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## Brand Equity Development of Online Health and Beauty Entrepreneurs Using Rough Set e-Delphi Technique

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### Abstract

*The research is focused on the development of brand equity for online health and beauty product businesses in Thailand. It aims to provide a clear framework for studying various aspects of brand equity using Aaker's brand equity model as a foundation. The study expands upon this by employing the Rough Set e-Delphi Technique to draw conclusions and serve as a guide for future research, the research objectives are as follows to examine the consistency of quality development in brand equity for online health and beauty product businesses in Thailand. To conduct qualitative research, using interview techniques with experts knowledgeable and experienced in the health and beauty industry to utilize the Rough Set e-Delphi Technique in the following steps: problem identification, literature review, and expert selection from governmental, academic, and entrepreneurial organizations. Subsequently, the opinions of all selected experts will be gathered through an e-Delphi process, conducted in three rounds to summarize the findings of the qualitative research, serving as a reference for measuring the consensus of all experts involved. In summary, the research aims to explore and understand brand equity development in the context of online health and beauty products in Thailand, utilizing a rigorous methodology and expert insights from different sectors to provide valuable guidance for future research endeavors.*

**Keyword:** Brand Equity, Online Health and Beauty, Entrepreneurs, Rough Set e-Delphi Technique.

### Introduction

Delphi Techniques, also known as the Delphi Method, is a structured and iterative forecasting technique used to gather and synthesize expert opinions on a particular subject or problem. It was developed in the 1950s by the RAND Corporation as a means to obtain reliable and unbiased forecasts from a group of experts. The Delphi Technique has been widely used in various fields, including technology forecasting, policy development, risk assessment, and decision-making processes. It allows for the systematic exploration of complex problems and helps to mitigate biases and individual influences by relying on the collective wisdom of a group of experts. (Hsu et al., 2007; Wantanakomol, S. & Silpcharu, T. 2020)

However, it is important to note that the Delphi Technique is not without limitations. The success of the method depends on the selection of knowledgeable and diverse experts, the quality of the questionnaire design, and the effectiveness of the facilitation and feedback process. It also assumes that expert opinions are based on accurate information and that the future can be reasonably predicted based on past trends and patterns.

Promotion and supervision by the government are essential not only due to the increasing demand for e-commerce from consumers but also to involve users, manufacturers, and suppliers. The government

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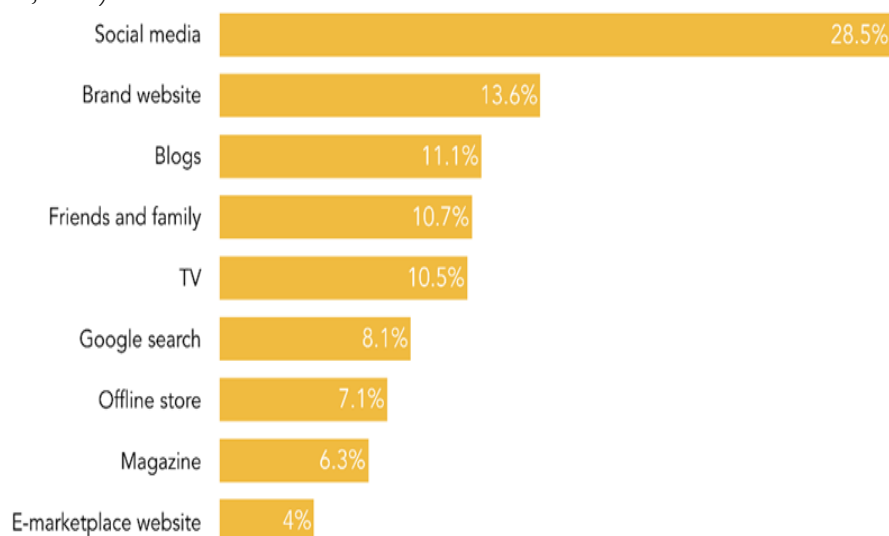
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plays a crucial role in facilitating faster diffusion by pushing policy initiatives to foster the development of e-commerce until it becomes a consumer necessity. This is achieved through the development and enhancement of e-commerce, which is presented in conjunction with the offerings from the private sector. (EDTA, 2021)

The transition to the digital era has become increasingly significant for the economy, society, and people's livelihoods, especially during the COVID-19 pandemic. Digital technology has been utilized to reduce physical interactions within society. This includes using online communication channels, advertising through social media, purchasing goods and services through online platforms instead of visiting physical stores, and conducting digital transactions instead of cash payments. A survey conducted in Southeast Asia revealed that there has been an increase in the use of technology in various forms following the initial outbreak of COVID-19. As a result, businesses have had to adapt and change their approaches to reach consumers, seize opportunities, and enhance their competitive advantage (Kritsana, 2021)

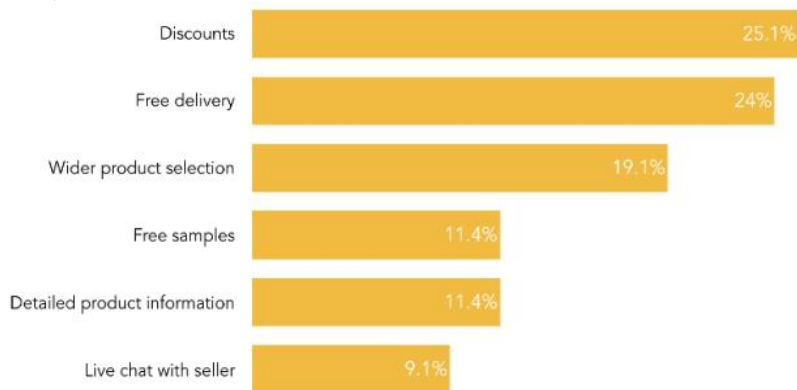
**Figure 1:** Channels for finding information about beauty products (Ecommerce IQ Beauty Survey Thailand, 2018)



