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The Adoption of Circular Economy Principles in the Hotel Industry

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ABSTRACT

Objective – The aim of this study is to explore the awareness level of CE concept and to assess the adoption of the CE principles in the hotel industry.

Methodology/Technique – This study employed a qualitative method. In depth interviews were addressed to hotel managers. The hotels were chosen based on three categories: local, national chain and international chain hotel. Observation of evidence was also used to analyze information from existing condition.

Findings – The findings pointed out the awareness level of CE concept in each hotel categories. It also revealed how hotels adopt CE principles in their daily business routine and how they see the aforementioned concept as one of the factors that help to preserve the environment.

Novelty – This paper provides a clear look on the awareness level of CE concept and a new perspective of the adoption of CE principles in hotel industry.

Type of Paper - Empirical

Keywords - Circular economy; awareness; principles; adoption; hotel industry

JEL Classification – M10, Z31

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1. Introduction

The world needs for natural balance and environmental sustainability force companies to change their business model towards a friendlier and caring environment. This in line with one of the objectives of the Sustainable Development Goals (SDGs), which is to achieve a better and more sustainable future for all.

A new concept that could accommodate the problem is circular economy (CE). It is an industrial system that is restorative and regenerative by intention and design (MacArthur: 2012). Once it is implemented, it is estimated to worth more than one trillion dollars in savings. CE could minimize resource input and waste, emission, and energy leakage by slowing, closing, and narrowing materials and energy loops (Geissdoerfer: 2018). It is expected that the industry will be able to reduce waste when they implement this concept.

CE principles can be applied to various industries including hotel industry. As we know, hotel industry is part of the tourism and hospitality industry that makes a significant contribution to the economy. It has a direct impact on natural resources consumption and environment. This phenomena forces hotel industry to manage the business sustainably, for instance, in managing waste and reduce energy to minimize the negative environmental impact.

The current research of CE is focusing more on production and manufacturing sectors and little has been done on service sector, particularly in the hotel industry. Previous research by Lieder and Rashid (2016) showed that CE framework is focusing on three main principles, those are environment, resources and economic benefit, nevertheless, support from the stakeholders are needed to implement CE concept in a large scale.

Pamfilie et.al (2018) found that CE implementation in hotel industry could change its business model and could create sustainable experience to its stakeholders. However, the main objective of implementing CE concept in this study is to create competitive advantage, with no perspective from environment nor sociocultural aspects. In addition, there is no clear distinction on CE, sustainability and green concept.

This study tries to fill the gap from previous studies, especially on the adoption of CE in the hotel industry. This study emphasizes the CE principles which are implemented in the hotel industry. The purpose of this study was to determine the awareness level of hotel management regarding the CE concept and to determine the adoption of CE principles in the hotel industry.

2. Literature Review

Awareness is an element that appears in the human automatic process. The automaticity can involve conscious or unconscious course of actions (Chartrand 2005). Liu and Bai (2014) outlined that awareness is measured by whether someone has already known or heard about something and how far someone has already known about something. This study explores the awareness of CE principles in hotel industry.

A circular economy is an industrial system that is restorative or regenerative by intention and design. It replaces the end-of-life concept with restoration, shifts towards the use of renewable energy, eliminates the use of toxic chemicals, which impair reuse and return to the biosphere, and aims for the elimination of waste through the superior design of materials, products, systems and business models (MacArthur: 2012). Stahel and Reday (1976) developed a loop economy to describe industrial strategies for waste prevention, regional job creation, resource efficiency and dematerialization of the industrial economy. According to Geissdoerfer et.al (2017) the CE is a regenerative system in which resource input and waste, emission, and energy leakage are minimized by slowing, closing, and narrowing material and energy loops. This can be achieved through long lasting design, maintenance, repair, reuse, remanufacturing, refurbishing and recycling. Implementation of CE is aimed to reduce the environmental impact as well as to boost economic growth through the new business model development (Kalmykova et al., 2018). It is also intended to resolve environmental issues (Sauvé et al., 2016). The CE tries to extend the economic life of goods by closing economics as well as ecological loops (Gregson et. al, 2015; Haas et.al, 2015).

There are 4 components to develop the concept of CE: the recirculation, the minimization and the recovery of resources; a multistage approach, its significance to reach sustainable development; and the relationship with the innovation from society (Lieder and Rashid, 2016).

