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of Graduate School on Sustainability

HUMAN SECURITY, GOVERNANCE AND POLICY



November 5-6, 2020
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International Conference of Graduate School on Sustainability

HUMAN SECURITY, GOVERNANCE AND POLICY

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HUMAN SECURITY, GOVERNANCE AND POLICY

Malang, INDONESIA
November 5-6, 2020

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FOREWORD

Despite of challenges brought by the Covid-19 pandemic, we are so proud that we had perservered to look forward on making this academic event possible. We are also very proud that some important invited speakers and academics could gather to share and discuss about their research and experience under the theme of Policy, Development, and Freedom: Freedom from Fear, Freedom from Want and Freedom to live in Dignity. This platform shows our interest toward Human security.

We will indeed discuss many things. We believe that a big theme under this conference would address current threats and mitigate issues aggravated by sudden hit of Covid 19 viruses, which bring massive impacts on how the world run in economy, technology, socials, etc. The human security approach and commitment to implement 'freedom from fear, freedom from want and freedom to live in dignity' become our virtues for establishing security and human dignity.

We have a great hope that similar scientific events will be continually conducted at University of Merdeka Malang. This is important since these kinds of events can be a bridge for graduate students to publish their research papers in the international journals. The last, thank you to all the Committee for organizing this International Conference happen and making this proceeding arrange well.

Wassalaamu'alaikum wr.wb.,

Professor Grahita Chandrarin

Director of Graduate School, University of Merdeka Malang

INTRODUCTION

On behalf of the organizing committee, it is our sincere pleasure to officially present the proceedings, which is based on the 5th-International Conference of Graduate School on Sustainability (5th-ICGSS) with the title of “HUMAN SECURITY, GOVERNANCE AND POLICY “. Graduate School of University of Merdeka Malang as an educational institution takes a role in a small part in the academic field by conducting scientific discussions from scholars and practitioners in a conference forum.

The exploration of sustainable development issues is still very open, especially at the regional level. These issues inspired Graduate Program, University of Merdeka Malang to develop research and teaching in sustainability topics. The conference is based on the belief that there are a large number of problems related to human security that are interdisciplinary and in the form of regional case studies in different countries. This proceeding contains most of the articles that show high interest in the topic of human security and environment, human security in relation to economic development and trade as well as human security in relation to socio-cultural development.

The conference is intended to explore how Indonesia and other international audiences face these issues. We hope this proceedings as a collection of research articles will be useful to assist the Indonesian government in particular and other parties in the world in providing alternative solutions and challenges for sustainability in the future.

Malang, December 10, 2020

Prof. Dr. Bonaventura Ngarawula, MS.

Editor in Chief

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Topic 1:

Human Security
in relation to **Sustainable Environment**

Implementation of Management of Slum Settlement in Cities, Review of Slum Settlement Problems in Indonesia

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ABSTRACT

Eliminating the problem of slum settlements is one of the efforts to achieve development goals in today's world. This is one of the goals to be achieved for the benefit of humans and nature. It is important to know the various efforts to solve the problem of slum settlements to get the maximum results and the target according to the characteristics of each area. The literature review method this time is a systematic review method where the authors classify various methods and approaches in handling slum problems in Indonesia. The purpose of this review article is to find out various kinds of approaches or Methods in dealing with the problem of urban slum settlements in Indonesia. Based on the above objectives, the problem can be formulated, what are the methods which are handling urban slum settlement problems in Indonesia. This review article uses literature studies and then synthesizes it by reading, understanding, and analyzing the information conveyed by the authors in the concepts they put forward. The result is a grouping of various methods in dealing with the problem of slum settlements.

Keywords : Implementation; Urban; Slums

1. INTRODUCTION

1.1. General

This article is a review of some articles that write a review about the various ways of handling settlements in urban slums in Indonesia. The handling of slums is one of the development goals in Indonesia as a form to support sustainable development. The sustainable development goals or the Sustainable Development (SDGs) are 17 goals with 169 the achievement of a measurable and a deadline that has been determined by the united nations as the agenda of the world. The purpose of this was declared jointly by the countries on the UN resolution as the ambition of the joint development up to 2030. This purpose is the continuation or replacement of the Millennium Development Goals (MDGs) (INFID, 2015), 17 in addition to the purpose of covering the problems of sustainable development also includes the alleviation of poverty and hunger, improved health, and education, city development more sustainable, addressing climate change, as well as protect the forest and the sea (Mr. Wynne Boelt, 2014).

To support one of the above objectives the Government of the Republic of Indonesia, particularly the goal to 11, i.e., "the City and the sustainable communities; Make cities inclusive, safe, strong, and sustainable," and goal 6, namely clean Water and sanitation; Ensure access to water and sanitation to all, then in the RPJMN poured movement 100-0-100 that is 100 percent universal access to drinking water, 0 percent of the slums, and 100 percent access to sanitation is feasible and should be achieved until the year 2019 (National Medium Term Development Plan 2015-2019). The Program is realized in the form of the Program Cities Without Slums (Kotaku). Based on the results of the identification of the slums that have been updated up to the year 2016 by the Directorate of Development of Settlements, have been obtained the amount of area of the slums that are in the target locations of the Program Kotaku by 23.656 Ha. The area to be basic data that was agreed between the Government and the Local Government to be dealt with being a "zero" area of the slums up to the year 2019. To achieve these objectives, the necessary engagement, and integration of the handling of a variety of stakeholders, including the participation of the non-governmental group.

So to achieve this it is necessary to know how the efforts of the handling of slums in urban areas. Thus the purpose of a written review article this time is to know the various kinds of approaches or methods of handling the problem of slums in urban areas. The problems of slums have become

very important because it is a trend and be on the agenda of the world to achieve “Sustainable Development Goals” or SDGs.