Businesses in the health and beauty product industry have shown a continuous trend of expansion. This is driven by the increasing consumer focus on health and beauty, observed across various age groups, including teenagers, working adults, and even the elderly population. Furthermore, consumers are now able to access and receive information related to health and beauty care more rapidly, thanks to various channels available, particularly through social media platforms. This abundance of options has resulted in intensified competition among businesses, as consumers have more choices. Consequently, entrepreneurs must adapt and compete more fiercely in order to capture a larger market share and meet the specific needs of their target customers. According to a survey on consumer product information channels conducted in 2018, it was found that 75.8% of customers seek product information online, while 24.2% do so offline (Kasikorn Research Center, 2017). It can be seen that there has been a significant shift in consumer behavior regarding information acquisition and purchasing. This is particularly evident in the increased preference for online ordering of beauty products. Several factors contribute to this change, including constant price reductions, free delivery options, a wide variety of product choices, direct communication with sellers, and detailed product information. Please refer to

Figure 2 of the Ecommerce IQ Beauty Survey Thailand, 2018.

**Figure 2:** Reasons why consumers buy beauty products online (Ecommerce IQ beauty survey Thailand, 2018)



The summary of the aforementioned discussion reveals that this research aims to enhance the brand equity of online health and beauty product businesses in Thailand. The findings can be applied in general marketing strategies and utilized for planning, strategizing, and communicating marketing efforts for online health and beauty product businesses. The researchers conducted a mixed-methods research, employing qualitative methodologies to explore and generate variables, as well as quantitative research to test the effectiveness of these variables.

## Literature Review

Brand equity means the reputation of a brand perceived by customers. It is the perception of how customers see and believe in the positive quality and have a positive attitude about the brand. To create brand equity will need several factors. It involves customers' understanding and appreciation of the quality of the products. When customers appreciate and prefer the brand, it will lead to more benefit from the products. Brand equity can result in generating more sales and profit to the brand owner. (Aaker, 2002; Rungreungpong, 2009) the term "brand equity" refers to "the set of relationships and behaviors associated with a brand as perceived by customers, distribution channels, and the brand owner, which enables the brand to generate sales and profits, differentiate itself, and provide a competitive advantage." (Keller, 2003; Aaker, 1996).

Brand Loyalty is a measure of the attachment that a customer has to a brand. It is very crucial part of CBBE as the loyal customers always repeat purchasing the brand products. The common measurement of brand loyalty includes to purchase, repurchase and involvement in WOM. Many studies show that Social Media Marketing directly influences the brand loyalty. (Amoako et al., 2019; Ebrahim, 2020; Godey et al., 2016; Khajuria, 2017; Nobar, Kalejahi, & Rostamzadeh, 2020; Owino et al., 2016; Sehar et al., 2019)

Brand Association is the next major element of CBBE which related to the brand image in customers' mind. It refers to the impressions based on other information which will create the meaning of the brand for customers. This part of CBBE is investigated in most of the following studies; Studies that tested the influence of users generated contents have shown a positive association between SMM and brand associations. That means firm-generated contents reported an important positive influence on brand associations. (Llopis-Amorós et al., 2019; Rachna, 2017; Sadek et al., 2018; Schivinski & Dabrowski, 2015; Vinh et al., 2019). On the other hand, firm-generated contents reported a significant positive

influence on brand associations.

Perceived Quality is the third important element that measures CBBE. It refers to the customer's opinion on the level that a brand is able to meet customers expectation in term of excellence and superiority. The perception is not directly toward the product quality but the person judgment of the product that influenced by the consumption situation, past experience and the individual needs of consumers. (Erenkol and Duygun, 2010; Yoo et al., 2000)

Brand Awareness, the marketing tool to create brand relationship is the social networking sites. Brand awareness plays a significant role in consumer decision making by bringing three advantages; these are learning advantages, consideration advantages, and choice advantages. (Calder, B. J., Malhotra, E. C., & Schaefer, U. (2009)

Brand Image is known as "the set of beliefs associated with a specific brand" or "a set of related beliefs that are often organized in some meaningful way" (Meenaghan, 1995) It divides brand meaning into three components: 1) Attributes, which refer to the external appearance and shape of the product that can be memorable to consumers; 2) Benefits and Value which make them feel satisfied, proud, and confident in the product; 3) Personality which make the brand different from others. (Keller's, 1998)

Brand Trust is a construct of trust involves a calculative process based on the role of an object to continually perform its role and the relationship between costs and rewards (Doney & Cannon, 1997). In a very recent study by Warner-Söderholm et al. (2018), they proposed

that users' perception of trust varies depending on their gender, age, and time spent on social media. The construct of trust is measured by five dimensions: benevolence, integrity, competence, identification, and concern. The findings suggest that user's perceptions of integrity; depict the ethical and moral ideologies held by a human, differs with regard to gender, age, and frequency of social media usage. Accordingly, female and young users have high expectations with integrity. (Warner-Söderholm et al., 2018)

Marketing Factor is a group of activities in an organization's marketing program. Each organization can have different marketing mix factors (Tangchakwaranon & Makhasiranon, 2013), Kotler (2012) suggested that effective marketing combines the fundamentals of the marketing mix factors to achieve an entity's marketing goals, and deliver value to consumers. Thus, the marketing mix factors consists of materials, and business strategies to build a strong position in the target market. Sereerat (2009) stated that 6Ps of marketing mixes factors consist of product, price, place, promotion, privacy, and personalization. They are all interrelated and crucial in digital marketing.

