

A STUDY ON A MARKETABILITY OF FERRO PAPER: SIT ON PAPER (SOP) IN BETONG SARAWAK MALAYSIA

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Abstract: Paper Ferro is a highly versatile construction material made by recycling paper have a potentials for application to variety of structure. This product was made from fabric roll paper and newspaper and it is called Sit On Paper (SOP). The purpose of the study is to produce an innovation product by using recycle paper and to create awareness and to identified the marketability of SOP among Betong, Sarawak Community in Malaysia. This study is conducted in order to receive feedbacks from respondents regarding our new innovative products. There are 100 questionnaire are distributed randomly to selected Betong, Sarawak community using convenience technique. This study is using methodology materials from primary and secondary resources. The result obtain is analyzed using the descriptive analysis through SPSS system version 22.0 (Statistical Package for Social Science). Our hope for this study is Betong Sarawak community can accept our new product and can give an idea to improve SOP.

Keywords: Ferro Paper, recycle, innovation, new product.

1. INTRODUCTION

Recycling is a form of waste management that involve converting waste and other used materials unto reusable products. Recycle materials include many kinds of paper, glass, cardboard, metal, plastic, tires, textiles and electronics. The composting or other reuse of biodegradable waste such as food or garden waste is also consider recycling.

Paper recycling pertains to the processes of reprocessing waste paper for reuse. Waste papers are either obtained from paper mill, paper scraps, discarded paper materials, and waste paper material discarded after consumer use. To reuse is to use an item again after it has been used. This includes conventional reuse where the item is used again for the same function, and creative reuse where it is used for a different function. In contrast, recycling is the breaking down of the used item into raw materials which are used to make new items.

Reusing and recycling are important because it helps to reduce energy usage, reduce the consumption of fresh raw materials, reduce air pollution and water pollution.

The process of waste paper recycling is by used fabric roll paper and tied with wire. A newspaper will be soaked with water until it wrecked. Then coated the newspaper with sticky rice to strengthen it. It will be dried in the heat until it turn to half dry, then it will craving with the selected design. Then the paper Ferro will paint with the selected color.

2. RESEARCH PROBLEM STATEMENT

The government has been encouraging people to do a recycling. In this project we are select paper to be reuse. To ensure the paper recycling program is successful we need the cooperation of all parties. First step is to reduce wastage of paper and use it again as a worthwhile stuff.

Recycling paper is usually used to produce souvenirs and decorative things. There has no more chairs are produces from paper. Nowadays available chair are heavy and usually made by metal. So we decide to use fabric paper roll and newspaper to build a paper Ferro and it can be used as a chair.

However, in order to build a chair we need a skills and knowledge to shape the paper into the chair. Fortunately, we get a skill to build a seat using paper Ferro. The benefit of this paper Ferro it can conserves natural resources, save energy and cost. Beside that we can produce a chair depend on our need and taste.

In order to meet the customer's preferences, we are carry out a market survey in order to introduce our new innovation product which is called Paper Ferro: Sit On Paper to Betong community and to get a feedback from the respondent about our new innovation product.

3. RESEARCH BACKGROUND

3.1. THE BENEFIT OF THE STUDY:

- i. It will helps to reduce the pollution caused by waste and promotes clean and green image
- ii. It is economically responsible in term of reduce the consumption of fresh material.
- iii. It can generate income to the students.
- iv. Get the feedback on the marketability of *SOP* among Betong Sarawak community

3.2 OBJECTIVE OF THE RESEARCH:

- i. To identify consumer acceptance towards a green seat by using a recycle paper.
- ii. To determine either the price are reasonable.
- iii. To determine what is the best promotion for promoting our product.

3.3 RESEARCH QUESTION:

- i. How was the acceptance of consumer towards Paper Ferro: Sit On Paper?
- ii. Are the price offer reasonable?
- iii. What is the best promotion for promoting our product?

3.4 PROJECT SCOPE:

- i. To increase the variation of innovation product in Sarawak.
- ii. To produce a seat by using green product.

