ANALYSIS OF FACTORS THAT SHAPE THE PURCHASE DECISION OF DOMESTICALLY PRODUCED ULTRASOUND PRODUCTS AT PT. MHJ

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Abstract- **In order to support the improvement of the domestic medical equipment industry and supporting government programs, PT. MHJ needs to pay attention to what factors create customer purchasing decisions on USG products. This is very important for manufacturers or the domestic medical equipment industry to know, bearing in mind that there are still many negative assumptions about domestically produced goods. The purpose of this study is to find out what factors shape the purchasing decision of this domestically produced USG product. The population of this study were doctors from 10 hospitals and clinics that collaborated with PT. MHJ as many as 3.368 doctors, where the number of research samples was taken using a purposive technique with the criteria of users who want to take their time to fill out the questionnaire so that a total sample of 60 users is obtained. This study used a quantitative approach with a measuring tool in the form of a questionnaire and analyzed using the SPSS program. The results of the study found that there are 7 factors that create the purchase decision of USG products, namely product, supplier, technology, relationship, market, environment, and reliability factors.**

*Keywords***: Purchase decision, healthcare industry, healthcare device, and ultrasound**

1. Introduction

PT. MHJ itself has enough experience selling imported *ultrasonography* equipment since 1997 using the General Electric brand from America. Armed with existing experience, PT. MHJ participates in domestic ultrasound production, to support the improvement of the domestic health equipment industry and support government programs. To be competitive, here companies need to pay attention to the factors that determine customer purchasing decisions considering that there are still many negative assumptions about domestically produced goods. Judging from the pre-survey results, important factors according to ultrasound device users include product factors, supplier factors, market factors, relationship factors, and environmental factors. The majority of respondents see product factors and supplier factors as major factors in making purchasing decisions. Based on the above background, the researcher is interested in further analyzing what factors can shape the decision to purchase domestic ultrasound products at PT. MHJ. In this case, *the customer* in question is a hospital and clinic for the domestic ultrasound product.

2. Literature Review

2.1 Previous Research

The research conducted by Kuswibowo and Afifah (2022) entitled "Analysis of Factors Affecting Purchase Intention at PT MPPI Cikarang Indonesia", aims to identify factors that influence car component purchasing decisions at PT Multi Pratama Interbuana Cikarang.

Research from Ronauli & Indriani (2020) entitled "Analysis of Factors Influencing Consumer Preferences for Generic Drug Purchasing Decisions (Study on Consumers at Apotek Kimia Farma Pandanaran Kota Semarang)", aims to analyze the influence of consumer knowledge about generic drugs, reference groups, quality, and price on consumer preferences to buy generic drugs at Apotek Kimia Farma Pandanaran Kota Semarang.

The next research is a research from Khumpang &; Arunyanart (2019) entitled "Supplier Selection for Hospital Medical Equipment using Fuzzy Multicriteria Decision Making Approach". The goal is to find criteria in choosing the appropriate medical equipment supplier. The ROC (Rank Order Centroid) method is used for criteria weighting and fuzzy techniques to see preferences based on similarity with the ideal solution whose results will be used to select the optimal supplier. Findings were obtained that showed the main criteria in considering supplier selection, namely quality, price, reliability, agility, compliance, service, benefits/bargaining, and transportation/delivery.

2.2 Theoretical Basis

2.2.1 Consumer Behavior

This study uses the *grand theory* initiated by Kotler and Keller (2012) regarding consumer behavior. This consumer behavior reflects the dynamics of interaction that occurs due to the influence and awareness, behavior, and environment in which each individual exchanges aspects of life.

2.2.2 Purchasing Decision

Referring to the *Principle of Marketing* written by Kotler and Armstrong (2016), B2B buying behavior refers to the behavior carried out by organizations to buy goods and services that will be used to produce other goods or services to be sold or rented and purchasing decisions for B2B.

2.2.3 Product factors

This product factor relates to an object offered to the market with the aim of meeting market needs (Saputra & Syahrivar, 2018 and Bastani *et al.,* 2020).

2.2.4 *Supplier Factor* (Company)

The *supplier* factor (company) is a group of organizations both on a large and small scale that provide the needs of individuals or other groups (Saputra and Syahrivar, 2018).

2.2.4 Technology Factors

This technological factor relates to the use of a technology or system applied into the product to be produced to meet consumer needs (Kotler and Armstrong, 2016).