Social Media Marketing Activity is allows users to receive each other's effective information about events around the world (Alnaser et al., 2020) includes pandemics such as Coronavirus as well. Utilizing SMMA as a communication and interaction, we can attract audiences, providing them with important information about the spread and cessation of the Coronavirus. Through social media, a company can easily build its brand to increase its business activity. (Cestyakara, 2013; Odoo et al., 2017).

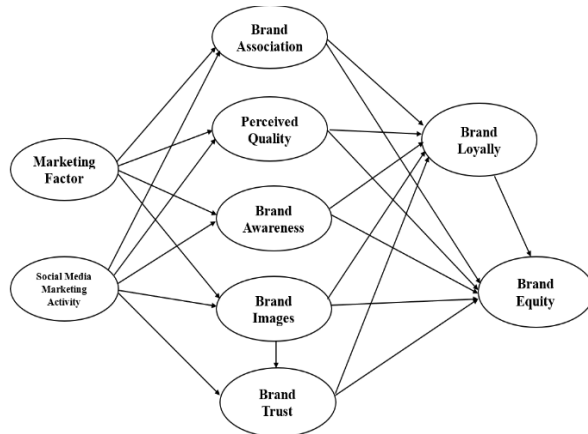
## Research Objectives

To examine the consistency of the quality development of the brand equity of online health and beauty products businesses in Thailand.

## Conceptual Framework

In this research, the researcher used Rough Set e-Delphi Technique. Rough Set Theory is a methodology of database mining or knowledge discovery in relational databases. This section presents the concepts of Rough Set Theory; which coincide partly with the concepts of other theories that treat uncertainty and vagueness information which can be used to consider the expert's decision based on decision rules.

**Figure 4:** Conceptual framework for developing brand equity of online health and beauty products business in Thailand.



Effective development of quality and brand equity in your organization or business. These concepts can be implemented. Study of customer needs: focus on studying and understanding customer needs in detail. This can be done by surveying existing customers, listen to suggestions and analyze data to improve products or services to meet the needs of customers as much as possible. Improving product or service quality: Use research and development processes to improve the quality of your product or service. It can use new technologies or innovations to create added value and enhance your products or services. Managing the production or service process: focus on planning and managing the production or service process as efficiently as possible. Use of modern technology and systems to reduce waste and increase process efficiency. Lean Six Sigma or other quality management principles can be applied.

## Research Methodology

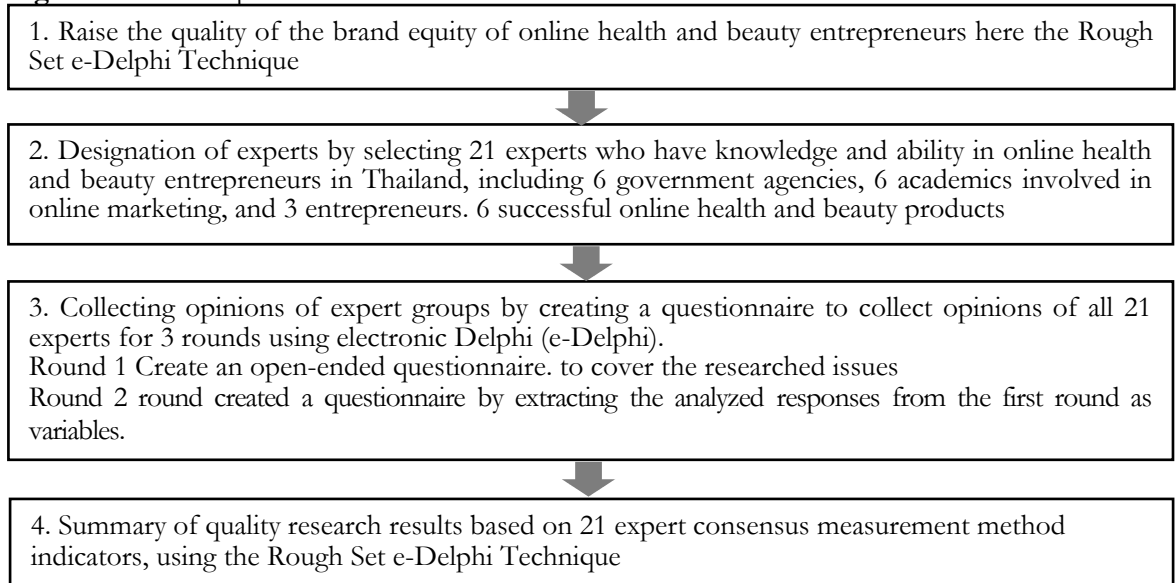
This study will start with qualitative research using the Rough Set e-Delphi Technique, which involves interviewing experts who have knowledge and expertise in online health and beauty entrepreneurship.

