THE INFLUENCE OF DISTANCE, PRODUCT PRICE, BRAND IMAGE, AND SERVICE QUALITY ON CUSTOMER CHOICE OF COMPLEX PT. NUBIKA JAYA AT MINI MARKET ALFAMART, ALFAMIDI AND INDOMARET IN BLOK SONGO, KOTAPINANG

Ucok Erwinanto Malau[1]
Universitas Labuhanbatu, Rantauprapat, Indonesia
u.e.m221998@gmail.com

Junita Lubis[2]
Universitas Labuhanbatu, Rantauprapat, Indonesia
junitayuri@yahoo.com

Nurintan Asyiah Siregar[3]
Universitas Labuhanbatu, Rantauprapat, Indonesia
nurintanasyiahsiregar@gmail.com

Abstract

The Retail in Indonesia has appeared one by one over time, including in rural areas like the Blok Songo Area, a village in the Kotapinang District of the North Sumatra Province. In Blok Songo, there are retail companies Alfamart, Alfamidi, and Indomaret. This creates competition that confuses each customer. The strategy implemented by retail companies makes customers more attached to their respective products; however, the obstacle that frequently arises for customers is the difference in distance, price, brand image, and service quality, which causes customer dissatisfaction. As a result, the purpose of this study have two sides. first, to investigate the factors that influence customers' decisions regarding Alfamart, Alfamidi, and Indomaret as shopping destinations. Second, to know a significant impact on customers from the Complex where residents are angaged in the efficient operation of a retail busiess, by taking an interviews with the complex's authorities in order to gather data that will be beneficial to every retailerin developing, change and even create a new marketing tecniques that link the key feature that significantly affect visitor interest. The Analytical Hierarchy Process is the method that is utilized and the last result of the alternatives Alfamidi Obtaining 0,51925, Indomaret 0,31002 and Alfamat with 0,17073 score.

Keywords: Distance, Cost, Brand Image, and Service Quality

INTRODUCTION

The grouping of retail class business in Indonesia can be reviewed based on their nature, there is traditional retail and there are also those that are modern. The main characteristic of traditional retail is that management is usually relatively simple, does not involve too much modern technology systems, location is not optimal. Where usually managed locations generally include strategic sales locations, places that are easy to reach, safe. While the characteristics of modern retail are modern management, of course modern technology, strong capital, fixed prices, sophisticated facilities, payments can use credit cards, debit cards or e-money, self-service principles, lots of promotional activities, discounts and gifts. generally managed by the private sector, mostly in urban areas, the condition of buildings is generally clean and well maintained, and upper middle class consumers (Purnomo., 2013) in (Roidelindho and Novrianti., 2018) .

The presence of several retail in a place automatically creates the comparisonabout the critera, and the critera greatly affect the customer's interest in visiting those retail that is Distance, Product Price, Brand Image, service quality etc, but in this case the author takes only Distance, Product Price, Brand Image, service quality criteria and the final one will be make decision.

Decisions are the last step in making choices that previously had multiple choices where the choice has similarity from various aspects so that it reaches an efficient point in the decision (Abdul et al., 2022) . The emergence of a retail company in Blok Songo Village actually led to comparisons within the community, especially residents in the PT. Nubika JAYA, behind that the emergence of this retail company makes it easier for the public to find the various products they want to look for, but the similarity and availability of products from various retailers is a decision that is taken into consideration by customers in taking efficiency steps such as lower price or nearest location reach. This efficiency is like the promotions found in these retailers. Promotion is a delivery to audiences in terms of providing information that convinces consumers about the product, whether in the form of goods or in the form of services (Fathin, Cahaya, and Erasashanti., 2022) .

Location affordability is also a factor that influences the characteristics of customers who prioritize speed in getting the desired product, Many customers prefer a higher price but a location that is more efficiently affordable than a lower price but a longer distance (Agung., 2019) , price is the accumulated price of an item that is applied to the product itself, both goods and services. in this case there are 3 retail targets located in Blok Songo

village, which is the village where the PT. Nubika Jaya is located. Broadly speaking, the services provided at these three retailers are not solely the same because there are limited availability of needs such as payment methods, e-wallet top up services, market place payments which are often already part of the payment method used. exist in the market place.