2.2.5 Relationship Factors

This relationship factor is a situation that influences and interdepends on each other (Saputra and Syahrivar, 2018).
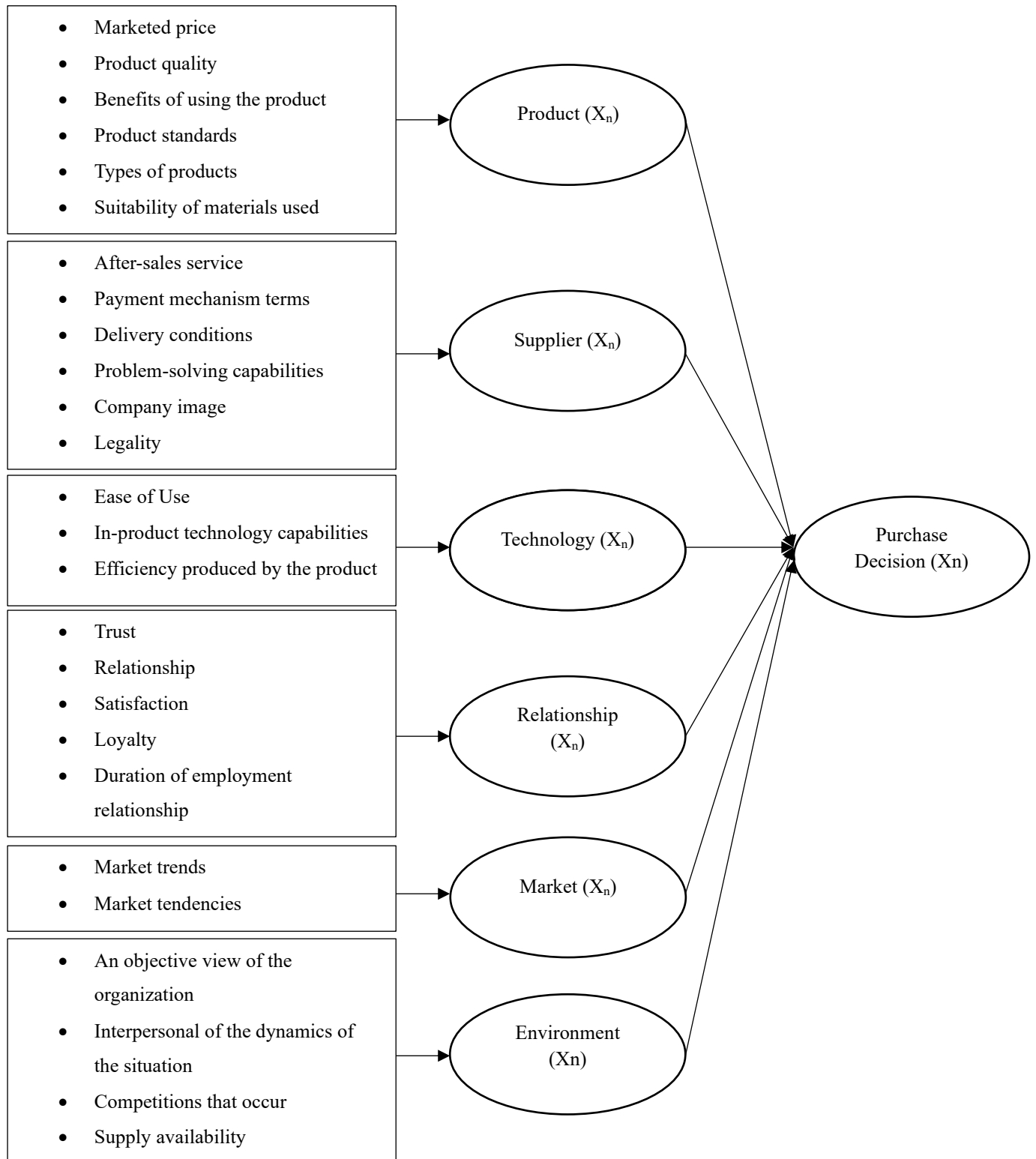
2.2.6 Market Factors

Market factors are a group of prospective buyers in an area who have desires and problems that can be solved by the company through the products produced (Saputra and Syahrivar, 2018).

2.2.7 Environmental Factors

This factor describes the external conditions that occur around the company and can have an impact both organizationally and interpersonally (Kotler and Armstrong, 2016).

3. Research Framework

- Marketed price
- Product quality
- Benefits of using the product
- Product standards
- Types of products
- Suitability of materials used

- After-sales service
- Payment mechanism terms
- Delivery conditions
- Problem-solving capabilities
- Company image
- Legality

- Ease of Use
- In-product technology capabilities
- Efficiency produced by the product

- Trust
- Relationship
- Satisfaction
- Loyalty
- Duration of employment relationship

- Market trends
- Market tendencies

- An objective view of the organization
- Interpersonal of the dynamics of the situation
- Competitions that occur
- Supply availability

Product (X_n)

Supplier (X_n)

Technology (X_n)

Relationship (X_n)

Market (X_n)

Environment (X_n)

Purchase Decision (X_n)

Figure 3.1 Research Model

Source: Processed by researchers (2023)

4. Research Methods

4.1 Research Approach

This research is a type of quantitative research conducted at PT. MHJ which is a domestic manufacturer of medical devices. Where this study will examine hospitals and clinics that have purchased products from PT. MHJ within the scope of Indonesian territory.

4.2 Population and Sample

The sample for the research was selected through purposive sampling. This indicates that the respondents were chosen based on certain criteria, including being present users, utilizing devices from PT. MHJ, and being ready to dedicate their time to answer the survey. In total, 60 individuals were selected as the sample size.

4.3 Data Collection Methods

The primary data of the research used a research instrument in the form of a questionnaire that was distributed directly to consumers from PT. MHJ with Likert scale measurement. Secondary data from literature, articles, journals, previous research, and written media related to this research topic.