2. LITERATURE REVIEW

2.1. Implementation

Implementation according to Brynard in Bathari et al., (2019) is to carry out, to accomplish, to fulfill, to produce, to complete. While Van Meter and Van Horn defines implementation as actions performed by individuals and groups, both government and private sector aimed to achieve the goals set out in the decisions of the previous policy (Winarno, 2012). The implementation of the law in which various actors, organizations, procedures, and techniques work together to implement policies to achieve the purpose of the policy or program (Rani Eliza Zethary, 2016). More Bernadini R. Wijaya and Susilo Supardo stated that implementation is the process that informs a plan into practice (Pasolong, 2007). So Implementation is an action carried out based on a plan to achieve the expected goals.

2.2. Slums

The Law of the Republic of Indonesia Number 1 Year 2011 on Housing and Settlement Area defines the settlements as part of a residential environment consisting of more than one unit of housing that has the infrastructure, facilities of public utilities, as well as having to support the other functions in the urban or rural areas. While the Slum is the impression or general overview of the attitude and behavior of low judging from the standard of living and income of the middle class (Tendean et al., 2014). A Slum according to Law of the Republic of Indonesia Number 1 Year 2011 on Housing and Settlement Area is the settlement uninhabitable due to the irregularity of the buildings, level of building density is high, and the quality of the building, as well as facilities and infrastructure, are not eligible. A slum is an area with the shape of a dwelling that is not structured, not patterned, not the availability of public facilities, infrastructure, and facilities of clean water, toilets, and physical form are not feasible and also regularly every year flooded (Wijaya, 2016). Slums can lead to a variety of problems and impacts, both in terms of social, government, health, the environment, and in terms of the other. The slums are part of the slum which is used as a residence that the condition of the building does not meet the ideal standard or not worth it which is inhabited by the population of economically under (Hanifah & Widiyastuti, 2016). Face urban be deteriorated and dirty, the planned demolition of the building difficult run (Riogilang, 2016).

Characteristics of slums in Indonesia describes a settlement area that physically has environmental conditions that are not healthy, dirty, polluted, moist, and other (Hariyanto, 2007). According to Setiawan, (2014) argues that the slum is the state of the residential environment quality is not very livable (Bainamus et al., 2017). Budiharjo in Niken Fitria & Rulli Pratiwi Setiawan, (2014) characterizes, among others, the density of buildings is very high, prone to social diseases and the environment, the quality of buildings is very low, not served by infrastructure adequate environmental as well as endanger the sustainability of life and livelihoods of its inhabitants. Slum (slum area) can also be defined as settlements that do not meet the requirements for occupancy of both technical and non-technical (Dr. Adon Nasrullah Jamaludin, 2015). The emergence of the slums is one indication of the failure of housing programs to the siding on home production, especially for people in the upper-middle economic class as well as prioritize the property of the rental house (Sueca, 2004). So The Settlements are residential environments that are good quality dwellings and infrastructure and supporting facilities are not unfit to support life and livelihoods.

2.3. Urban

According to the Legislation of the Republic of Indonesia Number 26 the Year 2007 About spatial planning, an urban area is a region which has the main activity not farming with the arrangement of the region as a function of urban settlements, concentration, and distribution services, government services, social services, and economic activities. While Bintarto defines that the

urban area is a city with a region of influence (Dr. Adon Nasrullah Jamaludin, 2015). While the city is a network of human life which is characterized by high population density and tinged with the social strata of the economy is heterogeneous and the pattern of materialistic. So urban in other words can be defined as the city itself with all the activities that are inside. The city is an area that has Distinctive features of the metropolis that are formed through a natural process that is long and not created suddenly (Dr. Ir. A Tonny Suhartono, 2019). So urban in other words can be defined as the city itself with all the activities that are inside.

2. METHODS

To add insight into the handling of slum areas in urban areas required some references that can be used as material for the handling of the fore adapted to the location and existing conditions. Ardi & Rahmawati, (2019) in an article entitled "The Direction of Slum Village Kedungcowek Surabaya" using the Concept of Land Readjustment, using statistical methods descriptive analysis with SPSS variables such as roads, drainage, sanitation, clean water, a means of supporting the fishing settlements, solid waste, building density, means of livelihood, the status of land ownership, the condition of the building, as well as the suitability of the allotment and broad Persil. Data collection is done by observation and questionnaires to the community inhabitants of the settlements. Analyzed by the method of the cluster the result of the calculation of SPSS to find the similarity of characteristics possessed then mapped to facilitate interpretation. The result of this study is a map of the distribution of cluster slum settlements in Kelurahan Kedungcowek.

While Kaseke & Ngangi, (2017) conducted a study with the title "Analysis of Pattern Planning of the Handling of the Slum Area in the Sindulang One Kecamatan Tuminting Manado City," using the method of analysis formula assessment location refers to the Regulation of the Minister of Public works and Housing of the Republic of Indonesia No. 02/PRT/M/2016 about improving the Quality of Housing for Slum and Slum areas with the variables already determined. As for the handling using a model of Restoration, rejuvenation, and resettlement as contained in Article 97 of the law of the Republic of Indonesia Number 1 Year 2011 on Housing and settlements. Data collection was performed by the method of Field Research Method (field observations) and Library Research Method (literature study). Primary Data from the field-collected in the form of the identification of space utilization, the status of ownership of land and buildings, the state of the infrastructure, and existing settlements. While the data-the secondary data collected is supporting data that have been processed and published by the relevant government agencies.

