



RESEARCH ARTICLE

## Sustainability Development on the Waste Reduction of Food, Beverage and Tobacco Manufacturing Firms in Enugu State

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The study evaluated the sustainability development on the waste reduction of food, beverage and tobacco manufacturing. The specific objectives were to: examine the effect of employee equal opportunity on the prevention of waste and evaluate the effect of maintenance skills on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state. The study employed survey method research. A total population of one thousand, seven hundred and sixty-five (1765), staff was used. The sample size of 316, using Freund and William's statistic formula at 5 percent margin of error. 255 staff returned the questionnaire and accurately filled. Data was presented and analyzed by mean score (3.0 and above agreed while below 3.0 disagreed) and Z – test was used to test the hypotheses. The findings indicated that Employee equal opportunity had positive effect on the prevention of waste, ( $7.530 < 8.532, p = < .05$ ) and Maintenance of skills had positive effect on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state, ( $4.965 < 6.654, p = < .05$ ). The study concluded that Employee equal opportunity and Maintenance of skills had positive effect on the prevention of waste, standard costing and reusable products of Food, Beverage and Tobacco Manufacturing firms in Enugu state. The study recommended among others that the management of food, beverages and tobacco manufacturing firm and other organizations should engage in promoting Equal Employment Opportunity for respect between employers and employees, which often results in increased loyalty and engagement, as well as improved productivity.

←  
ABSTRACT

**Keywords:** Sustainability Development; Tobacco Manufacturing Firms; Waste Reduction

## Introduction

Every system and society grow organically. Without judicious and constrained use of natural resources, development cannot be sustained. The process of utilizing standards for energy efficiency and environmental responsibility to construct new projects, maintain existing ones, and adapt older ones is known as sustainable development. Making sure that what is constructed can be maintained and repaired in a way that minimizes the degradation of the original construction is given a lot of importance in order to increase the lifespan of a facility. However, thanks to technological breakthroughs, progress nowadays is happening at a dizzying pace. The main issue is that not everyone takes into account the negative effects of imbalanced economic growth, such as those on the environment and human well-being. It's time for people to adopt an entirely new viewpoint on imbalanced economic development by looking at the world from a different angle (Conserve, 2022). The difficulty with sustainable development is that high levels of wellbeing have yet to be attained in a manner that is ecologically responsible. In order to protect biodiversity and encourage local residents' empowerment and social fairness, economic activity should be kept to a minimum. One of the useful instruments that has brought together players from many professions to advance common objectives is the social commitment to sustainable development.

Although it is not required, Elsheekh, Kamel, Elsherif & Shalaby (2021) claim that one of the challenges in achieving the Sustainable Development Goals (SDGs) by 2030 is to take control of the various adverse environmental, economic, social, and urban impacts that threaten cities in addition to benefits that are realized from achieving it. Purvis, Mao, and Robinson (2001) divided the notion of sustainable development into three categories: social, environmental, and economic (2019). A socially sustainable system must accomplish gender parity, effective social service delivery, equitable distribution of wealth and opportunity, and political responsibility and involvement. A system that is ecologically sustainable must keep its resource base constant, avoid overusing renewable resource systems or environmental sink functions, and only use non-renewable resources to the degree that sufficient investments are made in acceptable replacements. This includes preserving biodiversity, atmospheric stability, and other ecological services that aren't often categorized as resources with a monetary value. A system that is economically sustainable must be able to continuously generate products and services, maintain acceptable levels of public and foreign debt, and prevent excessive sectoral imbalances that harm industrial or agricultural production. It reflects a system's capacity to prevent severe sectoral imbalances, manage foreign debt, and limit levels of government that may harm industry and agricultural productivity while continuing to provide commodities and services.

Sustainable waste management strives to reduce the quantity of solid waste that is disposed of in landfills or by incineration. Materials are kept in use for as long as feasible. Every company has a duty to see that the garbage produced on their premises is disposed of promptly (RTS, 2020). Serious medical issues may be caused by the careless handling of various waste items and poor disposal practices. To help lessen the detrimental environmental, social, and economic effects of 21st-century consumption, a more thorough approach to sustainable waste management must concentrate on the entire lifecycle of a product. This is because in our current linear economy, waste starts even before products are manufactured. Environmental sustainability concerns must be addressed immediately since climate change is a serious crisis that already calls for swift response. Due to this requirement, companies that manufacture food, beverages, and tobacco have begun to evaluate the impact of sustainable development on waste reduction.

## Statement of the Problem

The amount of trash produced by humans has an impact on many of life's essentials, including the air, water, and land where people reside. Every business that intends to last a long time must prioritize sustainable waste management. In contrast to the take-make-waste paradigm, it takes a systematic approach to economic development with the goal of separating growth from the use of scarce resources. Sustainable waste management not only provides more immediate answers to the numerous difficulties trash creates but also aids in addressing the concerns of a linear consumption culture. Therefore, enterprises must not only manage this waste but also develop methods for doing so in a sustainable manner.

The act of gathering, moving, processing, or discarding various waste products while controlling and keeping an eye on them is referred to as waste management. However, the current study found that the issues with waste reduction and sustainability growth in the organization include, but are not limited to, the following: a lack of employee equal opportunity, subpar maintenance abilities, and frequent social cohesion within the business.

