



# **Determination of Priority for Recipients of Distribution Assistance Facility IKM Business Actors (Small and Medium Industries) Using the Moora Method in Langkat District**

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## **Abstract**

To determine priority recipients of assistance facilities for IKM business actors in Langkat Regency, the criteria used in this study are the type of production, capital requirements, sales results, number of employees, and length of business. The data used in this study comes from the Department of Trade and Industry. In this study the MOORA method was used which aims to design and build a decision support system in determining priority recipients of facilities for IKM business actors. The author wants to make this decision support system using the Visual Basic application and supported by the MySQL Database so that the results are more effective and efficient. From the 10 sample data obtained by means of prioritizing recipients of assistance facilities for IKM business actors, it can be seen that those who get rank I with the highest score i.e. 0.1133 is A06 in the name of devi.

*Keywords: IKM, Decision Support System, MOORA, SQL, MySQL, Visual Basic.*

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## **1. Introduction**

Small and Medium Industries (IKM) play an important role in the Indonesian economy because they contribute to creating jobs and driving economic growth in the region. In Langkat Regency, North Sumatra Province, SMEs are also an important economic sector. However, SMEs in this area are still experiencing various challenges, including difficulties in obtaining the facilities needed to expand their business.

The problem faced in determining priority recipients of facilities for IKM business actors is the lack of objectivity in prioritizing, because they still use subjective assessments of prioritization. The causes of this problem can come from various factors, such as the lack of clear standards in assessing SME business actors, the limited amount of data available, and the lack of competence and expertise in using appropriate valuation methods.

The result of this problem is injustice in the distribution of facilities for IKM business actors, where some business actors may not receive the facilities they should receive, while others may receive more facilities than they should. In addition, this can lead to distrust of IKM business actors towards the government and related institutions.

The solution that can be done is to use a more objective assessment method, such as the MOORA (Multi-Objective Optimization by Ratio Analysis) method, which is able to assess various criteria objectively and produce more accurate priorities. In addition, it is also necessary to increase the competence and expertise of decision makers in using appropriate and adequate assessment methods. Provision of complete and reliable data also needs to be improved to support more accurate decision making.

Thus, it is hoped that the determination of priority recipients of facilities for IKM business actors in Langkat Regency using the MOORA method is expected to help improve the welfare of business actors and encourage economic growth in the region.

As for research with [1] entitled "Decision Support System for Determining Recipients of Facilities to Develop Small and Medium Industries in Banyumas Regency Using the Weighted Product (WP) Method" This study aims to increase employee effectiveness in determining IKM business actors who will receive assistance in the form of facility assistance with investment criteria, number of workers, production capacity, sales value, and production innovation.

## 2. Problem Solving Methodology

The problem solving method is divided into several parts, which can be explained as explained below.

### 2.1. Decision Support System

Decision support systems have been defined in many different ways. In the following, several definitions related to the title raised by the author will be presented. Definition of decision support system.

The decision support system is an interactive system that supports decisions in the decision-making process through alternatives obtained from the results of data processing, information and model design [2] .

### 2.2. Moora Method (Multi Objective Optimization On The Basis Of Ratio Analysis)

The Multi-Objective Optimization by Ratio Analysis (MOORA) method is a method introduced by Brauers and Zavadkas (2006). This relatively new method was first used by Brauers in a decision with multi-criteria. The MOORA method has a degree of flexibility and ease of understanding in separating the subjective part of an evaluation process into decision weighting criteria with several decision-making attributes.

The MOORA method is easy to understand and flexible in separating objects up to the decision weighting criteria evaluation process. The MOORA method also has a good level of selectivity because it can determine conflicting goals and criteria, namely criteria that are beneficial or unprofitable (Cost) [3] .

### 2.3. Small and Medium Industry (IKM)

Small and Medium Industry is an economic activity that processes raw materials, raw materials, semi-finished goods and or finished goods into goods with a higher usage value. While the notion of industry is related to the process of processing and industrial development which is used as a basic reference for the Ministry of Industry, namely: industry is a series of activities and the economy which includes processing, processing, converting, repairing raw materials or semi-finished goods into useful and more goods. useful for the use and business services that support the above activities.

