

OLD TIRES HOTEL FURNITURE

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Abstract

Nowadays, tourists are more conscious of the carbon footprint that they left during travel. In this sense, it shows they are more concern and passionately showing their support towards green tourism. This paper highlighted the innovation of furniture products which is based on aircraft old tyre. In reality, none of the old aircraft tires was reused in the tourism industry, even though the major contribution of air travel is in the tourism sector. Currently, the old aircraft tires only reused for farm equipment such as tractors, backhoe, and wagon but most of it ended up as rubber mulch for playgrounds and sports fields. The main objective of this project is to promote sustainability effort, green tourism initiatives and reducing the negative human impact towards the environment by reusing of the old aircraft tyres into hotel furniture. The old aircraft tyres can be reassembled into various hotel furniture such as a coffee table, Ottoman, bookshelves, and umbrella stand. Apart from preserving the environment, this innovation is unique and able to attract tourist to stay in the hotel as the old tyres are being transformed into a high-quality and exclusive product from recycled items thus promoting green hotel concept. On the other hand, this project plays a vital role as value creation and help the hoteliers and tourists to appreciate and inculcate this sustainability concept and green tourism into their daily practice. Moreover, this innovation will give a benefit to the environment, airlines and hotel industry. Furthermore, it also profiting the local community with obtaining job opportunity to increase their economy by producing furniture from old airplane tyres.

Keywords: - Green tourism, tourism sustainability, airlines, hotel, innovation

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1. Introduction

Since the beginning of mass tourism phenomenon in the twentieth-century, tourism has further evolved as several factors such as increases in disposable income, advances in aircraft technology and further increases in leisure time has contributed to the inbound and outbound travelling. Tourism and travel are interrelated in many ways. Tourism activity usually involves travelling although not all travelling is for the purpose of tourism. Starting from special excursion train from Leicester to Loughborough, England by Thomas Cook, transportation has played a major role in the development of tourism. The evolution of transportation has enabled people to travel further and further.

The invention of air travel has significantly facilitated travelling to another continent more easily. Now, it is one of the most convenient mode of transport to travel. World Tourism Organization had stated that 58% of the international tourism was by air in 2018 which has increased from 46% in 2000 (World Travel Organization, 2019). In fact, air travel is relatively safer than other mode of transport such as car and motorcycle. This shows that the level of aircraft safety has increase significantly in the recent years with the advancement of technology.

Despite of the great benefits that tourism had brought, negative impacts of tourism need to be controlled and minimized. To address the negative impacts that tourism had brought to the destination, the term 'sustainable tourism' has become more popular. It is defined as "a form of tourism which meet the needs of tourists, the tourism industry, and host communities without compromising the ability of future generations to meet their own needs" (Swarbrooke, 1999). It can be seen that the tourists are now more aware and concern towards how their behaviour or attitude can impacts the environment and caused pollution.

It is important for the tourism industry players to take part in making their operation more sustainable for the sake of future generation. More hotels are integrating sustainable practices in their daily operations. Tourists are also making conscious choice to stay in hotels or lodgings that making effort in integrating sustainable practice at their place. Airlines are also moving towards sustainability practice to be more appealing to the potential customers. This proves that the tourism industry players are aware of the impacts they imposed to the world. It is hope that these efforts are making progressive changes to the environment, economy and societies.

2. Problem Statement

As tourism industry become larger by day, so does the negative impacts it brought. Tourism has notably had the power to destroy vegetation, create overcrowding, pollute delicate or sensitive destination, create litter and sewage problems and impact the life of the host community. Tourists and industry players alike have consciously moving towards making travelling less damaging and giving more positive impacts to the destination hosts and social community. Usually, environment suffer the most consequences which some of it are irreversible to the point of permanent damage as the result of tourism development.