3.5 PROJECT LIMITATION:

- i. Limited time to produce a better product result.
- ii. Lack of fabric roll paper at the market.
- iii. Unfavorable weather conditions.

3.6 THE IMPACT OF THE PROJECT:

- i. Develop more advance and produce a green product.
- ii. Helps the student to generate income after finished studies.
- iii. Create awareness to community toward recycling product
- iv. Enable to participate in innovation competition in Malaysia.

3.7 COST OF PROJECT:

The cost that are spend to produce 5 seat.

No	Item	Cost (RM)
1.	Fabric Roll Paper (Free)	-
2.	Used Newspaper (Free)	-
3.	Sticky Rice (RM3.20 X4 bungkus)	12.80
4.	Wire	0.50
5.	Paint, Brush & Slate Finish	35.00
Total		48.30

3.8 THE PROCESS OF MAKING SOP:



4. LITERATURE REVIEW

4.1 INTRODUCTION TO LITERATURE REVIEW:

In this chapter, we discuss some theories related to the research. A literature review is a written work that compiles significant research published on a topic by accredited scholars and researchers. Literature reviews are important because they are usually a required step in a research proposal. The proposal will not be well – supported without a literature review. Also, literature reviews are important because they help to learn important authors and ideas in the related field. In this chapter, it will be comprises with several articles regarding the paper ferro, the sticky rice and relate research articles.

4.2 A STUDY ON PAPER RECYCLING:

Paper recycling pertains to the processes of reprocessing waste paper for reuse. Waste papers are either obtained from paper mill paper scraps, discarded paper materials, and waste paper material discarded after consumer use. Examples of the commonly known papers recycled are old newspapers and magazines.

According to Sukalich (2016) paper is one the material that can be easily recycled. Recycled paper is paper that was made from paper and paper products that has already been used and recovered. People need to take their time and save the paper products so that they can be recycled. Paper recycling begins with us. We all need to show our interest in recycling to make it successful. **The step by step process of Paper Recycling**

1. Collection
2. Sorting
4. Filtering, conterminal removal and De-Inking
5. Finishing for reuse.

Ortiz (2005) found that there are three different categories of recycling. Primary recycling is refer to remaking of a material inti the same material for example remaking a glass container into a new glass container. It is a process that can be repeated.. Secondary recycling is refer to the process of remaking a material inti a new different but related material. For example a newspaper can be recycled into cardboard which can again be recycled into another material of lesser quality. Tertiary recycling employs the act of recycling only once where for example paper can be recycled into tissue paper.

4.3 A STUDY ON STICKY RICE:

The delicious sticky rice treat is a modern mainstay in Asian dishes was the secret behind an ancient Chinese super-strong mortar. The sticky rice mortar bound the bricks together so tightly that in many places weeds still cannot grow. However, there was widespread resentment against the Wall in the south of China because the Ming emperors requisitioned the southern rice harvest both to feed the workers on the Wall and to make the mortar.

Dr Zhang (2010) said the used of sticky rice, a staple in East Asian food was one of the greatest technical innovation of the time and helped Ming dynasty tombs, pagodas and walls weather earthquake and other disasters. Doctor Bingjian Zhang and colleagues found that construction workers in ancient China developed sticky rice mortar about 1,500 years ago by mixing sticky rice soup with the standard mortar ingredient.

4.4 CONCLUSION:

As a conclusion, we have discussed all related passed research regarding the recycling paper. Through literature review, we are able to understand better towards our research objectives. Hence, our proposal will be well supported with literature review that has already been discussed in this chapter. For instance, literature reviews help us to learn the important authors and ideas in the related study.

5. RESEARCH METHODOLOGY

5.1 INTRODUCTION:

In this chapter the research methodology used in the study is described. In more details, in this part we will outlines the research design, the selection of the research sample, the research instruments, the procedure of data collection and the explanation on our data analysis.