Works another study entitled "Planning the Handling of the Slums (The Study of the Determination of the Priority for improving the Quality of Infrastructure in The Slums in the City of Malang)" by Wijaya, (2016), using the method of quantitative analysis to measure the condition of slums and to determine the priority in the slums. The measurement is done by using the Guidelines Quality Improvement to Slum Housing and Slum Settlement in standard by the Directorate General of Cipta Karya of the Minister of Public works and Housing of the Republic of Indonesia. Strategies for improving the quality of infrastructure used the method of SWOT. The variables used in this study are the Condition of Roads, Drinking Water Supply System, Drainage System, Environmental System, Black and Gray Water Management, Waste Management Systems, and Fire Protection Systems. The collection of data using questionnaires, field observation, and documentation.

In another study entitled "Assessment of the Physical Environment in the Slums in the Coastal Area of Semarang City", performed by Hanifah & Widiyastuti, (2016), classify the level of untidiness into three levels, namely the Slum is High, the Slums Are and the Slum Low. The variable used refers to a variable that is determined by the Directorate General of Cipta Karya Ministry of Public works and Housing. A scoring system using a scoring system with a certain scale with the formula :

$$\text{Slum Level} = A + B$$

Where :

A = value of building condition

B = the value of infrastructure availability

Then analyzed the factors that lead to the slums in the study area.

Table 1. The Indicator Value of the Condition Of the House;

Indicator	Parameter	Score	Max. Value	Min. Value	
Regularity of the building	Acces road	There is a way	2	1	
		There's no way	1		
Position of the Building	organized	organized	3	1	
		Less organized	2		
		unorganized	1		
Building density	< 50%	< 50%	3	1	
		50 – 75 %	2		
		> 75%	1		
Feasibility of roof building	roof	House tile	3	1	
		Asbes	2		
		Palm fiber	1		
	floor	Ceramics/granite concrete	Ceramics/granite	3	1
			concrete	2	
			Not hardened	1	
	wall	brick wood bamboo	brick	3	1
			wood	2	
			bamboo	1	
	Division of space	unclear Quite clear Clear Very clear	unclear	1	1
			Quite clear	2	
			Clear	3	
Very clear			4		
lighting	Very bad bad Pretty good good Very good	Very bad	1	1	
		bad	2		
		Pretty good	3		
		good	4		
		Very good	5		
humidity	Very bad bad Pretty good good Very good	Very bad	1	1	
		bad	2		
		Pretty good	3		
		good	4		
		Very good	5		

Source : Hanifah & Widiyastuti, (2016)

Table 2. Indicator of the value of infrastructure availability

Indicator	Parameter	Score	Max. Value	Min. Value
Source of clean water	Clean water	Bottled water	4	1
		Corporate water	3	
		Public well	2	
		Private well	1	
Distribution system	pipe Not a pipe	pipe	4	2
		Not a pipe	2	
Environmental accessibility	Road structure	Asphalt	4	1
		Paving/conblock	3	
		concrete	2	
		Not hardened	1	

Indicator		Parameter	Score	Max. Value	Min. Value
	Street light	available	4	4	2
		Not available	2		
The Drainage system	Sewer condition	Very bad	1	5	1
		bad	2		
		Pretty good	3		
		good	4		
		Very good	5		
The sawage system	Toilet	individual	4	4	2
		communal	2		
	Manufacture of Septictank	communal	3	3	1
		Individual	2		
The Waste system	Waste management	government	4	4	1
		nongovernmental	3		
		Individual	2		
		No, nothing	1		

Source : Hanifah & Widiyastuti, (2016)

On the calculation of the value of the lowest 20 and the highest 68, the rate of the slum area is classified into three namely high, medium, and low. The scale division of the level of untidiness is formulated as follows :

$$\begin{aligned}
 \text{Range} &= (\text{Max. value} - \text{Min. value}) / \text{the number of classes} \\
 &= (68 - 20) / 3 \\
 &= 16
 \end{aligned}$$

So obtained classification rate of the slum as seen in the table below :

Table 3. Indicators Of Value The Availability Of Infrastructure;

Value scale	Slum level
20 - 36	Light slum
37 - 53	Medium slum
>54	Heavy slum

Source : Hanifah & Widiyastuti, (2016)

Next Niken Fitria & Rulli Pratiwi Setiawan, (2014) in his research entitled "Identification of the environmental characteristics of the slum settlement in Kelurahan Kapuk, Jakarta Barat", using the method of analysis statistical descriptive. The aspects measured in this study are (1) aspects of Facilities and Infrastructure includes clean water, accessibility, solid waste, sanitation, and drainage; (2) the Physical Aspect includes the physical condition of the residential building; (3) the Social Aspect includes the citizens of immigrants or native citizens, the level of education; (4) Economic Aspects include the type of work and level of income; as well as the Aspect of Danger (Hazard) include vulnerability to flooding. methods of data collection using the observation method passive or just make observations and supported with questionnaires and documentation. While the method of data retrieval using a proportional random sampling technique in the region which is in the category of slums. The determination of the number of samples is calculated with the formula Slovin namely.

$$n = N / (N(d)^2 + 1)$$

N = The size of the population

n = Large samples are needed

d = The standard errors used

Research with title “Study of the Characteristics of the Slums In the Village of City (Case Study: Kampung Gandekan Semarang) “ performed by Raisya Nursyahbani; Pigawati & Bitta, (2015), identifying the characteristics of the slums in the village of the city with a look at the characteristics of occupants, characteristics of the dwelling, the characteristics of facilities and infrastructure as well as environmental characteristics and the characteristics of the level of untidiness. The characteristics of the occupant measured by the social conditions (education level, type of work, population density) and economic conditions (the fulfillment of daily needs and fund repair of the dwelling). The characteristics of the Dwelling measured from the activity and the activity in the dwelling, the identification of the appearance of the building, material, number of occupants, and maintenance. The characteristics of the Facilities and Infrastructure are measured from the conditions and management services include the condition of the road environment, waste management, drainage conditions, sanitary conditions, water conditions clean. The characteristics of the environment measured from the activity that occurs that affects the environmental conditions of settlements. As for determining the characteristics of the level of untidiness is to conduct an assessment of existing conditions. The assessment will be carried out by the assumptions of the researchers if the stated good then got the points 3, for bad got points 1 and are getting 2 points. The assessment scoring is done on each variable as shown in the table below :

