Chapter in Book

"B'Vombag"

Aiman Harith Jamal[1,*], Farah Wahidah Ahmad Khashiri[2], Hannani Syakirah Mohd Idrus[3], Wan Nur Amirah Wan Muhamood[4], and Hassnah Wee[5]

[5] Faculty of Hotel and Tourism Management, Universiti Teknologi MARA, Cawangan Selangor Bandar Puncak Alam, Malaysia; hassnah739@uitm.edu.my; ORCID ID (0000-0001-7103-4679)

* Correspondence: hassnah739@uitm.edu.my; telephone.

Abstract: *Abstract: After Malaysia's government lifted the instructions of Movement Control Orders (MCO), many people already planned their holidays. It is either in Malaysia itself or out of Malaysia they want to go. They are eagerly planned to start their holiday but, there is something that they cannot hold or control during their journey. Which is their motion sickness whether using land transports or water transports and also, their air turbulence while they are using air transport to reach their holiday spots. Using our product, "B'Vombag" can help many people to go on holiday without worrying much. In addition to featuring a built-in tissue pocket, our product also features a dual zip lock that allows it to secure a greater quantity of liquid on the inside. Furthermore, the "B'Vombag" possesses a super absorbent polymer that can quickly soak up any liquid that may be contained within the bag. The liquid will quickly transform into a jelly-like consistency, setting it apart from the product that is currently available on the marketplace. The "B'Vombag" also comes equipped with a silicone ring that makes it simpler for users to grasp the plastic bag. Lastly, our product is considered as eco-friendly if it does not hurt the environment in any way during its manufacturing, usage, or disposal. It may also be referred to as green or ecologically friendly.*

Keywords: Biodegradable; vomit bag; polymer; eco-friendly; sustainable innovations.

1. INTRODUCTION

Over the past 50 years, there has been a surge in plastic manufacturing. About 6300 metric tonnes of plastic trash were produced as of 2015. About 9% of this was recycled, 12% was destroyed, and the remaining 79% accumulated in dumps or the surroundings. Geyer et al. (2017) state that by 2050, there will be about 12,000 metric tonnes of plastic trash in landfills or the surroundings if present manufacturing and sewage treatment patterns continue. Parker (2019) says that grocery bags, which are sometimes said to as the world's top consumer goods and are frequently employed in business-to-consumer relationships, are currently some of the most outlawed products in the world. In addition, a survey conducted by Excell et al. (2019) states that 47% of the plastic waste produced worldwide in 2015 was wasted from plastic bags alone. According to the type of plastic, the projected period for degradation is several hundred years, making plastic considered durable (Derraik, 2002). Because of the hydrophobicity and large molecular weight of synthetic polymers, which inhibit phagocytosis (Artham & Doble, 2008), many plastic kinds are thought to be bio-inert (Gregory & Andrady, 2003) and therefore not biodegradable (Tokiwa, 2009). Therefore, despite the fact that some microbes can degrade plastic, microbial plastic degradation is generally thought to be modest (Shah et al., 2008). Organizations like UNEP and NOAA highly advocate conducting a study on biodegradable plastics in

addition to the efforts to minimize the usage of plastics and improve the recycling process (UNEP & NOAA, 2011). The tourism industry is a major source of environmental problems (McKercher 1993), but certain types of tourism, such as ecotourism and experiential tourism, have requirements that make them sustainable vectors (Budowski 1976; Fennel 2014). In addition to efforts to find a replacement for plastic, development and biodegradable packaging made entirely of renewable materials are supported (Kolybaba 2003, Narayan, 2006). This ideal vomit bag is consisting of biodegradable plastic material, two dimensions of zip-lock, absorber polymer, and wipe tissue to prevent vomit from exploding elsewhere. The tourism industry is a major source of environmental problems (McKercher 1993), but certain types of tourism, such as ecotourism and experiential tourism, have requirements that make them sustainable vectors (Budowski 1976; Fennel 2014). Therefore, it has a positive effect on people's way of life and enhances the image of tourism. Hence, users may help the environment by buying and using eco-friendly items. Moreover, despite the fact that customers recognise the ethics of utilising eco-friendly items, it has been discovered that they lack the desire to purchase such things.

1.1 Problem Statement

Today, at the beginning of the 21st century, the most crucial part is given to products from renewable sources, for their positive impact on nature. In broad sense, customers increasingly are becoming more aware that conventional plastic products, while extremely useful, are having an adverse effect on the environment, water resources, and the entire ecosystem. Eco-friendly products, also known as environmentally friendly products or green products, are products whose production, use, and disposal do not harm the environment (Lin & Chang, 2012). There is great potential for eco-friendly packaging to contribute to sustainable development (Lindh et al., 2016a; Wikstrom et al., 2018). Despite the fact that packaging is a social and political issue, there has been scant research into consumer perceptions of environmentally friendly packaging. Everyone, regardless of age, can benefit significantly from using the biodegradable vomit bag. Prior research has demonstrated that consumers heavily rely on material cues when evaluating the eco-friendliness of packaging (Lindh et al., 2016a; Magnier and Crie, 2015).

