Public Perceptions of The Government in Handling Covid-19 Pandemic with Covid-Score-10 Approach and Dematel Analytical Network Process (DANP)

Persepsi Masyarakat terhadap Pemerintah dalam Penanganan Pandemi Covid-19 dengan Pendekatan Covid-Score-10 dan Dematel Analytical Network Process (DANP)

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ABSTRACT

COVID-19 puts intense pressure on governments to take unprecedented and rapid action around the world in dealing with the COVID-19 pandemic. This research takes steps to determine the public's assessment of government programs to resolve the COVID-19 pandemic. The most likely solution is to use the combined method of the Covid Score and the Analytical Network Process (ANP) in determining how to increase public support for government programs to resolve this pandemic. The results of the data processing provide a significant picture of support for the government by 34% in handling the pandemic. To increase wider community support, it is proposed to apply more stringent rules as shown in the ANP value of 16.2. Research contribution to implementing COVID SCORE 10 with Analytical Network Process (ANP) review for implementation in Covid-19 cases in the sample area

Keywords: Covid-19, Covid Score-10, Analytical Network Process, Pandemic

ABSTRAK

COVID-19 memberikan tekanan kuat bagi pemerintah untuk melakukan tindakan cepat dan belum pernah terjadi pada masa lalu di seluruh dunia dalam menangani pandemic covid-19. Penelitan ini mengambil Langkah untuk mengetahui penilaian masyarakat terhadap program-program pemerintah menyelesaikan pandemic covid-19. Penyelesaian yang paling menungkinan dengan menggunakan metode gabungan antara Covid Score dengan Analytical Network Process (ANP) dalam menentukan cara meningkatkan dukungan masyarakat pada program pemerintah menyelesaikan pandemi ini. Dari hasil olah data memberikan gambaran signifikan dukungan pada pemerintah sebesar 34% dalam penanganan pandem. Untuk meningkatkan dukungan masyarakat lebih luas, diusulkan penerapan aturan yang lebih ketat seperti yang ditunjukkan dalam Nilai ANP sebesar 16,2. Kontribusi penelitian untuk menerapkan COVID SCORE 10 dengan tinjauan Analytical Network Process (ANP) untuk implementasi pada kasus Covid-19 di wilayah sampel

Kata Kunci: Covid-19, Covid Score-10, Analytical Network Process, Pandemic

1. INTRODUCTION

Several studies, conducted by institutional researchers around the world, provide mixed estimates about the end of the COVID-19 pandemic. Various approaches are used to make predictions, either using a mathematical approach or a simulation, but no one has accurately predicted when this emergency will end, because the spread of COVID-19 is not decreasing, but is increasing throughout the world. Indonesia is also one of the countries where the development of

COVID-19 continues to increase. Various efforts have been made by the government to be able to suppress the spread through various programs that can be carried out by the government but in reality, have not shown maximum results.

The Covid-19 Control Task Force formed by the government continues to provide various efforts to resolve the endemic COVID-19, by implementing a series of general actions, such as limiting community activities to advertising calls for strengthening health protocols..

One of the key elements that determine the end of the pandemic is public compliance with programs carried out by the government such as the level of public trust in the government or the clarity of information provided by government sources..

The public's perception of the programs offered by the government by inviting better public cooperation is still considered not optimal. The high level of public trust in the government can affect the perception that people will be able to survive during this pandemic. Moreover, the spread of the virus is increasing and people are starting to lose trust in the government because the number of infected is increasing, and the occupancy rate of hospital beds is also high. (Kheybari et al., 2020)

To measure the public's perception of the government in handling COVID-19, there are 2 approaches used, namely the first stage of determining the level of public perception using the Covid Score-10 method, followed by using the DEMATEL approach and the Analytical Network Process. (ANP) to measure treatment priorities. (Balog et al., 2019; Lee & Hu, 2020; Maqbool & Khan, 2020; Si et al., 2018)

The COVID-SCORE approach will increase the government's role in providing detailed information on the development of the spread of the virus, while DEMATEL and the Analytical Network Process (ANP) will assist the government in identifying and correcting weaknesses in aspects of public perception and determination. steps to solve it. The use of DEMATEL-ANP has been developed (Altuntas & Gok, 2021; Balog et al., 2019) in completing multicriteria decision analysis. DEMATEL-ANP is also utilized (Dedasht et al., 2017) in assessing risk factors in construction cases.

2. METHOD

Some of the steps that will be taken in solving this problem are:

2.1 Calculation of Covid-Score-10

Basically, COVID-SCORE-10 is a problem-solving approach proposed by (Lazarus, Ratzan, et al., 2020; White et al., 2021), consisting of ten item measurements. Each item will have a value that describes the perception of the public. The higher the perception, the higher the chance that this pandemic will end, the community has compliance. However, if the value of each item is low, it will result in a pandemic that will last a long time because the community is exposed to government programs.