The technical and non-technical aspects of garbage management are both present. These waste management issues must not be disregarded since doing so will make it harder to prevent waste, increase standard costs, and make reusable items harder to find, all of which will increase organization costs and lower productivity, profit, and output. The shifting socioeconomic landscape and consumption patterns have made it difficult to implement sustainable waste management strategies. Sustainability must be observed in this area so that all trash may be managed effectively rather than simply being dumped in landfills. As a result, this study tries to analyze how waste reduction efforts by companies that produce food, beverages, and cigarettes affect sustainable development.

### **Objectives of the Study**

The main objective of the study was to evaluate the sustainability development on the waste reduction of food, beverage and tobacco manufacturing. The specific objectives were to:

- I. Examine the effect of employee equal opportunity on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state.
- II. Evaluate the effect of maintenance skills on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state.

### **Research Question**

The following research question guided the study

- I. What is the effect of employee equal opportunity on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state?
- II. What is the effect of maintenance skills on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state?

### **Statement of the Hypotheses**

The following null hypotheses guided the study

- I. Employee equal opportunity has no positive effect on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state.
- II. Maintenance of skills has no positive effect on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state.

### **Significance of the study**

The study will be significant in the following dimension; The study will reduce business expenses, more innovative plans, an increased reputation, and more new customers who value sustainability, all work to increase the amount of money sustainable businesses earn. It will help stakeholder to increase their benefits of the policy, including: the opportunity to extend the demographics and size of the organization's customer base by appealing to their social conscience.

## **Review of the Related Literature**

### **Conceptual Review**

#### **Sustainability**

Physical and natural resources, environmental deterioration, and social resources all play a role in setting the boundaries of sustainability in commercial and governmental situations. Accordingly, sustainable policies offer some consideration to how a certain policy or corporate practice may affect society, the economy, and the environment in the long run. The idea frequently reflects the conviction that the world would deteriorate irreparably in the absence of significant changes to the way it is managed (Molenkamp, 2021). Sustainability is defined as the study of how natural systems work, maintain their diversity, and provide everything required for the ecosystem to stay in balance. Additionally, it recognizes that human civilization requires resources to maintain our contemporary way of life (1). There are innumerable instances in human history where a civilization has negatively impacted its own environment and its chances of surviving (Jared Diamond examines some of these instances in his book *Collapse: How Complex Societies Choose to Fail or Survive*) (10). Sustainability considers how humans could coexist peacefully with nature while preventing harm and devastation to it (Hopkins, 2022).

#### **Development**

Growth, advancement, positive change, or the addition of physical, economic, environmental, social, and demographic components are all products of development. The goal of development is to raise the standard of living for the populace while protecting the environment's resources and creating or expanding job opportunities locally and regionally. Development comprises a quality change aspect and the setting up of circumstances for the continuance of that change, and is observable and beneficial, albeit not always right away (Sid-Isreal, 2021). However, to define development as an increase in people's well-being falls short of what the word means to the majority of us. Development also suggests long-lasting change. A bed net or water pump can frequently be a great, affordable approach to improve someone's wellbeing; yet, if the improvement disappears after the net or pump is no longer available, we wouldn't typically refer to it as progress. This implies that development entails more than just increases in people's well-being, even when that term is used widely. It also implies that the ability of economic, political, and social institutions to provide the conditions for such well-being on a long-term, sustainable basis (Owen, 2022).

#### **Sustainability Development**

The process of enhancing economic prosperity and quality of life while maintaining a balance with future generations' capacity to do the same is referred to as sustainable development. The Sustainable Development Goals of the United Nations are acknowledged as the benchmark for sustainable development on a global scale. Even while the climate is one component of those objectives, it is not the only component. For instance, the 2021 goals contain objectives to combat poverty, environmental deterioration, and inequality, among other things (Molenkamp, 2021). According to a wide definition, sustainable development is "development that satisfies present demands without jeopardizing the ability of future generations to satisfy their own needs." The pursuit of economic expansion has given rise to issues like social injustice and environmental destruction (Monash, 2022).

#### **Components of Sustainability Development**

##### **Employee Equal Opportunity**

The idea behind equal employment opportunity (EEO) is that everyone should have equal access to possibilities for employment that are determined by merit. Access to equitable employment should be possible without having to worry about harassment or discrimination influencing hiring decisions. As a result, many Australian firms implement EEO policies to support workplace diversity and ensure that all employees are protected. Likewise, regardless of the size of the organization, it is desirable for all employers to have such a policy (Hayden, 2021). Employer discrimination based on "protected classes" became illegal under the 1964 Civil Rights Act. In the more than 50 years that have passed, both the federal and state governments have increased the list of classes that are covered. If you advertise that you are an equal opportunity employer in job postings or on applications, it means that you must treat employees and job applicants fairly under the law (Fraser, 2018).

### **Maintenance of Skills**

The abilities needed to fix and maintain the operation and/or cleanliness of machines, structures, and equipment fall under the maintenance and janitorial category. Across the nation, people with these skills are in high demand, including carpenters, plumbers, and custodians (Doyle, 2020). Work conditions for maintenance specialists vary considerably across sectors. These professionals' skill sets, though, are extremely specialized for the applications they use. Regular and preventative maintenance, installations, and repairs of machinery, equipment, property, buildings, and other settings are frequently carried out by many experts in various jobs (Austin, 2021).

