

# THE IMPLEMENTATION OF GREEN ACCOUNTING ON HOSPITALITY INDUSTRY FROM SOCIAL AND ENVIRONMENTAL PERSPECTIVES

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## ABSTRACT

*In this era of sustainability, the hospitality industry, in particular the hotel business, need to take the sustainable innovations seriously. Hotel business is one of the main contributors to food waste. The Food and Beverages service is involved in food waste management where it accounts for the preparation, processing and serving food and beverage. There was no previous study that examined the food waste management from green accounting point of view. Therefore, the study aimed to investigate and provide reliable insights and a clear picture of how the hospitality industry in East Kalimantan acts regarding policies made in terms of reducing food waste. This study is a qualitative research using interpretive paradigms and phenomenology approach. Phenomenology approach was chosen in order to deliver an in-depth review of how green accounting implement at hospitality industry based on the managers experiences. The findings of this study can be classified into five main topics, namely the responses, causes, impacts, challenges, and policies or methods chosen by the managers in dealing with leftover from social and environmental perspectives. Some suggestions to improve overall process of food waste management at the hotel were developed on the provided answers from the interviewees as well as the theories such as the implementation of a food waste measuring system, make a regular food plan review, raising awareness among employees and customers, and staff training for smart food waste. This study may contribute as a concept for other industry about how the green accounting implementation could generate benefit for them.*

**Keywords:** Green Accounting, Food Waste Management, Environmental Sustainability, Hospitality Industry.

## INTRODUCTION

The industrial era 4.0 is a new challenge faced by hospitality industries. Technology makes customer experience an important factor in creating a hotel reputation as customers can provide feedback online. Apart from technology, social and environmental issues are also a concern of consumer hotel users (Baldwin & Shakman, 2012). The occupancy rate is directly proportional to the level of tourists visiting an area. If a hotel is located close to popular tourist attractions, the occupancy rate of the hotel will be higher than hotels that are far from tourist sites (Hogan, 2016). Tourists will appreciate the hotel management which has high social and environmental concern for the surrounding environment (Linh, 2018).

According to data from the Food and Agriculture Organization of the United Nations (UN), one-third of the food produced in the world for human consumption amounts to about 1.3

billion tonnes lost or wasted each year. If today there are about 800 million people hungry out of a total of 7.7 billion people living on this planet, then one in nine people in the world will suffer from chronic malnutrition (World Hunger News, 2016). It becomes a contradiction because while a lot of food waste, many people are still hungry. When food waste is handled, it could help reducing famine in all corners of the world. The food waste not only creates a negative impact on the surrounding environment but also incurs a significant amount of costs to the entire operation. At the restaurant in the hotel, once groceries are thrown into the trash, the first thing that becomes clear is that the raw material costs have wasted. Food waste can occur on several occasions on the order of food that is overcooked, undercooked, burned, damaged due to delivery, lacked foodstuffs storage, and others (Linh, 2018). As a result, food ingredients are no longer suitable and are not available for serving.

Social accounting is an approach to reporting on corporate activities that emphasize the need to identify relevant social behaviors, their determination to whom the company is responsible for social performance, and the development of appropriate reporting techniques (Crowther, 2000). In several studies, a social accounting perspective can be used to see the extent to which policies made by hotel management related to food waste management have an impact on the social environment around the hotel. Several theories can explain the relationship between social accounting and the hospitality industry, namely legitimacy theory and stakeholder theory (Deegan, 2014). Legitimacy theory states that companies will ensure that they operate within the constraints of values and norms that exist in the society or environment in which the company locates. Chariri & Ghozali (2007) explain that to legitimize company activities in the eyes of the community, companies tend to use social-based performance and disclosure of information on social activities. Meanwhile, stakeholder theory takes into account all parties who have an interest in the company. Company stakeholders have their expectations for the company. Management will try to manage and achieve stakeholder expectations by delivering social activities carried out by company management. Research conducted by Linh (2018), Shakman (2013), ITP (2014) concluded that the main causes of food waste in hotels include estimates of inefficient food production, estimates of wrong raw material purchases, over-sales, customer behavior, and food safety. From each of these factors, customer behavior causes food waste resulting from customer food scraps. However, careful planning and estimation can prevent extra costs arising from food waste.