The public's response to each question item was in the range of 1, "strongly disagree" and 5, supporting the government program. Furthermore, from each assessment, the average of the items in each region and standard deviation will be calculated. COVID-SCORE-10 questionnaire items as written (Lazarus, Binagwaho, et al., 2020; Lazarus, Ratzan, et al., 2020) are:

Item 1 I trust the efforts made by the Government by providing subsidies as long as the endemic is not over

Item 2 I trust the efforts made by the Government in ensuring that every information is accessible to the public.

Item 3 I trust government information about the spread of the epidemic

Item 4 I trust the efforts of a strong task force team with a team of health and medical experts in dealing with the COVID-19 epidemic.

Item 5 I trust the efforts made by the task force by opening public access to health services during the pandemic, both PCR tests, antigens, and vaccinations

Item 6 I trust the efforts made by the Government to ensure that people always have full access to the health services that we do during the epidemic.

Item 7 I trust the efforts made by the Government to provide special protection for vulnerable groups during COVID-19.

Item 8 I believe the efforts made by the Government to ensure that health workers have adequate personal protective equipment.

Item 9 I believe that the efforts made by the unit in providing health services can help people who are dealing with COVID-19.
I trust the efforts made by the Government to cooperate with other countries in resolving the COVID-19 pandemic..

2.2. Decision Making Trial and Evaluation Laboratory (DEMATEL)

The Decision Making Trial and Evaluation Laboratory (DEMATEL) method was first developed in 1972-1976 by The Science and Human Affairs Program of the Battelle Memorial Institute of Geneva. DEMATEL was developed to study and find solutions to complex and interrelated problems with the basic concept of measuring the level of influence of an object with other objects. (Altuntas & Gok, 2021)

At the implementation level, DEMATEL has been successfully applied in various research fields with the aim of simplifying complex problems and transforming complex systems into structured causal relationships (Si et al., 2018). The DEMATEL method can perform interdependencies between variables and limit the relationships that describe the characteristics of a system. The final output of DEMATEL is a visual representation of the respondent's thoughts about the relationship between the objects of a problem. In this study, the results from DEMATEL will be used to determine the relationship between decision networks that will be used as weighting criteria using the Analytic Network Process (ANP) (Balog et al., 2019)

The stages of working on DEMATEL (Lee & Hu, 2020) follow the following procedure:

1. Determine the unidirectional relationship matrix where each respondent (expert) will determine factor i affects factor j on a scale of 0, 1, 2, 3, and 4 which is a representation of not influencing (0), less influencing (1), moderately influencing (2), strongly affect (3), and greatly affect (4). The scores given from each expert form an n x n . matrix

2. Determine *normalized initial direct-relation matrix*
Normalized initial direct-relation matrix is obtained from the average matrix A normalized by::
X=kA

$$k = \frac{1}{\left(\max_{1 \le i \ge n} \sum_{j=1}^{n} a_{ij}, \left(\max_{1 \le i \ge n} \sum_{i=1}^{n} a_{ij}\right)\right)} \quad (1)$$

where:

X = direct-relation matrix normalization
a = direct-relation matrix

3. Calculating the total relation matrix
The total relation matrix is calculated using the following formula:

$$T = x + x^2 + \cdots + x^m = T = |x(1 - X)^{-1}|, m \to \infty \quad (2)$$

The values of r and c are calculated using the formula:

$$r = [r_i]_{nx1} = \left(\sum_{j=1}^{n} t_{ij}\right)_{nx1}$$

$$c = [c_j]_{1xn} = \left(\sum_{i=1}^{n} t_{ij}\right)_{1xn}$$

r_i shows the total effect of the relationship given by factor i to other factors. c_j shows the total relationship accepted by factor j from other factors. When j = i, the sum of $(r_i + c_i)$ gives an index that represents the total good effect received and given by factor i. In other words, $(r_i + c_i)$ indicates the degree of importance (total number of effects given and received) that factor i plays in the system. Meanwhile $(r_i - c_i)$ shows the effect that factor i contributes to the system when $(r_i - c_i)$ is positive, factor i is a net cause, when $(r_i - c_i)$ is negative, factor i is a net receiver

4. Sets a threshold value for. In order to explain the structural relationship while keeping the complexity of the structure itself at an appropriate level, a threshold value of p is needed to eliminate negligible relationships in the T matrix. Threshold values can be obtained through brainstorming with experts. Only some of the effects of the T matrix which are greater than the threshold value are selected and depicted on the network relation map (NRM). In this study, the threshold value is the average of all element numbers in the T matrix. Digraph can be obtained by mapping points (r+c, r-c)

2.3. Analitycal Network Process

The ANP method was developed by Thomas L., Saaty in the 1990s to accommodate the complexity in a decision-making model where there is interaction, interdependence and feedback between the criteria used in the decision-making system (Kheybari et al., 2020; Lee & Hu, 2020)

