

Side Table from Oil Palm Lumber

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Abstract

This research was conducted to examine the feedback from people about the important of oil palm lumber in furniture making. The new material of product is the major for this study. The table was produced, and the data was collected by survey from questionnaires. The questionnaires were too distributed to 90 correspondences from students and staff of UITM Pahang and also the publics. Then, the data were analyses by SPSS to get the results. Most of the correspondences given the positive feedback regarding on the new material used suitable for simple design furniture, easy to handle, portable, saving space, light attractive. Overall table by using oil palm lumber were accepted by all correspondences in range of age, gender and position.

Keyword: new material

1. INTRODUCTION

Furniture comes from the French word 'fournir' is moveable objects intended to support various human activities such as seating and sleeping in beds, to hold objects at a convenient height for work using horizontal surface above the ground, or to store thing. Storage furniture such as a nightstand often makes use doors, drawers, books and household good. Examples of furniture are table, chairs, beds, desks, dressers and cupboards (Hylton, 2008). According to Kaplinsky et al. (2003), in 2003 trade in furniture worldwide grew by 36%, which was faster than merchandise trade as a whole (26.5%), apparel (32%), and footwear (1%). In the case of Malaysia, the furniture industry is largely wooden and cane-based (Department of statistics, 2009). Malaysia furniture exports have been on an upward trend since 2000.

Furniture design is deeply rooted in the human condition. It is social sciences that belong to the humanities, an applied art that draws upon many design fields, and a tangible reality that relies upon a working knowledge of mate.

The oil palm tree species is not a non-wood tree. The characteristic of the oil palm trees is a monocotyledonous species. Oil palm lumber has been utilized as a cellulosic raw material in the production of panel products, such as particleboard (Teck & Ong., 1985). rails and fabrications techniques. It is a holistic and embracing field of study (Jim, 2007).

2. MATERIALS AND METHODS

2.1 Oil palm lumber (OPL)

The 25 years oil palm tree will be used in this study harvested at Felda Ulu Jempul Pahang, Malaysia. For oil

palm lumber only the bottom and middle part is needed in this study. The oil palm trunk will be cut to size 2 x 4 inch by using band saw. Then the OPL will be dried using oven drying until 8% to 12% of EMC and the MC should be at 10% to 12%.

2.2 Production Process



Figure 1: flow chart of production process

Once the design process is completed then proceed to produce the actual product based on an actual dimension. Choose the right material and hardware to avoid from any problems occurs. After a material preparation process done, is continued on the next step, which is cut the oil palm lumber (*Elaeis guineensis*) into specific size. Next is assembling process of furniture to combining of the components into finished goods. Every component needs to be assembled before finishing. During the assemble process by using a joint system (dowel). After assembling the entire component into one piece of finish goods it becomes a finish product. Finishing Process is the last manufacturing process of furniture. The finishing type used for this product is by using clear coating.

3. RESULTS

Table 1: Analysis of variance of the effect of gender, age and profession on a side table from oil palm lumber

Source	df	Mean	SS	Fp	Stat	Significance	df	Mean	SS	df	Mean	SS					
Gender	1	0.280	ns	0.864	ns	0.313	ns	0.763	ns	0.753	ns	0.028*	0.009**	0.098	ns		
Age	2	0.298	ns	0.835	ns	0.776	ns	0.335	ns	0.875	ns	0.906	ns	0.858	ns	0.330	ns
Profession	2	0.719	ns	0.034*	ns	0.501	ns	0.712	ns	0.360	ns	0.795	ns	0.223	ns	0.727	ns

Note: ns- not significant where $p > 0.05$

(*) – Significant where $p < 0.05$

(**) – Significant where $p < 0.01$

3.1 The suitability of material used (oil palm lumber)

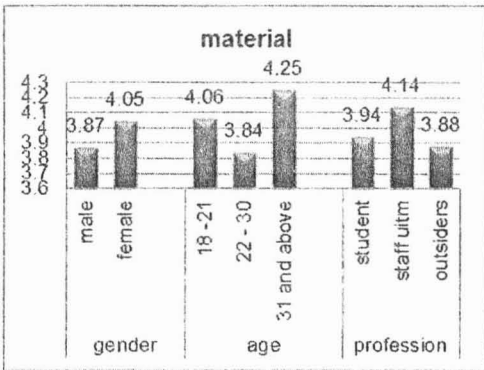


Figure 2: Effect of material that used to produce the product (OPL).

According to the figure 2, it showed that the correspondent rated the suitability of material been used among 3.8 to 4.2 by all correspondents. There are not significant difference between gender, age and profession about the suitability of the material used that is oil palm lumber. Female correspondents prefer the material used more than male correspondents, especially correspondents at age phase 30 and above years old. Most of the correspondences agreed by rating in the range of very good (4) for the raw material used. In terms of age, the age range 31 and above years more familiar about furniture made from oil palm lumber. It might be because the oil palm lumber can be used to substitute the solid wood and suitable for making side table.

3.2 Design of the product

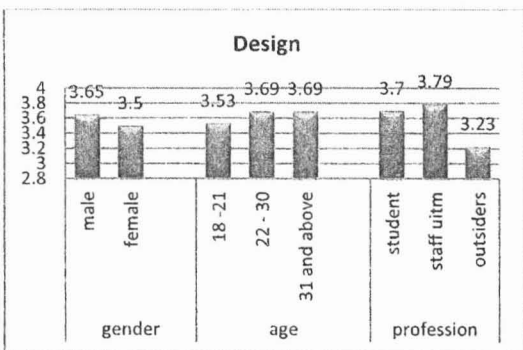


Figure 3: Effect of design product

Referring to figure 3, the design been chosen was rated ranging from 3.23 to 3.79 by all correspondents. For gender and age is not significant different, and for a profession is significant different. Overall mean show the design of this product was suitable for all gender, age and profession. From the gender, male is higher than a female rated. The highest rated rank from staff UiTM and the lowest is outsiders. The reason is because the design been applied was simple. For an outsider it might more prefer for attractive design. Normally, male interests simple furniture design is simple, does not like complicated design compare the female.