### **Social Cohesion**

Social cohesiveness is the degree of ties and comradery between social classes. The community's sense of belonging and connections among its members are its two primary aspects, respectively. With the aims of establishing an equitable system, preserving the impulses of unchecked economic progress, and preventing social rifts, it arises from a democratic endeavor to build social balance, economic dynamism, and national identity (Michalos, 2022). When virtually all members of a society voluntarily "play by the rules of the game" and when tolerance for diversity is displayed in day-to-day interactions between social groupings within that society, social cohesiveness is considered to be high (Michalos, 2022).

### **Waste**

The term "waste management" refers to all of the tasks necessary to control trash, from the point of collection through recycling and monitoring. Waste, as used in waste management, is any undesirable or useless substance created by human activity and can take many various forms. Waste can be solid, liquid, or gas, and each has a specific disposal technique and means of managing the waste (Dutch, 2022). Waste is described as undesired and useless resources and is considered a non-useful substance. Garbage may also refer to waste that is visible in our immediate environment. Garbage is primarily regarded as a solid waste, which comprises household garbage (waste from our homes), municipal rubbish (waste from offices, schools, etc.), and industrial waste (waste from companies and industries) (Byju's, 2022).

### **Reduction**

In a chemical reaction when there is a process of obtaining electrons or a drop in the oxidation state by an element, reduction is the transfer of electrons between species. An increase in the number of electrons connected to a single or a collection of atoms is the result of a reduction chemical process. As a result, a reduced atom takes in electrons from other atoms. Thus, the atom that provides the electrons is oxidized (Janalta, 2019). In a half-reaction known as reduction, a chemical species lowers its oxidation number, often by acquiring electrons. Oxidation, which results in the loss of electrons, makes up the reaction's other half. Redox reactions are formed when reduction and oxidation work together (reduction-oxidation Equals redox). You may think of reduction as the antithesis of oxidation (Helmenstine, 2019).

### **Waste Reduction**

The process of utilizing less material and energy to reduce trash creation and protect natural resources is known as waste reduction or source reduction. Recycling is just one aspect of trash reduction, which also includes measures to keep items from becoming rubbish before they are recycled. Reusing things like plastic and glass containers, buying more lasting goods, and using reusable items like dishrags rather than paper towels are all ways to reduce waste (Patterson, 2019). Other effects of waste reduction are expected, and they could be equally important. A certain waste reduction activity may result in increased worker productivity, whilst a different action may result in worse product quality. Waste reduction has costs, advantages, and site-specific restrictions that are difficult to foresee. The whole industrial system in which waste reduction occurs determines its viability. Waste reduction efforts are extremely flexible and challenging to evaluate fully (Cheremisinoff, 2022).

## Theoretical Framework

The leadership model succession theory and the resources-based vision theory served as the study's guiding theories. The study was based on the leadership succession theory, which promotes an organization to develop its future chief executive from inside rather than from outside the organization. The idea offers a method for identifying important responsibilities, individuals with the necessary abilities, and positions that may need to be filled quickly. Additionally, it offers a means of lowering recruitment expenses, allowing businesses to handle hiring internally.

### Leadership Succession Theory

This hypothesis served as the study's foundation since it suggests that successful companies may outlive their founders. Businesses with corporate, nonprofit, or cooperative organizational structures follow histories that are connected to but distinct from the persons who founded them. The process of determining how a business will continue to run after its founders or leaders are no longer actively involved is known as business succession. Because there are many different leadership philosophies and models, succession plans often change depending on how a business has been run.

Kurt Lewin, a psychologist, created his framework in the 1930s, and it served as the basis for many of the methods that came subsequently. According to the theory, in order to guarantee leadership succession, the business should keep redundancy in its management structure to maximize coverage, plan ahead for retiring executives by appointing a successor before the current leader departs, groom chosen internal candidates by allowing them to observe the current leaders, and finally, avoid conflict by making leadership changes quickly. The process of determining how a business will continue to run after its founders or leaders are no longer actively involved is known as business succession. Because there are many different leadership philosophies and models, succession models also vary depending on how a company has been run (Otika et al, 2019). A corporation is encouraged to achieve redundancy in its management hierarchy through the leadership succession model. Starting with the company's CEO or owner, this process descends to department heads, shift supervisors, and project managers after passing via corporate executives. This makes communication possible in a straight line and guarantees that team members are constantly available to educate workers about management directives and new project objectives (Jonathan, 2021). The likelihood is high that another leader with comparable characteristics will take over the management of an organization that has historically been led by an authoritarian figure. A top-down manager does not allow much input from his team and typically hand-picks the successor he feels is most suited to go on with the same meticulously planned management style.

Businesses apply the idea to simplify the process of a change in ownership or leadership, supporting the study's fifth purpose. It entails identifying internal staff members who deserve career promotion and preparing them to take on new responsibilities inside the organization. Companies must take the required precautions to be ready for these strategies to function.

