**Sustainability**

Assessment No. 2

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**Executive Summary**

Food loss occurs throughout the food chain from production, distribution, processing, and retail to the ultimate consumption point; food spoils due to various reasons such as oversupply, individual consumer shopping, and eating habits. As the population grows, a sustainable food system has become more prominent, and food waste is a matter of concern today. A sustainable food system offers healthy food to people but at the same time creates a sustainable environmental, economic and social system around food. Sustainability and food waste are prevalent within the food and beverage industry. In addition to economic performance, food and beverage companies are now accountable for environmental and social practices. The volume of food waste in the developed nations could amount to the entire food produced in sub-Saharan Africa. Hence, food waste is currently a sustainability issue and a key target under the United Nations Sustainability Development Goal 12. This goal aims to reduce by at least half the per capita food waste at the consumer level and across the entire supply chain from manufacturing, storage, and retail by 2030. Food waste has a great impact, particularly in the loss of biodiversity as farmers invade forests searching for the fertile land. Besides, the implications of food waste in economics are enormous because the value of goods is proportional to the resources needed in their production

# Company Introduction

Food Collection Company is a fictional company established to reduce food wastage among the developed and developing countries. This company will serve to ensure that there is minimum or no food wastage across the countries by ensuring that it educates the public on general food cycle patterns from production to consumption. The commitment of eccentric strategies of informing the public enables the company to further grow in the regional centres and across the globe. In doing so, this will enhance the company’s global presence which will continue to prosper and develop. This company can make use of its very long history of success of more than 100 years to regulate food wastage in the highly competitive food market. Furthermore, the company should be the pacemakers by using the existing technology advancement to bring together new methods for it to continue being significant in the market.

Additionally, the company can make use of its weaknesses as inner qualities that will remain to offer competition as its advantage against its competitors - other food industries. The company management shall make use of this information to improve its rate of turnover in time to enhance its performance and attain enhanced performance over time (Grant, 2016). More so, the company’s management shall have decided to enhance its image brand with time. The leadership failure which has remained to be affecting the structure of other organizations shall also be upgraded via strategies enactment that betters the performance of this industry. For this case, the company weaknesses shall change into opportunities of advantage and growth.

Indeed, it is evident that this is a problem that has been created from ignorance and acceptance of this unrealistic yet wasteful culture that has been passed down from generation to generation. It is important, therefore, that this paper not only addresses the level of food waste, but also tries to look for ways in which these individuals can reduce food wastage while at the same time eating healthily (Septon, 2013). As the food continues to get wasted, it goes to dumps where it contributes significantly to climate change through the greenhouse gas emissions. By reducing food wastage, the public will in some way play a role in reducing greenhouse emissions which then will have profound effects on the overall effort and help to slow down the climate changes that are affecting lives (Ellison, Savchenko, Nikolaus, & Duff, 2019).

The mission of Food Collection Company will thus be to reduce food wastage across the globe by educating the public and also taking collective measures to support those in need. The company will be envisioning to reduce the effects of climate change brought about by greenhouse gas emissions from food wastes and also to reduce the hunger calamity by using the available resources and extending them to where they are scarce.

**Sustainable Issue**

Food waste refers to discarding food that is good for human consumption by leaving it to spoil or being kept beyond the expiry date (Lipinski 2015). As such, food waste or loss occurs when it’s not eaten and happens throughout the food system, beginning from production, distribution, processing, and retail to consumption. Food can spoil due to oversupply or individual eating and shopping habits. Accordingly, a sustainable food system is defined as the system that offers healthy food to the people while creating sustainable economic, environmental, and social structures surrounding food (Martin-Rios et al. 2018, p.196).

Sustainable food production is a shared responsibility in the production, supply, or consumption of nutritious and safe food in a viable industry that protects and enhances the environment and the quality of life today and in the future. Mak et al. (2020, p.122) say sustainability in the food and beverage industry is sustainability within a comprehensive review of an industry’s approach regarding balancing economic, environmental, or social consideration throughout the supply chain. According to Ayeleru, Ntuli, and Mbohwa (2016, p.625), it is a waste of water, gasoline, labor, energy, land, pesticides, and fertilizers used for making such food. Food waste is a prime factor influencing sustainability's three pillars: environmental, financial, and social issues. Global food wastes amount to approximately one-third of one-half of the entire food produced (Porter et al. 2016, p.621, BBC News). This paper is a critical review of the current state of Food Waste as a sustainability issue that has impact and implications in the food and beverage industry.

# Current States

Today's earth sustains approximately 7.2 billion people, with the number expected to reach 9.6 billion by 2050 (Caldeira et al.2020, p.123, Royte, 2014). As such, there will be extra three billion people to feed by the end of this century (FAO). Approximately a third of food produced to feed people every year globally, equal to 1.3 billion tons, is lost through the waste stream (FAO). Yet, over 850 million people lack access to the food they require for a productive and healthy life (FAO). Food waste results from negligence or is a decision to discard food consciously (Caldeira et al.2020, p.126, FAO). According to the HOUSE OF LORDS, European Union Committee Report (2014), food wasted annually is approximately 89 million tons, a figure that may rise to 126 million soon if improvements will not be considered for implementation.