People who suffer from motion sickness and rarely go on vacation are the types of people who are most likely to use this eco-friendly for daily use. According to the researcher, this product would be very helpful for establishments like nursing homes, hospitals, airplanes, boats, and cruise ships. However, we might see children who are not travelling lead to spill everywhere due to allergic reactions to foods or gastrointestinal pyrotechnics. These reactions could occur in children who are not travelling. Adult children also travelling with their parents are motivated by their desire for their parents to broaden their horizons and achieve self-fulfilment during the trip; adult children also view this type of family travel as a priceless opportunity to strengthen family bonds (Fu et al., 2019; Wang et al., 2018). However, if they get sick with this condition when they experiment with new foods that their stomachs cannot properly digest.

As a result, people are constantly commuting from one location to another, which causes people with car sickness to spill their liquid after staring out the window for too long. Previous research has demonstrated, for instance, that eco-friendly products are perceived as less effective than conventional products (Lin & Chang, 2012), indicating that consumers are more likely to make a trade-off between greenness and effectiveness if they perceive environmental issues to be highly relevant to their daily lives. The desire to purchase this product creates a large potential for a new target market. The advancement of having a product that can give great security and multitask lead to positive image

and to encourage people to travel easily. People now have access to products that can help them maintain a healthy balance and feel secure while travelling, home and anywhere.

2. METHOD & MATERIAL

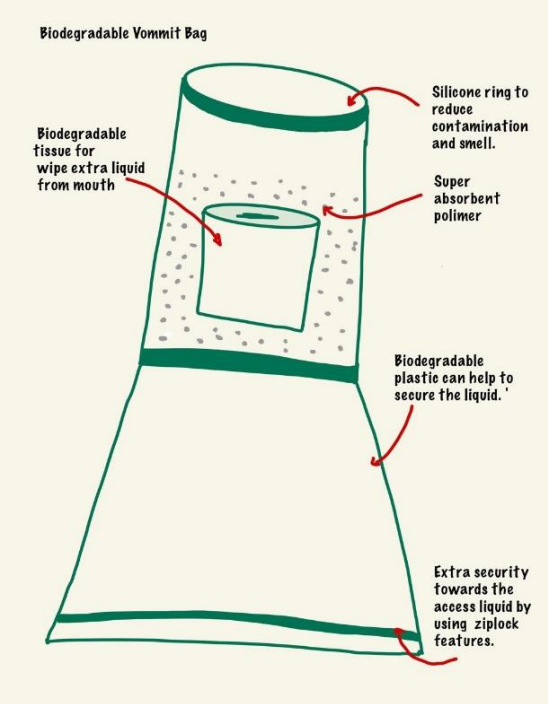

Figure 1. The product design

The B'Vombag was created by combining two biodegradable plastics and a ziplock. We also salotape a pocket tissue to the side of the vomit bag with double-sided tape. Then, we use a hot glue gun to join the two biodegradable vomit bags. Opening the pocket allows access to the pocket tissue. Next, we used a super absorbent polymer inside the bag to quickly absorb any liquid that may be contained within it. We then placed a silicone ring around the opening to prevent contamination and odour.

This innovation is new to the market, as evidenced by a survey in which 93.6 percent of respondents stated that they had never seen a vomit bag with a built-in pocket tissue and a secure zip-lock before. According to the survey, 99.1% of respondents agreed that the best vomit bag material was biodegradable Polyethylene (Super absorbent polymer). This means that it is suitable for use in the production of the product. Aside from that, the majority of respondents (78%), bring tissues with them when they travel. This demonstrates that including a tissue pocket in the product would be beneficial.

3. FINDINGS

A feasibility survey was carried out to get feedback from potential users. A google form questionnaire was used as the main channel for distribution to 109 respondents. Section A shows that the respondents' demographic results questions that show a majority of the respondents were females (75.2%), and most of them were aged between 18-24 years old (79.8%). The respondents are a student

(74.3%) and they are mostly Bachelor's Degree students (71.6%). The results also show that majority of them have no income (57.8%).

Section B measures the respondent agreement. The result also shows that most of them (91.7%) love to travel. The Majority Of the respondent said that they take vomit bags when they travel are (56%). The majority of respondent believes that a vomit bag is necessary for people who travel (81.7%). The majority also said that bringing a vomit bag will not take up too much space in their handbag (72.5%). They also agree (99.1%) that biodegradable Polyethylene (Super absorbent polymer) is the best vomit bag material. The majority of respondents also bring tissues when they travel (78%). They also agree that they bring tissue when travelling because of a reason to wipe any dirt (33.9%), to be prepared for any incidental stain that probably hit their clothes (39.4%), and (25.7%) because it is a must-have essential thing. They also agree that bringing their own tissue will not burden them (81.7%). A majority of (93.6%) said that they have not seen a vomit bag that has built-in pocket tissue and secure zip-lock in the market before. The majority also agree that they are interested in purchasing a secure zip-lock vomit bag with built-in pocket tissue (82.6%). A majority (76.9%) also worry sometimes that their vomit bag might leak

Section C measures the usability of "B'Vombag". The majority of the respondents (86.2%) agree that a vomit bag that has built-in pocket tissue and a secure zip-lock would be convenient to bring when travelling. They also agree (88%) that vomit bags that have secure zip-lock would be more confident to use. The reason for this is because of the functions that offer by the product. They also agree (99.1%) that it is unique and can help to sustain the environment.