### Resources Based-View Theory

According to resource-based theory, a firm is best positioned for long-term success if it has access to resources that are valuable, uncommon, challenging to duplicate, and non-substitutable. These strategic assets can serve as the cornerstone for the growth of business skills that, over time, may result in improved performance. A management paradigm called the resource-based view (RBV) is used to identify the strategic resources a company might employ to gain a long-term competitive advantage. The essay "Firm Resources and Sustained Competitive Advantage" by Barney from 1991 is frequently considered as a key document in the development of the resource-based perspective (Barney, 1991). Lavie (2008), however, contends that there was some support for a shaky resource-based explanation from the 1930s. [Reference required] According to RBV, companies can adopt diverse strategies because they have varied resource mixes, which makes them heterogeneous since they have heterogeneous resources (Lavie, 2008). The two main presumptions of the resource-based perspective are that all of the organization's resources should be diversified and immobile. The first fundamental tenet of the resource-based perspective theory is this. The term "heterogeneous" describes how different organizations have different capacities and competencies. According to RBV in family-owned businesses, having strategic resources gives an organization a fantastic chance to

outperform its competitors on the market. These competitive advantages might also contribute to the company making significant profits.

The RBV concentrates managerial attention on the company's internal assets, capabilities, and competencies in an effort to identify those with the potential to provide superior competitive advantages. RBV placed a strong emphasis on an organization's internal resources as a way to streamline operations and gain a competitive edge. According to Barney, resources need to be valued, scarce, imperfectly imitable, and non-substitutable in order to have the ability to serve as sources of persistent competitive advantage (now generally known as VRIN criteria). According to the resource-based perspective, organizations must create distinctive, firm-specific core skills that will enable them to surpass rivals by acting differently (Prahalad and Hamel, 2008). Although the literature offers a variety of perspectives on the resource-advantage perspective, its central tenet is that the firm's resources financial, legal, human, organizational, informational, and relational are heterogeneous and imperfectly mobile, and that management's primary responsibility is to comprehend and organize resources for sustainable competitive advantage (Richard, 2001).

The RBV makes the argument that an organization will gain a competitive advantage if it has important resources and abilities that are difficult for rivals to imitate and apply. This argument supports the study's first aim (Barney, 1991). The resource-based view (RBV), which supports research aim #4, has been successful in explaining the durability of competitive advantages based on the characteristics of individual resources, but less so in elucidating firm profitability and the causes of potential profits.

## **Empirical Review**

### **The Effect of Employee Equal Opportunity on the Prevention of Waste of Food, Beverage and Tobacco Manufacturing**

The impact of corporate social responsibility on financial performance: a study on manufacturing companies listed in London Stock Exchange (Lse)-UK was studied by Bikon, Abdul, and Hassan (2018). Examining how Corporate Social Responsibility (CSR) affects financial performance is the goal of this study. A total of 180 observations were made throughout the research's 36 manufacturing and production organizations that were listed on the London Stock Exchange (LSE) between 2011 and 2015. Aerospace and automotive, mining, industrial goods, food, beverage, and tobacco, domestic goods, industrial machinery and equipment, healthcare, and paper products are among the subsectors taken into account. Corporate social responsibility (CSR), which is divided into the following 4 components: corporate giving, employee safety, greenhouse gas emission reduction, and waste reduction, is the independent variable employed in this study. Return on Assets (ROA) and Return on Equity are the dependent variables employed (ROE). In this study, convenience sampling was the method of sampling. The research paradigm employed quantitative data and a positivist methodology. This study uses an explanatory research design, and E-views software is used to gather secondary data and analyze it in order to provide descriptive and regression statistics. The results of this study also demonstrate that corporate generosity, employee safety, and waste reduction have no discernible effects on financial success. The decrease of greenhouse gas emissions does, however, have a major, unfavorable influence on financial performance. According to the study, cutting greenhouse gas emissions improves shareholder equity and returns on assets. For a more reliable result, it is advised that other researchers employ long-term financial performance metrics with a larger time horizon, such as Tobin Q or Stock return.

The effect of training on the low cost of food, beverage, and tobacco manufacturing firms in South East, Nigeria was the subject of a research by Iwu and Okwo (2020). The goal of the study was to determine how training affected the low-cost food, beverage, and tobacco manufacturing company in southeast Nigeria. The specific goals were to: assess the impact of workforce planning on the low cost of the food, beverage, and tobacco manufacturing firm in south-eastern Nigeria; determine the impact of leadership development on expanding market share; and determine the impact of succession planning on ensuring financial success of the food, beverage, and tobacco manufacturing firm in south-eastern Nigeria. the total number of people that work for the five (5) registered food, beverage, and tobacco production companies in central Nigeria. Nine thousand, three hundred and thirteen staff members (9313) make up the study's population. The study's methodology was a survey. The managers and employees of the

industrial enterprises were given a questionnaire. The sample size of 352 was selected from a population of 4217 staff members using the Freund and William's technique for determining an appropriate sample size. 311 employees from the sampled workforce returned the survey and filled it out completely. That resulted in a response rate of 88%. Using content analysis, the validity of the instrument was checked, and the outcome was favorable. With the help of the Pearson correlation coefficient, the reliability was evaluated ( $r$ ). A dependability co-efficient of 0.83 was also provided, which was satisfactory. Using the Sprint Likert Scale, data were presented and analyzed by mean (3.0 and above agreed, while below 3.0 disagreed) and standard deviation. When analyzing the hypotheses, the Z-statistic tool was used. The results showed that workforce planning had a positive impact on the low price of the food, beverage, and tobacco manufacturing firm in the south east of Nigeria  $Z(95, n = 352) = 4.476, p > 0.05$ , leadership development had a positive impact on gaining market share of the firm in the south east of Nigeria  $Z(95, n = 352) = 4.647, p > 0.05$ , and succession management had a position effect on ensuring the revenue boost of the food, beverage, and It was found that succession planning, leadership development, and workforce planning had an impact on the South East's low-cost food, beverage, and tobacco manufacturing firms. Nigeria According to the study's findings, it was advised, among other things, that organizations should make sure the right people with the right skills are employed at the right time because this would help determine future HR needs. It was also advised that businesses introduce succession planning as a deliberate policy and incorporate it into their strategic plan in line with their current and long-term business objectives.