5.2 RESEARCH DESIGN:

For our group research design, we have selected the Quantitative method. The quantitative method is focused on obtaining of numerical findings. We have decided to use survey method, which is under the Personal Interview by distributing questionnaire which includes the list of question based on our Research Objectives on chapter 1.

Two types of data were used: the primary and the secondary data. The primary data were derived from the answers respondents gave in the self-administered questionnaire prepared by our group. The secondary data on the other hand, were derived from the findings stated in published documents and literatures related to the research problem. These were based from the recent literatures related to our new healthy drinking product.

5.3 RESEARCH SAMPLE:

This study is made to create awareness and to promote SOP among Betong, Sarawak Community. For our group survey, we choose the population directly from the chosen location in Betong town. The questionnaire will be distribute during *Betong Festival Innovation (BIF)*. 100 respondent are selected randomly to get the feedback on our product.

5.4 RESEARCH INSTRUMENTS:

For our research instrument, we decided to prepare a set of questionnaire which includes the list of question based on our research objectives and research questions on chapter 1. Hence, the basic measurement techniques for our questionnaire will be consisting with closed – ended questions method, such as yes/no questions, multiple choices and scaled questions. For the scaling questions, we choose to use an itemized rating under the non – comparative scale or better yet known as “Likert’s Scale”. The Likert scale was used to interpret items in the questionnaire. The questionnaires will require respondents to rate the effectiveness of introducing our Sit On Paper (SOP). The range and interpretation of the five-point scales are shown in the table 2.

For our questionnaires, it will be consisting of four sections. Each section will be categorize as: Section A – matter regarding respondent information, Section B – General information and Section C – matter regarding Product, price and promotion and Section D – is a comment or suggestion to improve our product.

Table 1:

No	Section	Number of item
1.	A	5
2.	B	5
3.	C	12
4.	D	1
Total		23

In addition, there will be four questions for each section. Hence, the total of questions will be twenty three questions.

The Five-point Likert Scale

Table 2: The Five-point Likert Scale

Scale	Range	Interpretation
5	4.01 – 5.00	Strongly Agree
4	3.01 – 4.00	Agree
3	2.01 – 3.00	Neither Agree or Disagree
2	1.01 – 2.00	Disagree
1	0.01 – 1.00	Strongly Disagree

6. FINDINGS RESULTS AND ANALYSIS

6.1 INTRODUCTION:

In this chapter the results of the data analysis are presented. The data were collected and then processed in response to the research question and research objectives in chapter one. Three fundamental goals drove the collection of the data and the subsequent data analysis. Those goals were to identify consumer acceptance towards our product, to determine what the best promotion for promoting our product and to identify profit for our product. These objectives were accomplished. The findings presented in this chapter demonstrate the potential for merging theory and practice.

6.2 DATA RELIABILITY ANALYSIS:

We have distributed 100 sets of questionnaire, once we receive back the entire questionnaire, we analysed the results in order to identify the validity of the questions contained in the questionnaire. Below are the results gains from the analysis that we had conduct.

Table 3: Data Reliability Analysis

SECTIONS	CRONBACH'S ALPHA	NO. OF QUESTIONS/ STATEMENTS
PRODUCT	0.905	5
PRICE	0.841	3
PROMOTIONS	0.838	4
TOTAL	0.861	12

Based on the above table, it shows that the three factors have a value of Cronbach's Alpha 0.6 and above. According to the Sekaran (2003), if the value of Cronbach's Alpha exceeds 0.6, then the scale is sufficiently reliable for measuring a study. Based on the value in the table above clearly states that the questionnaires distributed has a high reliability.

