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ANALYSIS OF THE FACTORS THAT AFFECT THE PRIORITY SCALE OF ROADS

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ABSTRACT

With using this PLS researcher can get factor tested factor for determine scale priority way for the future researcher furthermore use tested factors no only assumption only less based on. For target respondents is from agency true government authorized handle road. Study this analyze factors what only influences scale priority way and give recommendation in election scale priority long way This done. Method used is with method spread questionnaire then in the analysis with using SmartPLS software and in the end bring up the real factors influential to determination scale priority.

Based on results PLS analysis of Department of Employment respondents Banjarmasin City Public Works and Spatial Planning Office, South Kalimantan Province Public Works and Spatial Planning Office, and Banjar Regency Public Works and Spatial Planning and Land anagement Office, which represents an indicator of Province, City and District. Very influential factor is factor technical i.e. last volume Traffic and Road Conditions.

Keywords: PLS, Factors, Priority Road

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I. INTRODUCTION

Preparation order priority handling road during This includes incoming segment data Good from musrenbang, policies, aspirations public nor from the results of an internal service survey , usually be dealt with continue through review field to which segments are considered For budgeted. From the results consideration the determination priority handling road Still in a manner random and character subjective, not yet use something method combined analysis a number of combined aspects and criteria so that got describing priorities need public with good (Damayanti, 2018).

Partial Least Squares constitute method powerful and frequent analysis also known as soft modeling because negate OLS (Ordinary Least Square) regression assumptions, such as the data should be normally distributed in multivariate and not there is a multicollinearity problem between variable exogenous (Wold 1985). Basically, wold developing PLS for test weak theory and weak data like amount small sample or exists problem data normality (Wold 1982). Even though PLS is used for explain There is nope connection between latent variable (Prediction), PLS can also be used for confirm theory (Chin and Newsted 1999). Remember a number of problem the so need done study For analyze the factors used researcher previously to be tested so get factor really influential to determination scale priority road.

II. LITERATURE REVIEW

Deep walk context network can interpreted as something connecting section between one knot with another node. In context system transportation, roads is functioning infrastructure as receptacle Where Then people, goods or vehicle can move from point origin going to point purpose (Apriyanto, 2008).

Variable from something study is activity test hypothesis (conclusion or guess temporarily). It means test compatibility between theory and facts empirical. (Priyatno, 2011). election construct based on a reflexive model or formative models depends from priority connection causality between indicators and latent variables (Bollen, 1989). Construct such as " personality " or " attitude " in general looked at as causing factors something we observe so that the indicator characteristic reflexive (Fornell and Bookstein, 1982).

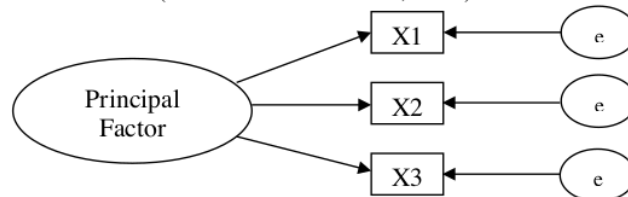


Figure 1. Principal Factor (Reflective) model

Construct with indicator formative have characteristics own a number of size composite used in literature economy like index of sustainable economics welfare, on the formative model , composite factors (latent variables) are influenced (determined) by the indicators . (Daly and Cobb, 1989).

View more contemporary possible exists multiple measurements (multiple indicator) x_i , ($i = 1, 2, 3, \dots, n$). So that something draft assumed is function from measurement (Bagozzi and Fornell, 1982).

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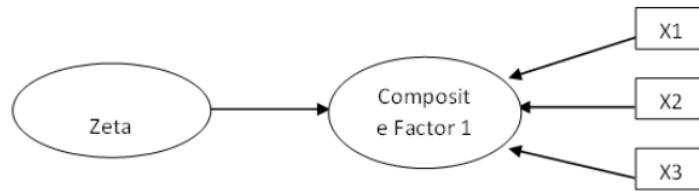


Figure 2. Composite Latent Variables (Formative) Models

According to Priyatno (2011), population is something group or gathering subject or object to be subject to generalization results research. Population can too interpreted as whole from characteristics (units or individual) results measurement to be object study whereas sample is part from population to be researched.