In terms of CE measurement, Moraga et.al (2019) set forth the need of using the life cycle thinking approach and modelling level such as technological cycles and the cause and effect chain. Meanwhile, Bernon et.al (2018) categorized CE values into 6 principles, 6 attributes and 3 enablers. CE principles include cascade orientation, waste elimination, economic optimisation, maximisation of retained value, environmental consciousness and leakage minimisation. The attributes of CE consist of system thinking, circularity, built-in-resilience, collaborative network, shift to renewable energy and optimization of change, while CE enablers are technology driven, market availability and innovation. This study will be focusing furthermore on the 6 principles of CE values.

3. Research Methodology

This research is a qualitative research. The employed data collection technique was in-depth interview to 9 hotel managers in Bandung, Indonesia. We categorized the hotel into local, national and international chain hotel. There were 2 local hotels, 4 national chain hotels, and 3 international chain hotels involved in this research. This research also used observation of evidence in order to acquire data from the field. The research instrument was used as the base of interview guidelines, related with awareness and adoption of CE principles in hotel industry.

CE awareness was measured by two questions, those were whether hotel manager had heard of CE concept and the 3Rs (reduce-reuse-recycle) principles. CE principles adoption was measured by six questions, those were: Are there any items or products used in your hotel that have been reused? What does the hotel do with the waste? What does the hotel do to optimize hotel products/services so as to create economic resilience? What maintenance system does the hotel run? What does the hotel do with regards to preserving environmental resources and reducing environmental impact? and What does the hotel do to maximize product life?

The research phase began with a preliminary study on relevant topic. Then it was followed by desk study through reviewing literature and references related with CE awareness and adoption. Interview guidelines was formulated to collect data from hotel managers. After the in-depth interview was completed, then, data was analyzed and interpreted.

4. Results

4.1 CE Awareness

In general, hotel managers have never heard of the term CE as it is unfamiliar with them. There is only one hotel manager who already knows about the CE concept. When they were asked about the 3Rs (reuse-reduce-recycle) they really understood it and immediately linked with the green hotel concept. Some hotels even have implemented the 3Rs in their daily hotel practices and have received awards for this implementation.

“Yes... I’ve heard it so many times” (national chain hotel 02)

“...our hotel was awarded as the best four-star hotel for energy setting ... in Indonesia from the ministry of energy and mineral resources ”(international chain hotel manager 02)

4.2 CE Principles

There are 6 principles of CE, those are cascade orientation, waste elimination, economic optimization, maximization of retained value, environmental consciousness, and leakage minimization. All CE principles are explained below.

The first principle of CE is cascade orientation, where a product is stored longer in circulation and transformed into various other types of products. Generally, hotels have already reused some of their products such as hotel amenities, although some hotels is still in the initial stage.

“we only reuse straw .. yes it is reused...and then paper bag .. yes .. and laundry bag as well. We sometime reuse paper .. we use it both side ..” (national chain hotel manager 02)

There are also those who have not fully reused their existing products at the hotel because the hotel owner's consideration is not in that direction, which concerns more to the aesthetic than to the reuse product

“...when I did a presentation about using used materials for planting plants .. that’s when the owner told me to buy something more proper ...” (nonchain hotel manager 02)

The second principle is waste elimination. This principle emphasizes how waste must be reduced or eliminated from the initial stages of product design to the next stage. There is one hotel that does not use plastic at all except for rubbish bin. They use biodegradable plastic, even though the price is 25% more expensive than the price of ordinary plastic.

Based on the existing regulations, there are certain standards for a business to manage its waste. Some have their own water waste treatment plant (WWTP), some don't have one. Some hotels treat the waste by sorting it out. This responsibility is not only held by housekeeping alone but involves all parties in all departments in the hotel.

“...our hotel doesn't have our own WWTP.. but we manage the waste by doing direct sorting in every department” (nonchain hotel manager 01)

There is also hotel that leave the waste management to building management because the location of the hotel is at the same place with apartments and shopping mall. Building management has carried out waste management based on the rules that have been set by the government.

“... we leave the waste management to the building management because there are also apartments and shopping mall in our location ..” (international chain hotel manager 01)

The third principle is related to economic optimization, which will create a resilient economy upon its achievement. In this pandemic situation, hotels do not face obstacles regarding the supply of raw materials or prices that have become expensive. Some hotels adjusted their pricing strategy by improving the menu but still prioritize health protocol.

“no ... nothing ... in fact, the price from the supplier also seems to have dropped a bit ... because they don't dare to sell too much ...” (international chain hotel manager 02)

“....we monitor health protocol .. that is our commitment .. we also adjust our pricing strategy by improving the menu”(international chain hotel manager 03)

This pandemic, for some hotels, actually makes them more creative. According to the manager, creativity is very important to survive even in difficult conditions.