6.3 RESPONDENTS BACKGROUND:

6.3.1 GENDER:

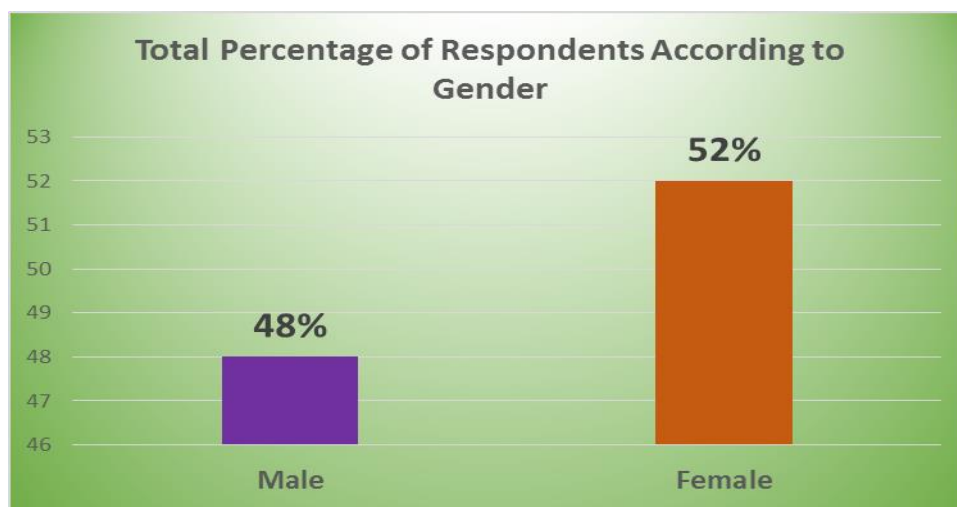


Figure 1: Total Percentage of Respondent According to Gender

The above figure shows the respondents total percentage according to gender. Based on the results shown on above figure, female respondent has a higher percentage compare to male respondent which is female respondent with 52.0%, whereas male respondent with 48.0%.

6.3.2 AGE:

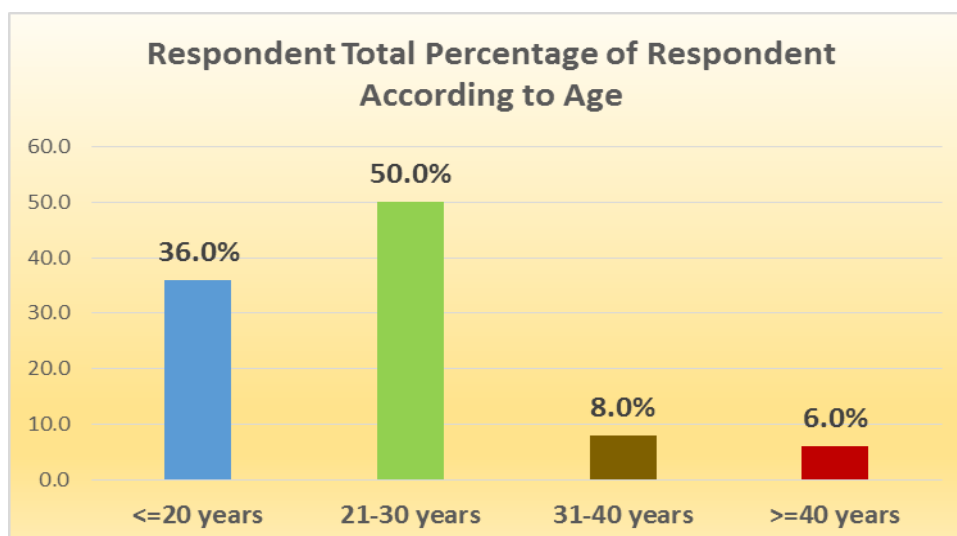


Figure 2: Respondent Total Percentage of Respondent According to Age

The above figure shows the respondents total percentage according to age. Based on the results shown on above figure, respondent with age 21-30 years and above has a higher percentage (50.0%) compare to respondent with age less than 20 years. Respondents with 31-40 years is 8.0% and the lowest percentage which is 6.0% is the respondent more than 40 years old.