## 3. Application of the Method

At this stage, we will discuss data input and the calculation process using the MOORA method. This process makes the selection according to predetermined criteria. The MOORA Method analysis steps are as follows:

From the results of the suitability rating, a decision matrix can be produced:

$$X = \begin{pmatrix} 2 & 2 & 2 & 1 & 1 \\ 5 & 5 & 5 & 2 & 3 \\ 1 & 2 & 2 & 1 & 2 \\ 4 & 5 & 4 & 3 & 3 \\ 3 & 5 & 4 & 3 & 3 \\ 5 & 5 & 5 & 5 & 5 \\ 2 & 5 & 5 & 3 & 3 \\ 4 & 5 & 5 & 4 & 4 \\ 1 & 5 & 5 & 4 & 5 \\ 3 & 5 & 5 & 3 & 4 \end{pmatrix}$$

Calculating the Normalization of the X Matrix; Normalization of Column 1 Criteria for Type of Production; Matrix Normalization (1,1) row 1 column1

$$A_{1,1} = \frac{2}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{2}{\sqrt{110}} = 0,1907$$

$$A_{2,1} = \frac{5}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{5}{\sqrt{110}} = 0,4767$$

$$A_{3,1} = \frac{1}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{1}{\sqrt{110}} = 0,0953$$

$$A_{4,1} = \frac{4}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{4}{\sqrt{110}} = 0,3814$$

$$A_{5,1} = \frac{3}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{3}{\sqrt{110}} = 0,2860$$

$$A_{6,1} = \frac{5}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{5}{\sqrt{110}} = 0,2860$$

$$A_{8,1} = \frac{4}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{4}{\sqrt{110}} = 0,3814$$

$$A_{9,1} = \frac{1}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{1}{\sqrt{110}} = 0,0953$$

$$A_{10,1} = \frac{3}{\sqrt{2^2+5^2+1^2+4^2+3^2+5^2+2^2+4^2+1^2+3^2}} = \frac{3}{\sqrt{110}} = 0,2860$$

Normalization of Column 2 Capital Requirement Criteria; Matrix Normalization (1,2) row 1 column 2

$$A_{1,2} = \frac{2}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{2}{\sqrt{208}} = 0,1387$$

$$A_{2,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{3,2} = \frac{2}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{2}{\sqrt{208}} = 0,1387$$

$$A_{4,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{5,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{6,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{7,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{8,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{9,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

$$A_{10,2} = \frac{5}{\sqrt{2^2+5^2+2^2+5^2+5^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{208}} = 0,3467$$

Normalization of Column 3 Sales Results; Matrix Normalization (1,3) row 1 column 3

$$A_{1,3} = \frac{2}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{2}{\sqrt{190}} = 0,1451$$

$$A_{2,3} = \frac{5}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{190}} = 0,3627$$

$$A_{3,3} = \frac{2}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{2}{\sqrt{190}} = 0,1451$$

$$A_{4,3} = \frac{4}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{4}{\sqrt{190}} = 0,2902$$

$$A_{5,3} = \frac{4}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{4}{\sqrt{190}} = 0,2902$$

$$A_{6,3} = \frac{5}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{190}} = 0,362$$

$$A_{7,3} = \frac{5}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{190}} = 0,362$$

$$A_{8,3} = \frac{5}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{190}} = 0,362$$

$$A_{9,3} = \frac{5}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{190}} = 0,362$$

$$A_{10,3} = \frac{5}{\sqrt{2^2+5^2+2^2+4^2+4^2+5^2+5^2+5^2+5^2}} = \frac{5}{\sqrt{190}} = 0,362$$

Normalization Column 4 Criteria Number of Employees; Matrix Normalization (1,4) row 1 column 4

$$A_{1,4} = \frac{1}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{1}{\sqrt{99}} = 0,1005$$

$$A_{2,4} = \frac{2}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{2}{\sqrt{99}} = 0,2010$$

$$A_{3,4} = \frac{1}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{1}{\sqrt{99}} = 0,1005$$

$$A_{4,4} = \frac{3}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{3}{\sqrt{99}} = 0,3015$$

$$A_{5,4} = \frac{3}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{3}{\sqrt{99}} = 0,3015$$

$$A_{6,4} = \frac{5}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{5}{\sqrt{99}} = 0,5025$$

$$A_{7,4} = \frac{3}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{3}{\sqrt{99}} = 0,3015$$

$$A_{8,4} = \frac{4}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{4}{\sqrt{99}} = 0,4020$$

$$A_{9,4} = \frac{4}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{4}{\sqrt{99}} = 0,4020$$

$$A_{10,4} = \frac{3}{\sqrt{1^2+2^2+1^2+3^2+3^2+5^2+3^2+4^2+4^2+3^2}} = \frac{3}{\sqrt{99}} = 0,3015$$

