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Consumer Response to Packaging Designs and Branding: The Case of Limnophila Geoffrayi Herbal Glycerin Soap Products

By

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Abstract

The Limnophila geoffrayi herbal glycerin soaps in Thailand lack attractive packaging designs and branding. This study aimed to develop the product's packaging designs and branding and evaluate the volunteer responses on the quality of the soap, graphic packaging design, and branding. The respondents were satisfied with the overall quality of the product, with the three highest items being the ability to wash off after use, an overview of product features, color, and soap texture. They were also satisfied with the chosen design (i.e., a woman with her hair wrapped in marigolds), among the three designs initiated by the researcher. The results of the consumers' satisfaction survey revealed that they were very satisfied with the graphic design, especially with the colors, brand, illustrations, letters, and placement of components. Moreover, they were satisfied with the brand design on the package at the highest level, especially efficiency, an eye-catching and new look, the right size and shape, the ability to add trade value to products, and convenience to use. The future research study should empirically investigate the extension to customers in the nationwide and online markets. For policy implications, the policymakers can apply the research findings to other 3,171,429 local community enterprises nationwide.

Keywords: Consumer Response; Packaging Designs; Branding; Limnophila Geoffrayi Herbal Glycerin Soap Products

1. Introduction

In light of the current focus on sustainability, global warming, and health consciousness, interest in herbal products has significantly increased all over the world, including Thailand. However, the herbal products in this country have not been as widely accepted as expected. In the case of herbal soap products, for example, the product lacks attraction for consumers. This is partly due to the fact that the majority of the herbal soaps were produced by local community enterprises. Some of them lack branding, and the packaging designs are not attractive. The designs, therefore, need to be improved and developed continuously.

Among the herbal soaps produced by local community enterprises in the northeast of Thailand, limnophila geoffrayi herbal glycerin soap products have not yet been accepted because the forms and patterns of the soaps lack unique characteristics in the packages. In addition, the products lack factors that create strengths, such as brands, graphic designs, and the necessary property details of the products. It is, therefore, necessary to develop the packaging and branding design to attract consumers for strategic sales promotion and online marketing because Limnophila geoffrayi is a weed that is abundant nationwide, especially in the Northeast of Thailand. Developing the limnophila geoffrayi soap products is an effective way to get rid of the weed and raise more revenue for the community. However, studies on

the Limnophila geoffrayi plant are sparse. It is necessary to fulfill the research, design, and marketing gaps of the product. This study will also provide a model for other 3,171,429 local community enterprises nationwide.

To achieve this, an academic and research networking team was introduced to the local community enterprises that produce limnophila geoffrayi herbal glycerin soaps, with three main objectives: 1) develop glycerine soap products from the limnophila geoffrayi herb, 2) design branding and graphic packaging, and 3) assess the consumers' satisfaction.

The contents of this paper comprise these five parts. Part 1 introduces the rationale for the study. Part 2 presents the prior research relevant to this study, the research gap, the framework of the study, and the research questions. Part 3 describes the approach of the study. Part 4 presents the results of the study. Part 5 concludes the research findings, discusses the findings in relation to the prior study, and illustrates the limitations, suggestions for future study, and implications of the study.

2. Literature Review

2.1 The impact of packaging materials, design, and graphics on consumers

The vast influence that product packaging can have a substantial effect on consumers' actual product experiences and expectations. Scholars (e.g., van Rompay et al., 2016) support the positive role of packaging materials and graphics. According to Steenis et al. (2017), packaging has a significant influence on how people view products. Specifically, research reveals how changes in actual environmental repercussions (by altering packaging materials) affect not only perceptions of sustainability, but also a number of other benefits, including the perception of quality. However, consumers' perceptions are significantly influenced by simple graphical packaging signals that have no discernible real-world effects. Among the packaging factors that have been found to affect consumer impressions are the orientation (layout) of packaging parts (e.g., Van Rompay et al., 2014), shape angularity (Becker et al., 2011, Velasco et al., 2014,), environmental factors such as color utilization (Deliza and MacFie, 2001; Piqueras-Fiszman and Spence, 2011; Schifferstein et al., 2013; Bellizzi & Hite, 1992), lighting (e.g., Oberfeld et al., 2009; Spence et al., 2014), visual element (Togawa et al. 2019) and scent (e.g., Chebat & Michon, 2003).

