

**CONSUMER'S PERCEPTION TOWARDS CERTIFIED
WOOD PRODUCT AND "GREEN PREMIUM" IN KLANG
VALLEY AREA**

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ABSTRACT

This study examined understand the perceptions of society in Klang Valley, Selangor on Chain-of-Custody (CoC) or known as certified wood products and "green premium". The initial measurement is to determine the status of knowledge and perception on certified wood products. Each individual has a perception, knowledge and different opinion on CoC and "green premium" concept. A total of 400 respondents were selected based on non-probability convenience sampling in IKEA, Damansara. The area of the study has been chosen because IKEA is most well-known and largest furniture retailer in Malaysia generally and in the Klang Valley particularly. This study tests the level of concern and public perceptions in determining the level of interest and willingness of consumers to pay a "green premium on certified wood products ". A total of 400 respondents were interviewed during the 8 sessions of survey. The results showed 87% (348 respondents) of the total respondents have no idea on Chain-of-custody and 'green premium' knowledges. However, the respondents has high desire to learn more about the concept Coc. Data were analyzed using the analysis of variance (ANOVA) to test the hypothesis of demographic factors in determining the acceptance of the importance on certified wood products.

Keywords: Chain -of -Custody, Certified wood product, Perception

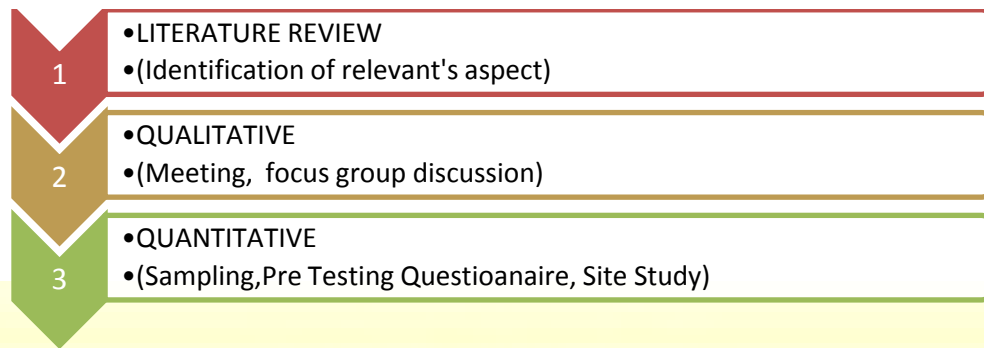
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INTRODUCTION

A certified forest programme is created to improve the quality of environment control and a sustainable forest management. [1]. The impact of deforestation of tropical forest in areas with high biological diversity is an important factor that leads to the introduction of environmentally *Certification*. *Certification* is a self voluntary initiative (not mandatory). At present, it is the best tool to promote good forest management in order to slowing deforestation, helping to alleviate poverty, protecting reserved watershed and water-quality, preserving nature, sustaining a continuous supply of forest resources and enhancing the economy. [2,3]. Presently, there are two international organization focusing on this *Certificate* namely Program for Endorsement for Forest Certification (PEFC) and Forest Stewardship Council (FSC). Timber certification such as Chain-of-Custody certification is a system consists of forest monitoring, timber tracing and wooden product labeling. By buying a certified wooden product, consumers can be reassured that the product came from a certified sustainable managed forest. It can also be a tool for the government and the wood based industries to counter the boycotting of timber product by the international “green” market such as United States and Europe countries. [4,5,6]. In other words, timber certification can be used as a marketing tool and enhancing international market share Malaysian wood based industries.

METHODOLOGY

The framework for the research starts in the month of January 2013 until October 2013. It begins with literature review, meeting of researcher, pre testing questionnaire and site study. This study was conducted with four (4) co-workers as a data collector officer until the end of the study. The chronology of activities was summarized in **Figure 1**.

Figure 1: Framework Chronology

Study Area

The study was conducted outside of IKEA's business premises located in Damansara. This area was selected based on its role as the main focus area for wood product's consumers in Malaysia.

Discussion (Skeletal Survey)

Meeting and discussion with all team members and co-workers were conducted. The purpose is to focus on identifying important indexes and factors which is counted to be tested to the respondent. The selected indexes are based on the agreement from all researchers after the discussion.

Pre Testing Questionnaire

After all the indexes were confirmed, a questionnaire for respondent was created according to the suitability of selected respondent. The questionnaires were prepared in two languages and were tested for 2 days by the enumerators towards the first 60 respondents randomly at the study area. This test was conducted to help the enumerators in estimating the length of survey period, the suitability of questionnaire and the level of understanding from the respondent.