Equation models structure (SEM) in general represented by software such as AMOS, EQS LISREL, Mplus and others. SEM by essential offer ability for do analysis path (path analytic) with later variables (Chin, 1998). Comparison between PLSE SEM and CB-SEM can seen table 1.

Table 1 Comparison between PLS-SEM and CB-SEM

Criteria	PLS-SEM	CB-SEM
Research purposes	To develop theory or build theory (predictive orientation)	To test a theory or confirm a theory (parameter orientation)
Approach	Based on Variances	Based on covariance
Estimation Method	Least squares	Maximum Likelihood (generally)
Model Specifications and Model Parameters	Components two loadings, path coefficient and component weight	Factors one loadings, path coefficients, error variances and factor means
Structural Models	Models of great complexity with many constructs and many indicators (recursive form only)	Models can be recursive and non-recursive with small to medium levels of complexity
Model Evaluation and Data Normality Assumptions	Does not require normally distributed data and parameter estimation can be carried out immediately without the requirement of <i>goodness of fit criteria</i>	Requires normally distributed data and meets the criteria of <i>goodness of fit</i> before parameter estimation
Test of Significance	Cannot be tested and falsified (must go through <i>bootstrap</i> or <i>jackknife procedures</i>)	Models can be tested and falsified
Product Software	PLS Graph, SmartPLS, SPAD-PLS, XLSTAT-PLS, and so on	AMOS, EQS, LISREL, Mplus and so on

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Analysis of the Factors that Affect the Priority Scale of Roads

Table 2 Variables - Variables and Their Indicators

Endogenous Variables	Variable exogenous	Indicator	Source	
Factors that influence the Road Priority Scale in Government	X1 (Road Condition)			
		X1.1 Pothole Road	Procedures for the Preparation of the City Road Maintenance Program	
		X1.2 Amblas Street		
		X1.3 Cracked Road		
		X1.4 Used Groove wheel		
		X1.5 Long Way		
		X1.6 The width of the road		
		X1.7 Drainage		
		X2 (Traffic Volume)		
		X2.1 Vehicle personal wheels 2&4	Procedures for the Preparation of the City Road Maintenance Program	
		X2.2 Vehicle trade		
		X2.3 Walkers		
		X2.4 Transportation general		
		X2.5 Density level		
		X2.6 Wheel load / payload		
		X3 (Economy)		
		X3.1 Distribution more fast & cheap	Pilot Surveys	
		X3.2 Reach service transport general widespread		
		X3.3 Change mark land		
		X3.4 Investment		
		X3.5 Budget		
		X4 (Policy)		
		X4.1 Musrenbang	Damayanti, 2018	
		X4.2 Budget Shopping Plus		
		X4.3 Community Proposal		
		X4.4 Proposal Head Village		
		X4.5 Proposal Religious Figures		
		X4.6 Proposal Council Poke		
	X4.7 Proposal Regional Leadership			
	Land Use)			
	X5.1 It's in the trading zone	Damayanti, 2018		
	X5.2 Located in an industrial zone			
	X5.3 It's in a residential zone			
	X5.4 Be in the area productive			
	X6 (Road Class)			
	X6.1 Arterial road	Procedures for the Preparation of the City Road Maintenance Program		
	X6.2 road collector			
	X6.3 Local road			
	X6.4 Main road			
	X6.5 Alternative Path			

III. RESEARCH METHOD

3.1. Stages study

In study Here, there are two types variables used that is endogenous variables and variables exogenous. Endogenous variable is variable whose value influenced / determined by other variables in the model. Internal endogenous variables study This is influencing factors scale priority way (Y). Whereas variable exogenous is variable whose value No influenced / determined by other variables in the model as shown in Table 2 of the Variables and their Indicators.

3.2. Population and sample study

Variable data collected through survey interview direct to specified respondent in a manner random proportional (*Proportional simple random sampling*). Size sample planned as many as 150 respondents based on recommended ideal amount. For a high predictive model due to size sample the or more big produce difference or impact small asymmetry for the group.