4.4 Operational Definition of Factors

Table 4.1 Operational Definitions of Factors

Factor	Definition	Indicators
Product (X_n)	An object offered to the market to meet its needs (Saputra &; Syahrivar, 2018)	1. Price to be marketed 2. Product quality 3. Benefits of using the product 4. Product standards 5. Product Type 6. Suitability of materials used
Supplier (X_n)	A group of organizations both large and small scale that provide the needs of other individuals or groups (Saputra &; Syahrivar (2018) and Bastani (2020))	1. After-sales service 2. Payment mechanism terms 3. Delivery conditions 4. Problem-solving ability 5. *Company image* 6. Legality
Technology (X_n)	The use of a technological system applied into the product to be produced to meet consumer needs (Kotler and Armstrong, 2016)	1. Ease of Use 2. Technological capabilities in products 3. Efficiency resulting from the product
Relationship (X_n)	There are states of mutual influence and interdependence between one another (Saputra and Syahrivar, 2018)	1. Belief 2. Relationship 3. Satisfaction 4. Loyalty 5. Duration of employment relationship
Market (X_n)	A group of prospective buyers in a region who have desires and problems that can be solved by the company through the products produced (Saputra and Syahrivar, 2018)	1. *Trend* market 2. Market tendencies

Environment (X_n)	External conditions that occur around the company and can have an impact both organizationally and personally (Kotler and Armstrong, 2016)	1. An objective view of the organization 2. Interpersonal of the dynamics of the situation 3. Competitions that occur 4. Availability *Supply* 5. Economic conditions

Source: Processed by researchers (2023)

4.5 Data Analysis Methods

The data analysis used in this research used *Exploratory Factor Analysis* (EFA) *second order* with SPSS tools. The purpose of using EFA is to find out whether the construct can be explained by existing factors (Pituch and Stevens, 2016).

5. Result and Discussion

5.1 Characteristics of Respondents

Based on the survey results, it was found that the majority of respondents who were aged over 50 years, around 22 people or 36.7 percent, were senior doctors. Additionally, the majority of respondents, which were 20 people, had jobs as obstetricians. It was also observed that the majority of respondents, specifically 19 people, worked at Dr. Soetomo Hospital.

5.2 Description of Research Factors

The average result obtained for the product factor was 4.14. The average result obtained for the *supplier* factor is 3.975. The average result obtained for the *supplier* factor is 3.975. The average result obtained for the relationship factor was 3.36. The average result obtained for the technology factor was 3.81. The average result obtained for environmental factors was 4.298.

5.2 Data Analysis

Based on the Kaiser-Meyer Olkin (KMO) sampling feasibility test results of 0.724, it can be said that they are in line with the reference standard. Similarly, the results of Bartlett's Test Sphericity indicate a significance value below 0.05, which leads to the conclusion that the obtained data is suitable for factor analysis. *Anti-Image Matrices* show that the MSA value obtained by each variable is greater than 0.5 so that it can be said to be valid and the variable can be analyzed by factors.

5.3 Factor Analysis

Based on Total Variance Explained, all factors have an Eigen Value greater than 1. Therefore, the variance value can account for the 86.618% variability of the 27 indicators. The validation of this study showed 27 valid indicators, meaning that each statement item in the questionnaire could represent all seven factors that shape purchasing decisions.
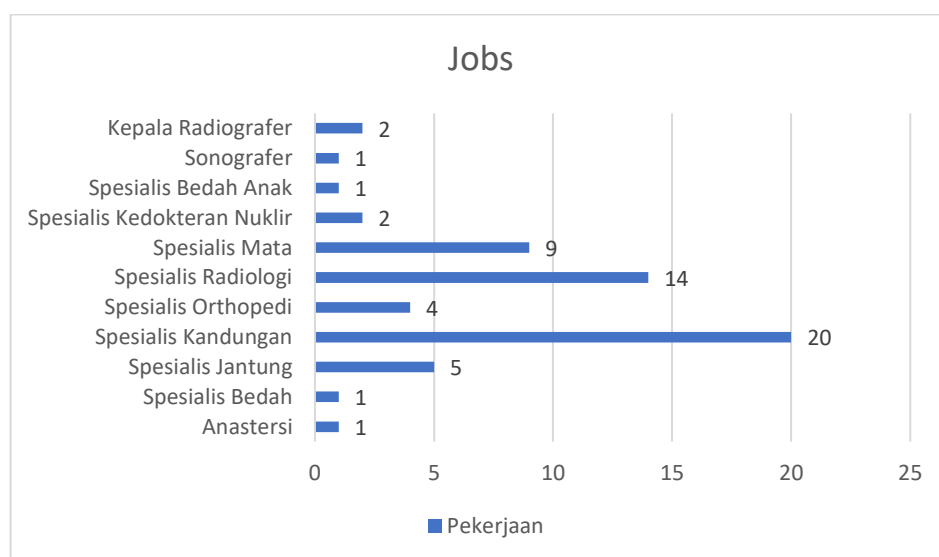
5.4 Description of Research Results