Table 4. Indicators Of Value The Availability Of Infrastructure;

criteria	Variable	Kondition	value
Feasibility of building	Building quality	>50% non permanent	3
		25-50% non permanent	2
		<25% non permanent	1
	Clean water infrastructure	Pipelines<30%	1
		Pipelines 30-60%	2
		Pipelines>60%	3
	Sanitation infrastructure	Individual sanitation <30%	1
		Individual sanitation 30-70%	2
		Individual sanitation >70%	3
The availability and Condition of Urban Infrastructure	Infrastructure waste management	services <50%	1
		services 50-70%	2
		services >50	3
	Infrastructure drainage	puddle >50%	1
		puddle 25-50%	2
		puddle <25%	3
	road conditions	Bad >70%	1
Bad 50-70%		2	
Bad <50%		3	
The Density Of the City	Population density	>201 people/ha	1
		151-200 people/ha	2
		<150 people/ha	3
	Space /people	<10 m ² /people	1
		10 m ² /people	2
		>10 m ² /people	3
The Legality Of Ownership Of Land	The Status Of Land Ownership	>66,6% not yet certified	1
		33,3-66,6% not yet certified	2
		<33,3% not yet certified	3

Source : Raisya Nursyahbani; Pigawati & Bitta, (2015)

Other works by Ayuningtyas et al., (2019), in his research titled Evaluation methods Verify the Location and Update the Profile of the Slums in the Preparation of the Plan for the Prevention and

Improvement of Quality of Settlements Urban Slums, evaluated by the method of TBA (Theory-Based Approach), which is the method that uses the theory as a reference. The benchmark used is the Guide the Preparation of RP2KPKP issued by the Director-General of Cipta Karya of the Ministry of PUPR. This assessment will show an overview of the profile settlement rundown is the latest. Schematically the position of the verification of the slums can be seen in figure 1.

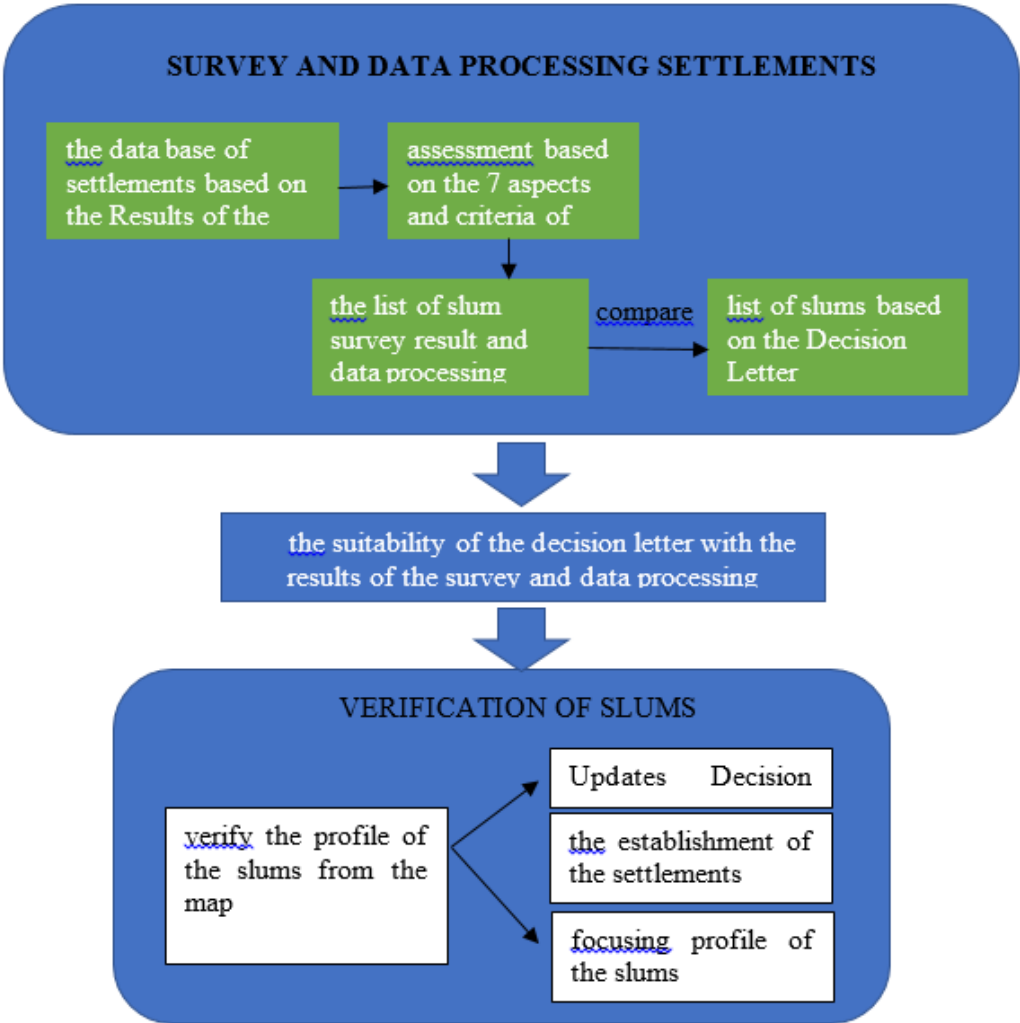


Figure 1 : Position verification the location of the slums
 Source : ; Ayuningtyas et al., (2019)

Then Stevanni Imelda Christianingrum, (2019), in his work entitled “the Implementation of the Program Cities Without Slums In East Semarang District”, using qualitative research methods. Technical analysis that is used are (1) data reduction; (2) data display; and (3) the decision and verification. Data collection was performed with the technique of triangulation (combined) data analysis is inductive/qualitative, and qualitative research results further emphasize the meaning rather than generalization.