3.3. Data collection techniques

Data collection was carried out with technique survey use questionnaires and interviews. Taking sample with Proportional simple random sampling according to Sugiyono that is method taking sample from member population with use method random without pay attention to the inner strata population . Instrument study use a Likert scale from 1-5, the measurement used with give weight specific to each answer statement . Statements used in research This statement positive , ie score One For the answer is absolutely no agree and score five for very agree answer can see from Table 3.

Table 3 Likert scale weight (Source: Prayitno, 2010)

Choice Statement	Mark	Explanation
Very No Agree (VNA)	1	Respondents really don't agree with statement because it really isn't in accordance with perceived state / condition
No Agree (NA)	2	Respondents No agree with statement because it really isn't in accordance with perceived state
Neutral (N)	3	Respondents No can determine with Certain perceived state
Agree (A)	4	Respondents agree with existing statement Because in accordance with perceived state
Strongly Agree (SA)	5	Respondents strongly agreed with existing statement Because in accordance with perceived state / condition

IV. RESULTS AND DISCUSSION

4.1. Data Processing with PLS

There is six fruit construct or variable exogenous from influencing factors scale priority road that is Factor condition road (X1), Last volume cross (X2), Economy (X3), Policy (X4), Land Use (X5) and System Road Network (X6). Variable exogenous the be measured with the indicators that influence it construct. In study this, relationship between constructs (X1, X2, X3, X4, X5, X6) and indicators characteristic formative Because indicator influence construct . Measurement Model Path Diagram with Second Order on smartPLS can seen in Figure 1.

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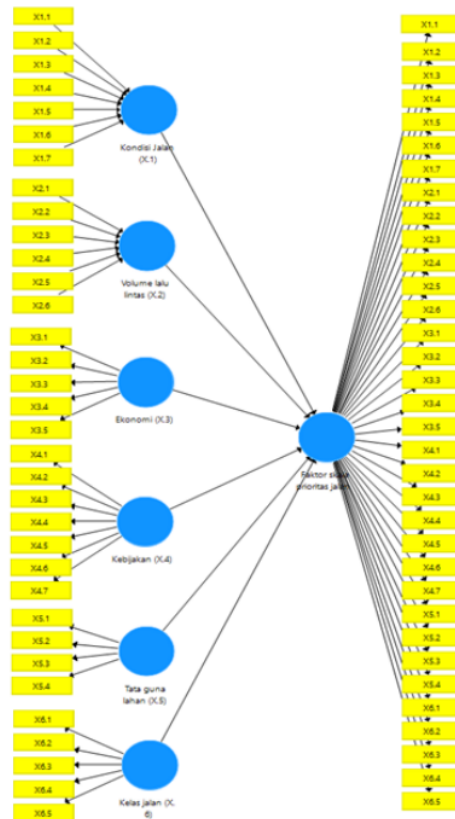


Figure 1 Diagram of the Measurement Model Path with Second Order on smartPLS

As shown in Figure 3, the second order latent construct (Y) is measured by three first order components, namely X1, X2, X3, X4, X5 and X6. Component X1 is measured by indicators X1.1, X1.2, X1.3, X1.4, X1.5, X1.6 and X1.7. Component X2 is measured by indicators X2.1, X2.2, X2.3, X2.4, X2.5, X2.6. X3 components are measured by indicators X3.1, X3.2, X3.3, X3.4, X3.5. X4 components are measured by indicators X4.1, X4.2, X4.3, X4.4, X4.5, X4.6, X4.7. X5 components are measured by indicators X5.1, X5.2, X5.3, X5.4. X6 components are measured by indicators X6.1, X6.2, X6.3, X6.4, X6.5. In the repeat indicators approach, the indicator size items are X1.1, X1.2, X1.3, X1.4, X1.5, X1.6, X2.1, X2.2, X2.3, X2.4, X2.5, X2.6, X3.1, X3.2, X3.3, X3.4, X3.5, X4.2, X4.3, X4.4, X4.5, X4.6, X4.7, X5.1, X5.2, X5.3, X5.4, X6.1, X6.2, X6.3, X6.4, X6.5 are used twice. The first is to measure the first order components X1, X2, X3, X4, X5, X6 and the second is to measure the second order constructs. In components X1, X2, X3, X4, X5, X6 the indicators are formative. Evaluation of formative indicator measurements is carried out by looking at the significance value of weight and multicollinearity.