Packaging materials, design, and graphics has influence on consumers, especially on their attitudes toward products and purchase decisions. The next section will focus on influence.

2.2 The influence of packaging aesthetics on customer product perceptions and purchases

When it comes to packaging design, things like shape, color, smell, sound, emotion, and so on can be used to create a sense of beauty. Becker et al. (2011) looked at shape and found that a package's angular shape (as opposed to a round one) changed how people saw it. In the same way, Bar and Neta (2006) found that participants were likely to prefer rounded versions over angular ones, which is in line with the fact that people in general like rounder shapes more. It has been claimed that a significant determinant of choice for shapes can be their orientation.

Regarding color, businesses like McDonald's and Coca Cola have switched out their "red" for "green," which suggests a more organic and healthy appearance. Such a strategy is consistent with research on the differences between warm (such as red and yellow) and cool

(such as green and blue) color associations. Whereas the former connotes peace and relaxation, the latter connotes associations with excitement (high arousal), and may be more easily seen as natural and healthy (Van Rompay et al., 2012). So, in the current study, this color dimension was used to create packaging that had a "healthy" (low-arousing hues) or "unhealthy" (high-arousing hues) appearance.

Elements like sound, aroma, emotion, color, and so on may have an impact on a customer's experience (Turley and Milliman, 2000). Holland, Hendriks, and Aarts (2005) showed that when people were exposed to the smell of an all-purpose cleaner while they were eating, they kept the area around them clean. These results show that things like smell, sound, and color in the environment can make us feel a certain way, which then affects how we think and act. Also, Piqueras-Fiszman and Jaeger (2014) found that positive emotion associations are more common. This fits with studies that show how important it is for actions to match the environment.

Due to the influences of the essential elements in a packaging design, studies suggested manipulation of the elements for effects on sale promotion and marketing.

2.3 The design of packaging and branding, as well as how they affect sales promotion and marketing

Product packaging provides a valuable opportunity to communicate with consumers, both at the "point of sale" and thereafter (Rettie and Brewer, 2000; Simms and Trott, 2010; Silayoi and Speece, 2007), and as a result of the consumer's use of the product over time (Underwood, 2003).

Researchers (e.g., Westerman et al., 2013) have attempted to change the graphical forms' design, orientation, and alignment in order to influence consumer assessments. Creusen and Schoormans (2005) noted that product attention is drawn to products through packaging design, which also conveys information about brand identity and brand values and "positions" products within categories (Schoormans et al., 2010). Assuming that aesthetic judgments can be linked to basic design components such as shape and color (Hekkert and Leder, 2008; Lindell and Mueller, 2011; Orth & Malkewitz, 2008), and considering that consumers' views toward items and buying decisions are influenced by aesthetic preferences connected to packaging design, understanding these associations bears on the question of design's "actionability" (Snelders & Schoormans, 2004).

In addition to the aforementioned factors of packaging design and branding, there are some factors that influence sales promotion and marketing as well as designing and branding. These factors are specific design features.

2.4 Customer preferences for particular design elements

The extent to which consumer preferences for certain design features and product types overlap is an important question that these studies try to answer.This could happen because people make connections between the way the package looks and how good the product inside is.Underwood (2003) thinks about the possibility that the packaging and the product could have the same symbolic meaning. Demirbilek and Sener (2003) and Creusen and Schoormans (2005) focus on how the symbolic meaning communicated by product design affects the emotional response of the consumer.Both of these studies are relevant to this topic. A relevant topic of current research is consumer perceptions of cross-modality

congruence and incongruence with reference to combinations of packaging design factors (e.g., shape, color) and product qualities (e.g., flavor) (Spence, 2012).

Certain traits might have an effect on first impressions. A number of studies (Schoormans & Robben, 1997; Granato et al., 2022; Yu et al., 2022; Azzi et al., 2012) have demonstrated the significance of first impressions in design (e.g., Lindgaard, Fernandes, Dudek, & Brown, 2006), and there is evidence of a halo effect for assessments of practicality/usability and taste (Tractinsky (Becker et al., 2011).

The most specific design feature that has an effect on the first impression is branding. Businesses have therefore tried to engage customers with their branding.