Normalization of Column 5 Criteria for Length of Business; Matrix Normalization (1,5) row 1 column 5

$$A_{1,5} = \frac{1}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{1}{\sqrt{123}} = 0,0902$$

$$A_{2,5} = \frac{3}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{3}{\sqrt{123}} = 0,2705$$

$$A_{3,5} = \frac{2}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{2}{\sqrt{123}} = 0,1803$$

$$A_{4,5} = \frac{3}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{3}{\sqrt{123}} = 0,2705$$

$$A_{5,5} = \frac{3}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{3}{\sqrt{123}} = 0,2705$$

$$A_{6,5} = \frac{5}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{5}{\sqrt{123}} = 0,4508$$

$$A_{7,5} = \frac{3}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{3}{\sqrt{123}} = 0,2705$$

$$A_{8,5} = \frac{4}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{4}{\sqrt{123}} = 0,3607$$

$$A_{9,5} = \frac{5}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{5}{\sqrt{123}} = 0,45087$$

$$A_{10,5} = \frac{4}{\sqrt{1^2+3^2+2^2+3^2+3^2+5^2+3^2+4^2+5^2+4^2}} = \frac{4}{\sqrt{123}} = 0,3607$$

From the calculation of the normalization value above, the Normalized Value matrix (Xi) is obtained as follows:

$$X = \begin{pmatrix} 0,1907 & 0,1387 & 0,1451 & 0,1005 & 0,0902 \\ 0,4767 & 0,3467 & 0,3627 & 0,2010 & 0,2705 \\ 0,0953 & 0,1387 & 0,1451 & 0,1005 & 0,1803 \\ 0,3814 & 0,3467 & 0,2902 & 0,3015 & 0,2705 \\ 0,2860 & 0,3467 & 0,2902 & 0,3015 & 0,2705 \\ 0,4767 & 0,3467 & 0,3627 & 0,5025 & 0,4508 \\ 0,1907 & 0,3467 & 0,3627 & 0,3015 & 0,2705 \\ 0,3814 & 0,3467 & 0,3627 & 0,4020 & 0,3607 \\ 0,0953 & 0,3467 & 0,3627 & 0,4020 & 0,4508 \\ 0,2860 & 0,3467 & 0,3627 & 0,3015 & 0,3607 \end{pmatrix}$$

Calculating the Weighted Normalized Matrix; A1 Optimization Value

$$y_1 = (x_{1,1} * w_1 - x_{1,2} * w_2 + x_{1,3} * w_3 + x_{1,4} * w_4 - x_{1,5} * w_5)$$

$$y_1 = (0,1907*0,30)-(0,1387*0,20)+(0,1451*0,15)+(0,1005*0,15)-(0,0902*0,20)$$

$$= 0,0483$$

Optimization Value A<sub>2</sub>

$$y_2 = (x_{2,1} * w_1 - x_{2,2} * w_2 + x_{2,3} * w_3 + x_{2,4} * w_4 - x_{2,5} * w_5)$$

$$y_2 = (0,4767*0,30)-(0,3467*0,20)+(0,3627*0,15)+(0,2010*0,15)-(0,2705*0,20)$$

$$= 0,1041$$

Optimization Value A<sub>3</sub>

$$y_3 = (x_{3,1} * w_1 - x_{3,2} * w_2 + x_{3,3} * w_3 + x_{3,4} * w_4 - x_{3,5} * w_5)$$

$$y_3 = (0,0953*0,30)-(0,1387*0,20)+(0,1451*0,15)+(0,1005*0,15)-(0,1803*0,20)$$

$$= 0,0016$$

Optimization Value A<sub>4</sub>

$$y_4 = (x_{4,1} * w_1 - x_{4,2} * w_2 + x_{4,3} * w_3 + x_{4,4} * w_4 - x_{4,5} * w_5)$$

$$y_4 = (0,3814*0,30)-(0,3467*0,20)+(0,2902*0,15)+(0,3015*0,15)-(0,2705*0,20)$$

$$= 0,0797$$

Optimization Value A<sub>5</sub>

$$y_5 = (x_{5,1} * w_1 - x_{5,2} * w_2 + x_{5,3} * w_3 + x_{5,4} * w_4 - x_{5,5} * w_5)$$

$$y_5 = (0.2705*0.30)-(0.3467*0.20)+(0.2902*0.15)+(0.3015*0.15)-(0.2705*0.20)$$

$$= 0.0511$$

Optimization Value A<sub>6</sub>

$$y_6 = (x_{6,1} * w_1 - x_{6,2} * w_2 + x_{6,3} * w_3 + x_{6,4} * w_4 - x_{6,5} * w_5)$$

$$y_6 = (0.4767*0.30)-(0.3467 * 0.20)+(0.3627*0.15)+(0.5025*0.15)- (0.4508*0.20)$$