The manifest variable in the block must be tested for multicollinearity. *The Variance Inflation Factor* (VIF) value can be used to test this. If the VIF value > 10 indicates the presence of multicollinearity. VIF testing is usually carried out on the evaluation of formative indicator measurement models, namely components X1, X2, X3, X4, X5, X6. VIF test data can be seen in Table 4.

Table 4 VIF values in the formative *outer model*

Indicator	VIF	Conclusion
X1.1	3,548	No there is multicol
X1.2	3,983	No there is multicol
X1.3	4,045	No there is multicol
X1.4	3,685	No there is multicol
X1.5	3,796	No there is multicol
X1.6	3,587	No there is multicol
X1.7	3,397	No there is multicol
X2.1	3,919	No there is multicol
X2.2	3,850	No there is multicol
X2.3	2,547	No there is multicol
X2.4	1045	No there is multicol
X2.5	3,021	No there is multicol
X2.6	3,438	No there is multicol
X3.1	2,695	No there is multicol
X3.2	3,308	No there is multicol
X3.3	3,364	No there is multicol
X3.4	2,914	No there is multicol
X3.5	3,367	No there is multicol
X4.1	5.135	No there is multicol
X4.2	3,690	No there is multicol
X4.3	3,090	No there is multicol
X4.4	3,029	No there is multicol
X4.5	3,959	No there is multicol
X4.6	3,271	No there is multicol
X4.7	3,430	No there is multicol
X5.1	2,589	No there is multicol
X5.2	1,760	No there is multicol
X5.3	3,475	No there is multicol
X5.4	3,280	No there is multicol
X6.1	3,095	No there is multicol
X6.2	2,675	No there is multicol
X6.3	3,657	No there is multicol
X6.4	3,548	No there is multicol
X6.5	3,418	No there is multicol

From the results of the VIF test above, it can be concluded that the formative *outer model* , namely components X1, X2, X3 , X4, X5 and X6, has a value of <10, which means that there is no multicolumn indication in the indicator.

Outer loading is a value that describes the relationship (correlation) between an indicator and its latent variable. The higher the outer loading, the closer the relationship between an indicator and its latent variable. Outer loading values > 0.7 are acceptable, while outer loading values < 0.4 are always eliminated from the analysis process. In general, outer loading values of 0.4 – 0.7 can be considered for elimination, when being eliminated increases the value of composite reliability or average variance extracted.

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Table 5 Outer loading value on reflective

Indicator	Outer loading	Condition	Information
Potholes X1.1	0.864	>0.7	No eliminated
Road collapsed X1.2	0.867	>0.7	No eliminated
Cracked road X1.3	0.836	>0.7	No eliminated
Used groove X1.4 wheels	0.840	>0.7	No eliminated
Road length X1.5	0.885	>0.7	No eliminated
Road width X1.6	0.875	>0.7	No eliminated
Drainage X1.7	0.851	>0.7	No eliminated
Vehicle personal wheels 2&4 X2.1	0.908	>0.7	No eliminated
Commercial vehicles X2.2	0.897	>0.7	No eliminated
Pedestrian X2.3	0.884	>0.7	No eliminated
Transportation general X2.4	0.067	< 0.7	eliminated
X2.5 density level	0.850	>0.7	No eliminated
Wheel load / payload X2.6	0.877	>0.7	No eliminated
Distribution more fast & cheap X3.1	0.861	>0.7	No eliminated
Reach service transport general extends X3.2	0.864	>0.7	No eliminated
Change mark land X3.3	0.881	>0.7	No eliminated
Investment X3.4	0.813	>0.7	No eliminated
Budget X3.5	0.849	>0.7	No eliminated
Musrenbang X4.1	0.906	>0.7	No eliminated
Budget shopping add X4.2	0.882	>0.7	No eliminated
Community proposals X4.3	0.865	>0.7	No eliminated
Proposal Head Village X4.4	0.847	>0.7	No eliminated
Proposal Religious Figures X4.5	0.862	>0.7	No eliminated
Proposal Board Pok X4.6	0.856	>0.7	No eliminated
Proposal Regional Leaders X4.7	0.869	>0.7	No eliminated
It is in the X5.1 trading zone	0.882	>0.7	No eliminated
Located in industrial zone X5.2	0.797	>0.7	No eliminated
Located in residential zone X5.3	0.908	>0.7	No eliminated
Located in a productive area X5.4	0.899	>0.7	No eliminated
Arterial road X6.1	0.875	>0.7	No eliminated
X6.2 collector ramp	0.858	>0.7	No eliminated
Local road X6.3	0.891	>0.7	No eliminated
Main Street X6.4	0.890	>0.7	No eliminated
Alternative Road X6.5	0.898	>0.7	No eliminated