**Table 1:** shows the discrepancy by the number of experts.

Number of specialists	Discrepancy	Decreased Tolerance
1-5	1. 20- 0.70	0.50
5-9	0. 70- 0.58	0.12
9-13	0. 58- 0.54	0.04
13-17	0. 54- 0.50	0.04
17-21	0. 50- 0.48	0.02
21-25	0. 48- 0.46	0.02
25-29	0. 46- 0.44	0.02

source: Macmillan, 1971

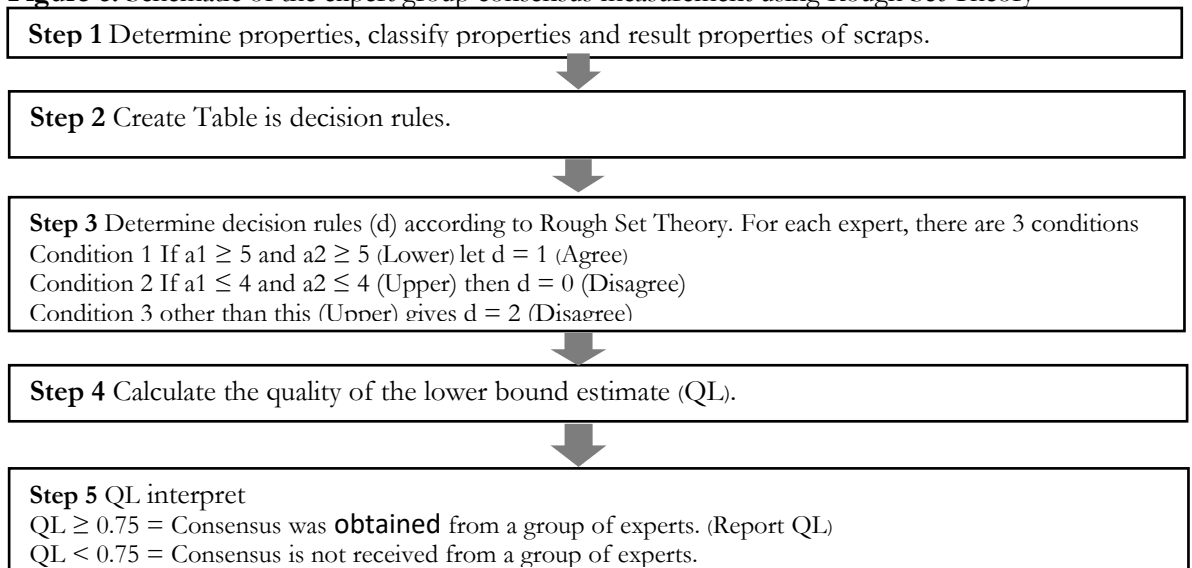
**Figure 5:** Research procedures



## Data Analysis

In this research analysis, the researcher utilized the Rough Set e-Delphi Technique which is a novel mathematical approach that deals with sets and the uncertainty of set membership. It allows for the examination of the coverage and uncertainty of data by employing the simple concept of lower and upper approximations of data groups. This technique can be used to consider expert decision-making by employing decision rules, which involve the following steps. (Pankham, S. & Chadcham. S., 2019)

**Figure 6:** Schematic of the expert group consensus measurement using Rough Set Theory



The process of measuring the consensus of an expert group using Rough Set e-Delphi Technique. There are details of the 5-step process as follows.

**Step 1:** Determine properties, classify properties and result properties of scraps.

- 1) Define two properties: suitability (a1) and practicality (a2)
- 2) Classify suitability (a1) and practicality (a2) using a 7-level Likert scale.
  - Level 1 the suitability/possibility strongly disagree.
  - Level 2 the suitability/possibility moderately disagree.
  - Level 3 the suitability/possibility slightly disagree.
  - Level 4 the suitability/possibility neutral.
  - Level 5 the suitability/possibility slightly agree.
  - Level 6 the suitability/possibility moderately agree.
  - Level 7 the suitability/possibility strongly agree.
- 3) Results of suitability (a1) and practicality (a2).
  - Level 1- 4 means disagree, i.e. the suitability/possibility of the practice is at the strongly disagree level 1 to the neutral level 4.
  - Level 5-7 means agree, that is, the suitability/possibility of the practice is at a slightly agree level 5 to the strongly agree level 7.

**Step 2** Create a decision rule table which divides the results into two sets of data: Lower Approximation and Upper Approximation. (Pawlak, 1991)

- 1) Estimation of the lower bound is the set of all interest data. Means that the expert agrees with the indicator or the question. Lower Approximation =  $\{x \in U : [x]R \subseteq X\}$
- 2) Upper approximation (Upper Approximation) is the set of data that has Ambiguity means that the expert disagrees with the indicator or the question Upper Approximation. =  $\{x \in U : [x]R \cap X \neq \emptyset\}$

**Step 3** Determine decision rules (d) according to Rough Set Theory. For each expert, there are 3 conditions as follows.

- 1) If the suitability (a1) agrees (Level 5-7) and the practicality (a2) agrees (Level 5-7), then put them in the decision set (d) = 1 (Agree) means that expert agrees (Lower Approximation)
- 2) If the suitability (a1) disagrees (Level 1-4) and the practicality (a2) disagree (Level 1-4) Classify them in the decision set (d) = 0 (Disagree), meaning the expert disagrees (Upper Approximation).
- 3) Others besides these include
  - 3.1 If the suitability (a1) agrees (Level 5-7) and the practicality (a2) disagrees (Level 1-4), they are placed in the decision set (d) = 2 (Disagree) means the expert disagrees (Upper Approximation)
  - 3.2 If the suitability (a1) disagrees (Level 1-4) and the practicality (a2) agrees (Level 5-7), place them in the decision set (d) = 2 (Disagree) means the expert disagrees (Upper Approximation)

**Step 4** Calculate the quality of the lower bound estimate (QL) by dividing the number of experts who agree (Lower Approximation) with the questionnaire by the total number of experts.