Almost 90% of online transaction actors in Indonesia apart from being buyers, on average, this ease of internet access makes almost all workers have side jobs or main jobs, hence features in technology support modern retail(Fatimah Pohan., 2021In general , service quality is a form of customer perception of the level of service for goods and services, customers automatically evaluate their perception of the services provided (Dyah and Ricky., 2022) .

RESEARCH METHOD

The method used in analyzing this research is to use a research method created by Thomas L. Saati in the 1971-1975 period, namely the AHP (Analytical Hierarchy Process) Method, (Rahmayani et al., 2019) AHP is a technical solving in an unorganized state of being part of components that will form a hierarchy that obtains numerical starting processing that aims to find the relative subjectiveness of each variable so that each variable gets its own value and seeks the highest priority from several alternatives. (Ia Karuia and Ahmad, 2021) The AHP method can be used to manage data from one respondent, and the benefits of using AHP are based on ranking above alternative values. (Yusman et al. nd ., 2022) Basically the AHP principle works in simplifying a complex problem that is not structured strategically or dynamically into its parts into a hierarchy. The purpose of AHP itself is to conclude the maximum priority of several existing alternatives, (Kosim et al., 2022). The basic decision-making technique uses AHP with the aim of covering all the shortcomings of the previous models. (Rahmayani et al., 2019) AHP aims to prioritize the various alternative options available. There are 4 axioms in AHP analysis, including:

1. Reciprocal Comparison is the determination of the choice of decisions from comparisons.

2. Independence is analogous to that it is the object that influences the non-alternative criteria.

3. Homogeneity means that systems have the same properties and their elements can be compared with one another.

4. Expectation is a hierarchical picture in describing research by explaining the chronology of the research, including research design, research procedures (in the form of algorithms, pseudocode or other), how to test and data acquisition. The description of the research program must be supported by references, so that the explanation can be accepted scientifically

In solving problems with AHP :

1. Formatting a hierarchical structure aims to make it easier to understand a system of various elements that are arranged in a hierarchical form.

Figure 1. Hierarchical structure 2021
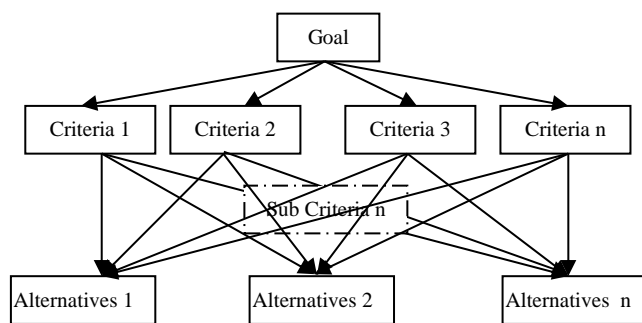
2. Making Criteria and Alternatives, comparing in pairs (Saaty., 2008) in (Sutoyo., 2019) . In terms of problems that exist from a scale of 1 to 9 is the opinion that can be presented with the best scale, the value of the importance of the scale is as follows.

Table1. Comparison criteria

Intensity	Information
1	Both elements are equally important
3	One element is slightly more important than the other
5	One element is more important than the other elements
7	One element is clearly more important than the other elements
9	One element is absolutely important than the other elements
2, 4, 6, 8	The values between the two considerations are close together

3. determining priority for each   criterion and alternative by conducting pairwise comparisons to review the weights and priorities calculated by the matrix method.

4. Logical consistency (Astuti and Suyanto., 2011) in (Rahmayani et al., 2019) has two meanings. First, grouping similar objects if there are similarities. Second, there is involvement between objects that are based on a criterion. the target of the Value of the consistency ratio should be 10% or less. In other references it is stated that the results of the calculation of the inconsistency value are between 0 and 1. If it is more than 10%, the judgments that have been made may tend to be random and may need to be corrected.