Kwaw, Edeh, Oboh, Pauw, and Thurlow (2020) carried out research on the effects of COVID-19 on Nigeria's food systems and poverty. Agri-food systems were often excluded from "lockdown" measures that were implemented in early 2020 to contain the COVID-19 outbreak. However, these rules had effects on the whole economy, suggesting that even the industries that were spared were indirectly impacted by supply chain disruptions and a decline in consumer demand. Nigeria's federal and state governments-imposed lockdowns in the majority of its cities and states following the discovery of the first verified case. This includes shutting down all borders and several unnecessary enterprises.

Nigeria likewise saw a decline in export demand and remittances as a result of the global recession. We use a Nigerian multiplier model that has been adjusted to a 2018 social accounting matrix to analyze the effects of these lockdown measures and global shocks on the entire economy. We do simulations of the 8-week lockdown in Nigeria (March–June) and "recovery" scenarios up to the year 2020. Simulators use data from published statistics, policy statements, and interviews with representatives of the public and private sectors as well as business and industry associations. Results show that the shutdown caused a 23 percent decline in global GDP. Restrictions on food services were the main cause of the agri-food system's GDP decline of 11%. Additionally, household earnings decreased by 25%, which contributed to a 9-percentage point rise in the national poverty rate. Given the magnitude of these economic losses, our recovery scenarios show that Nigeria is unlikely to avoid a severe economic recession, even with a swift removal of restrictions and a worldwide recovery. We come to the conclusion that even while food systems were spared from COVID-19's impacts, they were not immune. Along with government attempts to address the pandemic's health effects, safeguarding food supply should be a top concern.

### **The Effect of Maintenance Skills on the Standard Costing of Food, Beverage and Tobacco Manufacturing**

Economics of manufacturing machinery maintenance: a survey and analysis of U.S. costs and benefits was the topic of a research by Douglas and Weiss (2020). Using information gathered from U.S. manufacturers, this research investigated the costs of machinery maintenance as well as losses resulting from insufficient maintenance methods in discrete manufacturing (NAICS 321-339, except NAICS 324 and 325) The paper also looked at the advantages of developing maintenance techniques and investing in them. Cost and loss projections are yearly estimates for 2016. For NAICS 321- 339 (excluding 324 and 325), machine maintenance costs were projected to total \$57.3 billion in 2016. \$119.1 billion in losses resulted from maintenance problems that might have been avoided. There was 3.3 times greater downtime in the top 25% of those businesses that relied on reactive maintenance than in the bottom 25%. They were also linked to 16.0 times more faults, 2.8 times as many lost sales because of maintenance-related defects, 2.4 times as many lost sales because of maintenance-related delays, and 4.9 times as many inventories increases because of maintenance-related problems.

Research on the environmental effects of minimizing food loss and waste was carried out by Cattaneo Federighi and Vaz (2021). This essay looks at the justification for achieving environmental goals through minimizing food loss and waste (FLW). The literature on this topic is mostly focused on the idea that FLW reduction may significantly improve the sustainability of food systems. We find that decreasing FLW always enhances the efficiency of resource usage for land and water and lowers the quantity of greenhouse gases (GHG) released per unit of food consumed. However, where environmental harm and FLW reduction occur and how price transmission links them along the food supply chain will determine whether the actual environmental outcome is improved. While decreasing food waste at the consumer level usually results in better environmental performance, this is not necessarily the case when lowering losses from farm to retail. As a result, we arrive at a need connecting the price transmission mechanism and a loss reduction's environmental impact. Decreasing losses at or near the farm level can raise the total amount of GHG emissions, therefore concentrating on lowering consumer waste is more successful in reducing emissions, according to our simulation of environmental outcomes based on a variety of parameter values reported in the literature. When it comes to conserving natural resources, both loss and waste reductions lower the quantity of land and water used, but efficacy is hampered by environmental impact heterogeneity. In comparison to loss reductions, the efficacy of waste reduction is increased if there are losses upstream in the value chain that harm the environment, but it is also reduced by vertical heterogeneity of sourcing throughout a value chain. The report makes the point that more focused tools may be more appropriate to handle concerns with typical local land use and degradation and water scarcity.

In a research titled "Implementing the United Nations' Sustainable Development Goals in International Business," Montiel, Cazorra, Junghoon, López, and Bryan (2021) examined this topic. They offered a justification for how multinational corporations might, as part of their routine investments, help achieve the Sustainable Development Goals of the United Nations by building on the idea of externalities. First, They propose categorizing the 17 SDGs into six groups depending on whether they improve positive externalities (knowledge, Theyalth, or health) or decrease negative externalities (over use of natural resources, harm to social cohesiveness, or overconsumption). Second, in order to make their implementation easier, They suggest integrating these categories into a longer value chain. Third, They contend that while external investments in host communities to address underdevelopment produce competitiveness externalities on host-country subsidiaries, internal investments by multinationals in host-country subsidiaries to improve their competitiveness contribute to addressing externalities in host-country communities.