While Tiara Rinalva Madhianti, Gusti Zulkifli Mulki, (2018), conducted a study titled “Evaluation of Slum Kelurahan Sungai Jawi Outside the Kecamatan Pontianak Barat”, by using the method of descriptive quantitative. The primary data collection was done by field observation, questionnaire, and also the documentation of the location. Collection of secondary data by visiting the relevant agencies. While the analysis techniques using the Regulation of the Minister of Public works and Housing of the Republic of Indonesia No: 02/PRT/M/2016 about improving the Quality of Housing and Slums, which is carried out to obtain the value of the level of untidiness. Followed by analysis Crosstab. Statistical tools are often used to measure the association in a Crosstab is the chi-square test and contingency coefficient. This tool is on the practice of statistics commonly applied to test whether there is a relationship between the rows and columns of a dau

of the fruit variable.

Furthermore, Wulandari et al., (2019), in his research entitled “Implementation of the Program Cities Without Slums in the Village, Berbas Tengah Kecamatan Bontang Selatan Bontang”, using qualitative descriptive methods. The focus of research using the model of Van Meter and Van Horn with a top-down approach. The technique of data collection is library research and fieldwork research with observation, interview, and documentation.

3. RESULT AND DISCUSSION

The research was undertaken by Ardi & Rahmawati, (2019); Kaseke & Ngangi, (2017), more emphasis on the pattern of handling a slum but they have a different approach. Ardi & Rahmawati, (2019), formulate the scenario of the slum with the concept of Land Readjustment, create a grouping of the similarity of the characteristics of slums by using SPSS followed by analysis descriptive. Then Kaseke & Ngangi, (2017), using analysis weighting based Candy SAID No. 02/PRT/M/2016 about improving the Quality of Housing for Slum and Slum areas.

Furthermore, some other research which Niken Fitria & Rulli Pratiwi Setiawan, (2014); Raisya Nursyahbani; Pigawati & Bitta, (2015) have in common, namely the search for the characteristics of the slums at first next determine the level of their untidiness. Niken Fitria & Rulli Pratiwi Setiawan, (2014) using aspects of the Infrastructure, the Physical Aspect, Economic Aspect, and the Aspect of Danger as a criterion. While Raisya Nursyahbani; Pigawati & Bitta, (2015) the use of aspect inhabitants, Dwelling, Infrastructure, and Environment. Further weighting to identify the level of their untidiness.

While Wijaya, (2016), in his research identifying the characteristics of some of the slums further define the priority area for improvement of the quality of the infrastructure and then provide recommendations of strategies for improving the quality of infrastructure in the area under study. The determination of the slums conducted by Wijaya, (2016), based on the criteria issued by the Ministry of maritime and fishery processed with the SWOT method for the determination of priority handling. Then Ayuningtyas et al., (2019) to create works with the same goal, to determine the quality of slum area by using the Regulation of the Minister of Public works and Housing of the Republic of Indonesia enterprises No. 02/PRT/M/2016 will be but Ayuningtyas et al., (2019) more emphasis to accuracy by different methods namely Object-Oriented Image Analysis (OOA) or more to the direction of the read image maps.

Through his work Stevanni Imelda Christianingrum, (2019); Wulandari et al., (2019) have the same goal but with different locations. They have the purpose of the research is to know how the implementation of the program KOTAKU. In addition to the above main objectives Stevanni Imelda Christianingrum, (2019) also aims to determine the factors inhibiting and supporting, however Wulandari et al., (2019) al. just search for factors inhibiting the course. The data analysis technique used is the same, namely: 1). data reduction, 2) data display, and 3) the decision and verification.

While Tiara Rinalva Madhianti, Gusti Zulkifli Mulki, (2018), has the objective of the research to evaluate the slums in RT 05/RW 18 Kelurahan Sungai Jawi Outside the Kecamatan Pontianak Barat. This research using quantitative descriptive methods, the analysis technique used is the analysis of the weighting to determine the level of untidiness and analysis crosstab to determine the influence of socio-economic factors against the slums. by using the same method.

4. CONCLUSION

Based on the results of the discussion the review of literature above, it can be concluded that researching about handling the problems of slums in urban areas in Indonesia, in terms of search data for all researchers using the method of field observation, questionnaire, interview, and document the location of the research. Because the purpose of the research is diverse then the methods of analysis used are also diverse including the use of the method of analysis of

descriptive qualitative, SWOT analysis, SPSS, Theory-Based Approach.

The standard of the handling of the slums that used the average refers to the standard issued by the Government of the Republic of Indonesia, in this case, is the Regulation of the Minister of Public works and Housing of the Republic of Indonesia enterprises No. 02/PRT/M/2016 about improving the Quality of Housing for Slum and Slum areas. Based on the identification made based on the regulation is expected 0 slums will be achieved in 2019. But as the standard classification of slums changed along with the revocation of regulation of the minister of and replaced with the regulation of the minister of the new with the addition of a new variable though most still use the variable along.