2.5 Creating consumer brand engagement

Brodie, Ilic, Juric, and Hollebeek (2013) define consumer brand engagement as the consumer's processing (cognitive), affection (emotional), and activation (behavioral) actions during certain consumer-brand contacts.Several firms encourage user involvement in branding (Pansari and Kumar, 2017; Harmeling et al., 2017; Venkatesan, 2017) to increase deeper customer brand engagement (Hollebeek, Srivastava, & Chen, 2019) and to develop the impact of creative packaging design on customer decision-making processes and motivation (Shukla et al., 2022).

To ensure the impact, a number of studies have assessed consumer decision-making. The next section is product assessment.

2.6 Assessing the impact of packaging design and branding

Some researchers have looked at the design of packaging to see how it affects how people act in stores. They have either taken a "holistic" approach that looks at the package as a whole (Orth and Malkewitz, 2008) or an "analytical" approach that looks at how one (or sometimes many) aspects of the packaging have an effect (Pinto and Droulers, 2010). The latter method, as well as the influence of shape (Raghubir and Krishna, 1999; Krider et al., 2001).

Earlier studies indicated that both divergence and relevance have a significant impact on customers' attitudes and purchasing intentions toward a brand (Chen et al., 2016). Moreover, packaging research shows that more inventive packaging might result in more positive brand attitudes and purchase intentions (Sundar & Noseworthy, 2014). Also, studies reveal that attractive packaging greatly affects consumer choices more than unattractive packaging does (Togawa et al., 2019).

Baccarella et al.'s research from 2021 shows that how consumers see the value of a product affects how likely they are to buy a product with consumption-supportive packaging.

2.7 Research Gap

Drawing upon the prior study, it is evident that there is limited or no research on Limnophila geoffrayi herbal glycerin soaps. This study therefore investigated this issue to fill the gap in the research in this field.

To achieve this, the research framework of this study was structured as shown in the next section.

2.8 Research framework and research questions

2.8.1 Research framework

The research framework can be illustrated as shown in Figure 1.

