| **RESEARCH ARTICLE**

Optimization of Traditional Medicine Business in Indonesia: A Questionnaire Survey

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| **ABSTRACT**

Traditional medicine was the treatment already being used by our ancestors' thousands of years ago; the treatment is productively treated for several illnesses. This research examines how one traditional medicine product can be launched and stand out amongst other competitors by analysing and comparing the data collected from PT. Saraka Mandiri Sejahtera Indonesia is the host institution. A different company distributes the product produced by the host institution. This research analyses the best factors for commercializing traditional medicine products. The data collected by the host institution was analysed in this research, followed by other data collection. Participants were 155 individuals collected around 7-10 days with the distribution via WhatsApp and email of the survey link. In all, 50.32% of customers satisfied had used monthly spending. The majority of the sample have monthly spending of more than Rp 5,000,000 (331 USD above). Then the author correlates the monthly spending of the samples with six variables which are: Herbal or Traditional medicine product knowledge, Herbal or Traditional medicine product loyalty, Herbal or Traditional medicine product preference, Herbal or Traditional medicine product exclusivity, Herbal or Traditional Medicine product packaging safety, and Herbal or Traditional medicine product labelling preference. The study shows variables that can be improved are product knowledge, product preference, and product packaging safety factors of its use were identified.

| **KEYWORDS**

Traditional medicine, Business, Survey, Indonesia

1. Introduction

Traditional medicine is defined as material or concoction in the form of plant or herbs material, animal material, mineral material, extracts material, or a mixture of materials mentioned that have been used by our ancestors and can be used for treating a particular condition and approved by the social norm (Elfahmi, Woerdenbag, & Kayser, 2014). Traditional medicine in Indonesia is conventionally called Jamu. The National Agency of Drugs and Food Control of the Republic of Indonesia, or for short called, BPOM, set 25 points of what is considered traditional medicine (Fadholah, Istikomah, Islamanda, & Jannah, 2021). The Legislation of BPOM number 32 of the Year 2019 defined traditional medicine into three criteria: Jamu, imported traditional medicine and licensed traditional medicine (Elfahmi et al., 2014).

A business is an organization or entity that follows specific rules to conduct the commercialization process. However, in brief, a business can translate into commercializing a product (Kurtz L. David & Boone E. Louis, 2020). A business is an institution which produces goods and services demanded by people. This means that a business is an institution that produces goods and services needed by society. If the community needs to increase, the agency will also increase business to meet those needs while getting a return (Kurtz L. David & Boone E. Louis, 2020).

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Indonesia is an archipelago that owns 1,916,906.77 km2 of geographic area, with up to 16 thousand different islands and 34 provinces, with different ethnics group, cultures, and tribes, and with a population of up to 270 million people in Indonesia. In Indonesia, a business must follow the country's norms, beliefs, and philosophy (Ismail, 2016).

The traditional medicine industry is a growing industry in Indonesia. More than 2,848 species of plant can produce 32,014 concoctions of traditional medicine (Husain & Wahidah, 2018). Traditional medicine itself in Indonesia is usually labelled as Jamu. Jamu itself has historically already been used by our ancestors' thousands of years ago to treat various illnesses (S. H. Wijaya, Batubara, Nishioka, Altaf-Ul-Amin, & Kanaya, 2017).

Economically Traditional medicine industry in Indonesia has increased significantly to Rp 6 trillion in market value annually and lucratively opened up more than 3 million new employments with the highest consumer in Java Island by 2007 (Britton, Koseki, & Dutta, 2018). With this industry's growing market, the government is still facing several issues, such as the traditional product that are considered illegal and not following specific qualifications of traditional medicine (Ajazuddin & Saraf, 2012).

Traditional medicine business in Indonesia is an industry regulated by several regulatory bodies. At least six regulatory bodies are impacting the industry: the regulation maker, the price maker, a partnership between each regulatory body, and the distribution part (Harimurti, Prawira, & Hort, 2017). Here is the regulatory body involved in the traditional medicine business in Indonesia: BPOM or National Agency of Drug and Food Control of the Republic of Indonesia, Republic of Indonesia Ministry of Health, Republic of Indonesia Ministry of Finance, the Republic of Indonesia Ministry of Industry, the Republic of Indonesia Ministry of Trade, and the Republic of Indonesia Ministry of Agriculture. These regulatory bodies mentioned impact not only the business activities of the traditional medicine industry but also have the power over how the customer feels and perceives the traditional medicine industry (Ekor, 2014).