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Community-Based Settlement Development

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ABSTRACT

The habitable settlement is one of the goals in carrying out the goals of sustainable development. One of the conditions for achieving sustainable development is community involvement. Community participation is a form of community concern and responsibility for the importance of development to improve the quality of life. Development is not only an obligation that must be carried out by the government itself but also requires community involvement. The development process requires the government's trust and opportunity to be actively involved in the development process. This study aims to formulate a community-based residential development model. The approach used is based on government policies on sustainable development and study document studies conducted by Cipta Karya. Increased participation occurs through the government's facilitation, trust, and opportunity by placing the community as the development subject. The result of the discussion is that the community-based settlement development model becomes an input for the government in formulating policies for the development of habitable, sustainable settlements, and encouraging the improvement of the urban economy.

Keywords : community-based development; community participation, development of habitable settlements

1. INTRODUCTION

Slum settlements are closely related to the increasing number of urban population which is faster than the growth of infrastructure. As a result, people find their own way to survive, among others, by building houses and basic facilities. The presence of slum settlements is certainly a problem in itself for the city area concerned. This has resulted in a decrease in the level of welfare, health and quality of service facilities / infrastructure. Therefore, slum settlements must be dealt with immediately, so that gradually slum settlements can be reduced and can be converted into housing and settlement environments that are livable, healthy, safe, harmonious and orderly. Blitar City and Blitar Regency are regency cities which have slum areas within them. The city government of Blitar continues to try to reduce the existence of slum settlements,

One of the efforts made is through the Kotaku program rolled out by the Central Government through the Ministry of Public Works and Public Housing. The main objective of this program is to organize slum settlements by improving the quality of their environment as well as increasing the value of land use so that it is optimal according to land potential. Activities in the Kotaku program include technical and non-technical activities, technical activities include house repairs or renovation of areas that also organize the infrastructure of the area. Non-technical activities can include improving human resources such as training activities to add insight to the knowledge needed by local residents. The process of activities in the Kotaku program are: (1). Preparation, (2). Planning, (3). Implementation, and (4). Sustainability.

In every implementation, this Kotaku Program activity always accommodates community participation to be involved in the activity process, especially for people who live in slum areas. Community participation is needed especially to identify community needs so that the results of structuring can be right on target, useful and have a positive impact. This is fit for purpose *Sustainable Development Goals*.

2. LITERATURE REVIEW

2.1. Society Participation

Many experts provide an understanding of the concept of participation. When viewed from the origin of the word, the word participation comes from the English word "participation" which

means taking part, participation. Slamet said that participation means the active participation of a person or community group from the process of formulating needs, planning, to the stage of implementing activities either through thoughts or directly in physical form.

Forms of participation. Community participation can be divided into several levels. As for Robert Chambers, there are 3 models of participation proposed by experts. As according to Arnstein who stated that there are 8 levels of community participation, in contrast to Kenji and Greenwood, they divide the levels of participation into 5 levels. Meanwhile VeneKlasen and Miller divided the levels of participation totaling 7 levels. From some opinions of theorists, in essence the desired goal of community participation is the emergence of community independence in controlling or mobilizing themselves. The following table shows the model of community participation according to experts.

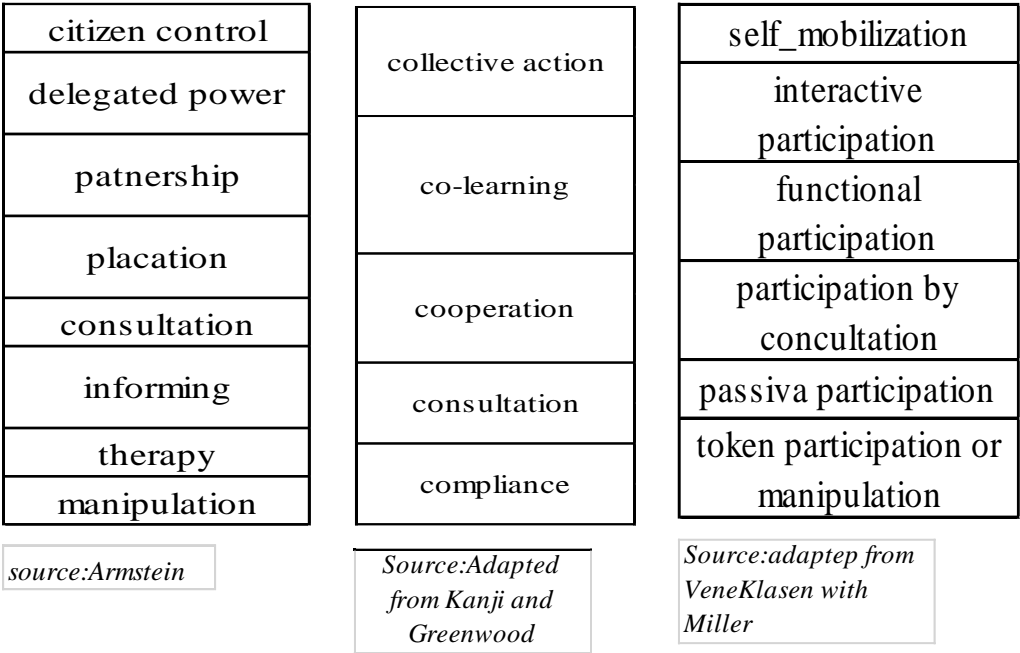


Figure 1: community participation level model
 Source: from several experts related to community participation