For this reason, ANP uses a system-with-feedback approach to accommodate the correlation between factors. The ANP will

produce a matrix and eigenvectors to produce the relative priority weights of each factor (Cheng et al., 2005; Sevkli et al., 2012). Determination of the weight is done through the distribution of questionnaires to the respondents. The weight of the criteria will be different in each region

a. Comparing decision criteria

The weight of the criteria will be determined based on the results of pairwise comparisons between the decision criteria in the decision network model..

b. Arrange unweighted and weighted supermatrix

The results of pairwise comparisons are processed into an unweighted supermatrix by determining the eigenvalues. The supermatrix preparation is processed using the Super Decision software.

c. Construct supermatrix limit

The supermatrix limit is determined by normalizing the matrix column using the eigenvector.

d. Calculate Consistency Ratio (CR)

Calculating the Consistency Ratio to determine the level of consistency of the results of pairwise comparisons in the previous stage. If the CR value is less than 10%, then the results of the pairwise comparison can be accepted or used. However, if the CR value is above 10%, then the pairwise comparison stage must be repeated due to an indication of inconsistency from the pairwise comparison results..

e. Composing factor weights

The factor weights were obtained from the analysis using the ANP method in the previous stage. The weight of the criteria is added up with the value of each region.

The stages of research using ANP are compiling a problem structure and developing a linkage model. The problems that exist in increasing community readiness for programs run by the task force during the COVID-19 endemic, are compiled and then described based on the criteria, then linkages are made between one criterion and another. The next step is completed by using the application of superdecisions with the second step is to structure the problem and develop a model of the relationship between one criterion and another. The third step is to form a pairwise comparison matrix of the criteria that have been linked to each other, the fourth step is

to assign weights based on the importance of the criteria that have been linked in the previous step, and then determine the consistency ratio. The calculation of this consistency ratio has been automatically calculated in the superdecisions application, so researchers only need to see the results that have been listed in the application.

This study contains problems that aim to find out and analyze which factors are the best factors in improving people's perceptions. Therefore, in solving the problems that exist in the company is to use the ANP (Analytical Network Process) method approach with the help of the superdecisions application.

2.4. Research Type and Location

In accordance with the problems that have been described previously, this research will use a tiered assessment approach with the population being the people of Yogyakarta. The province of Jogjakarta was chosen considering the plurality of cities. So that it can provide a perception of regional representation throughout Indonesia. In this study, the research data sources were selected by random stratified sampling.

2.5. Population and research sample

In order to obtain a representative sample, efforts must be made so that every subject in the population has the same opportunity to be a sample using the proportional random sampling technique. So that the research sample is calculated using the approach:

$$s = \frac{\lambda^2.N.P.Q}{d^2(N-1)+\lambda^2.P.Q} \qquad (3)$$

Where:
S = Number of samples
N = Total population access
P = Q = 0.5
D = 0.05

2.5. Data analysis technique

After the results of the questionnaires are collected, the next step is to calculate the average value and standard deviation of each question in the region. This includes checking the validity of internal and external indexes using predefined variables. Calculation of correlation is needed to determine the effect of the average relationship of each variable.

Cronbach's Alpha test (Bujang et al., 2018) was used to validate the results of the final

questionnaire. To test the outcome dimensions, principal factor analysis (PCA) was used to test ten items. Through correlation regression analysis, taking into account the relationship between the scores of the proportion of people who answered "yes" at the regional level because they have confidence in the government in overcoming the health threat of COVID-19.

Product moment analysis technique is used to determine the correlation with the following formula :

$$r_{xy} = \frac{n\sum xy - \sum x \sum y}{\sqrt{\{n\sum x^2 - (\sum x)^2\}\{n\sum y^2 - (\sum y)^2\}}} \qquad (5)$$

Where:

R xy	=	Correlation coefficient between variable x and variable y
N	=	number of samples
$\sum xy$	=	The number of multiplications between the variables x and y
$\sum x^2$	=	Sum of the squares of x values
$\sum y^2$	=	Sum of the squares of y values

$(\sum x)^2$	=	Sum of x values then squared
$(\sum y)^2$	=	Sum of y values then squared

In this study, the reliability test was carried out using the Cronbach Alpha Formula technique. According to (Lazarus, Ratzan, et al., 2020) , the Alpha Cronbach formula is used to find the reliability of an instrument whose score is not 1 or 0, for example a questionnaire or a question form description.

$$r_{11} = \left[\frac{k}{k-1}\right]\left[1 - \frac{\sum \sigma^2 b}{\sigma^2 t}\right] \qquad (4)$$

Where:

r_{11}	= reliability coefficient alpha
k	= number of question items
$\sum\sigma^2 b$	= number of item variants
$\sigma^2 t$	= total variance