BPOM already set specific rules and qualifications for traditional products allowed to be produced and commercialized (Badan Pengawas Obat dan Makanan (BPOM), 2021). The rule that BPOM sets is the Standard of Producing Good Traditional Medicine; for the herbal product to be distributed in the market, one must register the product to BPOM with the standard that the government sets (The Indonesian Food and Drug Authority of The Republic of Indonesia, 2018).

Based on The BPOM regulation Traditional Medicine is set under Legislation of BPOM number 32 of the Year 2019. In the legislation, BPOM set around 25 points of things that can be approved as Traditional Medicine. In the legislation mentioned, there is also a particular specification of traditional medicine and the standard that needs to be followed by the traditional medicine business owner (The Indonesian Food and Drug Authority of The Republic of Indonesia, 2018; World Health Organization., 2014).

Socialization from the government about the benefit of consuming traditional medicine in Indonesia is significantly less due to some people's higher trust in synthetic medicine (I. Wijaya, 2012). With significantly less socialization from Indonesia's government, Indonesian customers still have the stigma that Jamu is an outdated treatment and consider the treatment that only can be taken by older people (Dwi Priyono, Zaky Hadibasyir, & Harismah, 2022). Customers' stigma over Jamu is considered this industry's downside; However, many media put effort into educating the market about the benefit of consuming traditional medicine. Some companies need to put more effort into making their product perceived as modern medications (Arsetya, Putra, & Abryanto, 2021). Many big pharmaceutical industries in Indonesia registered their product as Jamu; unknowingly, the customer did not perceive their product as Jamu itself due to the product's packaging or the branding that the company put through social media or other advertisements. In contrast, small and medium enterprises still have a similar trend of producing similar traditional medicine products with minor to no product differences (Prabawani, 2017).

1.1 Comparison of Traditional Medicine Business in Indonesia & US
In contrast to Indonesia's traditional medicine industry, US traditional medicine is more advanced than Indonesia's traditional medicine industry (Embassy of The Republic of Indonesia in Brussels, 2021). The market value of US traditional and complementary medicine is projected to reach USD 296.3 billion in 2027 (Grand Research View Inc, 2020). Traditional and complementary medicine business is growing as consumer behaviour changes in the US accept more towards the industry. The behaviour of consumers towards the traditional and complementary medicine industry was affected by numerous campaigns supporting the positive impact of traditional and complementary medicine in the US. The campaign associated with the positive impact is the go nature campaign and the campaign reducing chemical abuse in the country.

US traditional and complementary medicine industry is regulated by the FDA or Food and Drugs Administration of the United States of America under the CAM or Complementary and Alternative Medicine by the hierarchy of OAM or Office of Alternative Medicine in 1992; in 1998, the OAM became NCCAM or National Centre for Complementary and Alternative Medicine. NCCAM

has become the regulatory body of traditional medicine in the US, following the standard of FDA good guidance practice under draft 21 CFR 10.115.

The US government supports the industry by granting traditional medicine research purposes; to help the industry grow and develop. The government also support small Business of Alternative and Complementary Medicine by regulating small business to operate their business conveniently. The support given by the government is one of the success factors that make the industry a growing industry.

The research that is conducted can be the preliminary research that hopefully will motivate the other researchers to develop similar research about the traditional medicine business in Indonesia.

2. Method
In this research, the author uses a survey as the primary data. The survey was distributed to the target respondent to answer several questions related to the variable of the optimization of traditional medicine business in Indonesia through an online survey with google forms as the survey platform. The survey was predicted to be collected around 7-10 days, with the distribution via WhatsApp and email with the attachment of the survey link.

Following the method of data collection, which is a survey, the target sample was distributed to the consumer and the prospective consumer of traditional medicine in Indonesia. According to Fraenkel & Wallen, 2012, a minimum of 100 correspondents is essential in descriptive studies, whereas 30 correspondents are essential for correlation studies. The author decided to set the target number of 100 correspondents, following the significance of the data is 95% (Fraenkel, Wallen, & Hyun, 2012).

The discussion revolves around the method of data collection, the scope of the research, including the target of the sample and the time frame and the location of the research, Also the questionnaire development of the data collection, variable of the measurement from the methods of data collection, and the data processing methodology that include: descriptive statistic, reliability test, Kolmogorov-Smirnov Test, and Correlation test.

2.1 Questionnaire Development
The question for the survey was divided into two groups questions, which is the general question containing the question of the profile of the correspondent related to their age, gender, spending, occupation, and the question related to the internal factors of the optimization of the traditional medicine business.