The Level Model of Community Participation According to Experts The levels of community participation can be planned according to specific contexts and needs. Of the three models of community participation, there is no claim that asserts that it is the only level that is the most correct and the most authoritative. The definition of community “participation” is a form of meaning about good practice. Individuals or groups can be included to build their own participation. The level of community participation indicates that the word "participation" can be used for different activities and relationships. The level of community participation can also show that each model of participation is all about power. This can reduce dependency and improve people's habits for the better. According to Sherry R Arnstein's statement that divides the levels of community participation in development programs implemented by the government into 8 levels of community participation based on the power given to the community. The participation rates from highest to lowest are as follows:

- a. Citizen control, the community can participate in and control the entire decision-making process. At this level the community has the power to regulate programs or institutions related to their interests. The community has the authority and can enter into negotiations with outside parties who want to make changes. This joint venture with residents is directly related to the source of funds to obtain assistance without going through a third party.
- b. Delegated power, at this level the community is given the authority to make decisions on certain plans. For participation "can be used for different activities and

- relationships. The level of community participation can also show that each model of participation is all about power. At this level the community is given the authority to make decisions on certain plans. To solve the problem, the government must enter into negotiations with the community without pressure from above, it is possible for the community to have a level of control over government decisions. Citizen control, the community can participate in and control the entire decision-making process. At this level the community has the power to regulate programs or institutions related to their interests. The community has the authority and can enter into negotiations with outside parties who want to make changes. This joint venture with residents is directly related to the source of funds to obtain assistance without going through a third party.
- c. Partnership, the community has the right to negotiate with decision makers or the government, by agreement with the shared power between the community and the government. For this reason, an agreement was made to share responsibilities in planning, controlling decisions, formulating policies and solving problems at hand.
 - d. Placation, holders of power (government) need to appoint a number of people from the affected sections of society to become members of a public body, where they have certain access to the decision-making process. Although in its implementation, community proposals are still considered, because of their relatively low position and fewer numbers than members of the government, they are unable to make decisions.
 - e. Consultation, the public is not only informed but also invited to share their opinions, although there is no guarantee that the opinions expressed will be taken into account in decision making. The methods that are often used are surveys about the community's thoughts or community meetings and public hearings or hearings with the community.
 - f. Informing, power holders only provide information to the public regarding the activity proposal, the community is not empowered to influence the results. Information can include rights, responsibilities and options, but there is no feedback or power for negotiations from the community. Information is provided in the final stages of planning and communities have little opportunity to influence the plans that have been developed.
 - g. Therapy, power holders provide reasons for proposals by pretending to involve the community. Even though they are involved in activities, the aim is more to change the mindset of the community than to get input from the community itself.
 - h. Manipulation, is a pattern of participation that is unwanted, because the community is not involved. Activities to manipulate information to gain public support and promise a better situation even though it will never happen.

2.2. Livable Settlement

Habitable Settlement is an environment outside a protected area that functions as a residential environment and a place for activities that support a healthy and safe life and livelihood supported by public infrastructure, facilities and utilities (PSU) (pupr).

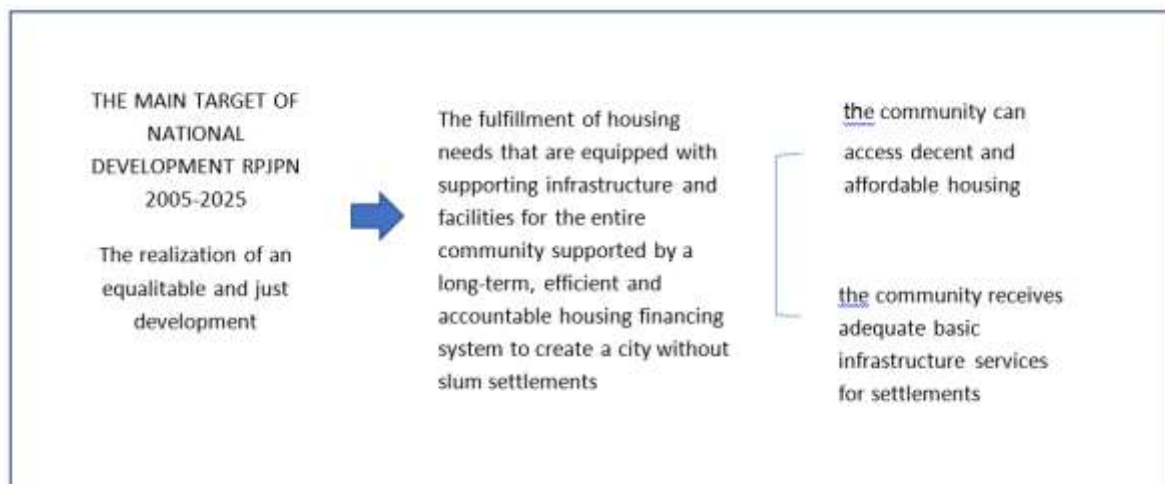


Figure 2: Main target in RPJPN 2005-2025

Source: Direktorat Perkotaan Perumahan dan Permukiman Kementerian PPN/Bappenas

2.3. Community Development

In general, community development can be defined as community development activities aimed at enlarging community access to achieve better socio-economic-cultural conditions when compared to before development activities. So that the people in these places are expected to be more independent with a better quality of life and welfare. In this program there are the main patterns of community based, local resource based and sustainable. From the above objectives and patterns what is prioritized is increasing the capacity of the community and increasing the welfare of the community. Community capacity building can be achieved through empowerment efforts so that community members can participate in the production process or supporting institutions in the production process, equity without differentiating status and expertise, security, sustainability and cooperation, all of which work simultaneously.

The highest contribution to the national development process is from the energy and mineral resources sector. This sector contributes in various forms, including the existence of oil and gas industries whose existence fosters programs that are part of corporate social responsibility. Among them are community development programs.