5.4.1 Characteristics of Respondents
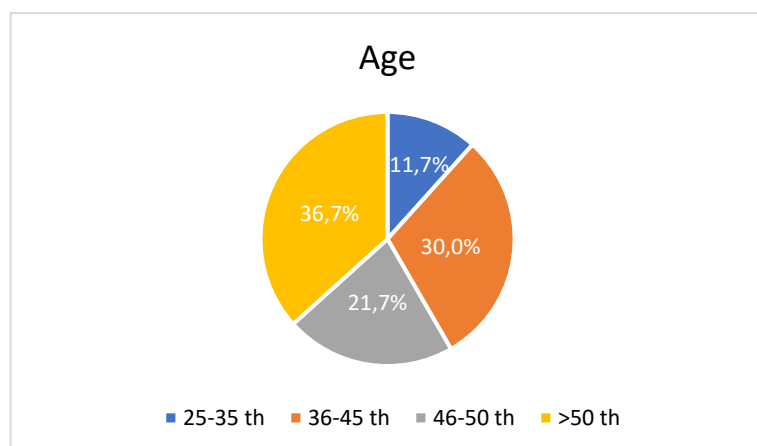
Figure 5.1 Respondent Age Graph
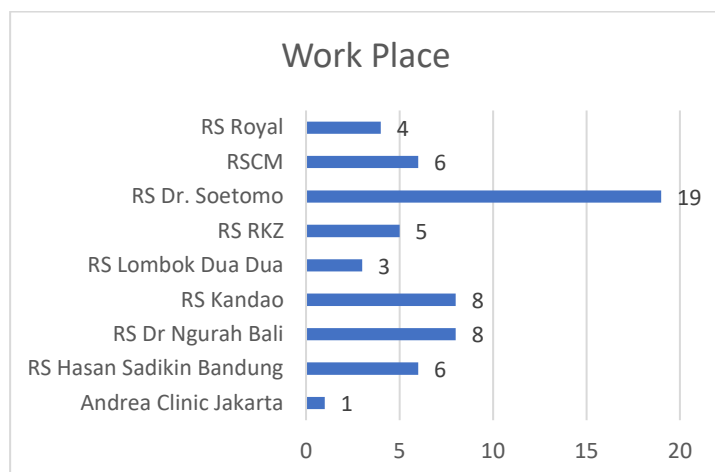
Source: Processed by researchers (2023)

The majority of respondents aged >50 years, namely 22 people or 36.7 percent. Furthermore, there were respondents aged 36-45 years, which was 18 people or 30 percent. Then in third place there were respondents aged 46-50 years as many as 13 people or 21.7%. Finally, there were respondents aged 25-35 years as many as 7 people or 11.7%.

Figure 5.1 Respondent Age Graph

Source: Processed by researchers (2023)

The majority of respondents have jobs as obstetricians as many as 20 people. Then, the next position was followed by respondents who had jobs as radiology specialists as many as 14 people, eye specialists as many as 9 people, heart specialists as many as 5 people and orthopedic specialists as many as 4 people. The rest were filled by respondents with jobs as nuclear medicine, surgeons, pediatric surgeons, cardiologists, anesthetists, and *sonographers*.

Figure 5.1 Respondent Age Graph

Source: Processed by researchers (2023)

The majority of respondents' workplaces were at Dr. Soetomo Hospital as many as 19 people. Then in the second position, respondents worked at Kandao Hospital and Ngurah Bali Hospital as many as 8 people each. Then followed by respondents who worked at RSCM and Hasan Sadikin Hospital Bandung with 6 people each. Respondents who worked at RKZ Hospital were 5 people, while those who worked at Royal Hospital were 4 people. Next for respondents who work at Lombok Dua Dua Hospital as many as 3 people and finally there is 1 respondent who works at Andrea *Clinic* Jakarta

5.5 Validity and Reliability

5.5.1 Instrument Validity Test

Table 5.1 Instrument Validity Test Result

Factor	Indicator	*Pearson Correlation*	Sig.	Result
Product (X_n)	$X_{1.1}$	0,934	0,000	Valid
	$X_{1.2}$	0,908	0,000	Valid
	$X_{1.3}$	0,918	0,000	Valid
	$X_{1.4}$	0,839	0,000	Valid
	$X_{1.5}$	0,356	0,005	Valid
	$X_{1.6}$	0,548	0,000	Valid
Supplier (X_n)	$X_{2.1}$	0,401	0,001	Valid
	$X_{2.2}$	0,472	0,000	Valid
	$X_{2.3}$	0,549	0,000	Valid
	$X_{2.4}$	0,727	0,000	Valid
	$X_{2.5}$	0,675	0,000	Valid
	$X_{2.6}$	0,704	0,000	Valid
Technology (X_n)	$X_{3.1}$	0,957	0,000	Valid
	$X_{3.2}$	0,947	0,000	Valid
	$X_{3.3}$	0,930	0,000	Valid
Relationship (X_n)	$X_{4.1}$	0,945	0,000	Valid
	$X_{4.2}$	0,830	0,000	Valid
	$X_{4.3}$	0,967	0,000	Valid
	$X_{4.4}$	0,971	0,000	Valid
	$X_{4.5}$	0,974	0,000	Valid
Market (X_n)	$X_{5.1}$	0,963	0,000	Valid
	$X_{5.2}$	0,963	0,000	Valid
Environmental (X_n)	$X_{6.1}$	0,914	0,000	Valid
	$X_{6.2}$	0,896	0,000	Valid
	$X_{6.3}$	0,966	0,000	Valid

| | $X_{6.4}$ | 0,911 | 0,000 | Valid |
| | $X_{6.5}$ | 0,881 | 0,000 | Valid |

Source: Processed by researchers (2023)

Based on the results of the validity test in Table 5.1, it shows that all statement instruments on product, *supplier*, technology, relationship, market, and environmental factors have a significance value of 0.00. This can be interpreted that all statements on product, supplier*,* technology, relationship, market, and environmental factors can be said to be valid because they have a significance value below 0.05.