Based on facts and phenomena, the purpose of this study is to identify steps or policies in the hotel industry to reduce food waste, both pre-consumption and post-consumption, as well as what factors cause food waste in hotels seen from a social accounting perspective. By identifying the factors related to food waste, this study describes the current CSR activities carried out by the hotel industry so that it could be followed by other similar hotel industries or types of industry related to food and beverage.

## RESEARCH METHOD

Stakeholder theory provides a perspective that the company as an entity consisting of the nexus of contracts by including elements of investors and non-investors as corporate stakeholders. Meanwhile, according to Freeman et al. (2004) and Sundaram & Inkpen (2004) argued that stakeholder theory begins with management assumptions about a value explicitly and is undeniably part of business activities.

Solihin (2009) also emphasizes the importance of taking into account the role that stakeholders can play in influencing decisions made by company managers. Gray et al. (2006)

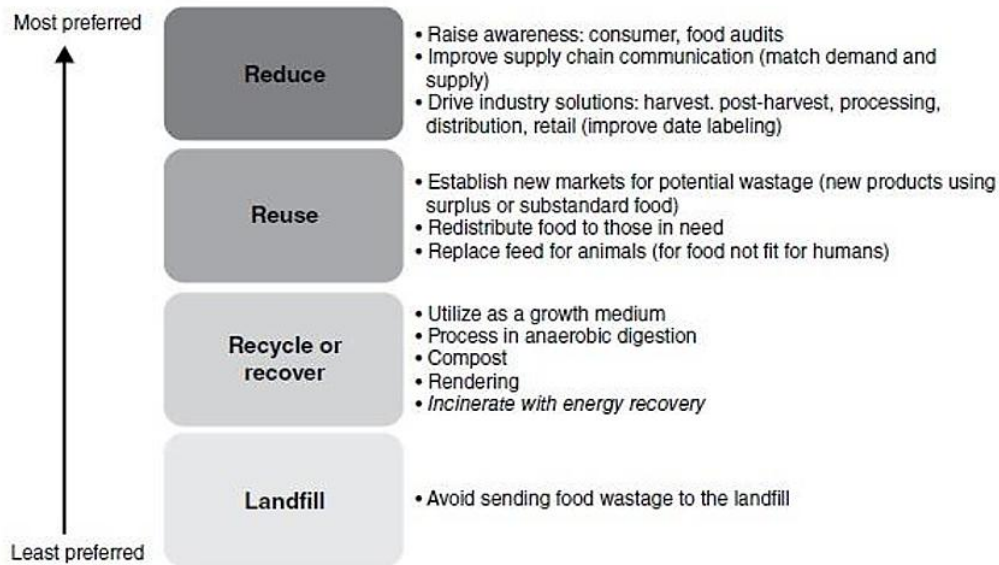
stated that stakeholder theory assumes that the existence of a company requires support from stakeholders, so that company activities must consider stakeholder approval. The stronger the stakeholder influence, the more the company must adapt to the stakeholders. Social disclosure is then seen as a dialogue between the company and stakeholders.

Legitimacy Theory explains that each entity will sustainably operate in accordance with the boundaries and values or norms accepted by the community around the company in an effort to gain legitimacy (Deegan, 2014). Community norms always change according to changes from time to time so that companies must follow their developments. The company's efforts to follow changes to gain legitimacy are a process that is carried out continuously and is interconnected. The process of obtaining legitimacy is related to the social contract made by the company and various parties in society. The company's performance is not only measured by the profit generated by the company, but other performance measures related to various interested parties. In this context, legitimacy theory can explain how the role of hotel management in the social framework of the surrounding community so as to get the expected legitimacy.

Hospitality management actually has a lot to do with business management in general such as accounting, marketing, finance and others. The main aspects of hospitality management include food and beverage management, front office management, housekeeping management, and event management. Therefore, to be able to find out how the social and environmental care of hotel management related to food wasting management can use stakeholder theory and legitimacy theory.