The stages in making this article went through various processes by making decisions that decided that the PT. Nubika Jaya became the object of research. The data collection process was carried out by conducting interviews with 2 experts in the PT complex PT.Nubika Jaya, namely Ahmad Subandi as a leader of hamlet and Sahat Samosit as an examination section , because the hamlet and examination section know more about the location points, and the habits of the society in this place with the situations and conditions contained in the complex as it should be a location PT. Nubika Jaya is located. So in collecting data the researchers reviewed what was in the PT. Nubika Jaya such as

   a. The most important between distance and produc price
   b. The most important between distance and brand image
   c. The most important between distance and service quality
   d. The most important between produc price and brand image
   e. The most important between produc price and service quality
   f. The most important between brand image and service quality

In this case also compare between the retail relate to above criteria

   a. Alfamart to Alfamidi
   b. Alfamart to Indomaret
   c. Alfamidi to Indomaret

The content validation was carried out using the questionnaire interview method, testing the reliability of the test instrument using the Super Decision by inputting the collected data. Super Decision is a software that supports collaborative decision and a hardware system that facilitates groups to make more efficient, analytical, and justifiable decisions. Enables real-time interaction from the management team to reach a consensus decision. The method used in the Super Decision program is the Analytical Hierarchy Process (AHP) by creating a hierarchy in complicating the arrangement of Goal criteria and

alternatives, counting validity and calculating the durability of the sensitivity analysis output of decision making (Ahp., 2020) .

According to previous research entitled (Marina et al., 2021) "Decision Support System for Supplier Selection of Retail Products Using the Analytical Hierarchy Process Method " by Friska Marina Uli Hasiani, Tuti Haryanti, Rinawati, Laela Kurniawati in 2021 with the help of Expert Choice software with the dimensions of Quality, Price , Delivery, Service and payment as well as alternatives available are Zongshan Yijianxing, Tonbay industrry, EP Pack Industrial limited, Foshan Shunde, Dongguan Jiaxian Industrial. With a hierarchical arrangement and the core input is expert perception with the aim of facilitating decision making, in this case it is stated that quality is the most influential criterion for retail selection with a weight value of 0.28, the price of goods with a weight value of 0.27 and the most prioritized supplier is CV Garuda Jaya supplier with a weight value of 36%, where in this research the quality of the goods is the main priority criterion, different from the results of this study, the main priority is distance. (Maharani et al. 2020) Then in the previous study entitled " analytical hierarchy process -based group decision analysis in selecting online transportation service applications" by Ardiprawiro, Tissa Maharani, 2020 with an analysis of criteria for how to use, quality, brand image and brand trust which is a top priority on quality with a weight of 0.34, how to use 0.27, brand trust 0.29 and brand image 0.1, the same as the results of this study which stated that brand image became the final priority after 3 criteria (Distance, service quality and price).

RESULTS AND DISCUSSION

A. Hierarchy test results manually and Super Decision

To obtain the data needed, the researcher conducted interviews, (Puspita et al., 2022) interviews, namely the interaction of questions and answers between two parties to the right party and the both of expert at the Complex PT. Nubika Jaya where the data will be processed to obtain problem solving in choosing an efficient retailer. (Celina and Anita., 2020) for systems that support decisions must go through several processes first. The data processing results of this research are applied using the AHP method by creating a hierarchy. Each criterion will be compared with other criteria with the aim of seeing how important it is to achieving goals . in assessing the Criteria and Alternatives, namely by making a comparison matrix in pairs, and determining priorities and weights, as well as testing logical consistency so that the final results can determine the calculations.
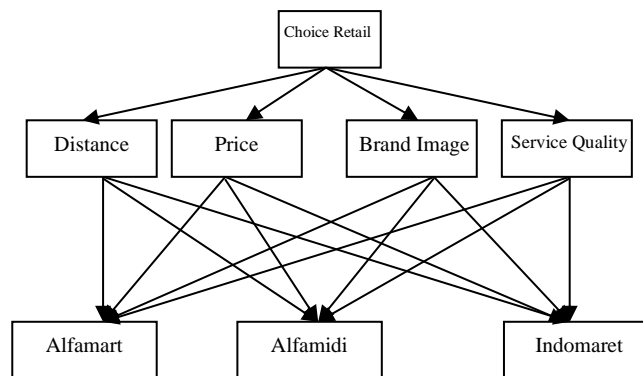
Figure 2. Hierarchical StructureRetail Selection

Figure 2. Is a hierarchical arrangement in determining the best choice of retail for the PT complex. Nubika Jaya, namely as follows:

a) From the Goal itself, namely Preferred Retail, is the point to be achieved in finding efficiency and convenience.

b) The criteria used include:

  1) Distance namely time efficiency in achieving Retail Goals

  2) Product prices, namely analysis of the comparison of the prices of the same goods in three different retail outlets, as well as price stability.