4. DISCUSSION

4.1 Usefulness

Due to the dual zip-lock feature that can keep their liquid in place, biodegradable vomit bags have the potential to expand. B'vombag has the opportunity to expand due to its ability to secure liquid with a zip-lock. When we are travelling, everything must be quick, so we use absorber polymer to absorb liquid in a short amount of time. In accordance with the survey, 99.1% of participants believed that biodegradable Polyethylene was the best vomit bag material (Super absorbent polymer). This means that it can be used in the manufacturing of the product. As a result, the vomit bag has a small pocket that extends from it. Additionally, using sustainable paper-based packaging solutions is environmentally friendly, saves time, money, and resources. As a result, it is critical for people who suffer from a variety of illnesses, such as motion sickness and gastric disease. These experiences while travelling may cause us to lack confidence in our ability to socialise with friends and family. Consequently, it improves protection and is non-toxic. It demonstrated that our product has a great material that can be recycled or reused for another purpose, such as using B'vombag for planting or equipment storage.

4.2 Uniqueness

This ideal product enhanced one's life quality in terms of covering up the liquid from someone else. In addition, it helps pregnant women and those suffering from motion sickness while travelling by bus, car, or plane. This item is easily foldable, and the material is superior to paper and polyethylene bags. They were indeed truly biodegradable and can be burned, recycled, or composted. They are non-GMO and can be used to store food and pet waste. Otherwise, this bag is suitable for people of all ages and genders, particularly those who travel frequently and those who travel infrequently. As a result of

its newness for commercialization, this product has had a significant economic impact. People have been seen using plastic bags or cups solely for vomit; this innovation allows people to secure their liquid. The biodegradable vomit bag can increase their productivity and alleviate motion sickness.

5. CONCLUSION

To summarise, the researcher believes that this product can be useful in providing convenience among tourists who may have conditions such as gastric and air turbulence or any vomit-related illness in order to achieve the third goal of the Sustainable Development Goals, which is to ensure healthy lives and promote well-being for all people of all ages. It is also critical to maximise the use of biodegradable materials in our daily lives in order to contribute to a reduction in the amount of plastic trash produced by humans. The product also aspires to achieve the 12th Sustainable Development Goal, which is to ensure sustainable consumption and production patterns. The vomit bag can also be used as a flowerpot, which is a cool concept. Finally, the researcher hopes that tourists will enjoy our innovation product.

References

Aamer, A. S., Fariha, H., Abdul, H., & Safia, A. (2008). Biological degradation of plastics: A comprehensive review. *Biotechnol Adv*, 26(3), 246-265.

Andrady, A. L. (Ed.). (2003). *Plastics and the environment*. John Wiley & Sons.

Artham, T., & Doble, M. (2008). Biodegradation of aliphatic and aromatic polycarbonates. *Macromolecular Bioscience*, 8(1), 14-24.

Excell, C. (2019). *Legal limits on single-use plastics and micro plastics: A global review of national laws and regulations*. United Nations Environment Programme (UNEP).

Fu, G.Q., Zhang, C.H., & Hu, J.J. (2019). Analysis of progeny-parents family travel process in view of filial piety: Driving factors, intergenerational interaction and tourism evaluation. *Journal of Contemporary Marketing Science*, 4(1), 1-18, doi: 10.1108/JCMARS-12-2020-0049.

Geyer, R., Jambeck, J. R., & Law, K. L. (2017). Production, use, and fate of all plastics ever made. *Science Advances*, 3(7), e1700782.

Lin, Y. C., & Chang, C. C. A. (2012). Double standard: The role of environmental consciousness in green product usage. *Journal of Marketing*, 76(5), 125–134. https://doi.org/10.1509/jm.11.0264.

Lindh, H., Williams, H., Olsson, A., Wikstroem, F., 2016b. Elucidating the indirect contributions of packaging to sustainable development: A terminology of packaging functions and features. *Package.Technol. Sci.* 29 (4e5), 225e246.

Magnier, L., Crie, D., 2015. Communicating packaging eco-friendliness: an explo- ration of consumers' perceptions of eco-designed packaging. *Int. J. Retail Dis- trib. Manag.* 43 (4/5), 350e366.

Parker, L. (2019). Plastic bag bans are spreading. But are they truly effective. *National Geographic*, 4.

Tokiwa, Y., Calabia, B. P., Ugwu, C. U., & Aiba, S. (2009). Biodegradability of plastics. *International Journal of Molecular Sciences,* 10(9), 3722-3742.

Unep, N. (2011). *The Honolulu strategy: A global framework for prevention and management of marine debris*. NOAA, UNEP.