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# PROCEEDINGS OF JOHOR INTERNATIONAL INNOVATION INVENTION COMPETITION AND SYMPOSIUM 2024 (JIICaS 2024)



*“Flourish and Nurturing Sustainable  
Innovation for a Prosperous Nation”*

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## **Preface**

**In the name of Allah, the Almighty who gives us the enlightenment, the truth, the knowledge and with regards to Prophet Muhammad (peace be upon him) for guiding us to the straight path. We thank to Allah for giving us guidance and strength to write this e-book.**

**This e-book compiles the extended abstracts that submitted to Johor International Innovation Invention Competition and Symposium 2024 (JIIICaS2024), where JIIICaS2024 is a virtual platform for all creative minds to share and present their invention and innovation. Each abstract gives a brief background on the innovation or project.**

**We hope that this e-book will help the readers to get to know the innovation done by the students and get some ideas to develop future innovation products.**



## Foreword Rector



Assalamualaikum warahmatullahi Wabarakatuh,  
Salam Sejahtera, Salam Malaysia MADANI and  
Salam UiTM Dihatiku.

In the name of Allah, the Most Gracious, the Most  
Merciful.

It is a great honor to welcome you to the Johor  
International Innovation, Invention, Competition, and  
Symposium 2024 (JIIICaS 2024). This event

connects various disciplines, focusing on education and engaging educators,  
students, researchers, and innovators from all walks of life.

Innovation is not just about ideas; it demands perseverance, creativity, and  
determination to turn those ideas into reality. The remarkable projects  
showcased today highlight the dedication and spirit of all participants.  
Initiatives like this not only explore new technologies but also cultivate skills  
and leadership among our youth. At Universiti Teknologi MARA (UiTM) Johor  
Branch, we are fully committed to fostering a dynamic culture of innovation,  
promoting the commercialization of new products, and encouraging  
meaningful collaborations with industry and society.

As we celebrate this event, I would like to extend my heartfelt gratitude to all  
sponsors, judges, the College of Computing, Informatics and Mathematics,  
UiTM Pasir Gudang Campus as the event organizer, as well as to the  
researchers and participants for their hard work in making this event a  
success. Let us continue striving for innovation and excellence. May the  
ideas presented today inspire us and lay the groundwork for future  
achievements.

Thank you.

**Associate Professor Dr. Saunah Zainon**  
**Rector**  
**Universiti Teknologi MARA (UiTM)**  
**Johor Branch**

**(A-ST034) DUAL-FUNCTION SHOWER HEAD (SHOWERSOLVE) A SUSTAINABLE REMEDY FOR MINIMIZING PLASTIC CONSUMPTION**

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**ABSTRACT**

Introducing the cutting-edge 2-in-1 shower head, a revolutionary solution to combat plastic waste while enhancing your shower experience. This dual-function innovative design called 'ShowerSolve' delivers soap and shampoo straight from the showerhead and champions sustainability by significantly reducing plastic consumption. At the heart of this design lies a centrally positioned dispensing mechanism, activated effortlessly by a single touch-button panel. Gone are the days of cluttered shower counters, as 'ShowerSolve' eliminates the need for multiple plastic dispensers, offering unparalleled convenience and accessibility. Moreover, 'ShowerSolve' refillable chambers store generous quantities of soap and shampoo, eliminating the reliance on disposable plastic bottles. Due to the inconvenience and environmental impact of traditional packaging, it paves the way for an eco-friendly bathing experience. Embrace 'ShowerSolve' and embark on a journey towards a greener future, where every shower is a step towards sustainability. With its streamlined design and futuristic appeal, this product enhances your bathroom aesthetic and promotes a more environmentally conscious lifestyle. Experience the dual benefits of convenience and eco-friendliness with 'ShowerSolve', a testament to innovation and responsible living. Join the movement towards a world where plastic waste is minimised, and every shower contributes to a brighter, cleaner future.

Keywords: Dual-function, Sustainable, Plastic reduction, Refillable, Eco-friendly

## 1.0 INTRODUCTION

ShowerSolve emerges as a revolutionary solution, aiming to transform your shower routine. This innovative 2-in-1 shower head tackles these issues head-on, promoting sustainability and convenience in equal measure. ShowerSolve boasts a dual-function design, dispensing soap, and shampoo directly from the showerhead and freeing up valuable counter space. Furthermore, the product utilizes refillable chambers, eliminating the reliance on disposable plastic bottles. This innovative approach reduces plastic waste and offers an eco-friendlier way to bathe.

## 2.0 OBJECTIVE

- i. To reduce the amount of plastic used in daily bath products.
- ii. To encourage the user to participate in the sustainability movement by adopting ShowerSolve at home.
- iii. To introduce innovative and eco-friendly alternative to traditional shower setups.