A study on the relationship between social cohesion and urban green space: a route for health promotion was done by Viniece and Omoshalewa (2021). Interpersonal interactions and a feeling of community are important to social cohesiveness. Enhanced social cohesiveness has a number of positive effects on both physical and mental health. Urban green areas can promote constructive interpersonal relationships that foster social cohesiveness in ways that improve health and wellbeing. Additionally connected to better health outcomes and habits include enhanced social interaction and physical exercise in urban settings. Integrative health methods must take into account the connection between social cohesiveness and urban green space. We describe how social cohesiveness, social capital, and other health-promoting behaviors may be catalyzed by good encounters in urban green space, which may improve psychological health and well-being. We also provide a summary of the advantages and disadvantages of earlier research and provide recommendations for future study.

Research on the Impact Assessment of the Young Farmers Scheme Policy on Regional Growth in Greece was undertaken by Gkatsikos, et al. (2021). This study looked at how the generation renewal policy measure under Pillar II affects regional economic growth. The well-known input-output approach was used as a practical impact analysis methodology to evaluate the income and employment consequences of the policy action. Two input-output models were built for Thessaly and Central Macedonia, the two most agriculturally oriented regions (NUTS-2 level), as part of the AGRICORE project study for the Young Farmers Scheme in Greece, to estimate multipliers and elasticities for an ex-post impact analysis of the payments of Measure 6.1 "Start-Up Aid for Young Farmers" for the CAP 2014-2020 period. Results show that generation renewal plans have a large beneficial impact on regional output and employment, and to a lesser extent, income creation. Additionally, the number of new members to the direct labor force equals 20% of the indirect jobs produced in rural regions. In light of the Measure's ability to boost regional

productivity, revitalize the agricultural workforce, and increase rural employment, policymakers may find it valuable in promoting rural welfare and preserving social and economic cohesion.

Research on the economic and welfare effects of food waste reduction on a food-production-driven rural region was done by Friman and Hyytiä (2022). The advantages of reducing food waste are clear; food waste is not economically nor environmentally sustainable. However, there is a lack of understanding of the economic trade-offs and ripple implications of such reduction. This research looks at the economic benefits of reducing food waste in a rural area of Finland that is a significant producer of agricultural and food goods on a national scale. In order to track the transactions among the economic agents, we constructed a thorough social accounting matrix. A computational general equilibrium model was used to perform five different simulations of reducing food waste. In the simulations, food waste in households and food services was cut in half. According to the findings, reducing food waste is economically beneficial in terms of local investments and gross domestic product at current market rates. However, the reduction resulted in redistribution of social benefits and economic trade-offs. Even if the effects of the simulated compensations were lessened, the value added to the food and agriculture businesses as well as the wellbeing of rural families fell. Over time, declining agricultural wages and factor incomes result in business closures and, ultimately, less local food production. In terms of developing policy in accordance with the European Green Deal's just transition concept, this factor is important to take into account.

### Methodology

The study was based on the five (5) selected food, Beverage and Tobacco manufacturing firms in Enugu state with minimum capital base of 15million and up to employees of 20 workers and above. The study used the descriptive survey design approach. The primary source of data was the administration of questionnaire. A total population of one thousand, seven hundred and sixty-five (1765), staff was used. The sample size of 316, using Freund and William's statistic formula at 5 percent margin of error. 255 staff returned the questionnaire and accurately filled. The validity of the instrument was tested using content analysis and the result was good. The reliability was tested using the Pearson correlation coefficient (r). It gave a reliability co-efficient of 0.77 which was also good. Data was presented and analyzed by mean score (3.0 and above agreed while below 3.0 disagreed) and Z – test was used to test the hypotheses.

### Data Presentation and Analyses

#### The effect of employee equal opportunity on the prevention of waste of food, Beverage and Tobacco manufacturing firms in Enugu state

**Table 1: Responses on the Effect of Employee Equal Opportunity on the Prevention of Waste of Food, Beverage and Tobacco Manufacturing Firms in Enugu State**

		5	4	3	2	1	$\sum FX$	-	SD	Decision
		SA	A	N	DA	SD		X		
1	There is equal payment for the same level of staff which create less waste	600	288	48	30	32	998	3.91	1.378	Agree
		120	72	16	15	32	255			
		47.1	28.2	6.3	5.9	12.5	100%			
2	Effective training for all increases employee competence	575	276	54	42	32	979	3.84	1.401	Agree
		115	69	18	21	32	255			
		45.1	27.1	7.1	8.2	12.5	100%			
3	The level of communication flow minimizes the waste in the organization	315	508	51	38	29	941	3.69	1.243	Agree
		63	127	17	19	29	255			
		24.7	49.8	6.7	7.5	11.4	100%			
4	The employees operational control prevents material waste	665	160	81	50	30	986	3.87	1.438	Agree
		133	40	27	25	30	255			
		52.2	15.7	10.6	9.8	11.8	100%			

5	General preparedness response	370	504	30	28	26	958	3.82	1.207	Agree
	reduces wastage of materials	74	126	15	14	26	255			
		29.0	49.4	5.9	5.5	10.2	100%			
<b>Total Grand mean and standard deviation</b>								<b>3.826</b>	<b>1.3334</b>	

Source: Field Survey, 2022

Table 1, 192 respondents out of 255 representing 75.3 percent agreed that there is equal payment for the same level of staff which create less waste 3.91 and standard deviation of 1.378. Effective training for all increases employee competence 184 respondents representing 72.2 percent agreed with mean score of 3.84 and standard deviation of 1.401. The level of communication flow minimizes the waste in the organization 190 respondents representing 74.5 percent agreed with mean score of 3.69 and standard deviation of 1.243. The employees operational control prevents material waste 173 respondents representing 67.9 percent agreed with mean score of 3.87 and 1.438. General preparedness response reduces wastage of materials 200 respondents representing 78.4 percent agreed with a mean score of 3.63 and standard deviation 1.207.