5.5.2 Instrument Reliability Test

Tabel 5.2 Instrument Reliability Test Result

Variable	*Cronbach Alpha*	Indicator	*Cronbach Alpha if item deleted*	Result
Product (X_n)	0,865	$X_{1.1}$	0,795	Reliable
		$X_{1.2}$	0,804	Reliable
		$X_{1.3}$	0,802	Reliable
		$X_{1.4}$	0,827	Reliable
		$X_{1.5}$	0,901	Reliable
		$X_{1.6}$	0,880	Reliable
Supplier (X_n)	0,634	$X_{2.1}$	0,653	Reliable
		$X_{2.2}$	0,637	Reliable
		$X_{2.3}$	0,600	Reliable
		$X_{2.4}$	0,521	Reliable
		$X_{2.5}$	0,546	Reliable
		$X_{2.6}$	0,559	Reliable
Technology (X_n)	0,940	$X_{3.1}$	0,896	Reliable
		$X_{3.2}$	0,907	Reliable
		$X_{3.3}$	0,928	Reliable
Relationship (X_n)	0,965	$X_{4.1}$	0,954	Reliable
		$X_{4.2}$	0,981	Reliable
		$X_{4.3}$	0,947	Reliable
		$X_{4.4}$	0,946	Reliable
		$X_{4.5}$	0,945	Reliable
Market (X_n)	0,921	$X_{5.1}$		Reliable
		$X_{5.2}$		Reliable
Environmental (X_n)	0,949	$X_{6.1}$	0,937	Reliable
		$X_{6.2}$	0,941	Reliable
		$X_{6.3}$	0,923	Reliable
		$X_{6.4}$	0,937	Reliable
		$X_{6.5}$	0,945	Reliable

Source: Processed by researchers (2023)

Based on the results of reliability tests on all questionnaire instruments, it shows that product, supplier, technology, relationship, market, and environmental factors have a *Cronbach alpha value of >0.6.* This shows that all instruments on the factors in this study can be said to be reliable. Based on the elaboration of the results of the validation and reliability tests that have been carried out, data processing can be continued.

5.6 Data Analysis Results

5.6.1 Kaiser Meyer Olkin Test (KMO)

In the next stage, a sampling feasibility test was carried out using *Kaiser-Meyer Olkin* (KMO) testing whose results are shown through the table below:

Table 5.3 *Kaiser-Meyer Olkin* Test Result (KMO)

Kaiser-Meyer Olkin (KMO)	0,724

Source: Processed by researchers (2023)

Based on the results of tests that have been carried out show a KMO value of 0.724 where the results are in accordance with the reference standard expressed by Widardjono (2015), which is above 0.5.

5.6.2 Barttlett's Test Sphericity

Table 5.4 *Barttlett's Test Sphericity* Test Result

Bartlett's Test of Sphericity	
Sig.	0,000

Source: Processed by researchers (2023)

Furthermore, the results of *Barttlett's Test Sphericity* show a significance value below 0.05 so that it can be concluded that the data obtained can be used for factor analysis

5.6.3 *Measure of Sampling Adequacy* (MSA) Test

Then in the next stage, the correlation value between variables can be seen through the results in the *Anti-Image Matrices* table. According to Wardjono (2015), to see which factors are worthy of being a factor, it must have a strong correlation. If the value is greater than or equal to 0.5, then the factor forming the variable can be said to be valid and there is no reduced factor. The MSA value is between 0 and 1 with the following criteria:

1. MSA=1, items can be predicted without errors by other items

2. MSA > 0.5, items can be predicted and further analyzed

3. MSA < 0.5, items are unpredictable and cannot be analyzed further

Table 5.5 Value of *Measure of Sampling Adequacy* (MSA)

Factor	Indicator	Nilai MSA
X_n	$X_{1.1}$	0,697
	$X_{1.2}$	0,689
	$X_{1.3}$	0,728
	$X_{1.4}$	0,643
	$X_{1.5}$	0,731
	$X_{1.6}$	0,686
X_n	$X_{2.1}$	0,591
	$X_{2.2}$	0,622
	$X_{2.3}$	0,662
	$X_{2.4}$	0,624
	$X_{2.5}$	0,597
	$X_{2.6}$	0,558
X_n	$X_{3.1}$	0,711
	$X_{3.2}$	0,757
	$X_{3.3}$	0,786
X_n	$X_{4.1}$	0,791
	$X_{4.2}$	0,833
	$X_{4.3}$	0,801
	$X_{4.4}$	0,766
	$X_{4.5}$	0,764
X_n	$X_{5.1}$	0,618