Based on results outer loading table in Table 5, it is known whole outer loading value > 0.7 except for the X2.4 indicator, which means whole indicator will maintained except X2.4 because < 0.7. Analysis will next when indicator X2.4 is eliminated.

Average Variance Extracted (AVE) is something mark on average which explains how much big a latent variable or construct front explain the variance of the indicators in Table 6. Increasingly high AVE, then the more Good a latent variable or construct in explain the variance of the indicators. AVE > 0.5 means a latent variable or construct has absorb information from the indicators more of 50%. The minimum threshold of AVE is 0.5, ie nikai AVE > 0.5 can accepted.

Table 6 AVE Value on Reflective

Variable	AVE	Condition	Information
Economy (X.3)	0.729	> 0.5	accepted
Policy (X.4)	0.756	> 0.5	accepted
Administration land (X.5)	0.761	> 0.5	accepted
Class road (X.6)	0.779	> 0.5	accepted

In the PLS-SEM context, Composite reliability in Table IV.10 is something size more reliability in accordance compared to cronbach's alpha. Accepted Composite reliability value is > 0.7.

Table 7 CR Value on Reflective

Variable	AVE	Condition	Information
Economy (X.3)	0.931	>0.7	accepted
Policy (X.4)	0.956	>0.7	accepted
Administration land (X.5)	0.927	>0.7	accepted
Class road (X.6)	0.946	>0.7	accepted

Required three times the bootstrapping process arrived get satisfying results condition ie P Value < 0.05 / T statistic > 1.96. In Figure 2 can see the path diagram latest after done test several times. Table 8 shows that indicator Already characteristic significant . this can also be interpreted that indicators of collapsed roads (X1.2), cracked roads (X1.3), used grooves wheels (X1.4), road length (X1.5), road width (X1.6), and drainage (X1.7) can be influence and measure construct condition road (X1). Last volume cross can be measured with indicator Vehicle personal 2&4 wheel (X2.1), Vehicle commerce (X2.2), Pedestrians (X2.3), Density level (X2.5), Wheel load /payload (X2.6). On the economy influencing indicators is Distribution more fast & cheap (X3.1), Reach service transport general extends (X3.2), Changes mark land (X3.3), Investment (X3.4), and Budget (X3.5). On policy influencing indicators is Musrenbang (X4.1), Budget Shopping Add (X4.2), Community Proposal (X4.3), Proposal Head Village (X4.4), Proposal Religious Figure (X4.5) Suggestion Pikir Dewan (X4.6), and Proposals Regional Leaders (X4.7). On use land influencing indicators is Located in a trading zone (X5.1), Located in an industrial zone (X5.2), Located in a residential zone (X5.3) and located in an area productive (X5.4). On class road influencing indicators is Arterial road (X6.1), street collector (X6.2), local roads (X6.3), alternative roads (X.6.4) and main roads (X6.5).