Amendment of Questionnaire

The questionnaire was amended based on the discussion with the enumerators. Improvement has been made based on the suitability and understanding from respondent.

Training to enumerators

4 hours of training has been conducted by the researcher to the enumerators. The enumerators are graduates from the university.

Target of respondents

Main target for respondent is mainly the visitors and customer of IKEA's. Survey was conducted at outside of IKEA business premises. They are chosen because most of IKEA customer came from Lembah Klang Valley and further more up to whole Malaysia plus Sabah & Sarawak. Due to that by chosen IKEA's customer it might represent the Lembah Klang Valley customer and its proven by the questionnaire distributional. Aged of respondent are from 18 to 60 years old.

Sampling

In 2012, Klang Valley recorded a population of 5,2888,099 whereby the researchers have done a calculation of sampling size by using Yamane (1967) which is "A formula Simplified for Proportions" with the level of confidence where P is rated as 0.05 [7].

$$n = \frac{N}{1 + N(e)^2}$$

Sampling size obtained from the formula recorded a total of 400 respondents. A survey schedule for data collecting from respondent was created.

Survey

A face to face survey interview conducted on 13th July until 4th August 2013.

Data Entry and Confirmation

All data has been verified by the researchers and keyed in using *Statistical Package for Social Sciences (SPSS) 18.0* software.

Data Analyzing

Data analysis has been done by using Statistical Package for Social Science (SPSS) 18.0 software. A descriptive analysis and variance analysis (ANOVA) were conducted.

Result and Discussion

Table 1: Respondents Sociodemographic Profile

Cluster	Demographic	Frequency (n=400)	Percentage (%)
Sex	Male	176	44
	Female	224	56
	Total	400	100
Race	Malay	276	69
	Chinese	108	27
	Indian	12	3
	Others	4	1
	Total	400	100
Educational	No formal education	4	1
	Primary School	4	1
	Secondary School (SRP/PMR)	8	2
	High School (MCE/SPM/STPM)	68	17
	Professional Certification/Diploma	108	27
	Bachelor Degree	164	41
	Master	36	9
	Doctor of Philosophy (PhD)	8	2
Total	400	100	
Employment	Government	76	19
	Private Sector	160	40
	Own Business	48	12
	Retirees	16	4
	Unemployed	8	2
	Student	48	12
	Housewife	36	9
	Others	8	2
	Total	400	100

Table 1 shows the profile of respondents for the consumers' survey.

Result found that 56% of them are women which can be total up to 224, meanwhile 44% of them are men with the number of 176 in total. This shows that women are more often in a shopping mall than men. Malay respondents recorded the highest percentage with 69% or 276 respondents followed by Chinese 27% or 108 respondents, India 13% or 12 respondents and others 1% which can be total up to only 4 respondents. Most of the respondents received a high level education which is 164(41%) for Bachelor Degree and 4 (1%) for no formal education. Most of the respondents are employees from private sectors which is 160(40%), followed by government sectors 76(19%), self employment 48(12%), students 48(12%), Housewife 36(9%), retirees 16(4%), unemployed 8(2%) and others 8 (2%).

Table 2: Respondent's opinion towards Chain-of-Custody's Concept

Index	Result	Percentage	Quantity
Knowledge on Chain-of-Custody	No	87	348
	Yes	13	52
	Total	100	400
Willingness to understand Chain-of-Custody	No	10	40
	Yes	90	360
	Total	100	400
Important of certified wood products	No	5	20
	Yes	95	380
	Total	100	400
Planning to buy certified wood product	No	17	68
	Yes	83	332
	Total	100	400
Need of buying certified wood product	No	22	88
	Yes	78	312
	Total	100	400
Knowledge on wood "green premium"	No	87	348
	Yes	13	52
	Total	100	400
Willingness to pay "green premium"	No	38	152
	Yes	62	248
	Total	100	400

Table 2 shows that percentage of respondents who is aware on the Chain-of-Custody's Concept; 13% which is only 52 respondents, and 87%, or 348 of them are not. Therefore, the respondents show their interest to understand more about CoC's Concept where 90% from all respondents. Sequence of the study leads the respondents to plan in buying certified wood products. The majorities (332) said that this is now becoming a need for consumers to support this concept by buying certified wood products.

The percentage also concludes that only 13% of them (52 respondents) know about the concept of "Green Premium". But there are more than half of the respondents who are willing to pay more for "Green Premium" to support the programme.