3.3 This product has light weight.

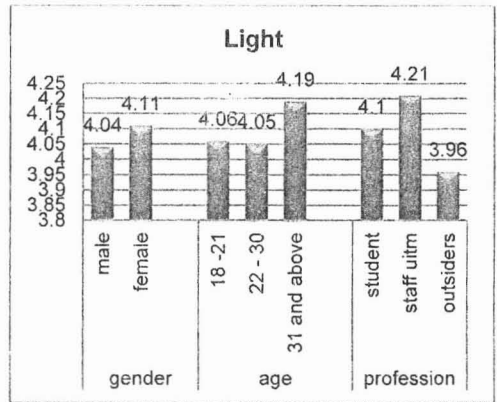


Figure 4: The light weight of product

Based on the graph figure 4, it shows the average mean based on different gender, age and profession on light weight of product. They're not significant difference between gender, age and profession. From the graph, majority agreed that material used is lighter compared to solid wood. The higher average mean is at 4.21 for staff UiTM and lowest is at 3.96 for outsiders. I assume staff UiTM more prefers for light weight of product and for an outsider it might lack knowledge about material used

3.4 This product is suitable for limited space

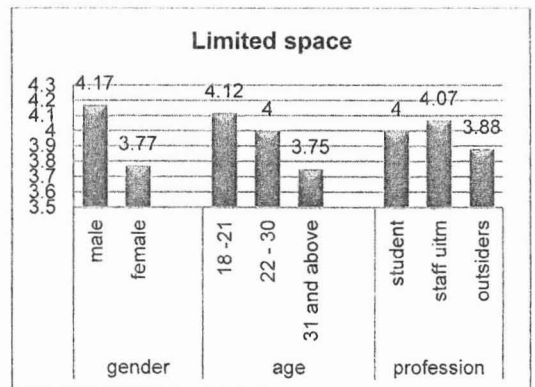


Figure 5: Suitability of the product for limited space

Based on the graph figure 5, it shows the average mean based on a difference between phase of gender, age and profession on limited space. There are not significant different based on gender, age and profession. I assume they agree this product suitable for limited space. The higher average mean of limited space is at 4.17 for male in terms of gender, and the lowest is at 3.75 for age 31 and above. It might be male more prefer a small furniture very suitable limited space. So, this is why this product is acceptable by most of the correspondents.

3.5 The material used can be commercialized in a market

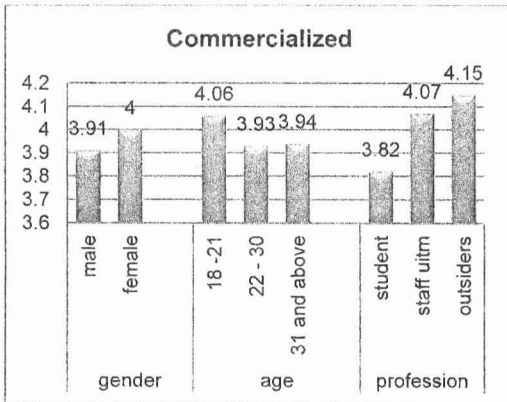


Figure 6: The commercialization of the product

The graph of figure 6 shows that, most of the correspondents agreed if this material is commercialized in the furniture market. All the factors whether range of gender; age and position are accepting the oil palm lumber as a new material for furniture making. The possibility of the product could be commercialized in the market is because the product like this did not much introduce in the marketplace. The simple design used can be also a factor that attracted correspondents to rate this product can be commercialized in the market. Outsiders show the higher rate. It might be outsiders agree the new material is suitable to produce furniture and can be commercialized.

3.6 The price for the product is RM80-RM100

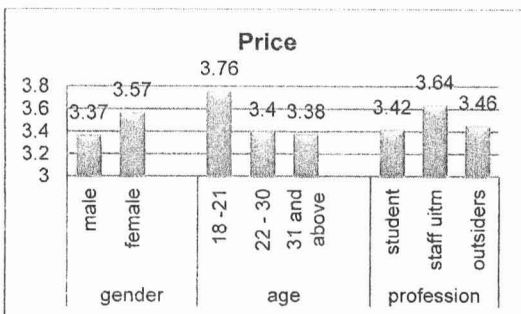


Figure 7: The price of the product

Figure 7 shows that the price of a side table from oil palm lumber RM80-Rm100 is accepted by most correspondents. There are not significant different between phase of gender, age and profession on price. Most of them in gender, age and profession accept the price for this product to be commercialized in the market based on the quality and material used of this product. The age 18-21 shows the highest rate for this price of product. It might be because they know well that the price is suitable based on the cost of making this product. The gender of male shows the lowest rate for this price of product. I assume male have knowledge about oil palm lumber as a waste from plantation industry.

4. CONCLUSIONS

From this study, it was reported that this side table from oil palm lumber (OPL) has been accepted by the majority of correspondents, based on the result from the survey (questionnaire). Almost all correspondents gave positive feedback about this product regarding its new material, design, light weight, space, appearance, handle, commercialized and price. Oil Palm Lumber suitable for produce small and simple furniture such as a side table.

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