The social responsibility of the hospitality industry is influenced by internal and external factors. One of the most dominant external factors is customer satisfaction. One of the indicators of customer satisfaction is social responsibility shown by hotel management. The results of previous research indicate several activities that can be carried out to prevent and reduce food waste including tracking daily food waste (Baldwin & Shakman, 2012; International Tourism Partnership (ITP), 2014), planning for better purchasing and storage of foodstuffs (European Hospitality Industry (HOTREC), 2017; Baldwin & Shakman, 2012), smart food trade to minimize food waste (Baldwin & Shakman, 2012), flexible and low-waste menu design by creating multiple uses so that more ingredients have less waste (Baldwin & Shakman, 2012), efficient employee training to create internal culture and raise awareness related to food management (Baldwin & Shakman, 2012), customer engagement (European Hospitality Industry (HOTREC, 2017) and educating customers to be responsible for food in consumption (Linh, 2018).

The hierarchical level created by Baldwin (2015), namely the level of reduction, reuse, recycling and final disposal can be used to find out at what stage the hotel management treats food waste, both pre-consumption and post-consumption. The following picture is an overview of the food waste management hierarchy according to Baldwin (2015):



**Figure 1**  
**FOOD WASTE MANAGEMENT HIERARCHY (BALDWIN, 2015)**

According to the food waste hierarchy by Baldwin (2015), reduce food waste approach is the most preferred because it can prevent the impacts associated with food waste. The root causes of the emergence of food waste can be overcome by supply chain collaboration. The right partnerships in the foodstuff supply chain can create the development of the food industry such as a better match between supply and demand as well as better standards for date labels of every retail product.

The results of previous research indicate several activities that can be carried out for the prevention and reduction of food waste including tracking daily food waste (Baldwin & Shakman, 2012; International Tourism Partnership (ITP, 2014), planning for better purchasing and storage of foodstuffs (European Hospitality Industry (HOTREC, 2017; Baldwin & Shakman, 2012), smart food trade to minimize food waste (Baldwin & Shakman, 2012), flexible and low-waste menu design by creating multiple uses so that more ingredients have less waste (Baldwin & Shakman, 2012), efficient employee training to create internal culture and raise awareness related to food management (Baldwin and Shakman, 2012), customer engagement (European Hospitality Industry (HOTREC, 2017) and educating customers to be responsible for food in consumption (Linh, 2018).

Related to the purpose of this study are to investigate and provide reliable insights and a clear picture of how the hospitality industry in East Kalimantan acts regarding policies made in terms of reducing food waste. However, in contrast to previous studies conducted with quantitative methods and statistical analysis, this study was conducted using a qualitative method with phenomenology approach and interpretive paradigm. Phenomenology assumes that any individual experiencing a phenomenon with all its consciousness, whereas this interpretive paradigm used to understand the human behavior (Syakura et al., 2016). Phenomenology is reverse of positive paradigm. Positive paradigm assumes that reality is single, general and measurable but phenomenology assumes that reality is dualism, subjective and must had an interpretive perspective to understand. Thus, the study is expected to dig deep awareness of the subjects about their experience in an event related to food waste management in their workplace.

The data used in this study are the result of separate open interview with the informants. The informants in this study are the person who in charge of the kitchen department at 3 or 5 stars hotels in Samarinda and Balikpapan who had implemented the green hotel concept.

The selection process of informants is using snowball sampling. The researcher collects data from one respondent to the other respondent. Researchers collected data from one respondent to the other respondents who meet the criteria, through in-depth interviews and stopped when no more new information, replication occurs variation or repetition of information, or a drop-off information. Unstructured interviews conducted are interviewed, the interview based on questions that are not limited to (unbound) answer, informant know for certain that they were being interviewed and understand the purpose of the interview. Furthermore, the argument and answer on the open interview used to be processed and analyzed using the stakeholder theory and legitimacy theory then using social and environmental perspectives to solve the issues that have been previously disclosed.

## RESULT AND DISCUSSION

### Responses to Food Waste?

As previously explained, leftover food waste is a phenomenon that must be overcome, especially considering that there are still many people out there who are malnourished due to lack of money to buy food. When asked about their opinion on leftover food waste from their respective perspectives, they generally considered leftover food waste as a problem that needs more attention to prevent.

Most of the informants stated that leftover food waste is a very complex problem. This can be seen from the following interview excerpts:

*Respondent-1:*

“... food waste is a complicated and complex problem, especially in the hospitality sector like this, because we can't tell guests to take the food according to the amount or tell them to finish the food that has been taken, right?”

*Respondent-6:*

“Actually, we have implemented several methods to reduce leftover food waste such as adjusting cooking time, adjusting food portions, minimalist plating and others, but still there are several times leftover food ...”

