies from all experienced categories.

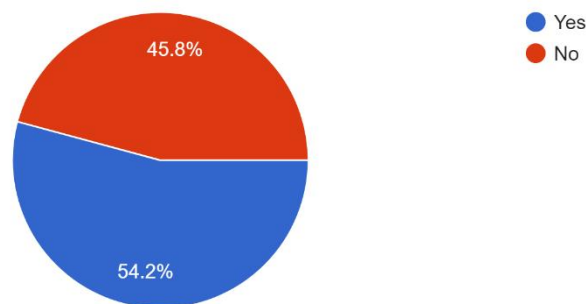
Awareness of Current Technology and Process in Food & Beverages Industry

Public perceptions of your survey the degree to which they are familiar with your question and other identifiers, and the nature of their connection to your findings can be gleaned from the responses they provide to questions about industry awareness they are asked in a survey (Cornell, 2022).

AWARENESS OF TECH & PROCESS	COUNT
YES	71
NO	60

Are you Aware of Current Tech and Processes used in Food & beverages Industry?

131 responses



The 71 respondents are familiar with the procedures and technology utilised in the Food and Beverage industry. Responses from over 130 individuals have been compiled for the Knowledge of current technology and procedure section. Sixty percent of respondents, on the other hand, are unfamiliar with the techniques and technology utilised in the food and beverage business.

Opinion on Organic Farming

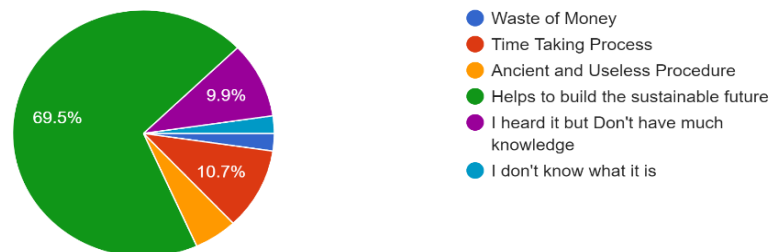
A detailed synthesis of the opinions held by many distinct people can be found in public opinion research. To this study, opinions of individuals chosen at random from a broader population are obtained through techniques including surveys. Additionally, it is useful to comprehend how the public feels about the organisation. Also, it enables firms to understand the needs or preferences of the general audience. Businesses also prioritise research that measures public sentiment because of this benefit. We will now go deeply into the significance of public opinion research and examine it at length in order to help you expand your company methodically (Questionpro, 2021).

OPINION ON ORGANIC FARMING	COUNT
WASTE OF MONEY	3
TIME TAKING PROCESS	14
ANCIENT AND USELESS PROCEDURE	7

HELPS TO BUILD THE SUSTAINABLE FUTURE	91
I HEARD IT BUT DON'T HAVE MUCH KNOWLEDGE	13
I DON'T KNOW WHAT IT IS	3

What is your opinion on Organic Farming?

131 responses



131 respondents weighed in on Organic farming. Although they have heard of organic farming, 14 and 13 respondents believe it is time-consuming and they lack information about it. A significantly smaller fraction of people claims ignorance about organic farming. Only seven individuals have weighed in on the topic of Ancient and Useless Procedure. However, 91 persons have expressed their opinion that organic farming contributes to the development of a sustainable future.

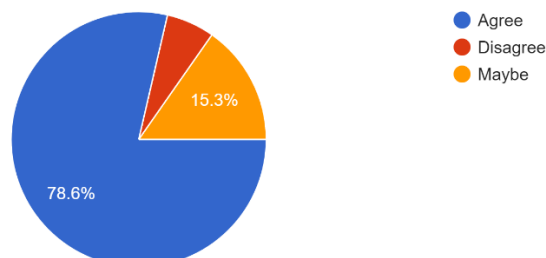
Sustainable Future in F&B

More than one hundred respondents concur that organic farming contributes to the development of a sustainable future and is the greatest approach to prevent the food and beverage industry from polluting the environment. Only eight respondents disagree that organic farming does not contribute to the development of a sustainable future in the Food and Beverage industry. On the other side, twenty individuals answered perhaps Organic farming can help.