2.2 Reliability Test
In the reliability test, the consistency of the instrument of the questionnaire was analysed. The questionnaire that has a similar meaning measured the consistency of the answered question by the correspondent. The reliability of the instrument was from the measurement of Cronbach's alpha, with the range of 0 to 1. The acceptable level of Cronbach alpha is 0.6-0.7, and the point of 0.8 above consider a good reliable level.

2.3 Data Distribution Test
In this test, the distribution of the data was analysed using statistical testing of Kolmogorov Smirnov to determine whether the data is parametric or non-parametric.

3. Results
The findings author discovered the number of the valid sample is 155 people (Table 1); with the majority of the sample having monthly spending of more than Rp 5.000.000, then the author correlates the monthly spending of the samples with six variables, which are: Herbal or Traditional medicine product knowledge, Herbal or Traditional medicine product loyalty, Herbal or Traditional medicine product preference, Herbal or Traditional medicine product exclusivity, Herbal or Traditional Medicine product packaging safety, and Herbal or Traditional medicine product labelling preference.

Respectively each variable resulting correlation coefficient with Spearman's method of R= 0.79, R= 0.90, R= 0.46, R= 0.82, R= 0.69, and R= 0.82. In this method, the author finds that the correlation between monthly spending the product knowledge of R=0.79 shows a strong positive linear relationship; the higher the Herbal or Traditional medicine product knowledge that one person has, the higher his/her monthly spending.

The second variable of Herbal or Traditional Medicine product loyalty shows R= 0.90 with a strong positive linear relationship; those translate to the more loyalty towards Herbal or Traditional Medicine that one person has, the higher his/her monthly spending. The third variable of Herbal or Traditional Medicine product preference shows R= 0.46 with a moderate positive linear

relationship; those translate to the more choice of Herbal or Traditional Medicine product form that one person has, the higher his/her monthly spending.

Table 1. Respondent characteristics of the study

Characteristics	Total respondent (n)	Percentage (%)
Gender:		
Male	56	36
Female	98	63
Prefer not to say	1	1
Age:		
< 20 Years Old	6	4
21-35 Years Old	40	26
36-50 Years Old	18	11
>50 Years Old	91	59
Domicile:		
JABODETABEK/ Greater Jakarta Area	101	65
Outside JABODETABEK/ Greater Jakarta Area	53	34
Outside Indonesia	1	1
Occupation:		
Professionals	86	55
Private Company Employee	13	8
Government Worker	20	13
Freelancer	3	2
Student	22	14
Housewife	6	4
Entrepreneurs	4	3
Unemployed	1	1
Monthly Spending:		
< Rp 500,000 (< 33 USD)	9	6
Rp 500,000 – Rp 3,000,000 (33 USD – 199 USD)	35	23
Rp 3,000,000 – Rp 5,000,000 (199 USD – 331 USD)	33	21
> Rp 5,000,000 (> 331 USD)	78	50

The fourth variable that correlates with the monthly spending is the exclusivity of Herbal or Traditional medicine products with R= 0.82 with a strong positive linear relationship; those translate to the more exclusive the product of Herbal or Traditional medicine preferred by the person, the higher his/her monthly spending. The fifth variable correlating with monthly spending is the preference for Herbal or Traditional medicine packaging safety with R= 0.69 with a moderate positive linear relationship; those translate to the safety the packaging of Herbal or Traditional medicine has, the higher his/her monthly spending.

The last variable is the labelling information preference of Herbal or Traditional medicine with R= 0.82 with a strong positive linear relationship; those translate to the more information shown in the product of Herbal or Traditional medicine, the higher his/her monthly spending will be. Similarly to Spearman's correlation method, Pearson's correlation method shows the correlation coefficient of R= 0.57, R= 0.85, R= 0.43, R= 0.85, R= 0.75, and R= 0.84.

In this method, the author finds that the correlation between monthly spending and the product knowledge of the R=0.57 shows a moderate positive linear relationship; the higher the Herbal or Traditional medicine product knowledge that one person has, the higher his/her monthly spending. The second variable of Herbal or Traditional Medicine product loyalty shows R= 0.85 with a strong positive linear relationship; those translate to the more loyalty towards Herbal or Traditional Medicine that one person has, the higher his/her monthly spending. The third variable of Herbal or Traditional Medicine product preference shows R= 0.43 with a moderate positive linear relationship; those translate to the more choice of Herbal or Traditional Medicine product form that one person has, the higher his/her monthly spending. The fourth variable that correlates with the monthly spending is the exclusivity of Herbal or Traditional medicine products with R= 0.85 with a strong positive linear relationship; those translate to the more exclusive the product of Herbal or Traditional medicine preferred by the person, the higher his/her monthly spending.