*Respondent-3:*

“... in my opinion, the waste management of leftover food waste can cause a lot of money and can even exceed the cost to produce the food itself because the hotel already has its own standards ...”

In addition, several informants stated that the handling of leftover food waste should receive special attention, such as the following statement:

*Respondent-9:*

“... ever since I was little, I was always advised by my parents not to waste food, at that time I remember once my parents said that if we leave rice, it can cry ... *hahaha* ... but from there I became aware that this food waste must get special attention from the hotel management so that its benefits can be maximized for the environment and society ...”

From the above statements, it can be concluded that most informants agree that leftover food waste is a complex problem that require special attention from hotel management because it

is morally inappropriate and uneconomical. The responses about food waste indicate that most of informants feel that food waste is not good for environment and society. Stakeholder theory assumes that the existence of a company requires support from stakeholders, so that company activities must consider stakeholder approval. As we know that now days many people consider about the environment. So, the management awareness about how bad food waste for environment and society must be from them self as the stakeholder of the company. From social perspectives, the awareness of food waste could increase the trust of society around the company that also makes the goodwill of the company increase.

Understanding environmental sustainability, such as the awareness of the dangers posed by food waste, will encourage hotel management to implement food waste management appropriately. The knowledge of food waste management should already be owned by all hotel management, not just the food and beverage department. If all parties have an awareness of the environmental impact caused by food waste, of course this will impact hotel management policy in all aspects ranging from production, promotion, marketing, sales, and finance and accounting.

### **Causes of Food Waste Left at the Hotel?**

There are several reasons or causes why a lot of food is left in restaurants or on room service food service in the hotel industry. This leftover food waste occurs in the pre-consumption and post-consumption phases. Some informants believe that this leftover food waste arises from miscalculations when cooking or serving food, too much plating, and too large a portion. This can be seen from the following excerpts from the interview results:

*Respondent-4:*

“... hmm, sometimes food waste arises because we miscalculate the amount of food served, sometimes even though the number of guests staying for example is 100 people, but it turns out that only 70% eat at breakfast, for example, we don't know... well ... we just follow the instructions from the head of the kitchen and hotel policies anyway ...”

*Respondent-7:*

“... I think that food waste is sometimes also from excessive plating, for example using vegetables or fruit that are arranged together to enhance the appearance of the dish ... well, actually it's also important for aesthetics, but usually the decoration is not eaten right? So yes, just throw it away ...”

In addition, leftover food waste also arises due to guest behavior and character, lack of education to guests and safety factors from food, such as the quote from the following interview:

*Respondent-3:*

“In my experience, the amount of leftover food is directly proportional to the purpose of guests staying at the hotel, well that means for example this ... guests who stay for holidays usually eat more because maybe because this is a budget hotel, so the guests do take advantage of breakfast to save money. no need to eat out anymore ... meanwhile, if guests stay overnight for business purposes or just a transit, they usually eat less ...”

*Respondent-8:*

“... well, if I see here from the type of guest, for example, foreigners usually eat a lot but that's over, that means they usually take what they like ... it's different if most Indonesians always take it. overdoing it or trying all the dishes, as a result there are lots of leftovers either because they don't like it or they are full ... “

*Respondent-9:*

“... if we are related to food safety, there are rules, because we are a corporate group, so all hotels from the group company must apply the same standards ...”

“...so, for example for vegetables or fruit that is served if it’s been more than three hours then we have to throw it away and replace a new one because according to our standards it’s not fresh anymore ... so even though it’s still can be used for example for employee snacks, it is prohibited according to the rules ...”

So, from some of the quotes above, it can be concluded that the cause of leftover food waste in hotels is from the estimation error of the kitchen in calculating the amount of production each day, the character and behavior of consumers when eating, excessive plating which causes decorations on food to be wasted, lack of service education, and food safety factors which are the implications of hotel policies or regulations that must be obeyed. This response related to stakeholder theory could explain that the policy of food waste management depends on consumers behaviour and food safety. It’s also related to social perspectives that every policy considers about social responsibility besides to get profit to give best hospitality to the customer.

From environmental perspectives, inefficient production procedures will create large amounts of waste food waste that damages the environment. The most likely way to minimize waste food waste and already implemented by the informants is to control food portions. Through the better portioning standard for reducing food waste and other sources of waste are significantly reduces that impact on the environment and saves more money.