Table 3: Respondent's opinion towards the importance of certified wood

Index	Mean	Standard Deviation
Contribution to forest protection	4	0.561
Contribution of animal and plants protection	4	0.624
Contribution as a source of sustainable wood	4	0.623
Contribution to the development of indigenous people	4	0.83
Contribution to generate Malaysia's income	4	0.679
Contribution in improving Malaysia's image	4	0.678
Contribution in controlling climate change	4	0.613
To help in tracking source of wood	4	0.863

1= Very not important; 2= Not important; 3= Intermediate; 4= Important; 5=Very important

The feed back obtained from the respondent shows that the majorities are saying that indexes in Table 3 are important. It is referring to this scale; (1= Very Not Important), (2= Not Important), (3=Intermediate), (4= Important), (5= Very Important).

Table 4: Respondent’s opinion on ranking of certification importancy

Index	Frequency (n=400)	Ranking
Contribution to forest protection	172	1
Contribution of animal and plants protection	112	3
Contribution as a source of sustainable wood	98	5
Contribution to the development of indigenous people	85	7
Contribution to generate Malaysia's income	91	6
Contribution in improving Malaysia's image	111	4
Contribution in controlling climate change	83	8
To help in tracking source of wood	153	2

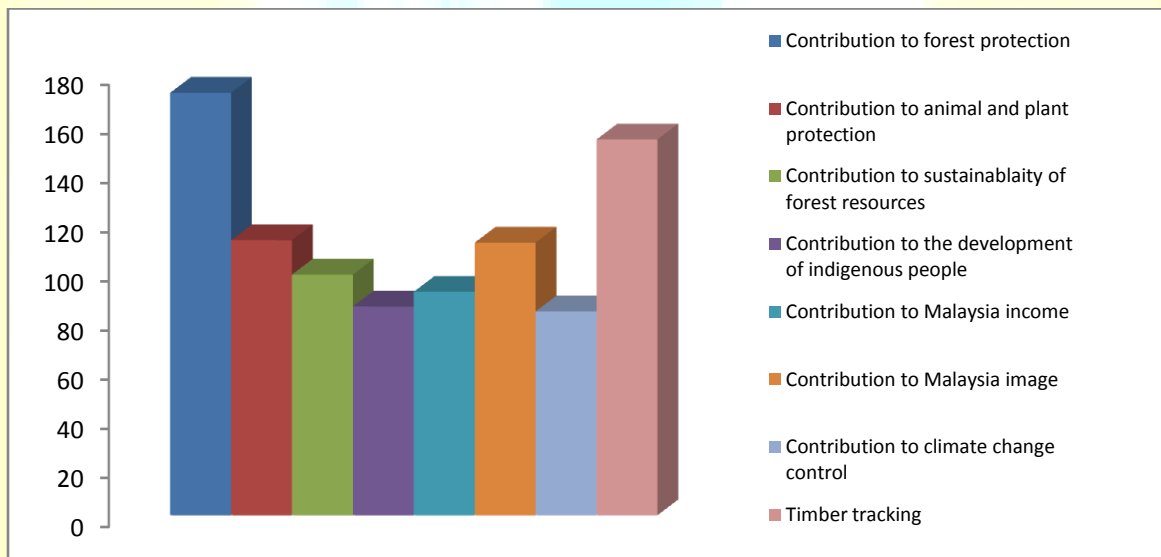


Figure 2: The importance of certification

Table 4 shows that there are a few aspects in certification of wood product where 1 is the most important and 8 is the less important. It also shows that the contribution of forest protection is the most important aspect in certified wood product and the contribution of climate change control is the less important.

Table 5: Willingness of respondents to pay for “Green Premium”

If the price is,	Willingness to pay (RM)	Percentage (%)	Frequency (n=400)
RM1000	10	16.5	66
RM500	5	18.3	73
RM100	5	14.8	59
RM 10	1	20	78

The level of respondent's to pay for green premium is based on few classes of price. Table 5 shows the willingness of respondent to pay for green premium based on few prices. There are 66 of respondent of 16.5% that are willing to pay up to RM 10 for certified wood product if the price of the product is RM 1000. It is followed with RM 5 for RM 500 of product price. RM 5 for RM 50 product price and RM 1 for RM10 product price. It can be concluded that the respondents can pay more up to 10% from the product's price for green premium.

Analysis of variance (ANOVA) of demographic factors with respondent's income in relation to determine the importance of certified wood product

Analysis of variance is to determined if there is significant difference in between the importance of certified wood product based on demographic's factor. There are 8 hypothesis tested which are:-

Race

1st Hypothesis:

H_0 : There is no significant difference in determining the level of importance of certified wood product based on race's factor.

H_a : There is a significant difference in determining the level of importance of certified wood product based on race's factor.