The fifth variable that correlates with the monthly spending is the preference for Herbal or Traditional medicine packaging safety with R= 0.75 with a strong positive linear relationship; those translate to the more safety the packaging of Herbal or Traditional medicine has, the higher his/her monthly spending. The last variable is the labelling information preference of Herbal or Traditional medicine with R= 0.84 with a strong positive linear relationship; those translate to the more information shown in the product of Herbal or Traditional medicine, the higher his/her monthly spending will be. The difference between the correlation coefficient of each method is due to the different calculation methods. Though the differences are shown in each variable, the differences are insignificant except in the variable of Product knowledge.

4. Discussion
There is 160 sample in the survey, but 5 of the sample is invalid due to the qualification set in the first 2 question; the sample must experience or willingly experience consuming herbal or traditional medicine. Therefore, 155 valid samples can be analysed further in this research.

The data of the survey includes the characteristic of the correspondent, which is the gender, domicile, occupation, and monthly spending. The data was collected from the survey conducted to understand the sample's reaction toward specific attributes related to Herbal or Traditional medicine business optimization factors.

4.1 Respondent Characteristic
The respondent is limited to people that have experience or are willing to experience consuming herbal or traditional medicine products. The survey also limited the correspondent to respond once with one email.

4.1.1   Respondents Gender
The sample was dominated by female respondents, which 98 female samples, which makes the female respondents 63% of the samples. It is followed by 56 male respondents, which makes it 36% of the samples, and 1% or one person is unwilling to identify his or her gender.

4.1.2   Respondents Age
Respondents with age above 50 are the majority of the samples. The respondents above 50 are 91 samples, making the respondents above 50 years old 59% of the respondents. The respondent follows them with the age group of 21-35 years old with a sample of 40 respondents, which makes the age group of 21- 35 years old 26% of the samples. The third age group is 36-50 years old, with 18 respondents, which makes this age group 11% of the overall samples. The last sample came from the age group below 20 years old, with only six samples making it 4% of overall respondents.

4.1.3   Respondents Domicile
Most correspondents stay within JABODETABEK (Jakarta, Bogor, Depok, Tangerang and Bekasi) or the greater Jakarta area; with 101 samples, these respondents have 65% of the overall samples. They were followed by respondents that lived outside the JABODETABEK or greater Jakarta area, with 53 samples that make it 34% percent of the overall samples. The remaining 1% of the samples or one correspondent lived abroad.

4.1.4   Respondents Occupation
The occupation of the samples varies from professionals, private company workers, Government workers, Freelancers, Students, Entrepreneurs, and even the unemployed. The majority of the correspondent, with an overall sample percentage of 55% is, the professionals. The second group of occupations with 14% correspondents is a student, followed by 13% of government workers, 8% of private company employees, 4% of housewives, 3% correspondent entrepreneurs, followed the freelancer with 2% of the correspondent, and the last group of occupations with 1% correspondent is unemployed.

4.1.5   Respondents' Monthly Spending
The monthly spending of the correspondents is split into four groups. The majority of the correspondent led to the 4th group, with 50% of the correspondent has monthly spending more than 5 million IDR in a month, followed by the 2nd group, with 23% of correspondents with a monthly spending of 500 thousand IDR – 3 million IDR in a month, and 3rd group with 21% of the correspondent with the monthly spending of 3million IDR – 5 million IDR, and the last group with 6% correspondent with monthly spending less than 500 thousand IDR.

4.2.2.1. Question 1 Related to The Knowledge of Herbal or Traditional Medicine Product
The first question asked is, "How many Herbal or Traditional Products that You know?" The answer is divided into six choices which are:

• Less than 5 Products with coding number of (1)
• 5-10 Products with coding number of (2)
• 10-15 Products with coding number of (3)
• 15-20 products with a coding number of (4)
• 20-25 products with a coding number of (5)
• >30 products with a coding number of (6)

4.2.2.2. Question 2 related to The Loyalty of Herbal or Traditional Medicine Product
The second question asked is, "With various herbal or traditional medicine that You know, how many products that You still consume in Your daily life?" The answer to this question is divided into five answers which are:

• Only Consuming it once and not consuming it again with the coding number of (1)
• Only consumed one product until now with the coding number of (2)
• Still consumed 1-products until now with the coding number of (3)
• Still consumed 5-10 products until now with the coding number of (4)
• Still consumed more than 20 products with the coding number of (5)