6.3.3 JOB:

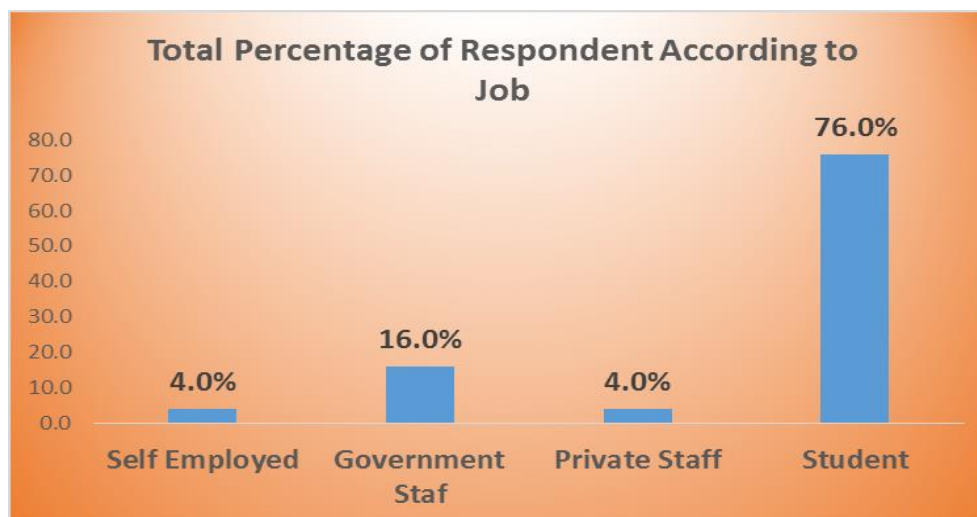


Figure 3: Total Percentage OF Respondent According to Job

The above figure shows the respondents total percentage according to job. Based on the results shown on above figure, majority, 76.0% of the respondent are the students. 16.0% of the respondent are a government staff and followed by 4.0% by self employed and private staff.

6.4 A ANALYSIS OF GENERAL INFORMATION TOWARDS PAPER FERRO: SIT ON PAPER (SOP):

Table 4: Total Percentage of General Information Towards Paper Ferro

Item	Section B	Percentage (%)	
		Yes	No
1.	Do you know that recycle paper can be reuse to useful product ?	98.0	2.0
2.	Have you seen SOP before?	40.0	60.0
3.	Did the SOP can attract customer?	94.0	6.0
4.	Do you think that SOP have a potential market?	98.0	2.0
5.	Do you want to buy SOP if it marketed?	86.0	12.0

The table 4 shows the respondents total percentage of consumer acceptance towards Paper Ferro: Sit On Paper. Based on the results shown on above table, for question one it show the 98.0% respondent know that recycle paper can be reuse to useful product. For question two, 60.0 % of the respondent never seen Paper Ferro: Sit On Paper before this More than 95.0% respondent said that SOP can attract customer and have a potential market. Furthermore, for last question it show that 86.0% of the respondent want to buy SOP if the product marketed.

6.5 ANALYSIS OF THE SALES INCREASED BASED ON THE PROMOTION FACTOR:

$$\text{Mean Score} = \frac{\text{total score of each respondent}}{\text{the number of items for each section}}$$

The findings of the analysis will be formulated based on the measurement results adapted from Lendel and Edora Ismail (1998) as shown in Table 4.2 as follows:

Table 5: Mean Scale 3 Score

Mean Score	Stage
1.0 until 2.0	Low
2.1 until 3.0	Medium
3.1 until 4.0	High

6.5.1 PRODUCT:

Table 5a: Analysis of the Product

Item	Section c Product	Percentage (%)					Mean	
		SD	D	A	SA	Total	Score	Stage
1.	Paper Ferro: Sit On Paper are look attractive	-	-	38.6	61.4	100.0	3.61	High
2.	Paper Ferro: Sit On Paper is easily done	-	-	40.0	60.0	100.0	3.60	High
3.	Paper Ferro: Sit On Paper can save the environment.	-	-	25.7	74.3	100.0	3.74	High
4	Paper Ferro: Sit On Paper is a creative product.	-	-	25.0	75.0	100.0	3.75	High
5	Paper Ferro: Sit On Paper is suitable to place in home.	-	-	25.0	75.0	100.0	3.75	High

Indication:

SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree.