Age

2nd Hypothesis

H₀ : There is no significant difference in determining the level of importance of certified wood product based on age's factor.

H_a : There is a significant difference in determining the level of importance of certified wood product based on age's factor.

Education

3rd Hypothesis

H₀ : There is no significant difference in determining the level of importance of certified wood product based on education's factor.

H_a : There is a significant difference in determining the level of important for certified wood product base on age's factor.

Occupation's status

4th Hypothesis

H₀ : There is no significant difference in determining the level of importance of certified wood product based on occupation's factor.

H_a : There is a significant difference in determining the level of importance of certified wood product based on occupation's factor.

Monthly income

5th Hypothesis:

H₀ : There is no significant difference in determining the level of importance of certified wood product based on monthly income's factor.

H_a : There is a significant difference in determining the level of importance of certified wood product based on monthly income's factor.

Organization's status

6th Hypothesis:

H₀ : There is no significant difference in determining the level of importance of certified wood product based on organization's factor.

H_a : There is a significant difference in determining the level of importance of certified wood product based on organization's factor.

Marital status

7th Hypothesis:

H₀ : There is no significant difference in determining the level of importance of certified wood product based on marital's factor.

H_a : There is a significant difference in determining the level of importance for certified wood product based on marital's factor.

Sex

8th Hypothesis:

H₀ : There is no significant difference in determining the level of importance for certified wood product based on sex's factor.

H_a : There is a significant difference in determining the level of importance for certified wood product based on sex's factor.

To accept and reject the nul hypothesis from the analysed data using *Statistical Package for the Social Sciences* (SPSS) software, the value of significant from the output should be concerned. The nul hypothesis are rejected if the value of significant difference is less than 0.05 (<0.05). It means that the mean of significant were rejected and it shows that there are significant differences for controlled variable tested.

However, if the significant differences are more than 0.05 (>0.05), the null hypothesis cannot be rejected and the null hypothesis are accepted. If the null hypothesis are accepted, there is no significant difference for controlled variable tested. [8].

Table 6: Analysis of variance for demographic factors in determining the level of importance of certified wood product.

Demographic factors	F Value	Significants	Hypothesis result
Race	6.829	0.000	Reject H ₀
Age	4.528	0.001	Reject H ₀
Education	4.958	0.000	Reject H ₀
Occupation	3.928	0.000	Reject H ₀
Monthly income (RM)	0.301	0.877	Accept H ₀
Organizational's status	2.197	0.190	Accept H ₀
Marital's Status	0.426	0.256	Accept H ₀
Age	0.207	0.122	Accept H ₀

*Mean difference is significant at $p < 0.05$

Table 6 shows that the value of significant for first null hypothesis (race) is 0.000, whereby the value is less than 0.05, which means the null hypothesis is rejected. This suggests that there is a significant difference in determining the importance of certified wood product based on race's factor.

This concept applies to all factors; age, occupation and education which is more than 0.05. This means that the null hypothesis is rejected. However, monthly income, organizational status and marital status factor are accepted because the significant value exceeds more than 0.05. It means that there is no significant difference in determining the importance of certified wood product.

CONCLUSION

Based on the analysed data, the result concludes that the percentage of respondent's knowledge in Klang Valley area on Chain-of-Custody is very low whereby there are almost 90% of the respondents said that they did not know what Chain of Custody's concept is. However, the results also show that the respondents are interested to know more about the CoC concept. This directly shows that the respondents from Klang Valley area are concerns to take part in this concept. The input from this results are expected to become an alternative policy to measure the level of concerns, knowledge, awareness and willingness of consumers in Klang Valley area to support this CoC concept to be applied in this country. This can be counted to show that consumers in Klang Valley area are still concern in protecting our forest.

However, consumers in Klang Valley area are still in doubt in paying more for "green premium" for this Chain-of-Custody. There are only 62% from respondents who are willing to pay for

“green premium” and the value payment is based on the product’s price itself. Lack of knowledge on this Chain-of Custody which is up to 87% became one of the main reasons for them to pay less for “green premium”

Recommendation 1: The implementation of this research and survey should be carried out continuously and developed in a large scope of research project in Malaysia in helping to obtain a clearer acceptance of the concept

Recommendation 2: The government and the companies associated with the concept of Chain-of-Custody should create a campaign to disseminate information and knowledge to the consumers about the importance of the concept. This strategy may increase the level of consumer awareness and acceptance for the concept to be applied in Malaysia. It may contribute to the increasing the number of CoC certificate holder in Malaysia

It is at once as an opportunity for producers and consumers to adopt this concept as well as foster public awareness in preserving our forests. This research also can be used as a guide for development of CoC product for Malaysia

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