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Kampus Sungai Petani

Faculty of Administrative
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TOOTHBRUSH 2-IN-1

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ABSTRACT

The innovative 2-in-1 toothbrush is served both the functions of toothbrush and toothpaste. These two items are some of the items we use in our everyday life and when we travel. When traveling, we tend to pack mundane items such as toothbrush and toothpaste. We often overlook, and sometimes we even feel stressful. We can easily purchase these items at the destination if we forget to pack them, but that it will be an unnecessary additional expense and another task to accomplish upon arriving at the destination. Another option is to pack the large tube of toothpaste we have in the washroom and use in our every life, plus our regular toothbrush, but then there are the 3-1-1 liquid rules to consider (particularly for international travel). When travelling or hiking for days, we pack other important items first. Later, we pack toothbrush and toothpaste separately, and it consume space in our in the hiking backpacks. It can be a huge annoyance when one could not find toothbrush or toothpaste hidden among clothes, pants, jackets and other trekking necessities after a long trek. Thus, it would definitely be nice to have 2-in-1 toothbrush that can be easily stored in one specific section of the backpack. For long flights that involve long airport layovers, a convenient access to toothbrush and toothbrush can be useful to make us feel refreshed and clean in the mouth. Travel-sized toothpaste and toothbrush are widely available at the supermarkets and pharmacies. While the size is convenient, the the innovated product of 2-in-1 toothbrush can be beneficial. The following sections will present the objectives, novelty, special criteria, impact/usefulness and product specification of the proposed 2-in-1 toothbrush.

Keywords: smart toothbrush, functional toothbrush

OBJECTIVES

The objectives of this product are:

1. To provide a convenient, lightweight, small-sized, and safe toothbrush-and-toothpaste for travelers.
2. To be more environmentally friendly by incorporating the features of durability and

reusability as it can be used multiple times.

NOVELTY

The 2-in-1 toothbrush has yet to be offered in the market. It is an innovated version of toothbrush and toothpaste. Teeth brushing is a routine and we repeat at least twice in a day (when we wake up and before we go to bed). With the adoption of the 2-in-1 toothbrush in our daily routine, we can eliminate the need of having to repeat the action of pressing toothpaste onto our toothbrush. Although the act of pressing toothpaste onto toothbrush takes only several seconds, those seconds will be saved if we can have such a product as the 2-in-1 toothbrush where toothpaste can be filled/re-filled beforehand.

Moreover, as previously mentioned in the Introduction, the 2-in-1 toothbrush can also be beneficial within the context of traveling, when criteria such as easy-to-carry, lightweight, safe, and small-sized are essential. The 2-in-1 toothbrush will be an innovated travel product, surpassing travel-sized toothbrush and toothpaste that are currently being offered to travelers, and which are sold separately.

SPECIAL CRITERIA

The special criteria of the 2-in-1 toothbrush are as the follows:

- 1) Lightweight: the 2-in-1 toothbrush weighs about 18 grams
- 2) Small-sized: the size dimensions of the 2-in-1 is 14 cm in length and 10 cm in width.
- 3) Battery can be recharged using USB in a short period of time, and, based on an average usage of brushing teeth twice a day (2 – 3 minutes each tooth brushing session), the battery can last up to 2 weeks.
- 4) Safe: the materials used to construct the 2-in-1 toothbrush are safe: rubber and plastic for the casing, and DuPont Tynex for gum-friendly bristle. Moreover, the 2-in-1 toothbrush is waterproof.
- 5) Easy to clean: the compartment to fill/re-fill toothpaste can be detached from the toothbrush for easy cleaning. The bristle is easily replaced.
- 6) Affordable: the 2-in-1 toothbrush will be priced reasonably RM45.00. It can also be used by children to the elderly. Travelers may find it financially affordable as it is beneficial and convenient.

IMPACT/ USEFULNESS

The 2-in-1 toothbrush will be useful for everyone because everyone brushes his/her teeth at least twice a day. It will also be beneficial for travelers such as trekkers, air passengers on a long flight or being stuck in a long airport layover.

Moreover, the 2-in-1 toothbrush will have a positive impact on the environment because of its features of durability and reusability. Thus, it will reduce the amount of plastic used to make regular toothbrushes and the toothpaste tubes.

THE PRODUCT SPECIFICATION



Figure 1. Illustration of Toothbrush 2-in-1

PROCESS OF CONSUMING

How to use the product:

- Step 1: Open/ Unlock the toothbrush cover at the bottom of the handle.
- Step 2: Squeeze the toothpaste into the toothbrush body and close the cover.
- Step 3: Then press the button in the middle of the toothbrush body, the toothpaste will be discharged from the brush.

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