Table 1. Respondent Demographic Data

Factors	Total	Percentage
Distribution by Gender (N₁=1210)		
Male	657	54,30%
Female	553	45,70%
Distribution by Age (N₁=1210)		
16-25 th	133	10,90%
26-35 th	264	21,70%
36-45 th	450	37,00%
46-55 th	239	19,60%
56-65 th	133	10,90%
Distribution by Education (N₁=1210)		
SD	79	6,50%
junior high school	289	23,90%
senior High School	657	54,30%
D3	25	2,1%
S1	79	6,50%
S2	27	2,20%
Other	54	4,50%
Distribution by Occupation (N1=1210)		
Private employees	421,08	34,8%
Housewife	289,19	23,9%
entrepreneur	183,92	15,2%
Unemployment	157,3	13,0%
Student	78,65	6,5%
Teacher	26,62	2,2%
Government employees	26,62	2,2%
Driver	26,62	2,2%
Retired	0	0,0%

Source : Own Data Processing Results,2021

3. RESULTS AND DISCUSSION

3.1 Covid Score Results

COVID-19 has spread evenly almost all over the world. This virus is transmitted through the respiratory tract. This should be the main focus of the community, especially regarding behaviors that can cause the risk of contracting or even transmitting this disease. From the results of the study, it was found that as many as 95.1% of the public had received information about COVID-19.

The government has massively provided understanding to the public through various media. The goal is that information can be well received and understood by all levels of society. This is evident from the high level of public perception in this study, which is 72.3%.

From the results of data processing on the questionnaire that has been carried out, it can be seen that the public's perception of the efforts of the task force formed by the government in tackling the spread of the corona virus shows that from the data sample there are 1191 samples with 710 women and 412 men (table 1). At the education level, 63% are university graduates. The average age of the respondents is 22-31. Of the total respondents who gave answers, 70.9%

of them had never been infected with COVID-19. This shows that the rate of spread of COVID-19 in DIY has not shown an alarming level. Most areas in DIY are at the yellow level, i.e. the level of distribution is not in an alarming condition (high).

As a form of accountability to the public regarding this pandemic, the Government always submits data on the latest Covid-19 developments regarding the number of confirmed positives, patients who have died, and patients who have recovered. In addition, the information provided is also related to how to prevent and spread COVID-19, which is done in various ways and media. However, the public still thinks that what the government has done has not increased public confidence that it is correct. As many as 42.1% of the public think that the government has not taken the right action in handling this pandemic. The indicator is the increasing number of people infected with COVID-19.

The perception of the people of Yogyakarta on the government's efforts at 10 points of covid-score in overcoming the covid-19 pandemic does not show numbers that show that the community supports the government's efforts in tackling the spread of covid-19 (table 2). The government's efforts during the COVID-19 endemic period in

Table 2. Results of Data Processing with the Covid Score-10 Method

Region	n	In terms of handling and controlling the COVID-19 outbreak, the Government has:										Standart Deviasi
		Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	
Banguntapan	86	3,45	2,17	2,91	2,46	3,27	2,73	3,09	4,12	3,23	2,39	54,97
Bantul	86	2,93	2,17	3,73	4,27	4,99	3,47	3,39	2,16	3,18	4,77	92,10
Berbah	89	4,03	2,27	2,09	3,37	2,00	2,33	4,20	4,59	3,74	4,69	101,41
Cangkringan	85	2,07	2,34	3,82	2,41	4,15	3,70	4,50	2,66	2,14	2,20	88,76
Danurejan	94	3,56	2,03	2,53	4,42	4,54	4,36	3,93	3,25	4,61	3,69	83,19
Depok	87	3,06	2,16	2,24	4,59	2,37	4,58	3,92	2,56	2,92	3,69	88,28
Galur	83	2,64	3,95	3,86	3,94	4,11	4,44	2,61	3,42	4,02	3,89	58,21
Gamping	91	2,43	2,46	3,54	2,22	3,37	3,10	2,60	2,08	4,55	4,17	80,09
Gedangsari	84	4,98	2,46	4,89	3,95	4,66	3,08	4,18	4,52	2,12	3,76	95,43
Gedongtengen	82	4,42	4,86	3,25	2,72	2,43	2,49	2,02	2,71	2,58	3,85	89,27
Godean	89	4,27	3,51	4,14	2,03	3,49	2,77	2,41	2,57	3,63	3,46	70,91
Gondokusuman	91	2,12	2,48	2,81	4,25	4,25	2,33	3,55	4,22	2,08	2,76	85,31
Gondomanan	77	3,18	2,27	3,71	2,49	4,68	2,74	4,98	4,49	2,60	2,34	98,71
Imogiri	86	4,10	2,57	2,06	4,84	4,56	3,50	4,82	4,28	4,84	4,83	96,01
Average score per item	1.210	3,37	2,69	3,26	3,43	3,78	3,26	3,59	3,40	3,30	3,61	27,57

community assessments are still considered unsatisfactory, this is indicated by the average value on all question items showing an average value of 3.6.