Federal Aviation Administration stated that 16,405,000 flights were handled by the FAA yearly with 2,900,000 passengers fly every day on and out of U.S airports (*Air Traffic By The Numbers*, 2020). With that number of flights come with large number of worn aircraft tires. These tires have limited life-span compared to other vehicles. This claim is further supported by Ratings (2018) "that aircraft tires can last up to 100 landings before it needed to be changed". In comparison, the average car's tires can last about 40,000 kilometres before it is needed to be replaced. Root (2009) noted that "tires that aren't recycled or burned mostly end up in landfills—some 16 percent, according to a 2018 USTMA report". This arises the problem of overflow of worn-out aircraft tires that cannot be reused again. The biggest threats with discarding the worn-out tires to landfills are that chemicals and heavy metals may leach from the tires. It can affect the soil around it making the soil toxic and the toxin may be absorb into the water in the soil which can caused water pollution. The hollow middle of the worn-out tire will easily fill up with rain water

and become a breeding place for pests such as mosquitoes. Dengue mosquitoes thrive in the condition where the water is stagnant. These will increase the risks for the local community around the landfill to be bitten by dengue mosquitoes. Currently, research from Sumers (2016), noted that "the old aircraft tires into agricultural equipment's tires and rubber mulch". However, none of it is reuse or recycle into tourism and hospitality industry. The recycling act still insufficient to combat the number of discarded aircraft tires.

As more hotels are striving towards sustainable practices, it is a great opportunity for airline industry to reuse its aircraft tires into hotel furniture which can tremendously benefit hotel and airline industry alike. It would also positively impact the environment. Raw materials such as timber, metal and glass could be reduced from making furniture. Average hotels will renovate their rooms and spaces every six to seven years which is often signalled by decreasing in room occupancy or as the room or space look outdated. Both hotel and airline could gain benefits from it. All in all, reusing old tires into hotel furniture is a great step towards sustainable practices in tourism industry.

3. Significance of the study

This study aims to promote sustainability efforts, green tourism initiatives and reducing the negative human impact towards the environment by reusing the old aircraft tires into hotel furniture. Furthermore, crafting old tires into hotel furniture benefiting the local community by creating a job opportunity and increasing their economic resources. Providing this information may be useful to the tourism stakeholders such as transportation service providers, hotel industry, travel agency, and other related industry in educating tourists towards sustainable tourism. The findings of this study also significantly contribute to the interest of academicians and practical perspective.

3.1 Academic Perspective

The originality of this study will become one of the contributions in forming a new body of knowledge and extending the literature sources in the tourism-related study that will benefit the industry. This study will create a benchmark for another researcher to look further into this issue.

3.2 Practical Perspective

From a practical perspective, this study will significantly contribute to tourism stakeholders to better understand sustainable tourism. By knowing and understanding the use of recycling items as a new product of furniture, the related industry like aviation, hotel, and the local community would promote this unique product to attract tourists.

4. Literature Review

4.1 Tourism and environmental degradation

Tourism can be related to people's movement away from home to other places of interest (Bhatiah, 2001), and it is known as one of the world's largest industries (World Travel and Tourism Council, 2014). The rise of tourism as one of the significant industry remarkable changes have taken place in the global economic activities (Sinclair, 1998). However, the tourism industry faces multiple issues, such as environmental degradation, social imbalance, and unhappy tourists contributing to their business

sustainability. The tourism industry creates a problem regarding the vast amount of waste and other different pollutions. The lack of proper natural resources management could lead to hazardous to the environment (Bohdanowicz, 2005). Pigram (1999) believes that tourism can undoubtedly contribute to environmental degradation and be self-destructive. Tourism is responsible for roughly 8% of the world's carbon emissions. Various activities contribute to tourism's carbon footprint, from plane flights and boat rides to souvenirs and lodging. Most of this footprint is emitted by visitors from high-income countries, with U.S. travelers at the top of the list. As the number of people who can afford to travel grows, so will tourism's environmental footprint. Sustainable Travel International (2020) revealed planes is the highest emissions by transport, followed by SUV (1pax), a small car (1pax), motorcycle, transit bus, train, tour bus and ferry.

4.2 Sustainable and Green Tourism

Tourism sustainability is an important topic and contributes to the literature towards this innovative product's current research. This section will explain the sustainability issues from different perspectives for example, economic, environmental, and social aspects of the tourism industry. The sustainable tourism concept reveals that tourism has the characteristics to improve the host community's quality of life, increasing visitors' experience and maintaining a quality environment for usage of both tourists and the host community (WTO, 1993). Furthermore, the concept of sustainability considers economic, stakeholders, social involvement with the local community, and the activities to protect the environment also supported by other previous research from (World Tourism Organization, 2003, Nabiha et al., 2011). Besides tourism sustainability, green tourism is recognized as one of the crucial issues to be discussed. Green tourism is also practiced by industry players such as hotels and tourist attractions. In line with this innovative product, it can encourage tourism stakeholders to apply green tourism in the industry. On the other hand, tourism sectors are urged to play more significant roles in tourism sustainability efforts by providing continuous employment and revenue for the country, especially to the local people. Green tourism, which is in line with the sustainable tourism concept, should be seriously adopted and move together to promote environmental responsibility, local economic vitality, and social sustainability.