**Step 5** Determine the criteria to measure the consensus of the expert group using Rough Set e-Delphi Technique, which is the quality of the lower bound estimate (QL), which has 2 criteria as shown in Table 2

**Table 2** Criteria for measuring the consensus of the expert group using Rough Set Theory (Pankham, S. & Chadcham. S., 2019)

Consensus measure	Criterion
Quality of the lower bound estimate	QL < 0.75 A consensus from the expert group was not



(QL)	reached.
	$QL \geq 0.75$ A consensus was obtained from a group of experts.

Summary of expert opinions on brand equity according to the Rough Set e-Delphi Technique, including brand loyalty, brand awareness, perceived quality, brand associations, and other proprietary assets, enabling further actions:

Group 1: Experts from a government organization with knowledge and understanding of health and beauty products online have appropriate opinions that align with the Rough Set e-Delphi Technique criteria.

Group 2: Academics with expertise in business management and online business have appropriate opinions that align with the Rough Set e-Delphi Technique criteria.

Group 3: Successful entrepreneurs in the health and beauty online product industry have appropriate opinions that align with the Rough Set e-Delphi Technique criteria.

In conclusion, all three groups of experts have provided suitable insights on brand equity, meeting the criteria set by the Rough Set e-Delphi Technique. This will enable the stakeholders to proceed with their next steps in managing and enhancing brand equity for their products in the health and beauty online market.

## Result

The results of the online questionnaire on the opinions of 21 experts on brand equity development of online health and beauty entrepreneurs in Thailand.

Round 1: The opinion of the expert group based on 10 open-ended online questionnaires.

Round 2: The opinions of the experts were synthesized into a closed-ended questionnaires with a rating scale of 7 levels.

Round 3: The opinion of the Expert Group based on a closed-ended online questionnaire approach, a 7-level Likert of the suitability and the practicality of all aspects and questions. Passed the criteria specified according to the Rough Set Theory ( $QL \geq 0.75$ ) as in the second round as shown in Table 3.

**Table 3** Measure consensus by Rough Set Theory

Brand Equity Development of Online Health and Beauty Entrepreneurs Using Rough Set e-Delphi Technique	Measure consensus by Rough Set Theory	
	suitability and Possibility of implementing	
	QL	result
<b>Marketing Factor</b>		
1. I always provide detailed product information to customers.	1.00	Consensus
2. I sell products at a price that is suitable for quality.	1.00	Consensus
3. I have a variety of distribution channels.	1.00	Consensus
4. I regularly organize promotional activities.	1.00	Consensus
5. I have a convenient and fast product ordering system.	1.00	Consensus
<b>Social Media Marketing Activity</b>		
1. I regularly organize events to encourage customers to buy products on social media.	1.00	Consensus
2. I always create a positive interaction between customers and brands through social media.	1.00	Consensus
3. I have a variety of online payment methods for customers to choose from.	1.00	Consensus
4. I always encourage customers to review products on social media.	1.00	Consensus



5. I choose to use the tools of various online platforms to plan your business strategy.	1.00	Consensus
<b>Brand Awareness</b>		
1. I always build brand awareness with your customers through social media.	1.00	Consensus
2. I build brand awareness through social media without admin referrals.	1.00	Consensus
3. I enable customers to differentiate your brand compared to other brands.	1.00	Consensus
4. I enable customers to recognize the brand through online advertising media.	1.00	Consensus
5. I think that influencers help attract customers and create brand awareness.	1.00	Consensus
<b>Perceived Quality</b>		
1. I create awareness to customers that the quality of products meets international standards.	1.00	Consensus
2. I create awareness to customers that admins provide service with willingness.	1.00	Consensus
3. I create awareness among customers that there are multiple channels to access product information.	1.00	Consensus
4. I create awareness to customers that the product details and the correct way to use it are provided.	1.00	Consensus
5. I create a perception to your customers that they will receive the correct product they ordered.	1.00	Consensus
<b>Brand Association</b>		
1. I create a brand image that reflects the personality of your customers.	1.00	Consensus
2. I create a brand image that reflects the identity of the customer.	1.00	Consensus
3. I create a brand image to reflect the tastes of your customers.	1.00	Consensus
4. I create a brand image to reflect the social status of your customers.	1.00	Consensus
5. I think influencers reflect a brand image.	1.00	Consensus
<b>Brand Loyalty</b>		
1. I make customers willing to stay up to date with brand news.	1.00	Consensus
2. I get customers to come back to buy products from the credibility of the brand.	1.00	Consensus
3. I get customers to come back to buy products without comparing prices with other brands.	1.00	Consensus
4. I keep customers coming back to buy your products even without promotional activities.	1.00	Consensus
5. I make customers happy to recommend their products through social media.	1.00	Consensus
<b>Brand Image</b>		
1. I build a brand image to be reliable.	1.00	Consensus
2. I have a quality certification mark on the packaging such as ISO, FDA, etc.	1.00	Consensus
3. I create a brand image to have an identity that is different from other brands.	1.00	Consensus
4. I design a brand logo that is easy for customers to remember.	1.00	Consensus
5. I choose to use influencers whose image is consistent with the brand.	1.00	Consensus
<b>Brand Trust</b>		
1. I build brand trust by providing honest product information	1.00	Consensus
2. I build brand trust by conducting business with integrity	1.00	Consensus
3. I build trust in the brand by choosing to use a standard production factory	1.00	Consensus
4. I build trust in the brand from product approval by the Food and Drug Administration (FDA)	1.00	Consensus
5. I build trust in the brand through customer reviews after using the product	1.00	Consensus
6. I build trust in the brand from the good image of the brand owner	1.00	Consensus
<b>Brand Equity</b>		
1. I build brand value through continuous public relations.	1.00	Consensus
2. I create brand value by always developing products to meet the needs of customer.	1.00	Consensus
3. I create brand value through innovative production that is environmentally friendly.	1.00	Consensus
4. I build brand value by regularly organizing social activities	1.00	Consensus
5. I build brand value by doing business according to good governance principles	1.00	Consensus

## Discussion

In this study focusing on cosmetic and supplement product trends in the next five years (2020-2024), the Rough Set e-Delphi Technique will be employed, involving three rounds of questionnaires to gather insights in each area. The research will primarily explore the direction of production and development in the cosmetics and supplement industry, with a specific focus on production technology and modern tools. The aim is to enhance production efficiency, improve product quality, and better meet customer demands. Additionally, the study will emphasize the importance of incorporating safety measures for workers and the environment during the production process.

