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# QUALITY COMPARISON OF NATURAL CUSHIONING MATERIALS OF STUCCO PLANT POTS IN RATCHABURI PROVINCE

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## ABSTRACT

Abstract— This research will allow us to study personal factors and the buying behavior of potted plants. and compare the quality of materials that cannot be obtained from consumers of plant pots Flowerpot shop, Ratchaburi. The samples used in this study were 50 customers of the shop, determined the sample size according to the method of Taro Yamane Probabilistic random sampling method by way of selection Simple Random Sampling. Collected data from a population sample while using the service from a pottery shop. Ratchaburi Province The lottery is to write the name or number of the population on each lottery. Put it in a container and shake it to mix. and pick up one by one for the required number. Collect data using a questionnaire. Check the quality of the tools for accuracy and coverage of the research content. by 3 experts to check the index of concordance between the question and the research objectives (IOC), considering all items, the question is greater than 0.5, it is considered that the question is valid. (Rovinelli and Hambleton,1977) From finding the index of consistency (IOC), the index of consistency (IOC) between 0.66 - 1.00 passed the criterion and then used to create the actual questionnaire. The statistics used were frequency distribution, percentage, mean, standard deviation and chi square.

The results showed that Customers are satisfied with water hyacinth cushioning materials at a high level. with an average value of 4.15 and a standard deviation of 0.31, followed by cushioning material from coconut coir. Satisfaction was at a high level. with an average value of 3.73 and a standard deviation of 0.40, followed by cushioning materials from banana cladding. Satisfaction was at a high level. with a mean of 3.65 and a standard deviation of 0.51. It was found that the sig. value of water lily was 0.256, which was greater than 0.05, indicating that the level of satisfaction in the quality of cushioning materials for all 5 types depending on sex therefore accepted H<sub>0</sub>, that is, consumers with different sexes. There was no difference in the quality of all 5 types of natural cushioning materials.

Keywords— Comparison, Natural, Cushioning, Stucco Plant Pots.

## INTRODUCTION

Nowadays, technology is advancing all the time. with the introduction of various natural resources to be used for the benefit of mankind and produce many different materials, but many materials As the development is not friendly to the environment. It will cause many problems followed together. Various pollution that causes us to experience global warming is caused by the use of those materials, one of them. This is a problem that many sectors are trying to find a solution for, whether it is a campaign to realize the preservation of nature and the environment. Reduce actions that cause pollution. Reduce the use of materials that are not environmentally friendly. Another way to solve these problems is Making the most of natural resources by choosing natural raw materials to use in various production processes. both in terms of products and packaging instead of materials that are not environmentally friendly To help reduce pollution that will affect nature and our environment. by agricultural waste It is another option to choose materials that are environmentally friendly. and also bring economic benefits to the agricultural sector as well (Chookiat Anantwetyanon et al., 2015). At present, there are many types of natural cushioning materials. Produced to protect the product during transportation, moving, not damaged, such as water hyacinth, banana sheath, corn cob, rice straw, coconut husk and cushioning material.

The conditions of people in society have changed their lives because the environment of life is constantly changing. The way of living must change according to the new conditions that arise. Especially nowadays, there

is an epidemic of COVID-19 or Coronavirus disease that creates anxiety that has a serious impact on the population around the world. Until leading to various strict measures to stop the outbreak, including announcing an emergency curfew and refraining from social activities, which clearly affects the initial behavior of Thai people. starting from November B.E. 2020 has begun an epidemic of COVID-19, causing people to have to adapt in many ways. Because most people of working age have to change their work to a work for home style to avoid meeting large numbers of people. Therefore, they have more free time because they work at home, so they turn their attention to the awakening of trees to buy more plants because most people at Work for Home do not know what to do, turn to decorate the house and give. More interested in online business However, the e-commerce business in Thailand has been growing steadily due to the advancement of technology, consumers can access the internet conveniently and quickly at the touch of a plant pot. It is the top product that people choose to buy and spend even more. However, when people are interested in buying online pots, transportation of trees is also important how we can transport the products in 100% perfect condition. We will bring materials. bumps from nature Comes as a shock absorber so that the pot will not be damaged or damaged before reaching the customer's hand. (Krungsri, 2022)