HELPS TO BUILD SUSTAINABLE FUTURE	COUNT
AGREE	103
DISAGREE	8
MAYBE	20

Do you think organic farming will help to build sustainable future in F&B Industry ?

131 responses



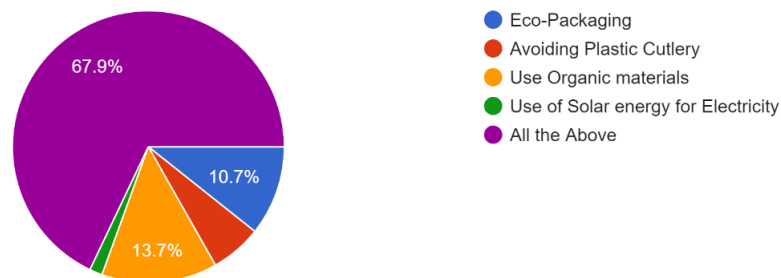
Food and Beverages Industry Impact on Environment

The environmental impact of the food and beverage industry has been surveyed, and 14 respondents feel that eco-friendly packaging will equally mitigate this impact. 18 respondents favored the use of organic materials, whereas 8 eschewed plastic cutlery and 2 favored the use of solar energy for electricity. Whereas 89 people have voted for each of the subsequent, they would all help to lessen the environmental effect of the Food and Beverage industry.

TO REDUCE IMPACT OF F&B INDUSTRY ON ENVIRONMENT	COUNT
ECO PACKAGING	14
AVOIDING PLASTIC CUTLERY	8
USE ORGANIC MATERIALS	18
SOLAR ENERGY FOR ELECTRICITY	2
ALL THE ABOVE	89

What could be used in F&B Businesses to reduce the impact on environment?

131 responses



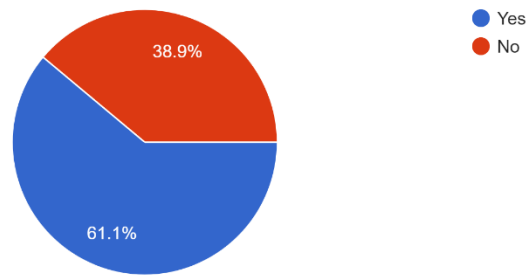
Awareness of damage caused by Food and beverages Industry

There are 80 people who are aware of the detrimental environmental effects of the food and beverage industry. It is disturbing that more than half of those polled are unaware of the harm caused by the food and beverage industries. On the other side, 51 of the respondents said they were unaware of the damage done. There is no doubt that activist organisations and nonprofit organisations have a responsibility to raise awareness about the harm caused by the food and beverage sector.

AWARE OF DAMAGE CAUSED	COUNT
YES	80
NO	51

Are you aware of the Damage caused by F&B business

131 responses

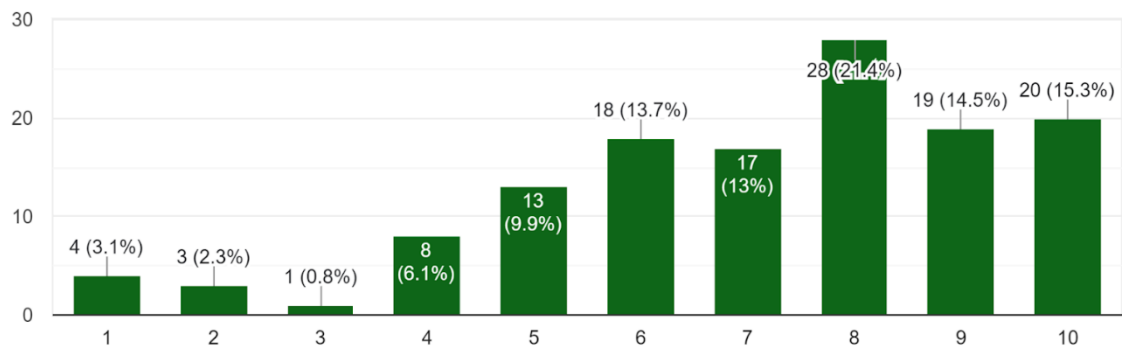


Rating the Damage caused by Food and beverages industry

The vast majority of respondents placed a high value on the severity of the problems produced by the food and beverage industry. When asked to assess the number on a scale from 1 to 10, 28 respondents awarded it an 8, while 20 gave it a 10. Only a select few individuals came in first or second place. The ratings began with a 5 and were recorded from thirteen different respondents.

