

Selfie Sofa with Flexible Arrangement

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Abstract: The selfie sofa with flexible arrangement concept furniture was chosen due to the current issue of maximizing the space in the living room wisely. This paper analysed a sofa innovation by producing multi-arrangement furniture that suits with human lifestyle, comfort, mobility and trend. The market questionnaire survey of the selfie sofa was carried out on 100 correspondences, categorized based on their gender, age and profession. More than 80% of the correspondences agreed and gave positive feedback on this product. The product focused on suitability of color and simplicity and flexibility of design, material used, suitability for small and large spaces, ergonomic, commercial value and expected price. By presenting the selfie sofa with flexible arrangement, this paper aimed to highlight the strengths and weaknesses of this product before it enters the market. Overall, the results showed the selfie sofa with flexible arrangement is a value added product.

Keywords: Flexible, Selfie Sofa, Simplify, Space

1. Introduction

Furniture is made in order to simplify the human life. The function of furniture is to support and hold the object at a certain height. Garvin has stated eight dimensions that can be applied to the furniture such as performance, features, reliability, conformance, durability, serviceability, aesthetic and perceive quality. Usually, the performance of furniture can be determined based on how well it functions (Foster & Ganguly, 2007). The seventieth century marked a turning point in English furniture construction of such great magnitude that can be regarded as revolutionary. The exiled royal family returned with taste for furniture styles that displays a strong French and Dutch influences (Brumbaugh, 1983). In the twentieth centuries, people are more attracted to simple and contemporary design.

Sofa is a piece of furniture that is combined with upholstered material. Normally, for standard method of construction, upholstered furniture utilizes a full assembly of wood or wood-product frame which comprises a seat and a front rail. The frame is covered by non-removable fabric covering, and upholstery consisting of materials such as fiber and foam which are attractive looking (Laughlin, Frank, & Hirschhaut, 1993). Upholstered furniture are in high demand from customers, as it gives high comfort, easy maintenance and reasonable price (Armfield & Marsh, 1966). Upholstered furniture has certain elements which may include low density polyurethane foam, fabrics and sheet film or so (Hood, 1964). It is proven that elastic polyurethane and other resin foam are advantageous as cushioning material for seat and in the upholstered furniture industry (McGregor, 1966).

Flexibility is a movement that easily can be modified or respond towards certain situations. The arrangement will allow the forming of any angles between furniture component in order to form multiple design configurations. Each component also can operate independently and may be changed to different arrangements by the user at any time (Machado & Marsky, 1999). Arrangement is the process or action of arranging or being arranged. There are several types of furniture arrangements such as parallel and perpendicular direction.

The specific objectives of this study are to design the upholstered furniture with flexible arrangement and to study the potential market of selfie sofa.

2. Materials and Methods

There were two phases in making the product. The first phase was the designing process and the second phase was the manufacturing process. **Fig. 1** shows the design process.

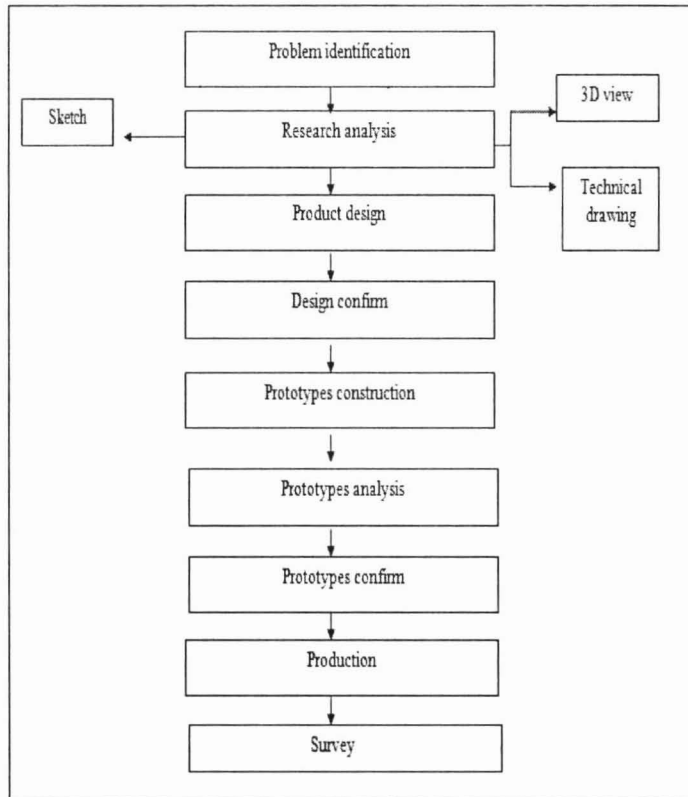


Fig. 1 Flowchart of design process

The ‘selfie sofa’ has been designed in 3 parts; 2 arm rest and 1 seat. The “selfie” is when the sofa is in compact condition (**Fig. 2**) and the “flexible arrangement” refers to non-compact condition (**Fig. 2a (i)** and **(ii)**).