Furthermore, the research will extend its scope to the field of indicator development, particularly pertaining to the quality of education in the community board of basic education. The Rough Set e-Delphi Technique will be utilized to conduct this part of the study.

Considering the potential applicability of these research findings to general marketing strategies for online health and beauty businesses, it is vital to identify and understand the specific insights garnered. Once the research yields its outcomes, businesses can utilize the relevant findings to tailor their marketing strategies effectively.

In the absence of research-specific information, I can provide some general advice that may prove helpful in devising marketing strategies for online health and beauty businesses. Please let me know if you would like to explore these general considerations.

1. Marketing Factor: Identify your target audience based on the research findings and tailor your marketing messages and advertisements to appeal to their specific needs, preferences, and pain points. Use targeted advertising platforms and strategies such as social media advertising, influencer partnerships, and search engine marketing to reach your desired audience effectively.

2. Social Media Marketing Activity (SMMA): Optimize your website and mobile app for a seamless and intuitive user experience. Make it easy for customers to find products, navigate through your site, and make purchases. Incorporate persuasive design elements, such as clear product descriptions, appealing visuals, and easy checkout processes. Leverage data analytics tools to measure the effectiveness of your marketing campaigns, track customer behavior, and identify areas for improvement. Use data-driven insights to refine your strategies, optimize conversion rates, and enhance overall marketing performance. Brands have been utilizing SMMA activities as an effective communication tool to engage consumers and deliver valuable information.

3. Brand Association: Leverage the power of personalization in your marketing efforts. Use customer data and insights to create personalized experiences, product recommendations, and offers. This can enhance customer engagement, loyalty, and ultimately, drive conversions.

4. Brand Awareness: Develop high-quality, informative, and engaging content that aligns with the research findings. This can include blog posts, videos, social media content, and newsletters that provide value to your target audience, establish your brand as a trusted authority, and drive traffic to your website.

5. Brand Trust: Utilize social proof to build trust and credibility for your health and beauty products. Highlight positive customer testimonials, reviews, and ratings. Encourage user-generated content and influencer partnerships to showcase real-life experiences and recommendations.

6. Brand Image: Collaborate with influencers or experts in the health and beauty industry who align with your brand and target audience. Influencers can promote your products through sponsored content, reviews, tutorials, and endorsements, helping to expand your reach and build brand awareness.

7. Perceived Quality: Foster a sense of community and encourage customer engagement through social media channels, forums, and online communities. Actively respond to customer inquiries, comments, and feedback to

demonstrate that you value their opinions and are dedicated to their satisfaction.

8. Brand Loyalty: Customers who follow brands on digital networks have the tendency to remain loyal, therefore, this research shows a similar conclusion that SMMA activities have a significant part in increasing brand loyalty. Social media marketing activity's impact on brand loyalty. exceptionally the connection between SMMA and brand loyalty.

Remember, the specific application of research findings will depend on the nature of the research and its relevance to your target audience and business objectives. It's essential to conduct your own market research and stay up to date with the latest industry trends to ensure the effectiveness of your marketing strategies.

## **Conclusion**

In conclusion, Developing the brand equity of online health and beauty entrepreneurs using the Delphi Technique is a process that enables experts and professionals in related fields to collaborate in creating understanding and generating value in the rapidly growing online health and beauty industry. Therefore, the selection of experts with expertise in the field related to the health and beauty online industry, such as successful online entrepreneurs who have created brand equity in this industry, and individuals with knowledge and experience in brand creation and development, is essential. The facilitator will divide the experts into groups and assign them to create questions relevant to the development of brand equity for online health and beauty entrepreneurs. These questions will serve as a foundation for understanding and as guidelines for answering future questions. The experts will participate in a collective brainstorming process by responding to the questions sent from the previous group, utilizing their own knowledge and experience, and providing insights and recommendations for developing the brand equity of online health and beauty entrepreneurs.

The facilitator, as the process leader, will gather and consolidate information and summarize the opinions of all the experts. Normally, the opinions will be summarized into a list or topic groups. The importance of these lists or topic groups will be evaluated, where experts may be asked to assess the importance of the generated lists or topic groups using scoring or ranking methods. The next round of the Delphi process will then begin, where the understanding and knowledge gained from the previous round will be used to generate new questions or summarize additional information to enhance the understanding and knowledge in developing the brand equity of online health and beauty entrepreneurs.

For the analysis and summary of the Rough Set e-Delphi Technique, the accumulated data from the previous steps will be analyzed and conclusions will be drawn regarding the developed brand equity. The analysis may involve combining consistent information, checking the appropriateness of the answers, and providing an overall summary of the brand development process. It should be noted that the Rough Set e-Delphi Technique is not a finalization process. Once the researchers have received information and understanding from the experts, entrepreneurs can continuously improve and innovate in the next development process. Overall, the Delphi Technique can be a valuable approach to harness the collective knowledge and expertise of professionals in the online health and beauty industry. By incorporating the input and insights from these experts, entrepreneurs can enhance their brand equity and drive innovation in the ongoing brand development process.