There are many types of cushioning materials in Thailand today, both natural and non-natural materials. The cushioning material is a material used to prevent deterioration of fruits and vegetables or various packaging, including stucco plant pots. During transportation or movement and distribution, but what we choose is a natural material to reduce costs and save costs. It can be stored for a long time because at present we encounter the problem of using natural resources that are limited. Wasting causes the current natural resources to begin to decrease in quantity until they may run out in the next few decades. (Wannee Sutthachaidee, 2015). We therefore see the importance of limited natural resources. People then use those natural resources to make cushioning materials from nature. As a result, it was born as a cushioning material from nature and was further developed to be effective by using leftover natural resources, such as coconut coir, a natural resource left over from making coconut fibers. (Phurichaya Pornpanichphan, 2020)

The problem with each cushioning material has its pros and cons and different properties, some are expensive. Some are less effective. For this reason, the research team chose to study the comparison of the quality of natural cushioning materials of consumers of stucco plant pots. pottery shop Ratchaburi Province To be a guideline for entrepreneurs in choosing natural cushioning materials. for packaging and preventing fragile products, what kind of natural cushioning materials can meet the needs of Entrepreneurs have the most and can make the most of it. Because nowadays, cushioning materials made from chemicals tend to be expensive. and less environmentally friendly than natural cushioning materials.

## LITERATURE REVIEWS

Takengwut Wongsirojkul (2013) has studied cushioning materials. The results showed that formula 1 has the best impact strength. The organizing team therefore brings cushioning materials from the best formulas of coconut coir. to compare with cushioning materials in the market Impact test method by dropping cushioning material containing 2 number 3 eggs placed on the cushioning material. Released from a height of 1 meter, the eggs in the cushioning material from coconut fiber remain intact, while the eggs in the cushioning material in the market a little crack

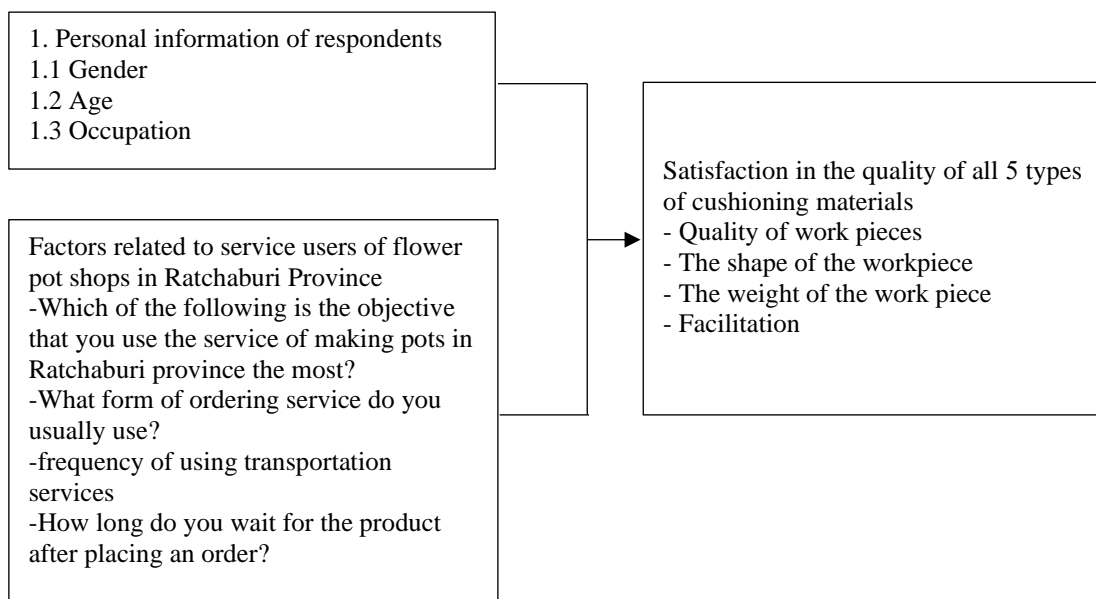
Puritchaya Pornpanichphan (2020) has studied the project of cushioning materials from banana sheaths. The research results showed that banana sheaths were as effective as foam worms from the experiment sent by post. The distance is from the post office, Krabi branch to Chulabhorn Rajawittayalai Science School, Trang. 2. Try throwing it down from a height of 1-2 meters. Performed about 2 more experiments with the same results.