On a scale of 1-10 rate the damaged caused by F&B Business

131 responses



RATING	COUNT
8	28
10	20
9	19
6	18
7	17
5	13
4	8
1	4
2	3

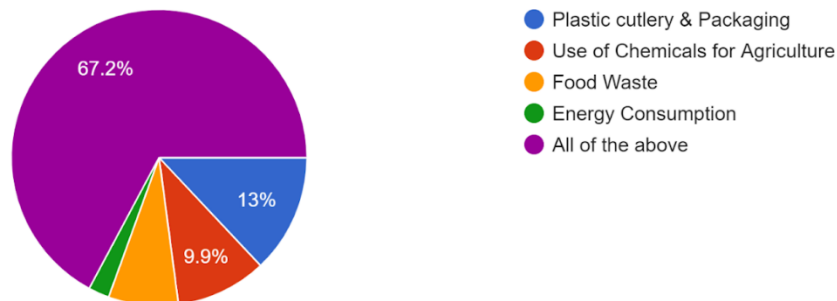
Factors Damaging Environment in Food and Beverages industry

People have spoken out about the elements that contribute to the environmental damage caused by the food and beverage industry. Seventeen people blamed plastic cutlery and packaging, while thirteen and ten blamed the usage of pesticides in agriculture and food waste, respectively. The number of participants who have offered input on energy consumption is small. Many individuals believe that the aforementioned reasons are all to blame for the degradation of the natural environment.

ENVIRONMENTAL DAMAGE WITH F & B SECTOR	COUNT
ALL OF THE ABOVE	88
PLASTIC CUTLERY AND PACKAGING	17
USE OF CHEMICALS FOR AGRICULTURE	13
FOOD WASTE	10
ENERGY CONSUMPTION	3

In your opinion, What are the major factors causing environmental damage with F&B ?

131 responses

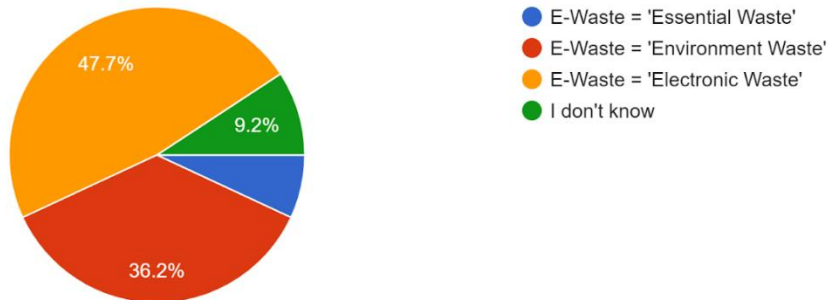


Meaning of E-WASTE

The phrase "e-waste" is one that the vast majority of people in the general public are not familiar with. Nine participants thought that e-waste was the same thing as essential waste, while twelve people responded with "I don't Know." 47 individuals thought that E-Waste was the same thing as Environmental Waste, whereas 62 individuals voted correctly for Electronic Waste.

Do you what is meant by E-Waste ?