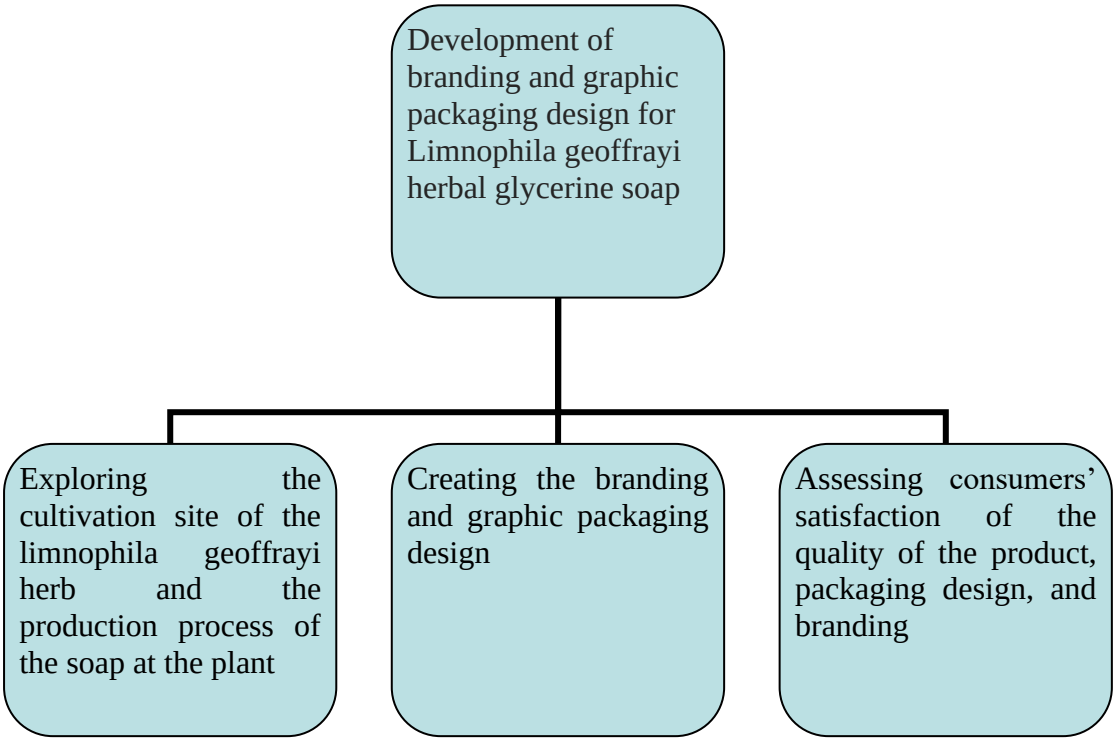

Figure 1 *Research framework of the study*

Figure 1 presents the research framework of the study. The primary objective of this study was to develop branding and graphic packaging design for a limnophila geoffrayi herbal glycerine soap product for local community entrepreneurs in the Northeast of Thailand. To achieve the objective, the study began by exploring the cultivation site of the limnophila geoffrayi herb and the production process of the soap at the plant, then created the branding and graphic packaging design, and lastly assessed the consumers' satisfaction with the quality of the product, packaging design, and branding of the product.

2.8.2 Research questions

In response to the research framework mentioned above, the following three research questions (RQ) were made:

RQ 1: What is the development process of glycerine soap products from the Limnophila geoffrayi herb?
RQ 2: What should the branding and graphic packaging design to draw the customers' attraction be like?
RQ 3: What are the results of the consumers' satisfaction assessment?

3. Research Method

3.1 Research design

This study was based on a mixed-methods research approach. The participants in this study fell into four groups: (1) thirty potential volunteers of graphic designs who were chosen by purposive sampling to assess the quality of the products and the branding and graphic packaging design that had been initiated by the research team, (2) three local entrepreneurs of the product under study; (3) one agricultural innovation expert who provided knowledge of the Limnophila geoffrayi properties and quality, and (4) two brand and graphic packaging design experts who gave advice on the branding and graphic packaging design that the research team had newly created to draw the customers' attraction of the product.

3.2 Data collection

The data collection followed the steps shown in Figure 2.

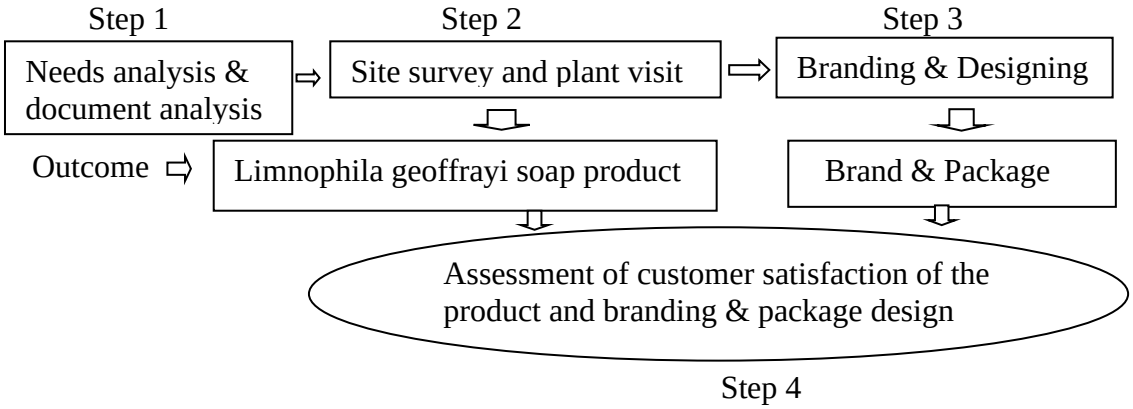

Figure 2 *Data collection process*

Figure 2 presents the data collection process for this study. The process began with the needs analysis to draw insights into the entrepreneurs' needs (namely, the lack of packaging design and branding). To obtain insightful and overall data to meet the needs analysis, the researcher and the agricultural innovation expert conducted a document analysis, a site survey of the cultivation areas of the Limnophila geoffrayi, and a visit to the soap production plant. Then, the research team created three packaging and branding designs. The two brand and graphic packaging design experts discussed and selected the most appropriate design. The researcher then adjusted according to their advice. Lastly, the prospective customers who have expertise in product design tried the products and responded to the satisfaction survey about the quality of the product and the chosen branding and package design.

3.3 Instruments for data elicitation

3.3.1 Needs analysis

This instrument aimed to draw insights into the entrepreneurs' needs regarding the product.

3.3.2 Site surveys

Two site survey visits to the Limnophila geoffrayi cultivation area and the plant visit were carried out to gain insights for developing the quality product and get some ideas for branding and package design.