Chookiat Anantwetyanon (2015) has studied and developed cushioning materials from papaya plant fibers in packaging for glass and ceramic products. The research found that it can protect the product inside. When the cushioning material from papaya plant fibers used in the packaging according to the 6 case studies were used to assess the satisfaction from the users in two aspects, namely in terms of design and usability. Packaging for tall glassware, low shape, ceramic figurines and terracotta vases Satisfaction was at the highest level. As for packaging for glass dolls and benjarong cups, the samples were satisfied at a high level. and in use All 6 products were satisfied from the samples at a high level.

Thithat Nitithamanukul (2016) has studied the corncob cushioning material. The research results showed that the corncob was tested and prepared as the corncob cushioning material. To be used instead of bubbles or bubble wraps made from clear plastic in packaging products to transport for Online trading can take more shock than regular plastic bubbles. And can also help reduce pollution and can be naturally degraded within 20 days

Thiramet Saikham (2021) has studied the development of cushioning materials from bagasse. The research results showed that the cushioning materials from bagasse were developed by separating the fibers and boiling them for 3 hours. were cleaned and dried. 50 g of separated fibers were dispersed in water 1. liter and spun to disperse the fibers. Formed by means of a spoon to remove only the pulp and then dried. After that, take the sheet The dried fibers are coated with rubber. The water is compacted with a heat transfer printer and dried at 100 degrees Celsius for 10 minutes, reducing waste and reducing costs.

### Conceptual Framework



### METHODS

Population is the population used in research to study and research. For this research is Consumers of stucco plant pots in Ratchaburi Province Let's do a research study and from the study there is reference information from the customer database. 50 pottery shops in Ratchaburi province. The sample group used in this research. The researcher determined the sample size according to the method of Taro Yamane by using the calculation formula. will get a sample of 45 people to answer the questionnaire

study concepts and theories review of literature related both domestically and internationally from secondary sources to apply the acquired knowledge to develop and apply it as a conceptual framework for research The questionnaire was developed according to the research conceptual framework developed by creating indicators on all studied variables. The content is consistent with the research objectives and the research conceptual framework and the questionnaire created according to the research conceptual framework is presented to the advisor for consideration of suitability. The correctness of the use of language and the coverage of the research content to be revised according to the advisor's advice, to revise the questionnaire as recommended by the advisor, and then presented to the expert for checking the quality of the questionnaire. tools for accurate and comprehensive research content by 3 experts to check the Index of Item-Objective Congruence: IOC) is to consider the consistency of the question as a 3-level rating scale by taking the answers of each expert to interpret the score and checking the content validity (Validity) by checking the consistency of the indicator with Expert definition of terminology After examining the content and understanding of the questionnaire, wording of the text was adjusted according to the advice of experts to convey the clearest meaning possible. The index of item consistency with the objective (Index of Item Objective Congruence: IOC) by considering all items is greater than 0.5, it is considered that the

question is valid (Rovinelli and Hambleton, 1977). ) of 65 experts with an Index of Concordance (IOC) between 0.66 – 1. 00, which pass the criteria, then will be used to create the actual questionnaire. After the results of the study from interviews, the researcher conducts group discussions to collect additional data for data collection by meeting together to find ways to develop popular cushioning materials.

## RESULTS

### 1. Hypothesis testing results

The comparison of the quality of natural cushioning materials by the consumers of Ratchaburi stucco flower pots is summarized as follows:

**Table 1**  
**Cushioning Material from Water Hyacinth**

Water Hyacinth	$\bar{x}$	S.D.	Level
1. The quality of the workpiece	4.26	0.36	More
2. The shape of the workpiece	4.10	0.37	More
3. The weight of the workpiece	4.18	0.45	More
4. Facilitation	4.07	0.54	More
รวม	<b>4.15</b>	<b>0.31</b>	<b>More</b>

From Table 1, it was found that cushioning materials from water hyacinth The overall satisfaction was at a high level. with a mean of 4.15 and a standard deviation of 0.31.