  3) Brand image is a situation where visitors can see the image of the brand being sold including SNI criteria and in terms of quality of goods and also the number of brands in a type of product offered because it is known that brand image has an influence on repeat orders by consumers.

  4) Service quality is also something that customers really need in getting comfort and security such as character, availability of service facilities, and also solving customer-related problems, all of which include cash withdrawals, money transfers, marketplace payments, top ups and so on.

c) Recommended alternative between Alfamart, Alfamidi and Indomaret.

In making a pairwise comparison matrix, it can be done by collecting data from interviews with the Kadus and one of the audits from the PT complex. Nubika Jaya , there are 2 experts and writers directly comparing the criteria according to the table of interests to do an average and a sample of the results of the pairwise comparison matrix can be seen in the table below.

Table 2. Pairwise comparison matrix Criteria (expert 1)

CRITERIA	Distance	Price Product	Brand Image	Service quality
Distance	1	3	9	1
Price	0.3333333	1	5	0.333333
Brand image	0.1111111	0.2	1	0.2
Service quality	1	3	5	1

Table 3. Criteria pair comparison matrix (expert 2)

CRITERIA	Distance	Price	Brand Image	Service quality
Distance	1	5	7	1
Price	0.2	1	5	0.2
Brand image	0.1428571	0.2	1	0.142857
Service quality	1	5	7	1

Tables 2 and 3 have the following results:

1. Each criterion (distance, product price, brand image, quality of service) compared to the criterion itself is worth 1;

2. Comparison between distance and product prices Table 1 obtains a value of 3 where distance is slightly more important than price while Table 2 obtains a value of 5 where distance is more important than price

3. Comparison of distance with brand image in Table 1 obtains a value of 9 where absolute distance is important than brand image while Table 2 obtains a value of 7 where distance is clearly more important than brand image;

4. Comparison of distance with service quality in Tables 1 and 2 obtains a value of 1 where both criteria, both distance and service quality are equally important;

5. Comparison of price with brand image, in Tables 1 and 2 obtains a value of 5 where distance is more important than brand image;

6. Comparison between price and service quality, Table 1 obtains a value of 3 where service quality is slightly more important than price while Table 2 obtains a value of 5 where service quality is more important than price;

7. Comparison between brand image and service quality, Table 1 obtains a value of 5, service quality is more important than brand image, Table 2 obtains a value of 7 where quality is clearly more important than brand image;

Then the average values obtained from table 2 and table 3 are as follows:

Table 4. Average weighting matrix

CRITERIA	Distance	Price	Brand Image	Service quality
Distance	1	4	8	1
Price	0.25	1	5	0.25
Brand image	0.125	0.2	1	0.166667
Service quality	1	4	6	1
Total	2,375	9,2	20	2.416667

From the table above it can be seen that the total average of the two experts obtained a distance value of 2.375 , price of 9.2 , brand image of 20 , and service quality of 2.416667 .

Then the priority criteria can be seen from the calculation of performance values by finding the Eigent vector values according to the following table:

Table 5. Average value of data management comparison matrix Criteria from experts 1 and 2

Service quality	Distance	Price	Brand Image	Service quality	Vector Eigen
Distance	0.421053	0.434783	0.4	0.413793	0.417407
Price	0.105263	0.108696	0.25	0.103448	0.141852
Brand image	0.052632	0.021739	0.05	0.068966	0.048334
Service quality	0.421053	0.434783	0.3	0.413793	0.392407
Total	1	1	1	1	1

Then look for the maximum Eigen value (maximum λ) obtained from multiplying the number of weighted matrix columns in table 4 with the Eigent Vector in table 5, then:

λ maximum   = 2.375 x 0.417407+ 9.2 x 0.141852+ 20 x 0.048334+ 2.416667 x 0.392407

$\qquad$ = 4.211376

Next, calculate the Consistency index ratio, because the matrix is of order 4, the consistency index value can be obtained as follows:

$$CI = \frac{\lambda_{maks}-n}{n-1} = \frac{4,211376-4}{4-1} = 0.070458795$$

With

CI = consistency index

λmax = maximum eigenvalue

n = matrix order

For n=4, then the index random value is 0.90 then :

$$CR = \frac{CI}{IR} = \frac{0,665841}{0,90} = \textbf{0.07828755}$$

Where:

CR = Consistency Ratio

CI = Consistency Index

IR = Random Consistency Index

Matrix size	Random consistency index (RI)
1 & 2	0.00
3	0.58
4	0.90
5	1.12
6	1.24
7	1.32
8	1.41
9	1.45
10	1.49

Table 6 . random index consistency

(Sutoyo., 2019) if the total value is more than 10% or 0.1, the data judgment is inconsistent. However, if the Cocsistency Ratio (CI/IR) ≤ 0.1, then the calculation results can be declared correct.

If analyzed using a super decision, it will obtain the weight of the following criteria:

Figure 3. Criteria weight in super decision

Inconsistency: 0.05685		
1 Distance		0.41888
2 Price		0.13821
3 Brand I~		0.04635
4 Service~		0.39655

Figure 3 shows that the most superior criterion is Distance followed by service quality, price and brand image, with the weight of each criterion such as Distance of 41.888%, Price of 13.821%, Brand Image of 4.635% and Service Quality of 39.655%. The consistency ratio is also calculated which is 0.05685. In order for the weight to be considered reliable, the consistency ratio must be > 0.10 and in this case the inconsistency is only 0.05685 which means the weight can be trusted and not random.

Then in the matrix of comparison of criteria against alternatives obtain the following data:

Table 7. Criteria weighting matrix against Alternative (expert 1)

Table 8 . Criteria weighting matrix (expert 2)

Distance	alfamart	alphamidi	indomaret
alfamart	1	0.333333	0.333333
alphamidi	3	1	1
indomaret	3	1	1

Distance	alfamart	alfamidi	indomaret
alfamart	1	0,2	0,333333
alfamidi	5	1	3
indomaret	3	0,333333	1

Price	alfamart	alphamidi	indomaret
alfamart	1	3	2
alphamidi	0.3333333	1	1
indomaret	0.5	1	1

Price	alfamart	alfamidi	indomaret
alfamart	1	1	2
alfamidi	1	1	0.333333
indomaret	0,5	3	1

Brand Image	alfamart	alphamidi	indomaret
alfamart	1	1	2
alphamidi	1	1	1
indomaret	0.5	1	1

Brand Image	alfamart	alfamidi	indomaret
alfamart	1	0,333333	2
alfamidi	3	1	3
indomaret	0,5	0,333333	1

Service Quality	alfamart	alphamidi	indomaret
alfamart	1	1	2
alphamidi	1	1	3
indomaret	0.5	0.333333	1

Service Quality	alfamart	alfamidi	indomaret
alfamart	1	1	4
alfamidi	1	1	5
indomaret	0,25	0,2	1

So in obtaining single data, average is done by adding back the obtained values from experts and then dividing by two, then the results of the super decision are obtained as follows:

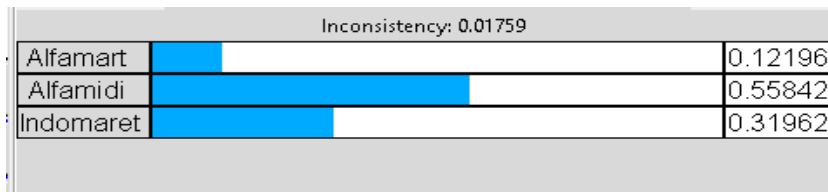Figure 4. Distance to alternatives

Figure 4 shows that alfamart on the distance criterion has the lowest weight at 12.196%, which means that from the point of view of the decision maker, the customer from the PT Complex. Nubika Jaya does not categorize it as a priority if viewed from a distance perspective, Indomaret with a weight of 31.962% will be a sub-choice of customers from the PT complex. Nubika Jaya after Alfamidi which has a weight of 55.824%. Furthermore, the consistency ratio of this pairwise comparison matrix is 0.01759 where the inconsistency passes the consistency test below 10%.
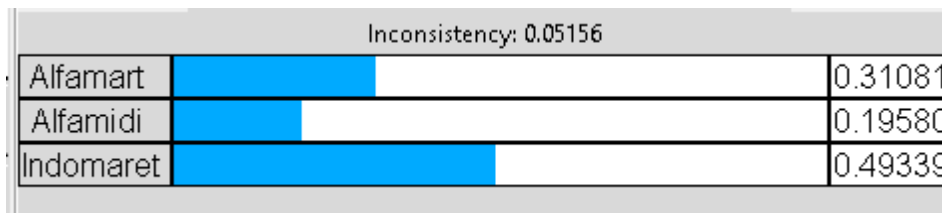
Figure 5. Prices on Alternatives

Figure 5 shows that affordability as well as price stability refers more to Indomaret with a weight of 49,339% while Alfamart has a weight of 31,081% and Alfamidi with a weight of 19,580%. then from the affordability and stability of prices at retail in Blok Songo Village it can be seen from figure 6 where Indomaret has the highest weight and the second is Alfamart and the third is Alfamidi, and an Inconsistency of 0.05156 is obtained and it passes the consistency test because it is not greater than 10%.

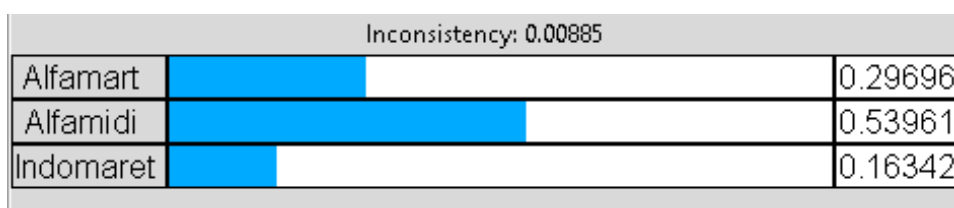Figure 6. Brand Image in Alternatives

Figure 6 shows that Alfamidi has a weight of 53.961% which is a comparison level which includes a standard brand image and has more types of brands for one product, Alfamart with a weight of 29.696% and Indomaret with a weight of 16.342%. For Inconsistency, a value of 0.00885 is obtained and it passes the consistency test because it is not greater than 10%.
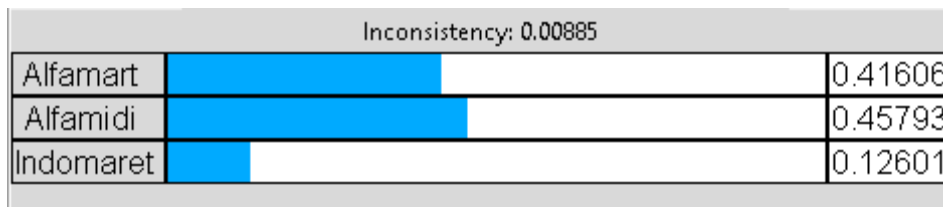
Figure 7. Quality of Service in Alternatives

Figure 7 shows that Alfamidi has better service quality and adequate facilities for the benefit of customers compared to the other two where the value is with a weight of 45.793%, and Alfamart in service quality with a weight of 41.606%, and Indomaret with a weight of 12.601%, Inconsistency gets 0, 008805 which is classified as passing the consistency test because it is below 10%.

Figure 8. AHP final weight results

Based on Figure 8, using the Analytical Hierarchy Process (AHP) method using the Super Decision test instrument, Alfamidi obtained the highest final weight score with (Ideals: 1.000000), (Normals: 0.519252) and (Raw: 0.259626)) which concluded that in terms of distance, price, brand image and service quality based on average, it can solve customer problems, especially complex customers of PT. Nubika Jaya. Experts see that selecting Alfamidi as the preferred retailer will gain efficiency in shopping at Alfamidi. In Figure 5, Figure 7 and Figure 8, Alfamidi excels in 3 criteria, namely distance, brand image and

service quality. The reason why Alfamidi as customer choise in fact is Alfamidi is the closest retail to the Complex PT. Nubika Jaya as author mention infigures 3 which put the Distance as the main thing and and then the service quality.