3.3.3 Semi-structured interviews

Three semi-structured interviews were conducted. The first interview aimed to draw out information about the physical characteristics, properties, and quality of the limnophila geoffrayi herb from one agricultural innovation expert. The information was used for designing graphics for packaging. The second one aimed to gain information about the graphic packaging structures, forms, and designs of the three initiated designs. The third and last one aimed to draw insights, inspiration, and ideas from each initiated design.

3.3.4 Five-scale rating questionnaire surveys

Three surveys were conducted for different purposes. The first survey aimed to evaluate the quality of the soap in these aspects: color, smell, hardness and resilience of the soap, soap texture, foaming, ability to wash off dirt, ability to wash off after use, moisturizing after use, and an overview of product features. The second one aimed to evaluate the graphic design on the package initiated by the researcher, consisting of these points: letters on the package, illustrations on the package, placement of components on the package, colors used on the package, and brand on the package. The third and last one aimed to evaluate the brand design on the package initiated by the researcher, consisting of these points: size and shape, efficiency, ability to add trade value to products, eye-catching and new look, and convenience to use.

3.4 Data analysis

This was based on a mixed-methods study. In detail, the qualitative data drawn from the document and interviews were coded and recoded. Three research assistants coded the qualitative information obtained from the key informant interviews, and then they were compared to see where they agreed. The quantitative data drawn from the questionnaire was analyzed using descriptive statistics.

For the scoring process, "highly dissatisfied," "dissatisfied," "neutral," "satisfied," and " highly satisfied" received 1 to 5 points, respectively. The outcomes of the interview were transcribed, categorized, and compared using triangulation to assess reliability and validity. The five reviewers evaluated the questionnaire for content validity and item-objective congruence (IOC) after it had been created in response to RQs. The questionnaire's reliability was tested, and the results were examined using the Alpha Cronbach's Coefficient. The three evaluation tools used the same processes. The alpha values were 0.81, 0.85, and 0.92, respectively, indicating fairly high and dependable values. The survey results were categorized according to the following criteria: "highly dissatisfied" (1.00–1.50), "dissatisfied" (1.51-2.50), "neutral" (2.51-3.50), "satisfied" (3.51-4.50), and "highly satisfied" (4.51–5.00).

The data were qualitatively and quantitatively analyzed to draw the conclusion of the study. The results of the study are presented in the next section.

4. The Results of the Study

In response to the three RQs, the results are as follows:

4.1 Developing Limnophila Geoffrayi Soap Products

The results of the site survey, the needs analysis, the interview, and the document analysis revealed these findings. As limnophila geoffrayi is the main element of the soap, it is necessary to visit the site of limnophila geoffrayi cultivation to gain insights for developing a quality product and get some ideas for branding and package design. The cultivation area of Limnophila geoffrayi is shown in **Figure 3.**

Figure 3 *The cultivation area of Limnophila geoffrayi*

Figure 3 shows the cultivation process of Limnophila geoffrayi in Phang Khon Subdistrict, Phang Khon District, Sakon Nakhon Province, Thailand. The material is of high quality. The interview with the agricultural innovation expert revealed the quality of producing the soap as follows:

"Taking the limnophila geoffrayi extracts used as an ingredient in soap production has drawn attention from the customers. In addition to being able to clean the dirt and aid in bioactivity, herbs can help in nourishing the skin."

[The agricultural innovation expert]

Then, the plant visit was carried out. The plant where the essential oil refinery plant was produced is shown in **Figure 4**.

Figure 4 *Essential oil refinery plant*

Figure 4 shows the essential oil refinery plant. The plant is located at Rajamangala University of Technology Isan, Sakon Nakhon Campus, Phang Khon Subdistrict, Phang Khon District, Sakon Nakhon Province, Thailand.

The plant produces oil extracts of the plant as shown in **Figure 5.**

Figure 5 *Essential oil extracts of Limnophila geoffrayi*

Figure 5 shows essential oil extracts of Limnophila geoffrayi. The interview with the agricultural innovation expert revealed the quality of producing the soap as follows:

"The essential oil extracts of Limnophila geoffrayi have special properties such as helping to fight viruses and bacteria and preventing the growth of various germs and are rich in antioxidants, etc."

