



UNIVERSITI
TEKNOLOGI
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Cawangan Melaka

i-JaMCSIIX 2022

International Jasin Multimedia & Computer Science Invention and Innovation Exhibition

EXTENDED ABSTRACT BOOK

Publication Date: 31 October 2022

ISBN: 978-967-15337-0-3

In Partnership:



Tadulako University

<https://jamcsiix.wixsite.com/2022>

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Extended abstract

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ISBN: 978-967-15337-0-3

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Universiti Teknologi MARA Cawangan Melaka Kampus Jasin

77300, Merlimau, Melaka

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HANDY SCRUBBY

Nor Syahdani Binti Zulkifli¹, Nur Ayuni Kartini Binti Zulkarnain², Tengku Aishah Fatimah Binti Tengku Baharim³, Putri Huda Zafirah Binti Ridhwan Deepak Anopchand⁴ and Hassnah Wee⁵

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Abstract - During adventures and explorations within remote areas, such as forests, mountains, and other areas devoid of laundry facilities, travellers frequently have complications with washing their clothes. Consequently, the inventive foldable bag known as the handy scrubby is designed. Handy refers to something that is convenient and simple to use, whereas scrubby refers to the act of scrubbing. The primary goal of the device is to make it simple and convenient for campers, hikers, and even frequent travellers who have trouble finding laundry services to wash their clothes. The product features include user-friendly, extremely lightweight, and simple to transport while travelling or engaging in beach activities. On top of that, the Handy Scrubby product supports the Sustainable Development Goals (SDG7), which is affordable and clean energy. This is due to the effectiveness of Handy Scrubby in promoting the functionality of a product with no electricity power needed and also affordable to purchase. Other than that, Handy Scrubby also supported the (SDG6), clean water and sanitation based on our product which encouraged the users in practising less clean water consumption. The handy scrubby is distinctive because of its user-friendly features, eco-friendliness, and suitability for a wide range of tourist markets. This product is suitable for use in natural environments such as forest, the lake, mountains and other outdoor spaces. It has the potential to be commercialised because the price is reasonable. The invention would indeed assist the community by promoting clean energy and less clean water consumption.

Keywords - Innovation, Handy Scrubby, clean energy, clean water

I. INTRODUCTION

Sociological analysis traces modern backpacking with at least two earlier modes of travel, that were mostly practised by European teenagers and young adults. It is also undertaken by aristocrats for informational as well as formation purposes, and tramping-related travel, favoured by working-class youths since the Middle Ages. While the former implies a sociocultural democratisation process, the latter implies a "the upward instead of slidably movable cultural norm" (Adler 1985:337). However, East Asia, particularly China, is substantially at centre stage as both a key backpacking destination and a supplier of backpacking traditions with unique travel attributes (Zhang et al. 2017). It is shown now in Malaysia especially, the market of backpacking or campers among young men is increasing due to the exposure of the norms from the European modes of travel. In addition, remote tourism has grown significantly in the tourist industry by focusing on one unique feature, such as the

landscape, farm life, history, or ecology, so a research of their human senses was essential. It is known for the frequent backpackers and travellers to minimise the number of clothes they bring throughout their journey and expedition. However, going to a place that is far from the facilities such as a laundry bar will result in a lack of clean clothes to wear. Most visitors seek amenities like mountain cabins, which boost the surrounding economy. This leads to a conundrum in distant and wilderness tourist development: providing amenities and services risks losing the attributes that grab attention (Buhalis 1999; Lynnand Brown 2003; Hall and Boyd 2005). This product will assist fellow travellers to wash their dirty clothes in their own environment. Additionally, Sustainability will also be incorporated into this product, such as using non-woven and microfiber materials.

II. MATERIALS

The Handy Scrubby is mostly made of Non-Woven polypropylene which is environmentally friendly and waterproof. It is provided with silicone spikes on the inside of the product shaped as a spike which is a functional feature during the cleaning process. In addition, Handy Scrubby also came up with a Micro-fiber towel which will be used in the drying process. Apart from that, Handy Scrubby is secured by the presence of a ziplock in tightening up the bag from leaking while being used. Another element is a strap included with a button which comes in handy to secure the bag after folding it for storing purposes.