130 responses

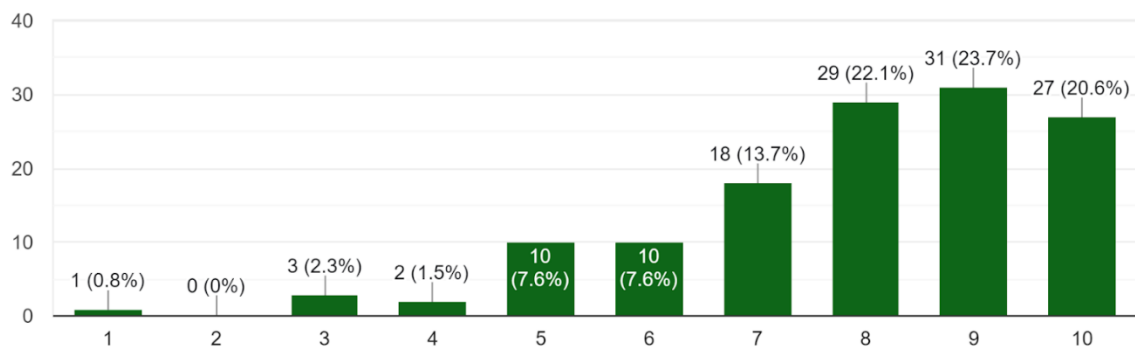


E-WASTE	COUNT
E-WASTE = "ELECTRONIC WASTE"	62
E-WASTE = "ENVIRONMENT WASTE"	47
I DON'T KNOW	12
E-WASTE = "ESSENTIAL WASTE"	9

IMPACT OF E-WASTE ON ENVIRONMENT

In your opinion, what is the impact of E-waste on environment?

131 responses



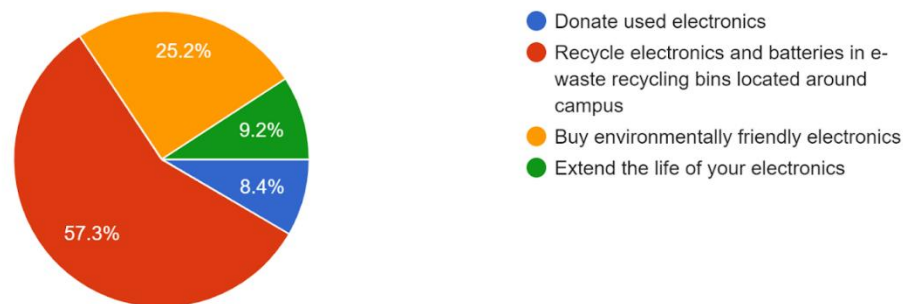
RATING OF IMPACT OF E-WASTE ON ENVIRONMENT	COUNT
10	27
8	29
9	31

7	18
6	10
5	10
3	3
4	2
1	1
2	0

Factors eradicate E-WASTE

In your opinion, what could have done better to eradicate E-Waste

131 responses

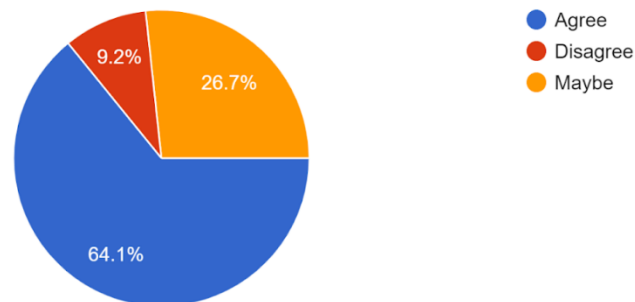


FACTORS TO ERADICATE E-WASTE	COUNT
RECYCLE ELECTRONICS AND BATTERIES IN E-WASTE RECYCLING BINS LOCATED AROUND CAMPUS	75
BUY ENVIRONMENTALLY FRIENDLY ELECTRONICS	33
EXTEND THE LIFE OF YOUR ELECTRONICS	12
DONATE USED ELECTRONICS	11

Eco-Consciousness to Aspiring Entrepreneurs

Do you think making Eco-Consciousness before Setting up an Organization will help us to Build Sustainable future ?

131 responses

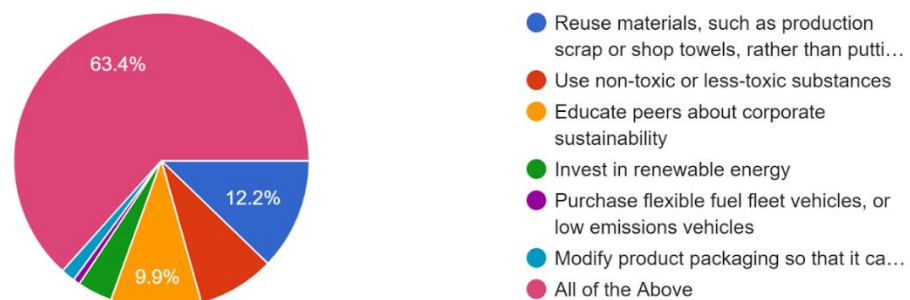


ECO-CONSCIOUSNESS	COUNT
AGREE	84
DISAGREE	12
MAYBE	35

Overall Measures for Sustainable Future

In your opinion, what other measures can we take in creating a sustainable future?