	$X_{5.2}$	0,580
	$X_{6.1}$	0,767
	$X_{6.2}$	0,789
X_n	$X_{6.3}$	0,796
	$X_{6.4}$	0,785
	$X_{6.5}$	0,803

Table 5.6 *Total Variance Explained* Test Result

Total Variance Explained

Component		Initial Eigenvalues			Extraction Sums of Squared Loadings		
		Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
	1	6,816	25,244	25,244	6,816	25,244	25,244
	2	4,612	17,082	42,326	4,612	17,082	42,326
	3	3,878	14,363	56,689	3,878	14,363	56,689
	4	2,821	10,448	67,137	2,821	10,448	67,137
	5	2,460	9,111	76,248	2,460	9,111	76,248
	6	1,493	5,529	81,778	1,493	5,529	81,778
	7	1,307	4,840	86,618	1,307	4,840	86,618
	8	,583	2,158	88,776			
	9	,469	1,737	90,513			
	10	,372	1,379	91,892			
	11	,337	1,248	93,140			
	12	,308	1,139	94,279			
dime	13	,259	,961	95,240			
nsio	14	,216	,801	96,041			
n	15	,184	,681	96,721			
	16	,155	,575	97,297			
	17	,132	,488	97,785			
	18	,109	,403	98,187			
	19	,092	,340	98,527			
	20	,080	,295	98,822			
	21	,074	,273	99,095			
	22	,069	,256	99,352			
	23	,051	,190	99,542			
	24	,045	,168	99,710			
	25	,042	,157	99,866			
	26	,019	,070	99,937			
	27	,017	,063	100,000			

Extraction Method: Principal Component Analysis.
Source: Processed by researchers (2023)

The *Total Variance Explained* table is a component that can be used as a factor if the component has an *Eigen Value* greater than 1. This is shown through *components 1-7* with the following values:

1. The amount of the first factor variance value is 6.816
2. The value of the second factor variance is 4.612
3. The amount of the third factor variant value is 3.878
4. The magnitude of the fourth factor variant value is 2.821
5. The value of the fifth factor variance is 2.460
6. The value of the sixth factor variance is 1.493
7. The magnitude of the seventh factor variant value is 1.307

Looking at the results of this information, it can be concluded that there are seven factors formed. Based on all these factors, the variance value can explain the 86.618% variability of the 27 indicators. The validation of this study showed 27 valid indicators, meaning that each statement item in the questionnaire could represent all seven factors that shape purchasing decisions. After knowing the number of factors that will be formed, then proceed to the next stage to ensure the members who are included in these factors. This information is shown through the Component Matrix and *Rotated Component Matrix* tables.

Table 5.7 *Component Matrix* Test Result

Component Matrixª

	Component						
	1	2	3	4	5	6	7
X11	,074	,707	,161	,623	,067	-,027	-,035
X12	,167	,693	,005	,600	,161	,011	-,052
X13	,130	,679	,149	,655	-,068	,023	-,041
X14	,248	,648	-,023	,601	-,084	,098	-,007
X15	,024	,578	,256	-,510	,220	,000	,240
X16	-,044	,689	,268	-,278	,315	-,126	-,205
X21	,154	,570	,216	-,473	,130	,140	,048
X22	,001	,662	,146	-,477	,256	,064	,045
X23	,101	,669	,197	-,512	,289	,116	-,018
X24	,164	-,242	-,413	,174	,747	,240	,053
X25	,095	-,230	-,374	,175	,704	,203	,264
X26	,110	-,254	-,426	,163	,744	,201	-,011
X31	,741	-,055	,259	,013	,113	-,419	,334
X32	,706	-,029	,183	,110	,091	-,402	,430
X33	,736	-,198	,094	,050	,092	-,386	,366
X41	,837	-,240	,278	-,057	,124	,019	-,243
X42	,756	-,135	,280	,084	-,103	,015	-,166
X43	,858	-,161	,240	-,023	,092	,090	-,321
X44	,865	-,214	,184	-,059	,078	,081	-,329
X45	,843	-,214	,276	-,078	,069	,055	-,334
X51	,471	-,075	,415	,011	-,256	,616	,319
X52	,286	-,109	,436	,060	-,322	,586	,417
X61	-,403	-,210	,740	,134	,254	-,183	-,032
X62	-,453	-,270	,674	,158	,218	,001	-,002
X63	-,558	-,219	,709	,135	,222	-,119	-,003
X64	-,532	-,289	,639	,069	,262	,043	,027
X65	-,544	-,236	,620	,199	,152	,117	-,083

Extraction Method: Principal Component Analysis.

7 components extracted.