The volume of food that goes to waste in the developed countries is almost the entire food produced in sub-Saharan Africa. Licciardello (2017, p.32) says that food waste is a sustainability issue today and a key target under sustainable development goal 12 on 'responsible consumption and production.' The plan calls for halving per capita food waste at the consumer level and across an entire supply chain from the manufacturing, storage, and retail by 2030 ( Royte, 2014) . According to the HOUSE OF LORDS, European Union Committee Report (2014), various initiatives, including cooperation across the supply chain, relooking at the regulatory framework, and food use hierarchy that emphasizes redistribution, can help address the issue of food waste, but major challenges remain to overcome. Sustainability will be attained through an in-depth review of the current practices in food waste management. Also, recommendations and solutions for reducing food waste at household, restaurant, retail, manufacturing, and supply chain level should be reviewed (Licciardello 2017, p.35, Royte, 2014).

# Impact and implications for food and beverage industry

Food waste means a lot of energy and time involved in production, manufacturing, and food preparation go into waste. According to Huang et al. (2020, p.2892), most food is wasted in the food and beverage industry, but the effects are felt far and wide. One of the most notable impacts is the loss of biodiversity. To enhance agricultural production, farmers have invaded wild areas as they try to get more fertile land, a situation leading to loss of biodiversity (Royte, 2014). Food production to sustain the food and beverage industry fuels deforestation, slash and burn, and the conversion of forests into farmlands, effectively destroying the natural habitat for fish, birds, amphibians, and mammals. Food waste ultimately leads to deterioration of the food and beverage industry, considering food which is not needlessly consumed utilizes natural resources and generate greenhouse gas emission thus creating waste. However, to assess the environmental impact of food products we should consider the life cycle, tracing every step in the food supply chain (Huang et al.2020, p.2892). The essential indicators include ecological, carbon, and water footprint.

Food waste's economic impact on the food and beverage industry can be valorised in two ways: production cost and the market price of goods (Okumus et al. 2020, p.102). The classic school of economics’ theory holds that goods' value is mostly proportional to the resources required for producing them. Its economic impact would be determined as the value lost through wastes and using a formula that includes the cost of obtaining specific goods (Lipinski 2015). However, according to neoclassical school, the value of certain goods may not depend on production costs but rather on the market price's product utility. As such, the economic impacts of wastes are estimated through the prices of goods as the criteria for calculation (Okumus et al. 2020, p.107). Under the pristine appearance of most food and beverage joints such as supermarkets lies an underbelly of excesses and food waste (BBC News).

Consequently, to cater to increased consumer demand, food chains, and supermarkets often overstock shelves to provide limitless abundance (Galanakis 2021, p.341). For this reason, the commercial food landscapes would lead to the disposal of most unsold but edible produce that has surpassed its “sell-by” date or items are excessively bruised or badly handled by customers. The less-regulated "use by” “sell by” best by” stamp does not indicate food safety but rather suggestions for peal quality. The dates are often stamped indiscriminately on non-perishable and perishable products (Galanakis 2021, p.345). Furthermore, these dates confuse customers because they think they indicate food quality and leads to most people disposing of foods after it has hit the expiry date.

# Concluding Remarks

Food waste that continues to fill our landfills is more than just food being thrown away. When it decomposes, it produces methane gas and wastes energy, labour, water, gasoline, land, fertilizers, and pesticides used in production. Hence, food waste is a significant factor that influences the three pillars of a sustainable society: financial, environmental, and social issues. A sustainable food system provides healthy food to people and, at the same time, creates sustainable environmental, economic, and social structures around food production and consumption. On the other hand, sustainable food production is the shared role in the production, supply, or consumption of nutritious and safe food in a viable sector that protects and enhances our life's natural environment and quality. Thus, sustainability in the food and beverage industry is sustainability within a comprehensive review of an industry's current approach that balances economic, social, and environmental considerations. The impacts and implications of food waste for the food and beverage industry narrow down to the environment regarding biodiversity loss and the economic implications; valorized in production cost and the market price of goods.

**Recommendations**

Food waste could be reduced if people are educated to ensure a change of attitude towards food and water consumption (FAO). The popular opinion about food waste can be converted from a valueless waste into a view of food scraps as other renewable or raw materials are developed into high additive value and new products (Martindale 2017, p.7). This could transform wasted food into a new business initiative. Moreover, by-products like carrot shavings, used grains, assorted vegetables, and fruit peels are mostly tossed. Still, they can be of great potential for financial and dietary gain if utilised in less conventional ways. Spent grain and carrot waste could be converted into fiber and used for consumption. In contrast, soluble or insoluble tomatoes, apples, carrot wastes, and citrus fruit peels could be extracted for different classes (Ayeleru, Ntuli & Mbohwa 2016, p.630). They can be used to bind water, particularly in foods, because of the absorptive property and their ability to make gels. Furthermore, whey, a straining milk, and cheese by-product could be utilised as an additive in bread, crackers, commercial pastries, processed foods, or beverages containing whey (Porter et al. 2016, p.625).

To go with the awareness, a food waste-reduction network and organic recycling system can be constituted. The aim is to help convert much of the food wasted into good use. Such as this can include livestock feed, generate fuel, or become manure. By using the correct stakeholders and experts, the food wasted can be put to good use rather than becoming a liability for the school (Verma, 2015). The only impediment in this is that it will not have tackled the issue of food wastage with particular regards to its reduction. In actual fact, if the network grows and the system becomes a revenue bringer, it would be used as a front to encourage food wastage to have fodder to run these systems (Lazell, 2016). As such, this should be handled with the utmost care.

Finally, using the by-products from the food and beverage industry, to make additives such as oils and fibres, is a way of converting waste food materials into renewable, sellable, usable material that is fit for our consumption. It could be said that there are limitless possibilities regarding food waste and this need exploring.

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