131 responses



SUSTAINABLE FUTURE	COUNT
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ALL OF THE ABOVE	83
REUSE MATERIALS	16
USE NON-TOXIC OR LESS TOXIC SUBSTANCES	11
EDUCATE PEERS ABOUT CORPORATE SUSTAINABILITY	13
INVEST IN RENEWABLE ENERGY	5
PURCHASE FLEXIBLE FUEL FLEET VEHICLES OR LOW EMISSION VEHICLES	1
MODIFY PRODUCT PACKAGING SO THAT IT CAN BE EASILY RECYCLED	2

4.1: Expert Reviews on Findings

Expert comments by Gangadhar Panday (Babul Films Society NGO) Hyderabad, India.

Objectives

To identify and analyse the current processes and Technology used in

[a] Food & Beverage industries

[b] E-Waste industries

To determine the impact of e-waste and damage caused to the Environment, a standard measurement unit may be adopted. Where necessary conversions may be made. In terms of timelines, a standard year example 2019 may be taken and accordingly where needed estimates or projections for 2019 to be taken. This is important in view of the pandemic disturbance and that the study is global in nature and scope. Alternative solutions or Recommendations may please group under two classifications for developed economies and other economies as the solutions differ varies in terms of practical application.

❖ Research Questions

- Green and White Revolution in India & the Sri Lanka example of attempting to hastily implement organic farming may also be included in the questions suitably.
- The concepts of Extended Producer Responsibility EPR, Polluter Pays and Right to Repair campaign are more relevant and deserves to be covered with a couple of questions at least for each topic.
- Regarding impact of food production on Environment, there are many studies at international, national, and regional levels. case studies and reputed third party studies for national references. Government studies might be biased.

Future sustainability of food production:

The quest for sustainability like it is happening in the case of Commercial interest should not be at the cost of Health of humans and other living forms. Please keep this in mind. Focus should not be entirely on technology but also on the changes needed in the behavior and habit patterns of people. I have gone through the proposals sent in by Mr. Akshay Kumar Pusthay and find them well-grounded and as an output of enough homework and understanding. I recommend consideration of the expert comments made by Gangadhar Panday and try to include them in the dissertation to the extent possible.

4.2 Expert review 2

Expert comments by Hemanth Kumar (News Editor, The Hans India)

According to the responses collected and the reviews conducted through the survey, this research report's conclusions are growing closer to Hemanth's point of view. He believes that by educating future generations and making them aware of present challenges, we will gain scope. Climate activists, nongovernmental organisation (NGOs) founders, and journalists must be in responsibility of raising awareness among the general public and youngsters. People are always willing to change if we demonstrate our commitment to it and present statistical evidence; nevertheless, it may take some time before it is worthwhile for future generations. Hemanth, a journalist, claims to have travelled to many different places of India and saw people suffering from a shortage of food. He agrees that governing bodies should aid in the formation of an expanding number of food banks. When it comes to electronic trash, Hemanth is noted as saying that recycling and conscious purchasing must be practised in big numbers, and that celebrities should encourage this type of cause. Hemanth is concerned that his employees are members of a younger generation who, while cognizant of environmental issues, are oblivious to the idea that they are working for a good cause. Furthermore, the expert stated that researchers should focus more on school-aged youngsters rather than confining the study to adults.

Chapter 5: Conclusion

Utilization of the most recent technology: The application of sustainable technology will assist in assisting the environment in reducing the quantity of work done by harmful practises. The use of modern technology such as chemical farming not only contributes to an increase in the damage done to an environment but also has a substantial impact on the company's capacity to remain profitable in the long run. However, businesses that deal in food and drink also need to place a strong emphasis on developing cutting-edge technologies that may assist in the formulation of effective business strategies. Experts and the growing significance of sustainable management gave the researchers encouragement to extend their attention in the food waste and children survey area, which they had been focusing on previously. Because of this, Green Entrepreneurship utilises cutting-edge technology in order to design the fundamental sketch of the route that the logistics will travel in order to get at their destination Enhance communication, and be sure to include the primary data collection method: When it comes to the management of electronic waste, there are a variety of company-level strategies that, via effective corporate communication, need to be brought into alignment with a sustainable strategy. Recycling of plastics across the supply chain ought to be incorporated into the business plan of each and every organisation by means of effective business communication for the purpose of sustainable development. The organisational structure should encourage members of the public to raise their own level of self-efficacy so that a robust sustainable company strategy may be developed. Green business also focuses on the sustainable process by inspecting manufacturing plants critically and identifying variables that can disrupt production cycles. This is done to ensure that the process is as environmentally friendly as possible.