Fig. 2 Selfie Sofa (compact condition)

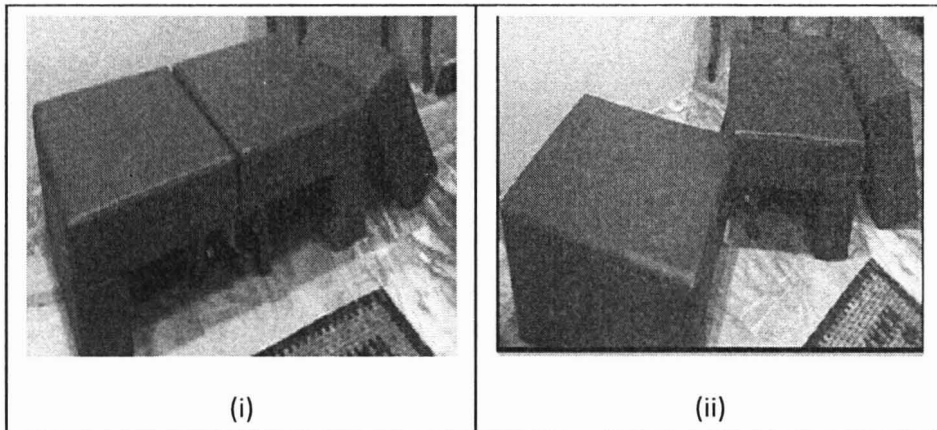


Fig. 2a Selfie Sofa with flexible arrangement (non-compact)

The manufacturing process of ‘selfie sofa’ with flexible arrangements concept started with material preparation and ended with the assembling process as shown in **Fig. 3**.

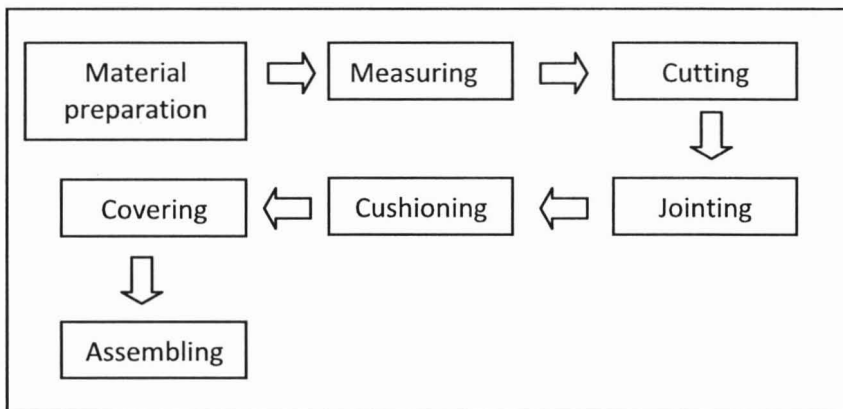


Fig. 3 Flowchart of manufacturing process

Kelempayan and plywood were used as the main raw material to produce the product. Kelempayan was taken from UiTM Pahang Forest Reserve. Kelempayan is a noncommercial species which has good quality for making furniture products due to its light weight and light colour. Kelempayan has been used as the frame for the sofa (inside) and plywood was applied to cover the frame. All frame parts were joined using screws, nails and staplers. The sofa frame was covered with polyurethane foam as cushion for the sofa. To add aesthetic value for the sofa, the cushion was covered with polyvinyl chloride (PVC) by sewing on the polyurethane foam.

3. Results and Discussions

Seventy correspondents in UiTM Pahang were randomly selected to answer the questionnaires. The selfie sofa with flexible arrangement was analysed based on different ages (20-29, 30-39 and 40 and above), profession (UiTM Staff, UiTM student and retailer) and gender (male and female). Factors analysed were suitability of material used, suitability for small and large spaces, colour selection, simple design, ergonomic, reasonable price and product marketability. All factors were analyzed based on the correspondents satisfaction index.