Source: Processed by researchers (2023)

Table 5.8 *Rotated Component* Result

	Rotated Component						
	1	2	3	4	5	6	7
$X_{1.1}$	-0,04	0,055	0,148	0,945	-0,043	0,044	-0,029
$X_{1.2}$	0,006	-0,079	0,153	0,922	0,106	0,036	-0,063
$X_{1.3}$	-0,001	-0,012	0,067	0,956	-0,12	0,023	0,051
$X_{1.4}$	0,03	-0,21	0,045	0,895	-0,037	0,023	0,104
$X_{1.5}$	-0,115	0,014	0,846	0,002	-0,071	0,156	0,08
$X_{1.6}$	0,042	0,122	0,775	0,271	-0,091	-0,066	-0,282
$X_{2.1}$	0,078	-0,096	0,784	0,052	-0,099	-0,006	0,123
$X_{2.2}$	-0,071	-0,063	0,86	0,085	-0,025	-0,034	-0,025
$X_{2.3}$	0,06	-0,065	0,915	0,087	-0,008	-0,053	0,002
$X_{2.4}$	0,095	-0,08	-0,081	-0,018	0,937	0	-0,07
$X_{2.5}$	-0,066	-0,042	-0,073	-0,032	0,900	0,128	0,022
$X_{2.6}$	0,085	-0,061	-0,096	-0,037	0,914	-0,044	-0,144
$X_{3.1}$	0,441	-0,056	0,077	0,049	-0,004	0,843	0,053
$X_{3.2}$	0,33	-0,101	0,014	0,122	0,033	0,869	0,094
$X_{3.3}$	0,398	-0,15	-0,084	-0,031	0,087	0,826	0,064
$X_{4.1}$	0,906	-0,051	0,013	-0,053	0,076	0,266	0,102
$X_{4.2}$	0,759	-0,09	-0,081	0,1	-0,105	0,261	0,187
$X_{4.3}$	0,937	-0,115	0,026	0,03	0,065	0,17	0,112
$X_{4.4}$	0,941	-0,159	-0,007	-0,035	0,075	0,165	0,093
$X_{4.5}$	0,953	-0,082	0,021	-0,045	0,02	0,181	0,095
$X_{5.1}$	0,356	0,007	0,047	0,04	-0,071	0,085	0,896
$X_{5.2}$	0,168	0,098	-0,027	0,025	-0,128	0,086	0,919
$X_{6.1}$	-0,013	0,922	0,015	-0,016	-0,089	0,073	-0,076
$X_{6.2}$	-0,063	0,888	-0,053	-0,046	-0,022	-0,048	0,062
$X_{6.3}$	-0,149	0,954	-0,01	-0,043	-0,091	-0,022	-0,042
$X_{6.4}$	-0,133	0,895	-0,004	-0,137	0,026	-0,094	0,069
$X_{6.5}$	-0,107	0,86	-0,091	-0,001	-0,041	-0,224	0,09

Source: Processed by researchers (2023)

Based on Table 5.13 and Table 5.14, it can be seen that there are seven factors formed. Based on the results of the *rotated component matrix* test, the members of each factor are concluded as follows:

1. Factor 1: X 4.1, X 4.2, X 4.3, X 4.4, X $_{4.5}$ (Relationship Factor)
2. Factor 2: X 6.1, X 6.2, X 6.3, X $_{6.4}$, X $_{6.5}$ (Environmental Factors)
3. Factor 3: X$_{1.5}$, X 1.6, X 2.1, X 2.2, X $_{2.3}$ (Reliability Factor)
4. Factor 4: X 1.1, X 1.2, X 1.3, X $_{1.4}$ (Product Factor)
5. Factor 5: X 2.4, X 2.5, X$_{2.6}$ (*Supplier Factor*)
6. Factor 6: X 3.1, X 3.2, X$_{3.3}$ (Technology Factor)
7. Factor 7: X 5.1, X$_{5.2}$ (Market Factor)

Table 5.3 Comparison of Factors Before and After the Study

Factors Before Research	Post-Research Factors
Product Factors: X1.1 Price to be marketed X1.2 Product quality X1.3 Benefits of using the product X1.4 Product standards X1.5 Product type X1.6 Conformity	Relationship Factors X4.1 Trust X4.2 Relationships X4.3 Satisfaction X4.4 Fidelity X4.5 Duration of employment relationship
Supplier Factors: X2.1 After-sales service X2.2 Payment mechanism terms X2.3 Delivery conditions X2.4 Troubleshooting capabilities X2.5 Corporate image X2.6 Legality	Environmental Factors: X6.1 An objective view of the organization X6.2 Interpersonal situation dynamics X6.3 Ongoing competitions X6.4 Supply availability X6.5 Economic conditions
Technology Factors: X3.1 Ease of Use X3.2 Technology capabilities in products X3.3 Efficiency resulting from the product	Reliability Factors: X1.5 Product type X1.6 Conformity X2.1 After-sales service X2.2 Payment mechanism terms X2.3 Delivery conditions
Relationship Factors X4.1 Trust X4.2 Relationships X4.3 Satisfaction X4.4 Fidelity X4.5 Duration of employment relationship	Product Factors: X1.1 Price to be marketed X1.2 Product quality X1.3 Benefits of using the product X1.4 Product standards
Market Factors: X5.1 Market trends X5.2 Market tendencies	*Supplier Factors*: X2.4 Troubleshooting capabilities X2.5 Corporate image X2.6 Legality
Environmental Factors: X6.1 An objective view of the organization X6.2 Interpersonal situation dynamics X6.3 Ongoing competitions X6.4 Supply availability X6.5 Economic conditions	Technology Factors: X3.1 Ease of Use X3.2 Technology capabilities in products X3.3 Efficiency resulting from the product
N/A	Market Factors: X5.1 Market trends X5.2 Market tendencies

Source: Processed research (2023)

5.4 Discussion

5.4.1 Relationship Factors

The relationship in this study is the first or most dominant factor that shapes purchasing decisions. It can be seen from the % *value of variance factor of* 25.244%, which means that the relationship factor contributes 25.244% in forming purchasing decisions. This relationship factor has 5 indicators which include X 4.1 (trust), X 4.2 (relationship), X 4.3 (satisfaction), X 4.4 (loyalty), and X 4.5 (duration of employment relationship). The indicator on the relationship factor that has the highest average value is relation.