“so in doing a business we have to be creative ... I will do something that no one has it so others cannot copy it .. our occupancy rate is more than 85% while the others are under 20%”(national chain hotel manager 01)

Hotels have run a treatment system which is carried out regularly and this has become the company standard. This is necessary to keep the equipment well maintained and not fragile. There are hotels that has a special team and special program to deal with this issue.

“maintenance is scheduled regularly .. if we don’t do the maintenance, most equipment will be easily worry”. (national chain hotel manager 04)

“we have a program called GCPM or general cleaning preventive maintenance ... to anticipate things to reduce energy consumption”. (international chain hotel manager 03)

The next principle is environmental consciousness. There are hotels that use sensors to save electricity. Suggestions for hotel guests to save energy and to reduce waste have been made in several hotels. However, it all depends on the guests themselves. Some are aware, some are still not aware of the negative impact on the environment.

“... the awareness level of our guest on friendly environment is only 25-30% ... it does need education, yes, it needs education, continuous education. ”(national chain hotel manager 01)

To reduce the negative impact on the environment, there are hotels that use absorption wells to collect wastewater and some that are just starting to reduce the use of plastics, especially those found in guest rooms, such as amenities (toothbrush rods made of plastic).

“ ... the water that is disposed becomes absorption and then it is sucked back into the well ... ” (national chain hotel manager 03)

Finally, the sixth principle is leakage minimization. This principle brings the issue about the avoidance of loss of opportunities to maximize the usage period of products that are lost. For instance, how to ensure that waste does not leak into clean waterways and how to ensure pollutant-free rooms.

“...our clean water waste can be reprocessed into water that can be used to water plants... the channel is different between clean waste and sewage wastewater ”(international chain hotel manager 01)

In connection with the Covid-19 pandemic, in particular, there are hotels that use a special system which they claim can kill viruses and free pollutants. They installed a humidifier as well as two-phase sterilization water in the air conditioner so that it killed all bacteria.

"We are using this humidifier in every room which is installed in the air conditioner to kill all bacteria and prevent of spreading .. " (national chain hotel 02)

5. Discussion

In general, hotel management is not familiar with the circular economy concept. In fact, only one hotel manager knows about this concept. However, when they asked about green hotel, they all know about it, including the 3Rs (reduce-reuse-recycle). They have even implemented this concept in their daily practices. CE is a new concept for hotel managers. Even though in reality, hotels have actually implemented CE principles. The adoption of CE principles in each hotel is vary. For local hotels, the influence of the owner in making decisions is enormous. The profit factor is still a major factor for hotel owners in making decisions. There are even cases where the aesthetic factor can beat the use of reused products for other purposes.

The awareness of hotel guests is also one of the factors a hotel will fully implement the "green" concept or not. For them, hotel guest satisfaction is everything. Even though they have been told to save energy and reduce waste, the final decision still rests with the guest himself. The hotel management is only giving a suggestion, but cannot force the guests.

The CE principle is a holistic principle that is impossible to be carried out only by hotel management. The implementation of this principle must involve all stakeholders who have a high commitment. There is a need for socialization to increase understanding of CE, especially for hotels. If they possess comprehensive and thorough understanding, the implementation of CE in the hotel industry could be expected to be better. This is especially helpful in reducing waste and making more sustainable environment. Apart from that, it is crucial to educate hotel guests consistently on the importance of preserving the environment.

6. Conclusion

CE awareness in hotel industry tends to be low. Hotel managers are more familiar with the concept of green hotel rather than the concept of CE. Surprisingly, with the low awareness level from the hotel managers, it turns out that hotels have already adopted CE principles in their daily operations. The adoption level varies among hotels and it somewhat depends on the criteria of the hotel itself whether it is a local, national chain or international chain hotel. Some hotel fully takes their considerations on this issue, some are still in the initial stage. However, it is a good sign that hotels are already concern about being green and preserving the environment although it still needs further improvement on the daily practise. It is recommended for the hotel management to understand more on what CE principles are in order to adopt it appropriately. This is important since hotel industry contributes abundant level of waste to the environment. Therefore, to help preserving the environment, hotel management should realize the importance of CE as part of their business model. Furthermore, it is important for the hotels to educate their guests consistently on how the guests could help to protect the environment. This study only focuses on the implementation of CE practices. Future work should expand the study not only on its principles but also on attributes and enablers. Future study might also compare on implementation of CE in manufacturing and service sector.

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