$$= 0.1133$$

Optimization Value A<sub>7</sub>

$$y_7 = (x_{7,1} * w_1 - x_{7,2} * w_2 + x_{7,3} * w_3 + x_{7,4} * w_4 - x_{7,5} * w_5)$$

$$y_7 = (0.1907*0.30)-(0.3467*0.20)+(0.3627*0.15)+(0.3015*0.15)-(0.2705*0.20)$$

$$= 0.0334$$

Optimization Value A<sub>8</sub>

$$y_8 = (x_{8,1} * w_1 - x_{8,2} * w_2 + x_{8,3} * w_3 + x_{8,4} * w_4 - x_{8,5} * w_5)$$

$$y_8 = (0.3814*0.30)-(0.3467*0.20)+(0.3627*0.15)+(0.4020*0.15)-(0.3607*0.20)$$

$$= 0.0877$$

Optimization Value A<sub>9</sub>

$$y_9 = (x_{9,1} * w_1 - x_{9,2} * w_2 + x_{9,3} * w_3 + x_{9,4} * w_4 - x_{9,5} * w_5)$$

$$y_9 = (0.0953*0.30)-(0.3467*0.20)+(0.3627*0.15)+(0.4020*0.15)-(0.4508*0.20)$$

$$= -0.0162$$

Optimization Value A<sub>10</sub>

$$y_{10} = (x_{10,1} * w_1 - x_{10,2} * w_2 + x_{10,3} * w_3 + x_{10,4} * w_4 - x_{10,5} * w_5)$$

$$y_{10} = (0.2860*0.30)-(0.3467 * 0.20)+(0.3627*0.15)+(0.3015*0.15)+(0.3607*0.20)$$

$$= 0.0440$$

From the results of the previous optimization value calculations, the results can be sorted from the largest to the smallest, where the optimization value of the largest alternative is the best alternative from the existing data and is the chosen alternative, while the alternative with the lowest optimization value is the worst of the existing data. . In order from the largest to the smallest, the ranking results are obtained as shown in the table below:

**Table 1:** Ranking Results

Alternative	Name	Mark	ranking
A06	Devi	0.1333	1
A02	Treasure	0.1041	2
A08	Benjamin	0.0877	3
A04	Katiran	0.0797	4
A05	Congratulations	0.0511	5
A01	Sumarni	0.0483	6
A10	Sulianto	0.044	7
A07	Sugiran	0.0334	8
A03	Subastry	0.0016	9
A09	Friday	-0.0162	10

From the ranking results above, A06 Devi is declared the best for recipients of IKM (Small and Medium Industry) business facilities.

### 3.1. Program Interface (Interface)

The following is an interface display resulting from the design of a decision support system for determining priority recipients of facilities for small and medium enterprises (SMEs) using the Moora method, as follows:

#### 1. Login Menu

The login menu interface consists of a light blue background. At the top, it says "User name :". Below this is a white rectangular input field with a blue border. Underneath the input field is the label "Password :". Below the password label is another white rectangular input field with a blue border. At the bottom of the interface, there are two buttons: "OK" on the left and "Cancel" on the right, both with blue borders and black text.

Fig. 1: Login Menu

#### 2. Main Menu



Fig. 2: Main Menu

#### 3. Alternative Menu

KODE ALTERNATIF	NAMA ALTERNATIF	NAMA BARA
1	A01	Susanti
2	A02	Hartini
3	A03	Sulastri
4	A04	Katikan
5	A05	Sulastri
6	A06	Dewi
7	A07	Suganti
8	A08	Bonyamin
9	A09	Ieni
10	A10	Sulasto

The alternative menu interface shows a table with three columns: "KODE ALTERNATIF", "NAMA ALTERNATIF", and "NAMA BARA". The table contains 10 rows of data. Below the table, there are buttons for "Cari", "Tambah", "Ubah", "Hapus", and "Keluar".