[The agricultural innovation expert]

Then, the oil extracts of Limnophila geoffrayi were brought into the soap production process, as shown in **Figure 6.**

Figure 6 *The soap production process*

Figure 6 shows the soap production process. The process began as follows: The glycerin was cut into small pieces, weighed with a scale according to various formulas, and then melted on an electric stove. The extract was weighed according to various formulas and mixed with molten glycerin. The temperature was set at about 40–50 degrees Celsius and flavored with essential oils. After being well mixed, the soap was poured into the mold and left for 24 hours. Lastly, the soap was removed from the mold and covered with clear plastic. The production process could guarantee the quality of the production process. It is necessary to verify the quality of the soap to the satisfaction of potential customers.

Thirty volunteers (15 males and 15 females) were the respondents. The results of their evaluation are shown in Table 1 as follows:

Table 1 *Mean scores and standard deviation of volunteer evaluation of the quality of the soap*

Items of Evaluation	Mean	Standard deviation	Level of satisfaction
Color	4.23	0.72	Satisfied
Smell	3.77	0.77	Satisfied
Hardness and resilience of soap	4.10	0.75	Satisfied
Soap texture	4.17	0.79	Satisfied
Foaming	3.57	0.67	Satisfied
Ability to wash off dirt	3.83	0.74	Satisfied
Ability to wash off after use	4.33	0.66	Satisfied
Moisturizing after use	4.10	0.60	Satisfied
Overview of product features	4.33	0.60	Satisfied
Total	4.41	0.78	Satisfied

Table 1 shows the mean and standard deviation of volunteer evaluations of the quality of the soap. The grand total score was high ($\overline{X}$ = 4.41, SD = 0.78). This indicates that the respondents were satisfied with the overall quality of the product. The three highest items were as follows: ability to wash off after use ($\overline{X}$ = 4.33, SD = 0.66), overview of product features ($\overline{X}$ = 4.33, SD = 0.60), color ($\overline{X}$ = 4.23, SD = 0.72), and soap texture ($\overline{X}$ = 4.17, SD = 0.79), respectively.

However, it is necessary to look into the details of satisfaction. The results of their evaluation are shown in Table 2 as follows:

Table 2 *Percentage of volunteer evaluation of the soap*

Evaluation of the soap	Percentage of satisfaction				
	Highly Satisfied (%)	Satisfied (%)	Neutral (%)	Dissatisfied (%)	Highly Dissatisfied (%)
Color	36.7	53.3	6.7	3.3	0.0
Smell	13.3	56.7	23.3	6.7	0.0
Hardness and resilience of soap	30.0	53.3	13.3	3.3	0.0
Soap texture	36.7	46.7	43.3	3.3	0.0
Foaming	6.7	46.7	43.3	3.3	0.0
Ability to wash off dirt	16.7	53.3	26.7	3.3	0.0
Ability to wash off after use	43.3	46.7	10.0	0.0	0.0
Moisturizing after use	23.3	63.3	13.3	0.0	0.0
Overview of product features	40.0	53.3	6.7	0.0	0.0

Table 2 shows the percentage of volunteer evaluation of the soap. All respondents were satisfied at the highest level and showed no dissatisfaction with all items. The three highest scores are as follows: moisturizing after use (63.3%); smell (56.7%); and color (53.3%), hardness and resilience of soap (53.3%); ability to wash off dirt (53.3%); and overview of product features (53.3%).

The volunteers' satisfaction with the soap indicated their satisfaction with the quality of the product. However, the interviews with the entrepreneurs to draw insights into their needs regarding the product revealed that they were suffering from two major obstacles (namely branding and packaging) as shown below:

"Our Limnophila geoffrayi soap products have not yet been widely accepted for these reasons. The customers think that the shapes and patterns do not have unique characteristics. We need to redesign our brand and graphics on the packages to attract people's interests such as brands, patterns, colors, and uniqueness. This will help create strengths in our products."
[Entrepreneurs no 1 and 2]

As a result, their shortages resulted in solutions to their problems. The solutions are presented in the results of research question 2.