### **Impact of Leftover Food Waste**

The management of leftover food waste does require special handling and costs are not small, so most hotel management chooses to be able to do the best possible prevention and optimization to be able to reduce leftover food waste both pre-consumption and post-consumption. This can be explained from several answers from the following informants:

*Respondent-4;*

“... according to the experience I have got, it is better to take precautions than to pay extra to produce leftovers ...”

*Respondent-3:*

“Yes, the costs that usually come out when managing leftover food waste include the cost of waste disposal and the cost of managing food waste, not to mention the pungent smell can disturb residents or the surrounding community ...”

*Respondent-9:*

“The most felt impact due to leftover food waste is an increase in costs in terms of sorting, processing up to transportation costs at the time of disposal of the waste ....”

So from some of the statements above, it can be concluded that leftover food waste can increase the costs incurred in the context of sorting leftover food, processing leftover food to the transportation costs that must be borne by the hotel. The food and beverage department can carry out an environmental cost prevention strategy by implementing food waste prevention and food waste management policy through 3R. This is a way of preventing environmental and social risks because taking preventive actions and optimizing leftover food should be able to prevent bad impacts that can harm the company.

## Challenges to Manage Food Waste?

As explained at the beginning of the discussion of leftover food waste due to several factors including excessive food production, excessive plating or food decoration, food safety factors, too many food choices for consumers and calculation errors when cooking. However, apart from these factors, of course it is necessary to know which stakeholder groups contribute the most to the food waste. When asked about who is most responsible for the occurrence of leftover food waste, each informant has his own opinion as described in the following statements:

*Respondent-8:*

“I think the contribution to this leftover food waste can be seen from the background of the guest group and from which country they come from ... as I said before, for example between local guests and foreign guests have different mindsets in terms of eating ...”

“... even though we’ve actually made a campaign in the form of a standing flyer containing an appeal not to waste food at each dining table, they seem to have ignored the call. They take a lot of food because they want to compensate for the price, they are paying for the night ...”

*Respondent-4:*

“Hmmm ... I personally think the head chef has an important role to play in controlling the amount of leftover food waste. The head chef must be able to calculate daily food requirements according to the budget given but without reducing the taste of the food ... “

*Respondent-9:*

“... well, in my opinion, the behavior of guests staying overnight affects the amount of leftover food ... because we can’t force guests not to take lots of food because that’s their right to enjoy the facilities provided by the hotel ... it just remains to be smart in regulating the flow of the amount of food being cooked ...”

From some of the informants’ responses above, leftover food waste is the responsibility of the kitchen and the consumer. In the hospitality industry, all activities depend on the services provided to customers, so in this case the management must make policies that prioritize customer satisfaction. Therefore, in terms of preventing leftover food waste, even though the main factor responsible is customer behavior, they cannot be blamed because they have paid their obligations in advance so that all facilities and services are their right. However, in this case, it appears that several hotels have tried to educate their customers with written and oral campaigns. This, of course, is expected to raise awareness from within customers to jointly protect the environment from the risk of leftover food waste.

From social and environmental perspectives, the kitchen management already know about their customers characteristics so they could use their awareness for environment to get supports from them. It can be explained from legitimacy theory perspectives that the company’s efforts to follow changes to gain legitimacy are a process that is carried out continuously and is interconnected. The process of how company obtaining legitimacy is related to the social contract made by the company and various parties in society.

## The Hotel Approach to Prevent and Reduce Leftover Food Waste

Post-consumption food waste that is no longer suitable for consumption can be an extra burden for the hotel. This is because the food waste must be managed properly so that it does not harm the surrounding environment. Costs that can arise include waste management costs,



cleaning costs, and food waste transportation costs. Therefore, the hotel should take steps to prevent and reduce food waste with the right method.

From the results of the interview, it can be seen that so far, each kitchen operator in the hotel has implemented several methods for the prevention and reduction of food waste. There are several different treatments carried out by each hotel manager as illustrated in the following statements:

*Respondent-2:*

“... if here we don't want to waste food or what, because in principle, instead of throwing away food, it's better if we don't waste food ...”