Fig. 3: Alternative Menu

#### 4. Criteria Alternative Menu

NAMA KRITERIA	KETERANGAN	NILAI
1	Jenis Produksi	1
2	Jenis Produksi	2
3	Jenis Produksi	3
4	Jenis Produksi	4
5	Jenis Produksi	5
6	Kebutuhan Modal	Rp 2.200.000
7	Kebutuhan Modal	Rp 2.500.000
8	Kebutuhan Modal	Rp 3.000.000
9	Kebutuhan Modal	Rp 3.500.000
10	Kebutuhan Modal	Rp 4.000.000
11	Kebutuhan Modal	Rp 4.500.000
12	Kebutuhan Modal	Rp 5.000.000
13	Kebutuhan Modal	Rp 5.500.000
14	Kebutuhan Modal	Rp 6.000.000
15	Hadap Persewaan	Rp 5.000.000
16	Hadap Persewaan	Rp 6.000.000
17	Hadap Persewaan	Rp 8.100.000
18	Hadap Persewaan	Rp 9.500.000
19	Hadap Persewaan	Rp 1.000.000
20	Hadap Persewaan	Rp 9.500.000

The criteria alternative menu interface shows a table with three columns: "NAMA KRITERIA", "KETERANGAN", and "NILAI". The table contains 20 rows of data. Below the table, there are buttons for "Cari", "Tambah", "Ubah", "Hapus", and "Keluar".

Fig. 4: Criteria Alternative Menu

5. Assessment Menu

KODE	NAMA	JENIS PRODUKSI	KEBUTUHAN MODAL	HASIL PENJUALAN	JUMLAH KARYAWAN	LAMA USAHA
A01	Sumarni	Keripik Pisang	Rp 2.200.000	Rp 5.000.000	2	1 Tahun
A02	Hartati	Kerupuk Gaduak	Rp 7.000.000	Rp 9.100.000	5	3 Tahun
A03	Subastri	Keripik Ubi	Rp 2.500.000	Rp 6.000.000	3	2 Tahun
A04	Katiran	Kerupuk Abon	Rp 6.300.000	Rp 8.500.000	9	3,5 Tahun
A05	Selamat	Kerupuk Ubi/Opak	Rp 5.500.000	Rp 8.100.000	7	3 Tahun
A06	Devi	Kerupuk Gaduak	Rp 9.500.000	Rp 12.000.000	15	6 Tahun
A07	Sugiran	Keripik Pisang	Rp 5.500.000	Rp 10.000.000	8	3 Tahun
A08	Benyamin	Kerupuk Abon	Rp 7.400.000	Rp 9.500.000	12	4,5 Tahun
A09	Jumi	Keripik Ubi	Rp 8.500.000	Rp 11.000.000	10	5 Tahun
A10	Sulianto	Kerupuk Ubi/Opak	Rp 7.600.000	Rp 10.000.000	9	4 Tahun


Fig. 5: Rating Menu

6. Menu MOORA

KODE	NAMA	NILAI	RANK
A06	Devi	0,1133	1
A02	Hartati	0,1041	2
A08	Benyamin	0,0877	3
A04	Katiran	0,0797	4
A05	Selamat	0,0511	5
A01	Sumarni	0,0483	6
A10	Sulianto	0,0440	7
A07	Sugiran	0,0334	8
A03	Subastri	0,0016	9
A09	Jumi	-0,0162	10

Fig. 6: MOORA Method Analysis Menu

7. Ranking Report


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NO	KODE	NAMA	NAMA USAHA	NTI,AT	RANK
1	A06	Devi	Kerupuk Gaduak	0,1133	1
2	A02	Hartati	Kerupuk Gaduak	0,1041	2
3	A08	Benyamin	Kerupuk Abon	0,0877	3
4	A04	Katiran	Kerupuk Abon	0,0797	4
5	A05	Selamat	Kerupuk Ubi / Opak	0,0511	5
6	A01	Sumarni	Keripik Pisang	0,0483	6
7	A10	Sulianto	Kerupuk Ubi / Opak	0,0440	7
8	A07	Sugiran	Keripik Pisang	0,0334	8
9	A03	Subastri	Keripik Ubi	0,0016	9
10	A09	Jumi	Keripik Ubi	0,0162	10

**LANGKAT, 07-Agust-2023**  
**DINAS PERDAGANGAN DAN PERINDUSTRIAN**  
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**KZPALA,**

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Fig. 7: Ranking Report

## 4. Conclusion

With the existence of a system for determining priority of recipients of assistance facilities for small and medium industrial business actors using the MOORA method, several conclusions can be drawn, including the following:

1. This research makes the system built can be used for better Priority Determination of Facility Recipients for IKM (Small and Medium Industry) Business Actors, so that it can help those who need it in making decisions according to existing criteria.
2. By using the MOORA method, it has criteria that make it easier for parties to conclude someone who is a Recipient of Facilities for IKM Business Actors (Small and Medium Industries).
3. From the results of tests that have been carried out trials based on 5 specified criteria can be obtained results with the highest value, namely at A06 with a value of 0.1133. So it can be concluded that A06 on behalf of Devi is entitled to receive Facility Recipients for IKM Business Actors (Small and Medium Industries).

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