## 3.0 METHODOLOGY

This study used qualitative and quantitative research method to assess "ShowerSolve's" efficiency and user satisfaction. An eco-friendly lifestyle is encouraged by a 2-in-1 shower head that will improve your showering experience. Its features, functionality and practicality are broken down as follows:

### I. Features:

**Dual Valve:** Dispenses both soap and shampoo directly from the showerhead.

**Touch-Button Control Panel:** Effortlessly switch between soap and shampoo with a single touch panel.

**Refillable Chambers:** Large, refillable chambers reduce reliance on disposable plastic bottles.

### II. Functionality:

ShowerSolve integrates a central dispensing mechanism within the shower head. Refillable chambers for soap and shampoo are located inside the unit.

### III. Practicality:

- **Easy Installation:** ShowerSolve is designed for easy installation using the system pressure through the inlet from the liquid reservoir.
- **Refill Management:** The refillable chambers are easily accessible and visible for timely refills.
- **Maintenance:** The dispensing mechanism and showerhead are designed for easy cleaning to prevent build-up and ensure hygiene.

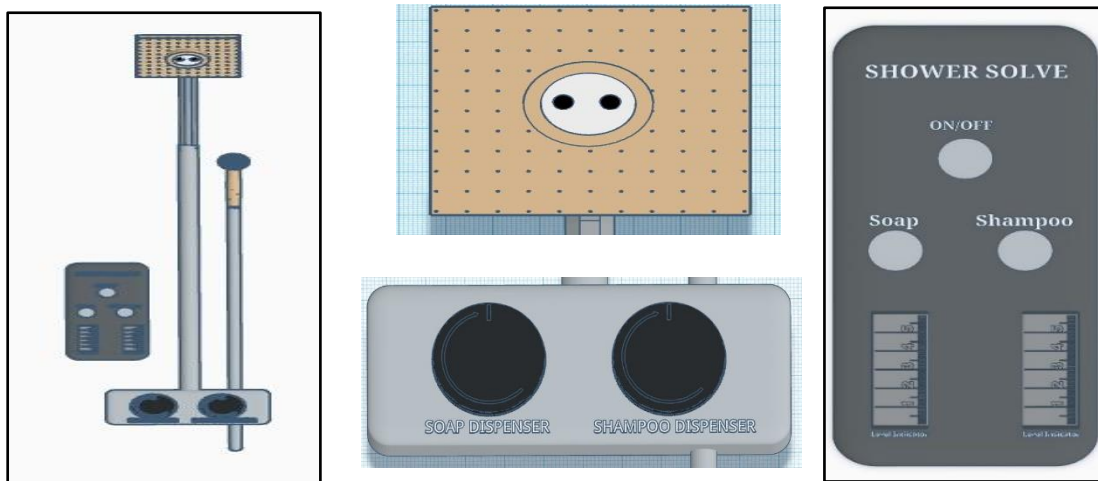


Figure 1: ShowerSolve 3D model.

**Data Collection Method:** A survey was done on 15 individuals based on their status to gather survey feedback for ShowerSolve product idea. The results are shown in the graph below:

#### 4.0 RESULTS

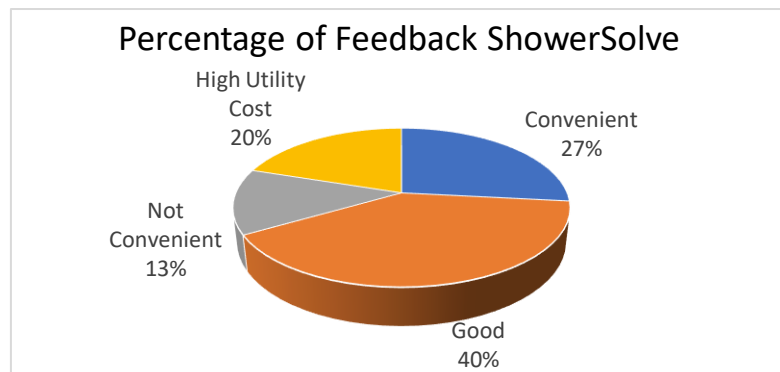


Figure 2: Pie Chart Percentage of Survey Feedback

According to the pie chart, 40% of survey respondents think highly of the ShowerSolve product, indicating that most users have a positive opinion of the product idea. While some respondents (13%) find it not convenient, a significant portion of respondents (27%) value it. 20% of respondents express concern about high utility expenses, suggesting a possible area for cost-efficiency improvement.

## 5.0 CONCLUSION

In summary, ShowerSolve combines sustainability and convenience into one cutting-edge device, making it an appealing option for users who care about the environment. ShowerSolve creates a future where every shower helps to create a healthier planet by reducing plastic waste and optimizing the showering experience. It lessens the need for thrown-away plastic bottles by combining shampoo and soap in the shower head. An easy-to-use touch-button panel allows users to simply operate the centralized dispensing system of "ShowerSolve". By eliminating clutter and encouraging an eco-friendly lifestyle, this innovative method provides a pleasant showering experience with a single touch-button dispensing system.

## 6.0 REFERENCE

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