Technically, the results of manual data calculations and using the Super Decision Software have slight differences but do not affect the consistency test results. In Figure 4, the Consistency ratio results with manual calculations obtain a value of 0.07828755 while using a Super Decision obtains a value of 0.05685 with difference of about 0.02. As stated (Marina et al. 2021) the results of manual calculations using the Expert Choice Software have not too big a difference.

The effect of distance on Alfamart, Alfamidi and Indomaret is a very influential criterion, seen from Figure 4. Where distance is the main priority with a weight value of 0.41888. Figure 5 explains that Alfamidi is a significant priority supported by the criteria which are the top priority, so in this first criterion Alfamidi is in a strong position as the retailer of choice for the people of the PT Complex. Nubika Jaya.

The effect of price on Alfamart, Alfamidi and Indomaret where in Figure 4 the price criteria is the 3rd priority with a weight value of 0.13821. Seen from Figure 6 on the price criteria for Alternatives, Indomaret is the main priority, different from previous research where price is one of the favorite priorities in the Research of Decision Support System for Supplier Selection of Retail Products. (Sanny and Thio, 2019) retail prices tend to be competitive and have little price difference. Therefore price is not the foremost priority for the people of the PT Complex. Nubika Jaya because the prices tend to be the same and/or the difference is not that far.

The influence of Brand Image on Alfamart, Alfamidi and Indomaret can be seen from Figure 4 which illustrates that Brand Image is priority 4 of 4 criteria (final priority) with a weight value of 0.04635. In comparing the Brand Image to the Alternative according to Figure 7, the data is generated with Alfamidi being the top priority. In previous studies in research on the selection of transportation service applications where brand image is also the final priority criterion.

The effect of service quality on Alfamart, Alfamidi and Indomaret which is the second priority criterion according to Figure 4 Service quality with a weight of 0.39655 almost equals the weight value of the distance of 0.41888 where service quality is one of the criteria that can satisfy customers.

Figure 10 is the final result where Alfamidi is a customer priority from Komplek PT. Nubika Jaya.

Figure 9. Barcharts
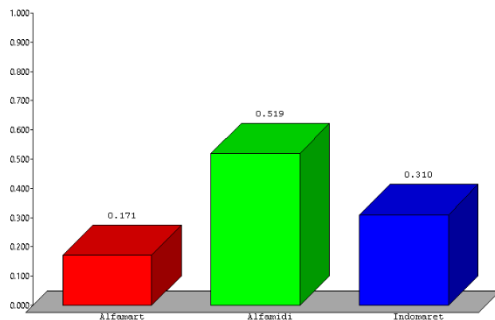
CONCLUSION

Through the AHP method it can be seen from the 4 criteria (distance, price, brand image and service quality) which are customer credibility where Distance is the highest priority followed by service quality, price and brand image. With the help of data processing through Super Decision Alfamidi is the highest priority by inputting data and going through various stages so that Alfamidi becomes a Retail that is easy to reach and has quality service and features that are able to answer customer needs in transactions which are the most influential customer choice criteria by distance of 0.41888 to Alfamidi in the criteria of distance of 0.55842, in the quality of service 0.39655 to Alfamidi in the criteria of service quality of 0.45793.

At the very end, from the result of this research :

    a. In the customer section, it can be concluded that Alfamidi is recommended as a reetail that has high afficiency than other hree retails which has a strong benchmark on the distance , brand image and service quality.

    b. In the retail section, Alfamidi is indeed excel in the distance, brand image and service quality yet disregard the other criterias, Indomaret excel in product price with 4,9339 points but there is a need for an increase in bran image and service quality in drawing the customers. And the last one Alfamart indeed the longest distance from complex PT.Nubika Jaya which has the lowest value at the distance criteria but the three other criteria have a good grades,then an increase is needed from the three criteria such as product price, brand image and service quality

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