## **Reference**

- Aaker, D. A. (2002). Building strong brands. Bath: CPI Bath Press.  
Aaker, D.A. (1996). Measuring Brand Equity across Products and Markets. California

Management Review, 38, 102-120.

Alnaser, A. S., Habes, M., Alghizzawi, M., & Ali, S. (2020). The Relation among Marketing ads, via Digital Media and mitigate (COVID-19) pandemic in Jordan The Relationship between Social Media and Academic Performance: Facebook Perspective View project Healthcare challenges during COVID-19 pandemic View projec, 29(7), 12326-12348.

Retrieved from <https://www.researchgate.net/publication/342866347>.

Amoako, G. K., Okpattah, B. K., & Arthur, E. (2019). The impact of social media marketing on brand equity-A perspective of the telecommunication industry in Ghana. *Journal of Business and Retail Management Research*, 13(03), 113-122. Retrieved from <https://doi.org/10.24052/JBRMR/V13IS03/ART-11>

Calder, B. J., Malthouse, E. C., & Schaedel, U. (2009). An experimental study of the relationship between online engagement and advertising effectiveness. *Interactive Marketing Journal*, 23(4), 321-331.

Retrieved from <https://doi.org/10.1016/j.intmar.2009.07.002>.

Chatterjee, S., & Kar, A. (2020). Why do small and medium enterprises use social media marketing and what is the impact: Empirical insights from India. *International Journal of Information Management*, 53. Retrieved from

[https://e-tarjome.com/storage/panel/fileuploads/2020-05-03/1588493215\\_E14802-e-tarjome.pdf](https://e-tarjome.com/storage/panel/fileuploads/2020-05-03/1588493215_E14802-e-tarjome.pdf)

Doney, P. M., & Cannon, J. (1997). An examination of the nature of trust in buyer-seller relationships. *Journal of Marketing*, 61, 35–51. Retrieved from <https://doi.org/10.2307/1251829>

Ebrahim, R. S. (2020). The role of trust in understanding the impact of social media marketing on brand equity and brand loyalty. *Journal of Relationship Marketing*, 19(4), 287-308.

Retrieved from <https://www.tandfonline.com/doi/full/10.1080/15332667.2019.1705742>

Ecommerce IQ Online. (2018). Analyzing online purchase behavior of Thai consumer for beauty. Retrieved on December 21th, 2020, Retrieved from:

<https://ecommerceiq.asia/eiq-beauty-survey-thailand/>

Electronic Transactions Development Agency. (2020). Perspective on Future of e-Commerce: How E-Commerce Will Change in the Post-Covid and Beyond. Retrieved from <https://www.eta.or.th/getattachment/1601aea8-41bf-4cbb-8aca->.

Erenkol, A. D. & Duygun, A. (2010). Customers perceived brand equity and a research on the customers of Bellona which is a Turkish furniture brand, *The Journal of American Academy of Business*, 16(1). 93-109. Retrieved from: <https://www.scribd.com/document/47516690/customers-perceived-brand-equity-and-a-research-on-the-customers-of-bellona>.

Godey, B., Manthiou, A., Pederzoli, D., Rokka, J., Aiello, G., Donvito, R., & Singh, R. (2016). Social media marketing efforts of luxury brands: Influence on brand equity and consumer behavior. *Journal of Business Research*, 69(12), 5833-5841. Retrieved from: <https://doi.org/10.1016/j.jbusres.2016.04.181>

Hsu, Chia-Chien & Sandford, Brian A. (2007). The Delphi Technique: Making Sense of Consensus. *Practical Assessment Research & Evaluation*, 12(10). Retrieved from: <https://doi.org/10.7275/pdz9-th90>

Kasikorn Research Center. (2017). Sustainability Report. Retrieved from 17 April 2023.

[https://www.kasikornbank.com/en/sustainable-development/SDAnnualReports/2017\\_SD\\_EN.pdf](https://www.kasikornbank.com/en/sustainable-development/SDAnnualReports/2017_SD_EN.pdf)

Keller, Kevin Lane., (1998). *Strategic Brand Management: Building, Measuring and Managing Brand Equity*, Upper Saddle River, NJ: Prentice Hall.

Keller Kevin, L. (2003). *Strategic Brand Management. Building, Measuring, and Managing Brand Equity*. Upper Saddle River, New Jersey: Prentice Hall.

Khajuria, I. (2017). Impact of Social Media Brand Communications on Consumer-Based Brand Equity. *Indian Journal of Commerce and Management Studies*, 8(3), 124.

Retrieved from <http://dx.doi.org/10.18843/ijcms/v8i3/14>

Lakkhongkha, K. (2021). Marketing Channels for Modern Retail Business in Covid-19 Era. *Journal of MCU Nakhondhat*, 8(3), 318-336.

Retrieved from <https://so03.tci-thaijo.org/index.php/JMND/article/view/251170>

Kotler, P. & Armstrong, G. (2012). *Principles of marketing* (14th ed.). Upper Saddle River, NJ: Prentice Hall.

Llopis-Amorós, M.-P., Gil-Saura, I., Ruiz-Molina, M. E., & Fuentes-Blasco, M. (2019). Social media communications and festival brand equity: Millennials vs Centennials. *Journal of Hospitality and Tourism Management*, 40, 134-144.

Retrieved from <https://doi.org/10.1016/j.jhtm.2019.08.002>

Macmillan, Thomas T. (1971). "The Delphi Technique.", Paper Presented at the annual meeting of the California Junior Colleges Associations Committee on Research and Development, Monterey, California. (May 1971), 3-5.