4.2 Designing the brand and graphics on the package

In order to meet these needs, the researcher made the brand and the graphics on the package. From the site visit, the Limnophila geoffrayi plant is abundant in a long, narrow watershed in the rice field, which is called "Kanna" in Thai or "Ridge" in English to reflect the herb's origin. Then, the researcher created three different designs using two materials: paper and plastic, as shown in **Figure 7.**

(a) **Design 1**

(b) Design 2

(c) Design 3

Figure 7 *Branding and graphics on packaging (Designs 1-3)*

Figure 7 shows branding and graphics on packaging (Designs 1–3). The key product details, such as ingredients, usage, production and distribution locations, net weight, and marketing channels, are provided. The insights into the concepts, inspiration, and ideas of each design are as follows:

"In the first design, the packaging is a paper box, and the main image is a woman with her hair wrapped in marigolds, representing a woman who is beautiful in her natural beauty. There are fewer lines in brand design usage and a distance or space between them. To facilitate brand recognition, nature-tone colors (like light brown tones, light green, and dark green) were chosen to match with natural herbal soaps and images. The logo of the brand conveying the product being sold is put under the picture so that consumers can easily recognize this new brand. The packaging uses ready-made paper boxes."

[The design team]

The first design used "the image of a woman" as a symbol of natural beauty. However, the second and third designs adopt Hoop Taem wall paintings as inspiration. The reason for this is as follows:

"The Hoop Taem wall painting, which is the Isan local identity of Maha Sarakham Province, is used in packaging design to create the uniqueness of the product while expressing the local identity of the province, with the hope that this added value will draw consumers' attention more widely and internationally."

[The design team]

Even though the two designs adopted the Hoop Taem wall painting, the second design is different from the third one in a few features, such as colors, as follows:

"In the second design, the package uses a plastic box, and the main image is the same as the first design. On the package, the graphic pattern has been redesigned, using the Hoop Taem mural painting and an owl to convey feelings of simplicity, fun, and liveliness. This design shares similarities and differences with the first one. Like the first design, there are fewer lines in the logo design and a distance or space between the lines to create easy perception and recognition. Unlike the first design, this one added light and dark blue tones to brown. The name of the brand is in the logo to attract consumers more noticeably. The packaging is a transparent plastic box, which makes it easier for sealing."

[The design team]

"In the third design, the package uses a plastic box, and the main image is the leaf to represent nature. Like the second design, the graphic pattern on the packaging uses the Hup Taem mural painting and an owl to convey feelings of simplicity, fun, and liveliness. There are fewer lines in the logo design and a distance or space between the lines to create easy perception and recognition. Unlike the second design, this one used light green, blue, and light brown to create a simple yet elegant touch and added the brand name below so that consumers could remember the brand name on the packaging. The key product details are provided for those who are interested to read well."

[The design team]

The two brand and graphic packaging experts and the two entrepreneurs discussed the three designs and agreed to choose the first one as the most suitable. However, it is necessary to assess the perception of the customers about the chosen design. The results of the evaluation are presented in the next part.

4.3 Assessing consumers' satisfaction with the graphic packaging design and brand

The chosen design was assessed by thirty potential volunteers whose expertise is in graphic design. The results of branding and graphic design are presented in Tables 3 and 4.

Table 3 *Mean scores and standard deviation of volunteer evaluation of graphic design on the package*

Items of evaluation	Mean	Standard deviation	Level of satisfaction
Letters on the package	4.39	0.08	High
Illustrations on the package	4.39	0.79	High
Placement of components on the package	4.34	0.84	High
Colors used on the package	4.60	0.60	Highest
Brand on the package	4.54	0.70	High
Total	4.41	0.78	High

Table 3 shows the mean scores and standard deviation of the volunteer evaluation of the graphic design on the package. The grand total score was high ($\overline{X}$ = 4.41, S.D.= 0.78). The mean scores and standard deviation of each item were arranged from the highest to the lowest as follows: colors used on the package ($\overline{X}$ = 4.60, S.D. = 0.60), brand on the package ($\overline{X}$ = 4.54, S.D. = 0.70), illustrations on the package ($\overline{X}$ = 4.39, S.D. = 0.79), letters on the package ($\overline{X}$ = 4.39, S.D. = 0.08), and placement of components on the package ($\overline{X}$ = 4.34, S.D. = 0.84). This indicates that the volunteers were satisfied with the graphic design on the package.