### The effect of maintenance skills on the standard costing of Food, Beverage and Tobacco Manufacturing of firms in Enugu state

Table 2: Responses on the effect maintenance skills on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state

		5	4	3	2	1	$\sum FX$	-	SD	Decision
		SA	A	N	DA	SD		X		
1	The competence of the employees enhances savings in the organizations	335	412	48	90	24	909	3.56	1.302	Agree
		67	103	16	45	24	255			
		26.3	40.4	6.3	17.6	9.4	100%			
2	The sensitivity level of the employees increases the profitability of the organizations	360	372	36	108	24	900	3.53	1.345	Agree
		72	93	12	54	24	255			
		28.2	36.5	4.7	21.2	9.4	100%			
3	Maintenance practice improves the high level of development	255	368	78	112	30	843	3.31	1.328	Agree
		51	92	26	56	30	255			
		20.0	36.1	10.2	22.0	11.0	100%			
4	Skill improvement has improved factory supervision and appropriate cost driver	240	460	15	108	33	856	3.36	1.347	Agree
		48	115	5	54	33	255			
		18.8	45.1	2.0	21.2	12.9	100%			
5	The substantial increase in marketing costs has been as a result of improved skills	310	388	27	108	33	866	3.40	1.390	Agree
		62	97	9	54	33	255			
		24.3	38.0	3.5	21.2	12.9	100%			
<b>Total Grand mean and standard deviation</b>								<b>3.432</b>	<b>1.342</b>	<b>4</b>

Source: Field Survey, 2022

Table 2, 170 respondents out of 255 representing 66.7 percent agreed that the competence of the employees enhances savings in the organizations 3.56 and standard deviation of 1.302. The sensitivity level of the employees increases the profitability of the organizations 165 respondents representing 64.7 percent agreed with mean score of 3.53 and standard deviation of 1.345. Maintenance practice improves the high level of development 143 respondents representing 56.1 percent agreed with mean score of 3.31 and standard deviation of 1.328. Skill improvement has improved factory supervision and appropriate cost driver 163 respondents representing 63.9 percent agreed with mean score of 3.36 and 1.347. The substantial increase in marketing costs has been as a result

of improved skills 159 respondents representing 62.3 percent agreed with a mean score of 3.40 and standard deviation 1.390.

### Test of Hypotheses

**Hypothesis One: Employee equal opportunity has no positive effect on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state.**

One-Sample Kolmogorov-Smirnov Test						
		There is equal payment for the same level of staff which create less waste	Effective training for all increases employee competence	The level of communication flow minimizes the waste in the organization	The employees operational control prevents material waste	General preparedness response reduces wastage of materials
N		255	255	255	255	255
Uniform Parameters <sup>a,b</sup>	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.503	.472	.495	.522	.534
	Positive	.125	.125	.114	.118	.102
	Negative	-.503	-.472	-.495	-.522	-.534
Kolmogorov-Smirnov Z		8.031	7.530	7.906	8.329	8.532
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000
a. Test distribution is Uniform.						
b. Calculated from data.						

### Decision Rule

If the calculated Z-value is greater than the critical Z-value (i.e  $Z_{cal} > Z_{critical}$ ), reject the null hypothesis and accept the alternative hypothesis accordingly.

### Result

With Kolmogorov-Smirnov Z – values ranging from  $7.530 < 8.532$  and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that employee equal opportunity had positive effect on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state.

### Decision

Furthermore, comparing the calculated Z- values ranging from  $7.530 < 8.532$  against the critical Z- value of .000 (2-tailed test at 95% level of confidence) the null hypothesis was rejected. Thus, the alternative hypothesis was accepted which states that employee equal opportunity had positive effect on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state.

**Hypothesis Two: Maintenance of Skills Has No Positive Effect on the Standard Costing of Food, Beverage and Tobacco Manufacturing Firms in Enugu State.**

One-Sample Kolmogorov-Smirnov Test						
		The competence of the employees enhances savings in the organizations	The sensitivity level of the employees increases the profitability of the organizations	Maintenance practice improves the high level of development	Skill improvement has improved factory supervision and appropriate cost driver	The substantial increase in marketing costs has been as a result of improved skills
N		255	255	255	255	255
Uniform Parameters <sup>a,b</sup>	Minimum	1	1	1	1	1
	Maximum	5	5	5	5	5
Most Extreme Differences	Absolute	.417	.397	.311	.389	.374
	Positive	.094	.094	.118	.129	.129
	Negative	-.417	-.397	-.311	-.389	-.374
Kolmogorov-Smirnov Z		6.654	6.341	4.963	6.215	5.965
Asymp. Sig. (2-tailed)		.000	.000	.000	.000	.000
a. Test distribution is Uniform.						
b. Calculated from data.						