III. METHODS

Handy Scrubby is sewn and glued. Recycled non-woven polypropylene bags will be turned inside out to glue spikes. As a scrubbing component, repurposed silicone spikes will then be attached to the bag's lower interior. A ziplock secures the bag's top edges. Next, fold and store the microfiber towel. After folding the bag, fasten the strap with the button. The weight of Handy Scrubby is approximately around 150 gram. The dimension of it is 25 cm width x 51 cm height. In addition, water can be filled up in handy scrubby is up to 100 ml based on the quantity of the clothes.. Ways to use Handy Scrubby is first, put in the clothes and fill in the water together with a small amount of detergent. Then, let all the air out to ease the cleaning process. Next, scrub the clothes against the silicone spikes inside the product. Afterwards, take out the dirty water, fill up with clean water to rinse out the excess detergent. Then, squeeze the clothes. Lastly, lay down the microfiber towel, put the clothes onto the micro-fibre towel and squeezing it together.

IV. RESULTS AND FINDINGS

A. Demographic Profile

This poll assessed gender, race, marital status, age range, education level, employment position, distant travel experience, and adventurousness. The survey received 145 usable responses out of 200 questionnaires distributed to the targeted target market, with 55 (27.5%) not responding to the Google Form. 22.8 percent of males and 77.2% of females responded, with 0.7% under 18 years old, 73.1% 18 to 24, 6.2% 25 to 30, and 20% 30 and older.

B. Respondent Awareness

Since clothes are essential things to bring during travel, a significant number of people 98.6% have agreed and remained supportive, while 1.4% have expressed disagreement. Moving on, 72.4% of respondents said they prefer to wash their clothes when travelling, and 51.7% said they often wash their clothes when travelling. Furthermore, 85.5% agree that washing clothes without having to look for laundry facilities while travelling made the trip easier.

C. The Usability of Handy Scrubby

Section C evaluates *Handy Scrubby's* usability. More than 54% of respondents agreed that *Handy Scrubby* is practical since they can wash and dry clothes with only one product when travelling, and 43% say that it dries clothes quickly. The accompanying microfibre towel aids in drying. 49% of respondents agree that *Handy Scrubby* is portable. Moreover, 73 out of 145 respondents believe that *Handy Scrubby* makes washing clothing easier, and 35 strongly agree. Lastly, 106 out of 145 time-conscious responders agree or strongly agree that *Handy Scrubby* saves their time when travelling, especially to remote places.

D. The Features of Handy Scrubby

Section D measures *Handy Scrubby's* features. 115 out of 145 responders (79%) think *Handy Scrubby* should be durable. 80% agree *Handy Scrubby* must be abrasion-resistant. 47% agree and 29% strongly agree that *Handy Scrubby* must be waterproof. 81% of respondents say *Handy Scrubby* improves travelling experience. 70 respondents (48%) believe *Handy Scrubby* should have numerous purposes, and 47 (32%) strongly agree. 83% of respondents believe that *Handy Scrubby* is unique and travel-friendly. 115 out of 145 respondents (79%) think *Handy Scrubby* is useful for all travellers.

V. CONCLUSION

Handy Scrubby saves more power than traditional washing machines and is compact enough to fit in backpacks. The product saves more water than regular washers. Because it's user-friendly and practical, anyone can use it, especially dorm-dwelling students. *Handy Scrubby* can help trekkers, campers, and travellers wash their clothes without facilities, according to study and evaluations. *Handy Scrubby* can assess the difficulties, opportunities, and best solutions to improve user products in Malaysia. *Handy Scrubby* will focus on addressing client needs and goals.

ACKNOWLEDGEMENT

Firstly, we would like to express our heartfelt gratitude to our Project Advisor, Prof. Dr Hassnah Wee for providing us with the wonderful opportunity to work on this innovation project, *Handy Scrubby* which also allowed us to do a lot of research and learn a lot of new things. Last but not least, we would also like to express our gratitude to anyone who has indirectly helped us in completing this project.

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