Table 4 Mean scores and standard deviation of volunteer evaluation of brand design on the package

Items of evaluation	Mean	Standard deviation	Level of satisfaction
Right size and shape	4.56	0.65	Highest
Efficiency	4.63	0.58	Highest
Ability to add trade value to products	4.55	0.68	Highest
Eye-catching and new look	4.60	0.60	Highest
Convenience to use	4.46	0.75	High
Total	4.56	0.65	Highest

Table 4 shows the mean scores and standard deviation of the volunteer evaluation of the brand design on the package. The grand total score was the highest level ($\overline{X}$ = 4.56, **S.D.** = 0.65). The mean scores and standard deviation of each item were arranged from the highest to the lowest as follows: efficiency ($\overline{X}$ = 4.63, S.D. = 0.58), eye-catching and new look ($\overline{X}$ = 4.60, S.D. = 0.60), right size and shape ($\overline{X}$ = 4.56, S.D. = 0.65), ability to add trade value to products ($\overline{X}$ = 4.55, S.D. = 0.68), and convenience to use ($\overline{X}$ = 4.46, S.D. = 0.75). This indicates that the volunteers were highly satisfied with the brand design on the package.

5. Conclusion And Discussion

5.1 Conclusion

In response to the three research questions (RQs), three conclusions could be summarized as follows:

For RQ 1 (What is the development process of glycerine soap products from the limnophila geoffrayi herb?) the development process of glycerine soap products from the limnophila geoffrayi herb was successful. The volunteer respondents were satisfied with the overall quality of the product. The three highest items were as follows: ability to wash off after use, overview of product features, color, and soap texture, respectively. In details, all respondents were satisfied at the highest level and showed no dissatisfaction in all items. The three groups with the highest scores included: (1) moisturizing after use; (2) smell; and (3) color, hardness, and resilience of soap, ability to wash off dirt, and overview of product features.

For RQ 2 (What should the branding and graphic packaging design be like to draw the customers' attraction?), among the three initiated designs (namely, "design 1," where the main image is a woman with her hair wrapped in marigolds; "design 2," the Hoop Taem mural painting and an owl with the light and dark blue tone to brown; and "design 3," the Hoop Taem mural painting and an owl with light green, blue, and light brown), the first design, a woman with her hair wrapped in marigolds, was chosen as the most suitable from the perspectives of the two packaging experts and the two entrepreneurs, "

For RQ 3 (What are the results of the consumers' satisfaction assessment?) the chosen design was evaluated in two aspects: the graphic design and the brand design. On one side, the volunteer consumers were highly satisfied with the graphic design on the package. They were satisfied with all items in the brand design on the package, ranking from the highest to the lowest: colors, brand, illustrations, letters, and placement of components. On the other side, the volunteer consumers were satisfied with the brand design on the package at the

highest level. They were highly satisfied with all items in the brand design on the package, ranking them from the highest to the lowest: efficiency, an eye-catching and new look, the right size and shape, the ability to add trade value to products, and convenience to use.

5.2 Discussion

The findings of this study lend support to those of the prior studies (e.g., van Rompay et al., 2016; Steenis et al., 2017) that the packages and packaging materials positively influence consumers' perceptions. In this study, product quality satisfied the volunteers. Ability to wash off after use, product features summary, color, and soap texture ranked highest. All respondents were quite satisfied with all elements. The three greatest scores were for moisturizing after use, smell, color, hardness, durability, dirt-washing abilities, and product overview.

In details, packaging factors that affect consumer impressions include orientation (layout) of packaging parts (e.g., Van Rompay et al., 2014), shape angularity (Becker et al., 2011, Velasco et al., 2014), environmental factors like color utilization (Deliza and MacFie, 2001; Piqueras-Fiszman and Spence, 2011; Schifferstein et al., 2013; Bellizzi & Hite, 1992), and visual elements (Togawa et al., 2019). This study found that the factors on the packaging design (namely, letters on the package, illustrations on the package, placement of components on the package, colors used on the package, and brand on the package) and the brand design on the package (namely, size and shape, efficiency, ability to add trade value to products, an eye-catching and new look, and convenience to use) positively satisfied the customers.

5.3 Limitations of the Study

This study was limited to one product (a Limnophila geoffrayi herbal glycerine soap) and customers with similar profiles, as well as a small number of volunteers drawn through purposive sampling.

5.4 Suggestions for future study

Due to the limited number of samples, the future research study should empirically investigate the extension to customers in the nationwide and online markets.

5.5 Implications of the Study

For policy implications, the policymakers can apply the research findings to other 3,171,429 local community enterprises nationwide.

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