Table 8 Bootstrapping Resampling Results End

Indicator	P Value	Condition	Information
Potholes X1.1	0.129	> 0.05	No significant
Road collapsed X1.2	0.001	< 0.05	significant
Cracked road X1.3	0.007	< 0.05	significant
Used groove X1.4 wheels	0.008	< 0.05	significant
Road length X1.5	0.000	< 0.05	significant
Road width X1.6	0.003	< 0.05	significant
Drainage X1.7	0.000	< 0.05	significant
Vehicle personal wheels 2&4 X2.1	0.013	< 0.05	significant
Commercial vehicles X2.2	0.000	< 0.05	significant
Pedestrian X2.3	0.000	< 0.05	significant
Transportation general X2.4	0.765	> 0.05	No significant
X2.5 density level	0.011	< 0.05	significant
Wheel load / payload X2.6	0.033	< 0.05	significant

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Indicator	P Value	Condition	Information
Distribution more fast & cheap X3.1	0.000	< 0.05	significant
Reach service transport general extends X3.2	0.000	< 0.05	significant
Change mark land X3.3	0.000	< 0.05	significant
Investment X3.4	0.000	< 0.05	significant
Budget X3.5	0.000	< 0.05	significant
Musrenbang X4.1	0.000	< 0.05	significant
Budget shopping add X4.2	0.000	< 0.05	significant
Community proposals X4.3	0.000	< 0.05	significant
Proposal Head Village X4.4	0.000	< 0.05	significant
Proposal Religious Figures X4.5	0.000	< 0.05	significant
Proposal Board Pok X4.6	0.000	< 0.05	significant
Proposal Regional Leaders X4.7	0.000	< 0.05	significant
It is in the X5.1 trading zone	0.000	< 0.05	significant
Located in industrial zone X5.2	0.000	< 0.05	significant
Located in residential zone X5.3	0.000	< 0.05	significant
Located in a productive area X5.4	0.000	< 0.05	significant
Arterial road X6.1	0.000	< 0.05	significant
X6.2 collector ramp	0.000	< 0.05	significant
Local road X6.3	0.000	< 0.05	significant
Main Street X6.4	0.000	< 0.05	significant
Alternative Road X6.5	0.000	< 0.05	significant

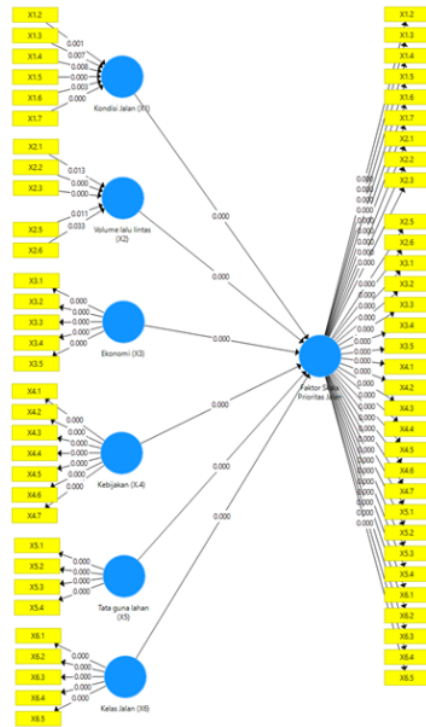


Figure 2 Path Diagram Results End

4.2. Recommendations election road

Analysis results with smartPLS and based on results final variable in Table IV.16 highest is as following:

1. Last volume cross (X2) with statistical T value of 23,861. Last volume cross is the most influential variable based on analysis smartPLS because variable This determine that Then cross in a road tall or low, if Then cross tall road will fast broken and necessary improvement, meanwhile Then cross very rare low There is repair.
2. Conditions road (X1) with statistical T value of 21,597. Condition road is the most influential variable second based on analysis smartPLS because like last volume cross, in evaluation technical condition grouped paths become damaged light, broken medium and broken heavy. If damaged weight is necessary repair and for damaged light not enough need handling.
3. Policy (X4) with statistical T value of 17,556. Policy is the most influential variable third because although processing road based on proposal, however proposal the will filtered based on past volume traffic and conditions road.
4. Road Class (X6) with statistical T value of 15,557. Class road is the most influential variable fourth. Class road reasonable influential in election scale priority road because from here We Can identify is handling road enter in class his.
5. Governance land (X5) with statistical T value of 12,916. Administration land is the most influential variable fifth. Administration land influence scale priority road Because here isa book see what is the area being worked on in accordance with allotment area the.
6. Economy (X3) with Economic T statistic is 11041 the most influential variable sixth, economy plays a very important role in scale priority road.