**Decision Rule**

If the calculated Z-value is greater than the critical Z-value (i.e  $Z_{cal} > Z_{critical}$ ), reject the null hypothesis and accept the alternative hypothesis accordingly.

**Result**

With Kolmogorov-Smirnov Z – values ranging from  $4.965 < 6.654$  and on Asymp. Significance of 0.000, the responses from the respondents as display in the table is normally distributed. This affirms that the assertion of the most of the respondents that maintenance of skills had positive effect on the standard costing of food, beverage and tobacco manufacturing firms in Enugu state.

**Decision**

Furthermore, comparing the calculated Z- values ranging from  $4.965 < 6.654$  against the critical Z- value of .000 (2-tailed test at 97% level of confidence) the null hypothesis was rejected. Thus, the alternative hypothesis was accepted which states that maintenance of skills had positive effect on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state.

## Discussion of Findings

### **The effect of employee equal opportunity on the prevention of waste of food, beverage and tobacco manufacturing firms in Enugu state.**

According to the findings of Hypothesis One, employee equal opportunity had a beneficial impact on the reduction of food, beverage, and tobacco manufacturing waste in Enugu State, with computed Z-values ranging from 7.530 to 8.532 versus the crucial Z-value of .000. Iwu and Okwo (2020) did a research on the Impact of Training on the Low Cost of Food, Beverage, and Tobacco Manufacturing Firms in South East, Nigeria in order to corroborate the findings from the literature review. It was found that low-cost food, beverage, and tobacco manufacturing firms in the South East of Nigeria were positioned differently as a result of workforce planning, leadership development, and succession management. According to the study's findings, it was advised, among other things, that organizations should make sure the right people with the right skills are employed at the right time because this would help determine future HR needs. It was also advised that businesses introduce succession planning as a deliberate policy and incorporate it into their strategic plan in line with their current and long-term business objectives.

### **The effect of maintenance skills on the standard costing of food, beverage and tobacco manufacturing firms in Enugu state**

When compared to the essential Z-value of .000, the computed Z-values for Hypothesis Two range from 4.965 to 6.654, indicating that maintaining skills has a favorable impact on the standard costing of food, beverage, and tobacco manufacturing enterprises in Enugu state. Okeke, Onuorah, Oboreh, and Ojan (2019) did a study on the Impact of Effective Solid Waste Management on Sustainable Development in Anambra State in order to support the findings from the literature review. According to the study's findings, Anambra State's ability to sustainably grow is significantly impacted by proper solid waste management. The group advises the government to address the opening of more rubbish dumps and landfills that are not too far away, as well as increased prices for the services provided by waste service providers. They should be a management strategy that includes waste prevention, energy creation, composting, reuse, and recycling. In order to work toward accomplishing the goals of the waste hierarchy, it is also necessary to consider the legal issues of solid waste management. Government, environmental protection, and waste management personnel should hire specialists or expose their workforce to seminars and trainings on technology use, information management, and knowledge management that adhere to international standards.

A research on the environmental effects of minimizing food loss and waste was carried out by Cattaneo Federighi and Vaz in 2021. Decreasing losses at or near the farm level can raise the total amount of GHG emissions, therefore concentrating on lowering consumer waste is more successful in reducing emissions, according to our simulation of environmental outcomes based on a variety of parameter values reported in the literature. When it comes to conserving natural resources, both loss and waste reductions lower the quantity of land and water used, but efficacy is hampered by environmental impact heterogeneity. In comparison to loss reductions, the efficacy of waste reduction is increased if there are losses upstream in the value chain that harm the environment, but it is also reduced by vertical heterogeneity of sourcing throughout a value chain. The report makes the point that more focused tools may be more appropriate to handle concerns with typical local land use and degradation and water scarcity.

## Summary of Findings

- I. Employee equal opportunity had positive effect on the prevention of waste of food, Beverage and Tobacco Manufacturing firms in Enugu state, ( $7.530 < 8.532, p = < .05$ ).
- II. Maintenance of skills had positive effect on the standard costing of Food, Beverage and Tobacco Manufacturing firms in Enugu state, ( $4.965 < 6.654, p = < .05$ ).

## Conclusion

The study concluded that Employee equal opportunity and Maintenance of skills had positive effect on the prevention of waste, standard costing and reusable products of Food, Beverage and Tobacco Manufacturing firms in Enugu state. Sustainable development refers to the process of improving economic well-being and quality of life while balancing the ability of future generations to do the same. The United Nations' Sustainable Development Goals are recognized as the international standard for sustainable development. Though the climate represents an aspect of those goals, it is not the only aspect. Among the 2021 goals, for example, are ones that aim to fight a list of things that include inequality, environmental degradation, and poverty,

## Recommendations

- I. The management of food, beverages and tobacco manufacturing firm and other organization should engage in promoting Equal Employment Opportunity for respect between employers and employees, which often results in increased loyalty and engagement, as well as improved productivity.
- II. The management should enhance equipping and updating employees with training and retraining to enable the employees do their job well and stay on top of changing demands of the workplace. It can also help employees prepare for new opportunities that may arise at work and help them keep their job in a difficult economy.

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