The public's response to say that the Covid-19 handling program implemented by the government was successful in controlling the COVID-19 pandemic, showing 6 out of 10 people who gave answers, believing that the government's efforts in handling the pandemic were in the right direction. Respondents who had experienced a corona virus infection (21% of the total respondents) indicated that the government's efforts in handling the covid-19 pandemic gave an assessment of 3 out of a maximum score of 5. While female respondents compared to male respondents agreed with the government's efforts

3.2. Processing of Decision Making Trial and Evaluation Laboratory (DEMATEL)

Measurement of the relationship between criteria is carried out using DEMATEL by experts. In this study, the respondents who were used as referrals were doctors, the Covid-19 handling task force, the government and the community. DEMATEL processing will produce three kinds of relationship matrices, namely the direct relationship matrix, the normalized matrix, and the total relationship matrix. The questionnaire was filled by experts with ratings on a scale of 0, 1, 2, 3, and 4, as a representation of no influence, less influential, moderately influential, strong influential, and very influential.

The score given by the respondent is formed into a direct-relation matrix $n \times n$ as shown in table 3.

Based on equation (2) is to normalize the direct relationship matrix. After obtaining the normalized direct relationship matrix, use equation (3) to obtain the total relationship matrix as shown in table 4.

The final step in DEMATEL is to calculate the values of D and R. The criteria included in group D are criteria that are categorized as having an impact (affecting other criteria) and can be referred to as dominant criteria (as a priority in evaluation). The criteria included in group R are not dominant when compared to group D criteria, the type of criteria for group R is not dominant when compared to group D criteria so that it does not need to be prioritized in decision making

From processing the total linkage matrix, the Dispatcher (D) and Receiver (R) values are obtained. The value of each criterion is calculated by column and row. The decision sub-criteria (D+R) is the index value of the total power of influence given and accepted. While (D-R) is the value of the tendency of the influence of each criterion, if the value (D-R) is positive then the criteria / sub-criteria for the decision tend to be more influence. On the other hand, if the value (D-R) is negative, then the criteria/sub-criteria tend to be more influenced by other criteria/sub-criteria. Values (D+R) and (D-R) can be seen in table 5 below.

Table 3. Matriks direct-relation n x n

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10	**Total**
Item 1	000	3,00	2,00	2,00	3,75	1,50	2,00	2,75	2,00	2,25	**21,25**
Item 2	2,50	000	3,00	2,25	2,50	2,75	3,00	2,25	2,75	2,50	**23,50**
Item 3	1,75	3,00	000	2,00	2,50	2,00	1,75	3,25	2,25	2,50	**21,00**
Item 4	1,50	2,50	2,00	000	3,50	2,75	3,00	2,75	2,50	2,00	**22,50**
Item 5	2,75	2,50	2,25	2,75	000	3,25	2,00	1,25	2,25	2,75	**21,75**
Item 6	1,25	2,75	2,75	3,25	1,50	000	2,75	2,75	2,50	2,50	**22,00**
Item 7	3,00	2,00	2,25	3,50	2,00	3,00	000	1,75	2,75	3,00	**23,25**
Item 8	2,50	2,50	2,00	2,25	2,75	2,50	1,75	000	2,25	2,50	**21,00**
Item 9	2,50	2,75	2,25	1,75	1,75	1,75	2,50	2,25	000	1,75	**19,25**
Item 10	1,75	2,75	2,75	2,00	1,75	2,25	3,50	2,00	2,75	000	**21,50**
Total	**19,50**	**23,75**	**21,25**	**21,75**	**22,00**	**21,75**	**22,25**	**21,00**	**22,00**	**21,75**	

Table 4. Matriks Normalization Direct-Relation

	Item 1	Item 2	Item 3	Item 4	Item 5	Item 6	Item 7	Item 8	Item 9	Item 10
Item 1	0,0000	0,0508	0,0678	0,0734	0,0395	0,0565	0,0282	0,0226	0,0847	0,0395
Item 2	0,0734	0,0000	0,0339	0,0169	0,0282	0,0565	0,0508	0,0452	0,0169	0,0734
Item 3	0,0621	0,0395	0,0000	0,0395	0,0452	0,0282	0,0339	0,0565	0,0678	0,0395
Item 4	0,0452	0,0508	0,0847	0,0000	0,0678	0,0565	0,0226	0,0791	0,0734	0,0395
Item 5	0,0565	0,0339	0,0508	0,0734	0,0000	0,0621	0,0565	0,0678	0,0339	0,0508
Item 6	0,0339	0,0226	0,0395	0,0565	0,0339	0,0000	0,0226	0,0621	0,0565	0,0282
Item 7	0,0452	0,0226	0,0282	0,0226	0,0339	0,0113	0,0000	0,0452	0,0508	0,0452
Item 8	0,0508	0,0395	0,0508	0,0678	0,0508	0,0678	0,0339	0,0000	0,0791	0,0565
Item 9	0,0621	0,0621	0,0339	0,0621	0,0395	0,0339	0,0565	0,0226	0,0000	0,0452
Item 10	0,0678	0,0339	0,0678	0,0452	0,0508	0,0339	0,0169	0,0621	0,0678	0,0000

From Table 5, the values (D+R) and (D-R) indicate that the criteria for health services have the greatest influence on other criteria with a value of 1.484. While the protection criteria for health workers received the greatest impact from other criteria, namely with a value of -1.75.