Table 1. Mean value of selfie sofa with flexible arrangement

Factor		Material	Space	Colour (Red)	Simple	Ergonomic	Price*	Market
Gender	Male	3.9 ^a	4.2 ^a	3.8 ^a	3.9 ^a	3.9 ^a	1.6 ^a	4.2 ^a
	Female	3.8 ^a	4.1 ^a	3.8 ^a	4.0 ^a	3.8 ^a	1.2 ^a	4.1 ^a
Age	20-29	3.8 ^a	4.1 ^a	3.8 ^a	4.0 ^a	3.8 ^a	1.3 ^a	4.2 ^a
	30-39	3.7 ^a	4.2 ^a	4.0 ^a	3.9 ^a	4.0 ^a	2.0 ^b	4.0 ^a
	40 and above	3.8 ^a	4.1 ^a	3.7 ^a	4.0 ^a	4.2 ^a	1.2 ^a	4.3 ^a
Profession	Staff	4.1 ^a	4.4 ^a	4.1 ^b	4.0 ^a	4.3 ^a	1.9 ^b	4.3 ^a
	Student	3.8 ^a	4.1 ^a	3.9 ^a	4.1 ^a	3.8 ^a	1.3 ^a	4.1 ^a
	Retailer	3.6 ^a	4.0 ^a	3.5 ^a	3.8 ^a	4.0 ^a	1.6 ^a	4.1 ^a

Note: a) 1-Strongly disagree, 2- Disagree, 3- Not sure, 4- Agree, 5- Strongly agree

b) 1-RM400-RM649, 2-RM650-RM849, 3-RM850 and above *

The mean value of 'selfie sofa' with flexible arrangement was shown in Table 1. From the table, there was no significant difference between gender, age and profession on all factors listed above. Most of correspondents were not sure of the material used. It could be that the Kelempayan was not one of the commercial species and also due to unfamiliarity to the species among correspondents. Only the staff agreed with the material used has potential as a species for furniture product.

Result from Table 1 shows that the product is suitable for any type of spaces. Since the 'selfie sofa' can transform into a few arrangements, it is suitable for both small and large space. Besides that, there were significant difference between profession where the staff have different perception in colour selection. Most prefer light colour and texture for the fabric.

Seems the objective of the study was to design sofa with flexible arrangement, design simplicity should be applied as one of the factor in furniture production. The result shows that there was no significant difference between gender, age and profession on product design. Most of them agreed that this product is simple and easy to handle due to its light weight. Based on other surveys on customer preferences, they tend to choose furniture that has simple design (Lihra, Buehlmann, and Graf, 2012).

The ergonomic factor also shows no significant difference between gender, age and profession. Ergonomic was the interaction between human and environment factor. Most of correspondents agreed that the product fulfilled the ergonomic factor. Based on the survey, this product was comfortable in any arrangement.

Normally, the price of sofa is quite expensive due to its material used especially when upholstered. Using non-commercial species like Kelempayan would likely reduce the cost of production. The survey was rated into three different range of prices (1- RM400-RM649, 2- RM650-RM849 and 3-RM850 and above). The result shows there were significant difference between age and profession. The group of age between 30-39 and staff prefer the price between RM650-RM849. This might be from their earlier experience in buying upholstered furniture.

Most buyers looked for furniture that give good value for money. By producing sofa with flexible arrangement, it will increase competitive advantage for the furniture and increase viability of the product to be commercialized. Most of correspondents recommended that the sofa should have additional legs to increase the stability of the sofa.

4. Conclusion

From this study it can be concluded that selfie sofa with flexible arrangement have been successfully designed for flexible space utilization. The market potential for this product has been done on the different gender, age and profession. The survey concluded that there were no significant difference on material used, suitability in small and large space, ergonomic factor

and commercialization in market. There were significant difference between profession and age on product price and colour selection. The majority of correspondents (questionnaires) agreed that this product has fulfilled the concept of flexible arrangement suitable for small and large spaces. From professional aspect, retailers prefer one product for one specific function rather than a multifunctional product. It might be because they want to increase sale. On other hand, the correspondents agreed and give positive feedback on simple design, the material used and ergonomic factor of the flexible selfie sofa. Kelempayan light weight characteristics is successfully used as main raw material for sofa frame.

5. References

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