The table 5a shows the analysis of the paper ferro are positive and have a high score. Based on the results shown on above table, for statement one it shows that 61.4% respondent are strongly agree that Paper Ferro look attractive and 74.3% respond that Paper Ferro can save the environment,. Furthermore the table show that 75.0% of respondent are strongly agree that the product are creative and suitable to place in home.

6.5.2 PRICE:

Table 5b: Analysis of the Sales Increased Based on the Promotion Factor

Item	Section c Price	Percentage (%)					Mean	
		SD	D	A	SA	Total	Score	Stage
1.	The price of Paper Ferro: Sit On Paper is reasonable.	-	2.3	45.5	52.3	100.0	3.50	High
2.	The price should include a special delivery to the customer.	-	-	25.6	74.4	100.0	3.74	High
3.	The price of Paper Ferro: Sit On Paper can attract people to buy	-	2.2	37.0	60.9	100.0	3.58	High

Indication:

SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree.

The table 5b shows the analysis of the price of Paper Ferro. Based on the results shown on above table, for statement one it shows that 52.3% respondent are strongly agree that the price of Paper Ferro are reasonable. 74.4% respondent strongly agree if the price offered with a special delivery to the customer. Meanwhile, for statement three it shows that 60.9% of the respondent are strongly agree that the price of Paper Ferro can attract people to buy.

6.5.3 PROMOTION:**Table 5c: Analysis of the Sales Increased Based on the Promotion Factor**

Item	Section c promotion	Percentage (%)					Mean	
		SD	D	A	SA	Total	Score	Stage
1.	Flyers is good to promote Paper Ferro: Sit On Paper	-	2.2	31.1	66.7	100.0	3.64	High
2.	Flyers should be placed in a furniture store.	-	-	31.3	68.8	100.0	3.68	High
3.	Instagram also can helps to promote Paper Ferro: Sit On Paper.	-	-	30.6	69.4	100.0	3.69	High
4	Discount should apply if the customer buy in a big quantity.	-	-	292	70.8	100.0	3.70	High

Indication:

SD = Strongly Disagree, D = Disagree, A = Agree, SA = Strongly Agree.

The table 5c shows the analysis of the promotion that should done in order to sell Paper Ferro. Based on the results shown on above table, for statement one and two it shows that 66.7% and 68.8% respondent are strongly agree that flyer is good to promote Paper Ferro and should place in a furniture store. Meanwhile 69.4% of the respondent also strongly agree with using Instagram to helps promote Paper Ferro. The last statement shown that 70.8% respondents strongly agree that discount should apply if the customer buy paper ferro in a big amount.

6.6 ANALYSIS OF THE CUSTOMER COMMENT AND SUGGESTION REGARDING PAPER FERRO:

We has provide one section, which is section D to be fill by the respondent that allows them to give feedback towards our product; either it is a positive or negative feedback, in order for us to improve our product. The result obtain is shown in table 6.

Table 6: Analysis of the Customer Comment and Suggestion Regarding Paper Ferro

Item	Section D Customer comment or Suggestion	Percentage (%)
1.	Good job	88.0
2.	Good and have high potential value in market and can join competition	2.0
3.	Recommended	2.0
4.	Good Effort	2.0
5.	Good Product	2.0
6.	Make it waterproof	2.0
7.	Genius product	2.0
Total		100

The table 6 shows the analysis of the customer comment and suggestion regarding our Paper Ferro. Based on the results shown on above table, its shows that the result are mostly a positive respond from our customer, since the highest percentage are 88.0% respondents that give comment "Good Job" to us.

6.7 CONCLUSION:

In this chapter, data analysis methods, study results and a discussion of the findings have been presented. Based on the analysis that we have obtain through our questionnaire, its shows that our new Paper Ferro: Sit On Paper is a success project and there are no negative feedback from our respondent. But with suggestion given, we will take it as a positive way and try the best to improve it next time.

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