Values (D+R) and (D-R) indicate that the protection sub-criteria for the vulnerable age group has the greatest influence on other sub-criteria with a value of -1.519.

Table 5. Criteria

Criteria	D	R	D+R	D-R
Item 1	6,992	7,637	14,629	- 0,645
Item 2	8,550	7,298	5,848	1,252
Item 3	7,955	7,285	15,240	0,670
Item 4	7,451	7,483	4,934	- 0,031
Item 5	8,176	7,850	16,026	0,326
Item 6	7,881	7,461	15,342	0,420
Item 7	7,476	8,995	16,471	- 1,519
Item 8	6,239	7,994	14,233	- 1,755
Item 9	8,775	7,292	16,067	1,484
Item 10	8,335	7,270	15,605	1,065

3.2. Analytical Network Process Results

After determining the level of perception of the government in dealing with the spread of COVID-19 in each region as shown in table 2 and to increase public perception of government regulations and efforts, it is necessary to take steps by the government so that the programs offered to the community receive adequate support. strong so that this pandemic ends soon,

it is necessary to choose the appropriate criteria to be made into a program:

a. Cluster pemerintah
   Node :
   1) Quarantine the patient
   2) Tracking those who were forgotten to be infected
   3) health monitoring
   4) Establishment of a task force to respond to the crisis
   5) Social safety net program

The nodes in this cluster are the government's guarantee for efforts to create a social safety net due to the implementation of the all-field restriction program. Starting from wage subsidies, pre-employment, MSME assistance, loan restructuring and others, as instruments in government programs.

b. Social clusters and the community environment
   Node :
   1) Business restrictions to open
   2) Mass gathering
   3) Accurate delivery of information

The selection of criteria in this cluster is because the elements of food and safety will be an important dimension for the community in carrying out government programs.

c. Cluster Health service facilities
   Node :
   1) General health test
   2) Public awareness campaign
   3) Social distance
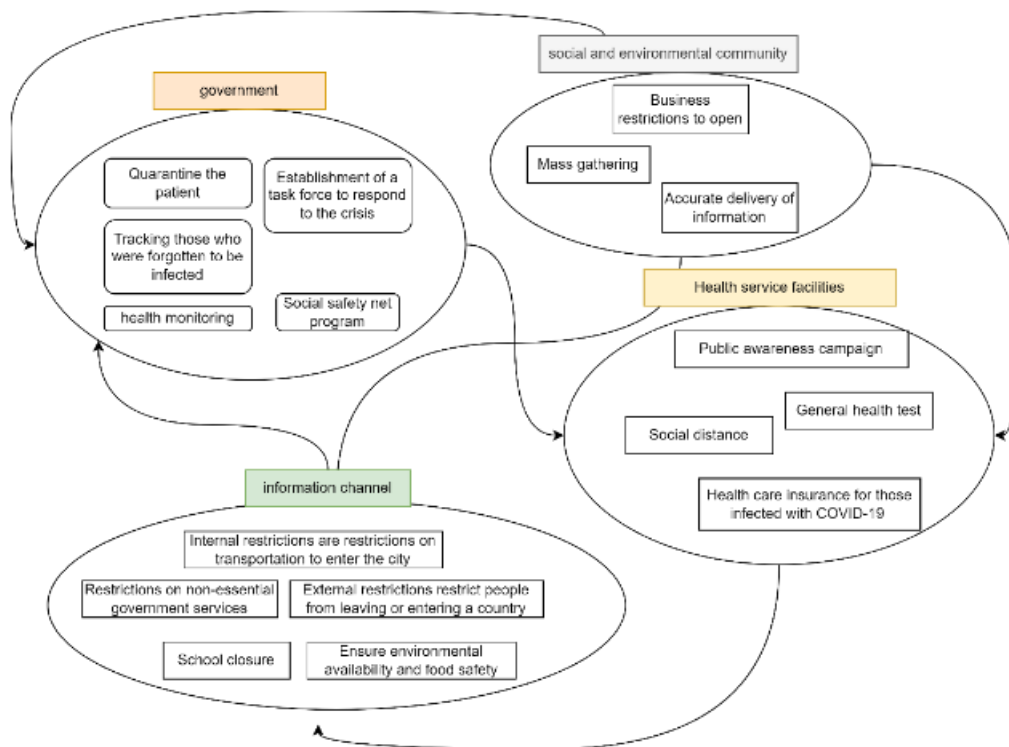   4) Health care insurance for those infected
   5) with COVID-19