4.3 Social Sustainability

There are three sustainable tourism indicators namely, social, economic, and environmental (Lozano-oyola et al., 2012). In the case of the social dimension, sustainability issues are about the social benefits of tourist activity. For example, the community's efforts to preserve their cultural resources and increase foreigners' numbers should lead to visitors' understanding of the native culture (Lozano-oyola et al., 2012). In sustainable tourism, the achievement of social structure is a significant social indicator. The tourist experience is enhanced when knowing about employment opportunities for the locals and their interactive experience. Sustainable tourism has been taken care of when the tourism brought in positive lifestyle and changes to the tourist.

4.4 Sustainability of local community

This innovative product could profit the local communities and benefit from sustainable tourism through economic development, job creation, and infrastructure development. Local communities' participation will bring economic growth and prosperity to attractive tourist destinations, raising the standard of living in destination communities. As stated by Awangku Hassanah (2009), the word participation implies how and to what extent people can share their views, take part in an activity, project, program, decision-making, policy making and so on. Community participation has been studied in various fields such as health, environment, governance, rural and urban development (Boyce & Lysack, 2012). Tourism and

communities must be highlighted together because any change to one will affect the other. In sustainable tourism, the achievement of local community structure is a significant social indicator. The tourist experience is enhanced when knowing about employment opportunities for the locals and the locals' interactive experience.

4.5. Economic sustainable

From the creating of this uniqueness product, it can influence the local economic sustainability. Economic sustainable development can be related to economic conditions that promote sustainability, including employment, increased regional development, and foreign exchange tracing (Ahn et al., 2002). Sustainable economic initiatives are indicators to monitor tourist services' quantity and quality, including accommodation, restaurants, ecotourism activities, and others. In line with that, the effectiveness of economic sustainability can also ensure the tourists' satisfaction during their visits or holiday. Moreover, sustainability is related to several factors such as the intensity of development, the speed of tourism growth, the environmental framework, and the measurement of economic development in the different regions (Garrigós et al., 2004).

5. Methodology

There are two methods of data collected for this paper which is a short qualitative data (A Spilhaus, 2014) and secondary data collection (N Ruggiano & T Perry, 2019). As for qualitative, it is aimed to gather point of view from various type of backgrounds. Five participants took part in the short interview and they gave positive responses towards reusing old aircraft tyres and turned into hotel furniture. The five participants are one pilot, one hotelier, one local resident and two tourists. The video interview was recorded and put into product video presentation. Then secondary data such as online statistical analysis, aircraft tyre maintenance and other research regarding carbon footprint was used to support further on this paper.

Besides that, a prototype of the furniture was made using used car tyre, jute rope, milk glue and plywood. Firstly, the plywood was cut according to the circumference of the outer layer of the tyre. Prepare the milk glue and apply generously throughout the plywood and tyre. Wrap jute rope around the tyre and plywood. Ensure it covers all part it. Place the product under the fan to let it dry. The product it can be used for various purposes. It can be table, chairs, stool, ottoman, side table, flowerpots, and umbrella stand.



6. Conclusion

This paper has sought to provide a better understanding and awareness towards the product innovation. Since pollution and global warming has been an issue all over the world (C. Zhong, 2016) leaders are moving towards sustainable and eco-friendly system. This product is not only to reduce carbon footprint, but also help to sustained future generations towards hospitality and tourism industry. By doing this innovation also helps to educate local community about the importance of reusable items. Besides that, it also gives job opportunities towards locals to venture into new business. As it suits recycling purposes, the government would have less issue pertaining the pollution.

In future, used vehicle tyres such as cars (A Tremlett & D Limebeer, 2016), lorries and busses also could be turned into furniture to increase the awareness of sustainability in tourism industry. Besides that, this furniture can be personalised according to the hotel's preference whether it can be contemporary, or traditional or any personal design request. Not only that, other materials besides than jute rope can be used to make it more attractive and long lasting. However, there was a restraint of time and place to carry out this research during Covid-19. As for the product innovation, further research can be done to enhance old aircraft tyre not only for furniture but other usage as well that could benefit the hospitality and tourism industry.

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