Chapter 6: Recommendations

Over seventy-nine percent of respondents between the ages of twenty and thirty have shown the highest level of interest in this study. Only 4% of respondents claimed that they were between the ages of 41 and 50 when they provided their remarks. This indicates that older people are not as comfortable with responding to online surveys as younger people are. The response rate for the group of those aged 50 and older was only 6.4%. There have only been seven people total who have shared their thoughts on the topic of Ancient and Useless Procedure. There have been 91 people who believe that organic farming makes a positive contribution toward the creation of a more sustainable future. Hemanth is of the opinion that we will be able to broaden our perspective if we teach younger generations about the problems that we face today.

Chapter 7: Appendix

Expert Review Questions

For Gangadhar

Q1. What is the impact of e-waste on environment?

Q2. Can you tell us about green technology.

Q3 Overall, about research

For Hemanth Kumar

Q1. Review on survey conducted

Q2. Opinions what to be added

Q3. What are we lacking in youngsters for achieving sustainable future

Questionnaire of Google Survey

Age *

- ☐ 20-30 Years
- ☐ 31-40 Years
- ☐ 41-50 Years
- ☐ 50+ Years

Gender *

- ☐ Male
- ☐ Female
- ☐ Transgender
- ☐ Non-binary/non-conforming
- ☐ Prefer not to respond

Do you have any experience in F&B (Food & Beverages) Industry? If so how many ? *

- ☐ 0
- ☐ 1-5
- ☐ 5-10
- ☐ More than 10

Are you Aware of Current Tech and Processes used in Food & beverages Industry? *

- ☐ Yes
- ☐ No

What is your opinion on Organic Farming? *

- ☐ Waste of Money
- ☐ Time Taking Process
- ☐ Ancient and Useless Procedure
- ☐ Helps to build the sustainable future
- ☐ I heard it but Don't have much knowledge
- ☐ I don't know what it is

Do you think organic farming will help to build sustainable future in F&B Industry ? *

- ☐ Agree
- ☐ Disagree
- ☐ Maybe

What could be used in F&B Businesses to reduce the impact on environment? *

- ☐ Eco-Packaging
- ☐ Avoiding Plastic Cutlery
- ☐ Use Organic materials
- ☐ Use of Solar energy for Electricity
- ☐ All the Above

Are you aware of the Damage caused by F&B business *

- ☐ Yes
- ☐ No

On a scale of 1-10 rate the damaged caused by F&B Business *

- | | | | | | | | | | |
|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ | ☐ |

In your opinion, What are the major factors causing environmental damage with F&B ? *

- ☐ Plastic cutlery & Packaging
- ☐ Use of Chemicals for Agriculture
- ☐ Food Waste
- ☐ Energy Consumption
- ☐ All of the above

In your opinion, what could have done better to eradicate E-Waste *

- ☐ Donate used electronics
 - ☐ Recycle electronics and batteries in e-waste recycling bins located around campus
 - ☐ Buy environmentally friendly electronics
 - ☐ Extend the life of your electronics
-

Do you think making Eco-Consciousness before Setting up an Organization will help us to Build Sustainable future ?

- ☐ Agree
 - ☐ Disagree
 - ☐ Maybe
-

In your opinion, what other measures can we take in creating a sustainable future?

- ☐ Reuse materials, such as production scrap or shop towels, rather than putting them into the waste stream
- ☐ Use non-toxic or less-toxic substances
- ☐ Educate peers about corporate sustainability
- ☐ Invest in renewable energy
- ☐ Purchase flexible fuel fleet vehicles, or low emissions vehicles
- ☐ Modify product packaging so that it can be easily recycled
- ☐ All of the Above

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