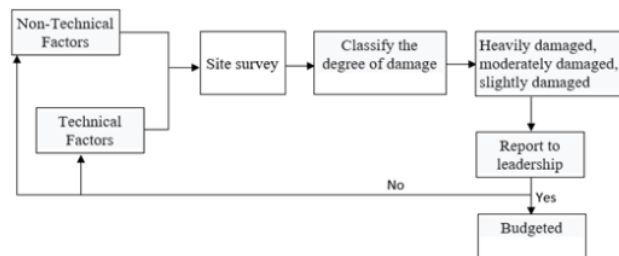


Figure 3 Flowchart of The Selection Process Road

CONCLUSION

Road Priority Scale is influenced by factors condition way, last volume cross, economy, policy, use land and class road.

On research previously use AHP method produces non- technical factors have level great weights, ie variable policy. Research results that have been done this use smart PLS software and issue factor technical be the highest i.e. past volume traffic and conditions road. On election scale priority long way This done No only non- technical view but also must with factor technical. Proposal from non- technical must supported with survey data from service related so you can budgeted, a survey was conducted For know condition the way to go budgeted is of course damaged or no. Based on Analysis results from Department of employment respondents Banjarmasin City Public Works and Spatial Planning Office, South Kalimantan Province Public Works and Spatial Planning Office, and Banjar Regency Public Works and Spatial Planning and Land anagement Office, which represents indicator from Province, City and District. Very influential factor is factor technical that is condition path and last volume cross.

ACKNOWLEDGEMENTS

After learn all related research processes whole problems tested and for interest study Next, suggestions are made for notice every detail statements on the questionnaire used tool measuring in research. Besides that's a must noticed is from many sample, Stakeholders and the amount indicators made, because amount different samples and indicators can produce different analysis.

REFERENCES

- [1] Chin, W. W. 1998. The Partial Least Square Approach for structural equation Modeling. In G. A. Marcoulides (Ed.), Modern methods for business research (pp. 295-236). Londosn : Lawrence Erlbaum Associates.
 - [2] Chin, W. W. And Newsted, P.R.1999." Structural equation modeling analysis with small samples using partial least square," In Statistical Strategies For Small Sample Research, Hoyle, R. (ed.), Sage Publications, Thousand Oaks, CA, pp.307-341.
 - [3] Damayanti. 2018. Penentuan Skala Prioritas Penanganan Jalan Kota Di Banjarmasin. Tesis, Program Magister Teknik Sipil, Universitas Lambung Mangkurat.
 - [4] Ghozali, Imam. 2006. Structural Equation Modelling Metode Alternatif dengan Partial Least Square. Badan Penerbit Undip. Semarang
 - [5] Ghozali, Imam. 2014. Structural Equation Modelling Metode Alternatif dengan Partial Least Square Edisi 4. Badan Penerbit Undip. Semarang
 - [6] Hardiani, D.P. 2016. Analisis Faktor-Faktor yang mempengaruhi Pemilihan Angkutan Sungai Di Banjarmasin. Tesis, Program Magister Teknik Sipil, Universitas Lambung Mangkurat.
 - [7] Manajemen Transportasi. Pedoman Format Penulisan Tesis. Manajemen Transportasi, Program Studi Magister Teknik Sipil, Universitas Lambung Mangkurat.
 - [8] Radam, I.F. 2017. Pengaruh Gaya Hidup Terhadap Pemilihan Moda Transportasi Sungai Kota Banjarmasin. Disertasi, Program Doktor Teknik Sipil, Universitas Diponegoro.
 - [9] Radam, I.F. 2020. Kebijakan Perbaikan Angkutan Feeder untuk Menunjang BRT Berdasarkan Persepsi Masyarakat Pengguna. Buletin Profesi Insinyur.
- Theses:**
- [10] D.S. Chan, Theory and implementation of multidimensional discrete systems for signal processing, doctoral diss., Massachusetts Institute of Technology, Cambridge, MA, 1978
- Proceedings Papers:**
- [11] W.J. Book, Modelling design and control of flexible manipulator arms: A tutorial review, Proc. 29th IEEE Conf. on Decision and Control, San Francisco, CA, 1990, 500-506

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