5.4.2 Environmental Factors

The environment in this research is the third forming factor in shaping purchasing decisions which can be seen from the value of *% of variance factor*. It was obtained by 14.363% value from *% of variance factor* which means that environmental factors contribute 14.363% in shaping purchasing decisions. Environmental factors have indicators that include X 6.1 (objective view of the organization), X 6.2 (interpersonal dynamics of the situation), X 6.3 (competition that occurs), X6.4 (availability of supply), and X6.5 (economic conditions). The indicator on environmental factors that has the highest average is supply availability.

5.4.3 Reliability Factor

In this research, there is a new factor that is the second largest factor that contributes to shaping purchasing decisions. It can be seen from *the % of variance* factor value of 17.082% which means that the reliability factor contributes 17.082% in forming purchasing decisions which include indicators X 1.5 (product type), X 1.6 (suitability), X 2.1 (after-sales service), X 2.2 (payment mechanism terms), and X 2.3 (delivery conditions). The indicator with the highest *mean* value lies in the indicator of the terms of the payment mechanism.

5.4.5 Product Factors

The products in this research are the fourth factor that shapes purchasing decisions. It can be seen from the % of *variance factor value of* 10.448% which means that product factors contribute 10.448% in forming purchasing decisions which include indicators X 1.1 (price to be marketed), X 1.2 (product quality), X 1.3 (benefits of using products), and X 1.4 (product standards). The indicator that has the highest *mean* value lies in the indicator of the benefits of using the product.

5.4.6 *Supplier Factors*

Suppliers in this study are the fifth forming factor in shaping purchasing decisions. It can be seen from the % of variance factor value of 9.111% which means that supplier factors contribute 9.111% in forming purchasing decisions which include indicators X2.4 (problem solving ability), X2.5 (company image), and X2.6 (legality). The indicator that has the highest mean value lies in the company's image indicator.

5.4.7 Technology Factors

Technology in this research is the sixth factor in its contribution to shaping purchasing decisions. It can be seen from the % of *variance factor* value of 5.529% which means that technology factors contribute 5.529% in forming purchasing decisions which include indicators X 3.1 (ease of use), X 3.2 (technological capabilities in products), and X3.3 (efficiency resulting from products). The indicator that has the highest *mean* value lies in the efficiency of the resulting product.

5.4.8 Market Factors

The market in this research is the last factor in its contribution to shaping purchasing decisions. It can be seen from the % of *variance factor value of* 4.840% which means that market factors contribute 4.840% in forming purchasing decisions which include indicators X5.1 (market trend), and X5.2 (market tendency). The indicator that has the highest *mean* value lies in the market tendency.

6. Conclusion and Suggestion

6.1 Conclusion

Based on data analysis and discussion, it can be concluded that:

1. This research starts from 6 factors, namely product, *supplier,* technology, relationship, market and environmental factors. After a factor analysis test, 7 factors formed the purchase decision of ultrasound products.

2. A new factor formed from the results of the factor analysis test is the reliability factor.

3. The factors forming the purchase decision of ultrasound products in this study are relationship factors, reliability, environment, product*, supplier,* technology, and market.

6.2 Suggestion

1. For the next researcher

    a. Further research can use different methods and analytical tools, for example by using SEM PLS.

    b. Future research can add other factors that are not contained in this study so that it can complement this study.

    c. Further research can be conducted on new study based on this research, for example by conducting research that looks at the management side.

2. For companies

    a. PT. MHJ needs to maintain relations with users as well as hospitals that collaborate by doing marketing both digitally and conventionally and conducting education.

    b. PT. MHJ must pay more attention to the suitability of the equipment owned, both from the specification sheet listed on the tool, after-sales of the tool, payment mechanism, to delivery. In addition, it is necessary for PT. MHJ to obtain CPAKB certification (*Cara Pembuatan Alat Kesehatan dan Perbekalan Kesehatan Rumah Tangga yang Baik*) issued by the Ministry of Health.

    c. PT. MHJ needs to do good planning to determine composition specifications and also plan stock goods to meet demand.

    d. PT. MHJ can conduct market research well so that the products created can answer demands and needs of users.

    e. Image company of PT. MHJ needs to be properly maintained by providing training to the team in order to quickly solve the problem that occurs.

    f. Companies can follow international exhibitions to earn updates about trend technology and conduct Focus Discussion Groups between users and teams from PT. MHJ so that companies can understand the features and technology so that they can be accepted by user.

    g. PT. MHJ should be able to see trends and market tendencies in the current era through updated information from international exhibitions and also input from the user-owned side.

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