Figure 1. Dependency Relationships between Criteria

The selection of these criteria becomes very crucial if the program run by the government to control COVID-19 is not comparable to the attitude of the volunteers and the readiness of medical services in solving the problems of residents who are infected, treated and died.

d. Cluster information channel
   Node:
   1) Internal restrictions are restrictions on transportation to enter the city
   2) Restrictions on non-essential government services
   3) External restrictions restrict people from leaving or entering a country
   4) School closure
   5) Ensure environmental availability and food safety

The selection of criteria in this cluster is useful in selecting alternatives to generate community satisfaction with the programs offered by the government in controlling COVID-19. After knowing the nodes of each cluster, the problem structure in ANP will then be arranged

ANP processing is done using Super Decision software. The expected result of processing using ANP is a mapping of the handling of the COVID-19 pandemic and its interrelationships with each other. This linkage also shows the relationship between subjects, because each subject has indicators in it. So that the ANP network diagram can be described.

The first step is to create a Subject Indicator network diagram, with input on the relationship between indicators obtained using Covid Score 10 and DEMATEL. The elements of the diagram consist of clusters, nodes, and connection lines. Clusters on this network are strategic subjects, while nodes are indicators. The connection line represents the relationship and influence between indicators. The next step is to draw up a network diagram between Strategic Subjects. In the network diagram, the dimensions are as clusters while the Strategic Subjects are nodes. The results of the mapping of the two network diagrams for handling the COVID-19 pandemic can be seen in Figures 1 and 2 below:
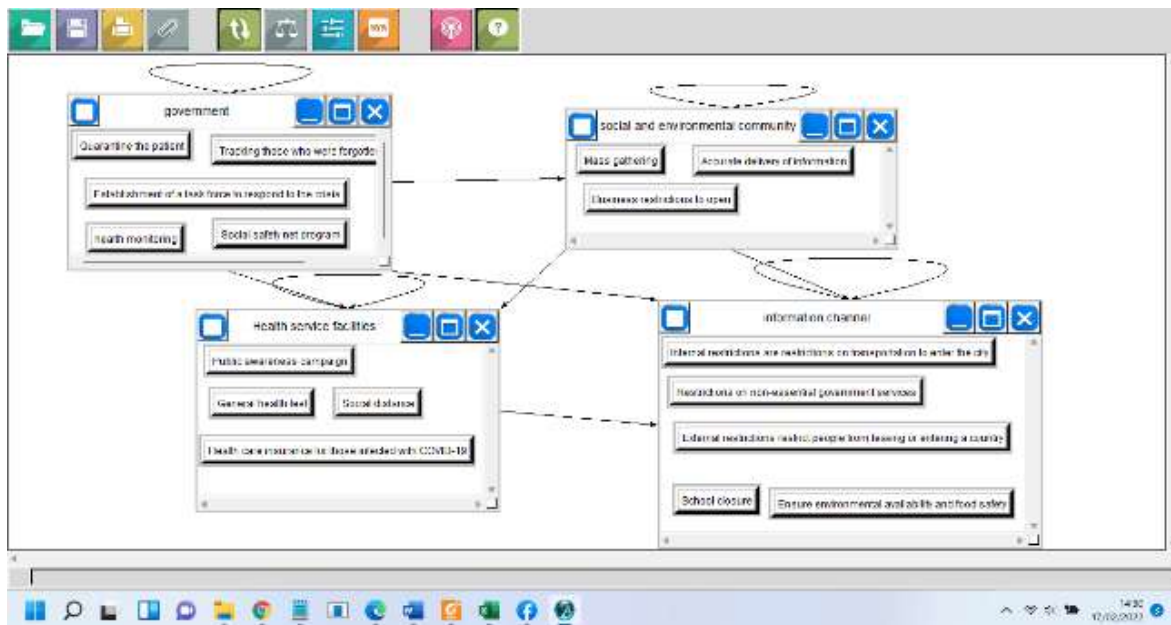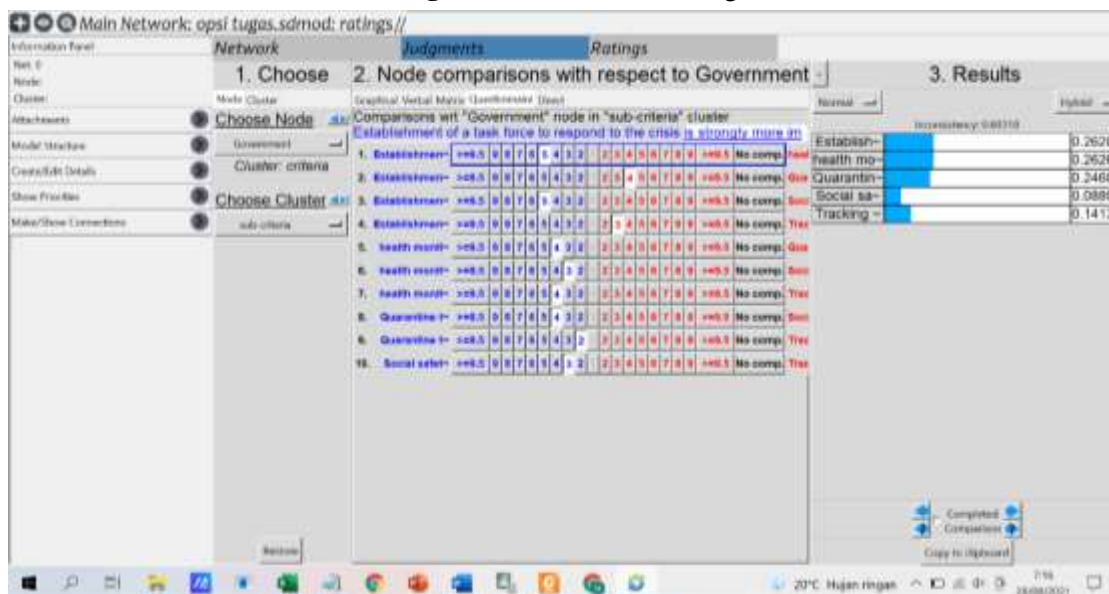
Figure 2. ANP network diagram