**Table 2**  
**Cushion Material Made from Banana Sheath**

Banana Leaves	$\bar{x}$	S.D.	Level
1. The quality of the workpiece	3.57	0.60	More
2. The shape of the workpiece	3.64	0.45	More
3. The weight of the workpiece	3.51	0.77	More
4. Facilitation	3.86	0.53	More
รวม	<b>3.65</b>	<b>0.51</b>	<b>More</b>

From Table 2, it was found that the cushioning material from banana leaf sheath The overall satisfaction was at a high level. with a mean of 3.65 and a standard deviation of 0.51.

**Table 3**  
**Cushion Material Made from Corn Co**

Corn Co	$\bar{x}$	S.D.	Level
1. The quality of the workpiece	3.40	0.45	Moderate
2. The shape of the workpiece	3.53	0.50	More
3. The weight of the workpiece	3.69	0.56	More
4. Facilitation	3.68	0.52	More
รวม	<b>3.57</b>	<b>0.43</b>	<b>More</b>

From Table 3, it was found that the cushioning materials from corn co cladding The overall satisfaction was at a high level. The mean was 3.57 and the standard deviation was 0.43.

**Table 4**  
**Cushion Material Made from Straw**

<b>Straw</b>	$\bar{x}$	<b>S.D.</b>	<b>Level</b>
1. The quality of the workpiece	3.31	0.65	Moderate
2. The shape of the workpiece	3.47	0.60	Moderate
3. The weight of the workpiece	3.85	0.60	More
4. Facilitation	3.75	0.66	More
<b>รวม</b>	<b>3.59</b>	<b>0.53</b>	<b>More</b>

From Table 4, it was found that the cushioning materials from banana sheath The overall satisfaction was at a high level. with a mean of 3.59 and a standard deviation of 0.53.

**Table 5**  
**Cushion Material Made from Coconut Coi**

<b>Coconut Coi</b>	$\bar{x}$	<b>S.D.</b>	<b>Level</b>
1. The quality of the workpiece	3.68	0.47	More
2. The shape of the workpiece	3.72	0.45	More
3. The weight of the workpiece	3.66	0.61	More
4. Facilitation	3.84	0.47	More
<b>รวม</b>	<b>3.73</b>	<b>0.40</b>	<b>More</b>

From Table 5, it was found that cushioning materials from Coconut Coi cladding The overall satisfaction was at a high level. The mean was 3.73 and the standard deviation was 0.40.

**Table 6**  
**Cushion Material**

<b>Cushion Material</b>	$\bar{x}$	<b>S.D.</b>	<b>Level</b>
1. Water Hyacinth	4.15	0.31	More
2. Banana Leaves	3.65	0.51	More
3. Corn Co	3.57	0.43	More
4. Straw	3.59	0.53	More
5. Coconut Coi	3.73	0.40	More

From Table 6, it was found that cushioning materials from water hyacinth The overall satisfaction was at a high level. with an average value of 4.15 and a standard deviation of 0.31, followed by cushioning material from coconut coir. The overall satisfaction was at a high level. with an average value of 3.73 and a standard deviation of 0.40, followed by cushioning materials from banana cladding. The overall satisfaction was at a high level. with an average value of 3.65 and a standard deviation of 0.51, followed by cushioning materials from rice straw. The overall satisfaction was at a high level. The average value was 3.59 and the standard deviation was 0.53 and the last was the cushioning material from corn cob. The overall satisfaction was at a high level. The mean was 3.57 and the standard deviation was 0.43.

### CONCLUSION AND FUTURE WORK

from this research The researcher has important findings from the research results. Therefore brought into the discussion as follows: According to the study of the opinions of the respondents from the sample group of 45 samples, it was found that most of the respondents paid attention to the factors of quality of the workpiece the weight of the workpiece the shape of the workpiece And the convenience side, respectively, it may be because most of the respondents are males than females because males tend to find hobbies to relax from their routine work and nowadays, most people turn their attention to planting trees for beauty. Including the breeding of trees for sale. which still lacks knowledge and understanding of cushioning materials Therefore, he paid more attention to the quality of the workpiece than the weight of the workpiece and other aspects, respectively, in line with the

research of Chookiat Anantwetyanon (2015) who studied and developed cushioning materials from fibers. papaya plants in glass and ceramic packaging, it was found that papaya plant fibers able to cushion the benjarong cup material more than 60 percent

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