Meenaghan, Tony. (1995). "The role of advertising in brand image development." *Journal of Product & Brand Management*, 4, 4: 26.

Nobar, H. B. K., Kalejahi, H. K., & Rostamzadeh, R. (2020). Impact of social media marketing activities on brand equity and brand commitment in the leather industry. *International Journal of Business Excellence*, 20(2), 191-204.  
Retrieved from <https://doi.org/10.1504/IJBEX.2020.105346>

Odoom, R., Anning-Dorson, T., & Acheampong, G. (2017). Antecedents of social media usage and performance benefits in small- and medium-sized enterprises (SMEs). *Journal of Enterprise Information Management*, 30(3), 383-399.

Retrieved from <https://doi.org/10.1108/JEIM-04-2016-0088>

Owino, J., Cherotich, M., Karuri, W., Gitonga, V., Kimuya, L., & Kaumbulu, K. (2016). The influence of social media on brand equity in Kenyan banking industry. *Pyrex Journal of Business and Finance Management Research*, 2(1), 001-005.

Retrieved from <https://citeseerx.ist.psu.edu/document?repid=rep1&type=pdf&doi=b575747184ad85928a34ced9d2c066f255769351>

Pankham, S. & Chadcham, S. (2019). Development of an Expert Panel Consensus Measurement Procedure using Rough Set Theory in the e-Delphi Technique. *Research Methodology & Cognitive Science*, 14(2), 87-101. Retrieved from <https://opac1.lib.buu.ac.th/medias3/crmc14n2p87-101.pdf>.

Pawlak, Z. (1991). *Rough Sets: Theoretical Aspects of Reasoning about Data*. Dordrecht: Kluwer Academic.

Rachna, M. Iesha, K. (2017). A Study of User-Generated Content on Social Networking Sites and its Impact on Consumer-Based Brand Equity Constructs. *Global Journal of Management and Business Research*, 17(1), 1-8.

Retrieved from [https://globaljournals.org/GJMBR\\_Volume17/1-A-Study-of-User-Generated.pdf](https://globaljournals.org/GJMBR_Volume17/1-A-Study-of-User-Generated.pdf).

Sehar, R., Ashraf, S., & Azam, F. (2019). The Influence of Social Media's Marketing Efforts on Brand Equity and Consumer Response. *IUP Journal of Marketing Management*, 18 (2), 30-53. Retrieved from [https://www.researchgate.net/publication/335291550\\_The\\_Influence\\_of\\_Social\\_Media's\\_Marketing\\_Efforts\\_on\\_Brand\\_Equity\\_and\\_Consumer\\_Response](https://www.researchgate.net/publication/335291550_The_Influence_of_Social_Media's_Marketing_Efforts_on_Brand_Equity_and_Consumer_Response).

Sadek, H., Elwy, S., & Eldallal, M. (2018). The impact of social media brand communication on consumer-based brand equity dimensions through Facebook in fast moving consumer goods: The case of Egypt. *Journal of Business and Retail Management Research*, 12(2), 107-120. Retrieved from [https://jbrmr.com/cdn/article\\_file/content\\_79773\\_18-01-19-01-43-17.pdf](https://jbrmr.com/cdn/article_file/content_79773_18-01-19-01-43-17.pdf).

Schivinski, B., & Dabrowski, D. (2015). The impact of brand communication on brand equity through

- Facebook. *Journal of Research in Interactive Marketing*, 9(1), 31-53. Retrieved from [https://www.researchgate.net/publication/273130688\\_The\\_impact\\_of\\_brand\\_communication\\_on\\_brand\\_equity\\_through\\_Facebook](https://www.researchgate.net/publication/273130688_The_impact_of_brand_communication_on_brand_equity_through_Facebook).
- Sereerat, S. (2009). *New marketing management*. Bangkok: Dharmasarn Printing Company Limited.
- Tangchakwaranon, P., & Makhasiranon, V. (2013). *Marketing shortcuts MBA Harvard*. Bangkok: Expernet Company Limited.
- Vinh, T. T., Phuong, T. T. K., Nga, V. T. Q., & Nguyen, N. P. (2019). The effect of social media communication on brand equity through Facebook: evidence from CGV Cinemas, Vietnam. *International Journal of Electronic Customer Relationship Management*, 12(2), 143-166. Retrieved from <https://doi.org/10.1504/IJECRM.2019.104021>.
- Watanakomol, S. & Silpcharu, T. (2020). Strategy for preventing Corruptions in Industrial Business Organizations With Delphi Technique. *Academy of Strategic Mangement Journal*, 19(3), 1-7. Retrieved from <https://www.abacademies.org/articles/Strategy-for-preventing-corruptions-in-industrial-business-organizations-with-delphi-technique-1939-6104-19-3-563.pdf>.
- Warner-Söderholm, G., Bertsch, A., Sawe, E., Lee, D., Wolfe, T., Meyer, J., ... Fatilua, U. N. (2018). Who trusts social media? *Computers in Human Behavior*, 81, 303–315. Retrieved from <https://doi.org/10.1016/j.chb.2017.12.026>
- Rungruengpol, W. (2009). *Textbook of marketing principles*. (5th edition). Bangkok: Marketing Move.
- Yoo, B., & Donthu, N. (2001). Developing and validating a multidimensional consumer-based brand equity scale. *Journal of Business Research*, 52(1), 1-14. Retrieved from [https://doi.org/10.1016/S0148-2963\(99\)00098-3](https://doi.org/10.1016/S0148-2963(99)00098-3)