Figure 3. Doing pairwise comparisons

Based on the above structure, which has been compiled using super decisions software, then a comparison will be made for each alternative, sub-criteria and criteria as shown in Figure 4.

After completing all assessments on pairwise comparisons for all criteria, sub-criteria and alternatives. Respondents are required to complete the questionnaire in order to produce the expected results. The rate of returned questionnaires was 97% of the 713 questionnaires sent to respondents. This number is still below the number of COVID-score respondents.

This is due to the length of time in filling out the questionnaire, so that it takes up a lot of time from the respondents. The number of criteria and sub-criteria cannot be reduced in number, in order to obtain valid data. The final data processing results from the calculation process can be presented in Figures 4.These results indicate that the public still expects the government's role in handling the COVID-19 pandemic by implementing strict control programs. This is in line with the results of the covid-score which shows that most of the people of Yogyakarta still
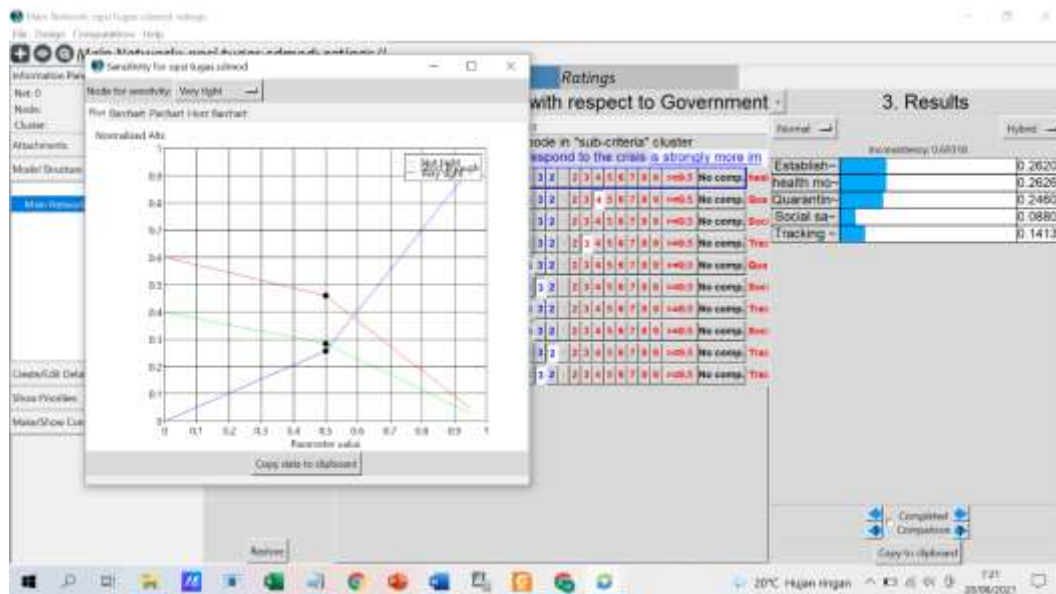
Figure 4. Results of data processing and Sensitivity analysis

Think that the programs run by the government can be supported.

To increase public perception of the government's efforts in dealing with COVID-19, the public expects that the government's main focus is to convey information to the public quickly and correctly with a value of 16.12 (see figure 4.

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