4.2.2.3. Question 3 Related to The Preference for Herbal or Traditional Medicine Product
The third question asked is, "Which of the product do you prefer (Ashwagandha product in the form of a capsule which is simpler to consume, and Ashwagandha in the form of liquid or oil, more innovative, yet more complex in terms of usage) that You prefer?" The answer to the question is divided only into two choices which are:

• Ashwagandha in a form of capsule with the coding number of (1)
• Ashwagandha in a form of liquid or oil with the coding number of (2)

4.2.2.4. Question 4 Related to The Exclusivity of Herbal or Traditional Medicine Product
The fourth question asked is, "Which of the two products (Less exclusive herbal or traditional medicine product and more exclusive one) that You prefer?" The answer to the question is divided into two choices which are:

• Less exclusive cheaper herbal or traditional medicine products with the coding number of (1)
• Exclusive herbal or traditional medicine product with the coding number of (2)

4.2.2.5. Question 5 Related to The Preference of Herbal or Traditional Medicine Packaging Safety
The fifth question is, "Which of the three packaging is considered the safest?" The answer to this question is divided into three choices which are:

• Only normal bottles without any safety measurement with the coding number of (1)
• Bottle with special plastic sealing it with the coding number of (2)
• Bottle with a box with the coding number of (3)

4.2.2.6. Question 6 Related to The Preference of Herbal or Traditional Medicine Labelling Style
The sixth question is, "Which label of Herbal or Traditional medicine product that you prefer more? "The answer to the question is divided into two choices which are:

• Less informative labelling with the coding number of (1)
• Labelling with extra information that allows a customer to scan the barcode in the label with the coding number of (2)

The reliability test of the data was done using SPSS software. With the standard of error of Cronbach alpha or level of significance of 95% (Brown, 1999). The Cronbach alpha level of ≤ 0.35 is generally considered low, with the Cronbach alpha of 0.36 to 0.67 considered modest or moderate, whereas the Cronbach alpha of 0.68 to 1,0 consider strong or high reliability (Taylor, 1990).

The Cronbach alpha from the data tested showed the level of R = 0.89, which means the data tested is considered to have strong reliability. After the reliability of the data is tested, the data need to be tested the distribution of it. The Kolmogorov-Smirnov test is conducted to test the distribution of the data.

The Kolmogorov-Smirnov test is conducted to see the data distribution. The standard data distribution is considered parametric data, whereas if the data distribution is not normal, the data is considered non-parametric data. With the number of Asymp, Sig

of each factor 0,000 translates to abnormal data distribution. The data consider typically distributed, with a significant level above 0,05. Therefore, the data can only be analysed with the statistic non-parametric method.

With the data analysed previously by the Kolmogorov-Smirnov Test showing the result of data to be abnormally distributed, the abnormal distribution of the data can be analysed using the nonparametric method. The correlation of each factor is tested using the non-parametric bivariate correlation test, with the choice of 2 methods from Spearman and Pearson.

From Spearman's method, the highest correlation between independent and dependent factors leads to the factors of Product Loyalty, followed by the preference for product labelling and the exclusivity of the product. Similarly to Spearman's method, the Pearson method also shows those three factors with the highest correlation among the six tested factors. The difference in Pearson's method is that the first highest correlation leads to the product exclusivity factors, followed by product loyalty and the preference for labelling the product. Those three factors showed a substantial positive linear relationship value with a rate of 0.7 – 1.0 value; other factors tested also showed a moderate positive linear relationship with a rate of 0.3 – 0.7 (Ratner, 2017).

5. Conclusion

This study determined the development of the traditional medicine product that encourages the optimization of the industry and sets the optimized control system to evaluate the traditional medicine business. The research was supposed to continue in the focus group discussion phase. However, it was cancelled due to the health condition of the interviewees. However, the research can be improved by collecting a more significant sample and adding the focus group discussion with the interviewees as herbal or traditional medicine experts in Indonesia to understand better the factors related to the regulatory body involved.

The study limitation of this research is the timeline of the research to collect more data needed, and the research was conducted in 2021 in the middle of the pandemic of COVID-19. In conclusion, there is still improvement needed to achieve the optimization of the herbal or traditional medicine business in Indonesia. The method of improving it is by the process of socialization on a nationwide scale with the support of the government, the education of the market by entrepreneurs and the media, and lastly, the supporting regulation by each regulatory body.

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