“... because of that, at breakfast sometimes people eat small portions, sometimes a lot, we cook it twice. So, for side dishes like chicken, we don't cook everything right away so that if it turns out that until breakfast time runs out, the chicken that hasn't been fried can we chill it again in the freezer, it can last up to 28 hours so we can cook it for breakfast the next day ...”

*Respondent-3:*

“The rules in this hotel for vegetables and fruits or noodles that are served if they don't run out at breakfast must be collected immediately. Then we usually give them to chicken or fish farmers for their livestock feed ... so usually every day they take them here for themselves. the rest of the food ...”

“... if for rice, if it is not consumed, it means that this has not been touched, huh ... because we serve rice in stages, now we usually store it in the refrigerator to be used as porridge or fried rice for breakfast the next day ...”

*Respondent-7:*

“Usually there is a lot of leftover food when there are events such as weddings or meetings, so if there is still leftover and it is not taken by the party who has the event, we ask permission to give it to the orphanage around the hotel ...”

In fact, several hotels have implemented preventive measures and optimization of leftover food that is still fit for consumption for social purposes, be it distributed to employees or to those in need. This is also supported by policies made by corporate groups or hotel owners. From stakeholder theory, the management also care about the society around hotel such as give the leftover food that still in good condition to the orphanage or animal. This act shows us the social and environmental care of the management as an awareness of the society around the hotel.

There are differences in policies between privately managed hotels and corporate groups. So, for those that are managed by a corporate group, all policies made by the company owner will apply to all hotels that are in a corporate group while those that are privately owned, so the policies are more flexible. This is illustrated in the following statements:

*Respondent-1:*

“... you can't take the leftover food home here because the employees already have their own catering ...”

“Even though the food is still fit for consumption, according to hotel rules we can't give it to other people, so we can't help but throw it away ...”

*Respondent-2:*

“If I usually have excess food during a wedding or meeting, I prepare plastic or a place for them to bring it back, because of what, our hotel policy is that if there is leftover food, it must be thrown away immediately, so this is a corporate rule so all hotels are under the auspices. corporate groups must comply with applicable rules.”

“... whereas in my opinion personally, the leftover food should still be used, for example given to people who need it because it is still feasible ...”

Judging from the above statement, it can be said that the hotel owner's policies can affect the methods of managing leftover food in hotels that are implemented by kitchen operators. The hotel policy should be able to provide flexibility or support to optimize leftover food waste so as not to cause harm to the hotel. The policy to reduce food waste could explain by stakeholder and legitimacy theory. From stakeholder theory it could explain that the management want to balance various conflicting between stakeholder and company with the policy that could provide the request of the society who want every company take responsibility to the social and environment. The stronger the stakeholder influence, the more the company must adapt to the stakeholders. This act also could explain by the legitimacy theory that each entity will sustainably operate in accordance with the boundaries and values or norms accepted by the community around the company in an effort to gain legitimacy. The process of obtaining legitimacy is related to the social contract made by the company and various parties in society. In this context, legitimacy theory can explain how the role of hotel management in the social and environmental framework of the surrounding community so as to get the expected legitimacy.

Look at from the social and environmental perspectives the policy about the food waste management is as the corporate responsibility to campaign fights against famine and disaster from environmental damage. The implementation of green accounting concept on the policy can also avoid maintain costs that could be burdensome the company (Abdurrahman, 2019).

Standards on food preparation (including portioning) is important in food waste preventing as a part of food waste management. As we know that food waste management may eventually bring contributions to business performance. To improve hospitality business environmental performance, inventory management offers opportunities for waste reduction and cost savings for instance by minimizing the mistakes caused by improper handling of inventory or by limiting unnecessary inventory purchases. This may deliver cost efficiency for the hotel.

## CONCLUSION

This study assessed the preparation, processing and serving food and beverage in hotels related to food waste factors. In preparation phase, food waste is produced from cooking miscalculation, then in processing and serving food the factors are excessive plating and over presentation of food portions.

Green accounting has an important role in designing and implementing food waste management policy. It shapes the baseline of reduction targets, evaluates the most relevant waste streams, and supports the prioritization of environmental awareness programs. Improving the green accounting role is on challenges in support of the decision-making processes in the hospitality industry where is struggling to minimize costs while competing with each other to attain better revenue.

To overcome these challenges, this study contributes to improving green accounting in the food and beverage service industry, both from practical and research.

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