The industrial sector and various businesses have committed to implementing a sustainable development program. The objective of this sustainable development program is to form a sustainable paradigm in which the objectives of social and economic development are prioritized, which means that they do not have to meet current needs regardless of future needs, but strive for the continuity of meeting these needs in the future in the next generation.

In connection with the aforementioned matters, the industry is no longer required to only realize its image through a good campaign but must also be able to show its accountability to the public interest. Responsible business will pay attention to corporate social responsibility as much as possible, which is supported by good corporate governance. This is where it becomes important to discuss the community development program as a form of corporate social responsibility.

There are at least three important reasons why companies carry out community development activities, including:

- Local license to operate the company in developing relationships with local communities.
- Knowing the socio-culture of the local community.
- Organize and create future strategies through community development programs. A reputable relationship between the company and the local community and community development can create new business opportunities.

There are the same terms and meanings in the sentence community development or community

development which Jack Rothman (1979)

The meaning of community development is a focus on community participation. PBB (1955) defines that with full community participation there will be progress in the economic and social fields. Tropman, et al (1993) stated that with community participation, it can grow the strengths that exist in the community itself so that they can measure their abilities. From these two definitions, two things can be understood:

- social and economic sectors are the most important parts of the community
- the planning to utilization process requires full participation of community members

The community has started to apply this concept, which still upholds social norms in the local community.

1. Purpose:

- Intermediate objective: to generate full citizen participation.
- The ultimate goal: the realization of the ability and integration of society to be able to build itself.

2. Approach: the community is more emphasized in increasing their capacity so that they are able to solve problems that arise.

3. Operational content in Locality Development. a. that the figure of a leader in society is still very influential in the decision-making process both in planning and implementation. b. community organizing is one of the social capitals needed in community development. Therefore, several industrial sectors are expected to provide assistance not only temporarily but also in the long term, in the form of building community capacity.

Fundamental assumptions for Community Social Work (Murray G. Ross, 1967):

- a. community group can deal with their problem by continuously increasing its capacity;
- b. society has a desire to change;
- c. community participation is an important thing in changes that occur in the group;
- d. change in society cannot be imposed if not from themselves;
- e. one approach that can be successful is a holistic approach;
- f. In community participation, real action is needed in overcoming various problems that exist in society;
- g. In general, people need help in organizing to meet their needs as individuals need help in overcoming their individual needs

There are several characteristics of community development (W. David Harrison, 1995):

- a. Community Development practice has a broad focus on the goal of community participation;
- b. The practice of Community Development includes the discovery of goals that are usually present in society;
- c. The practice of Community Development almost always involves organizations, and in particular is concerned with helping members of society develop new ways of keeping organizations functioning (Selsky, 1991).

There are principles to develop Community as mention below:

- a. Integrated development: community development consists of several aspects, including economic, political, cultural, environmental and spiritual.
- b. Confronting structural disadvantage: the existence of social gaps that exist in society should be ignored.
- c. Human rights: promotion and human protection
- d. Sustainability: the use of renewable resources can make the program sustainable.
- e. Empowerment: to increase their own capacity, various resources, opportunities and skills are used to increase community capacity ..
- f. The personal and the political: Personal and public problems are interrelated.
- g. Community ownership: community capacity needs to be improved for the development of the citizens themselves.
- h. Self reliance: utilizing existing resources in the community itself.

- i. Independence from state: if possible, do not use the resources provided by the government in order to contribute to the state.
- j. Immediate goals and ultimate visions: Immediate goals need to be met immediately, but don't ignore ultimate visions.
- k. Organic development: Communities are organic, have the capacity to develop.
- l. The pace of development: the changes that exist in society cannot be forced.
- m. External expertise: support from outside must still match the local community.
- n. Community building: community development is a communication process that involves various parties to achieve common goals.
- o. Process and outcome: The process of determining the results; processes and outcomes must be integrated.
- p. The integrity of process: The processes that occur on the community development (CD) must be able to include integrated and mutually supportive approaches, techniques, methods, etc.
- q. Non-violence: CD is not done by force (coercion).
- r. Inclusiveness: The process must find a way "to include" rather than "to exclude", everyone must be appreciated even if they are against and given the opportunity to change their position without the need to "lose face".
- s. Consensus: The CD process is built on consensus; there is agreement.
- t. Cooperation: In the CD process, people work together to solve their problems.
- u. Participation: CD must always strive to maximize participation with the aim of making everyone actively involved in the activity process.
- v. Defining needs: CD must reach agreement on identified needs. The definition of community needs must be made by the community itself.

3. METHODS

This research method uses a narrative approach with a descriptive research method approach with a qualitative approach, where the results of this study are described clearly and in detail, namely providing a comprehensive picture of community participation, especially regarding the form of community participation and aspects related to that participation.

There are two data used, namely, secondary data and primary data which are then analyzed using qualitative analysis. Secondary data needed in this study are data relating to the form of participation and characteristics of the existing kelurahan and concerning economic and socio-cultural aspects and their relation to community participation. Apart from the secondary data mentioned above, primary data is also used. The techniques used in collecting primary data are interview and observation techniques. This method is pursued on the grounds that information can be extracted from the source directly so that the level of confidence is better than the questionnaire technique. In addition, this technique is also expected to obtain direct observations about the situation in the field and obtain information in the form of facts and broader opinions but still in the context of the discussion. In Amstein's statement there are 8 levels of participation, which are related to the typology above which is divided into 3 major groups, namely no participation at all (nonparticipation), which includes: manipulation and therapy, community participation in the form of living to accept several provisions (degrees of tokenism).), including informing, consultation, and placation, public participation in the form of having power (degrees of citizen power), including partnership, delegated power, and citizen power.

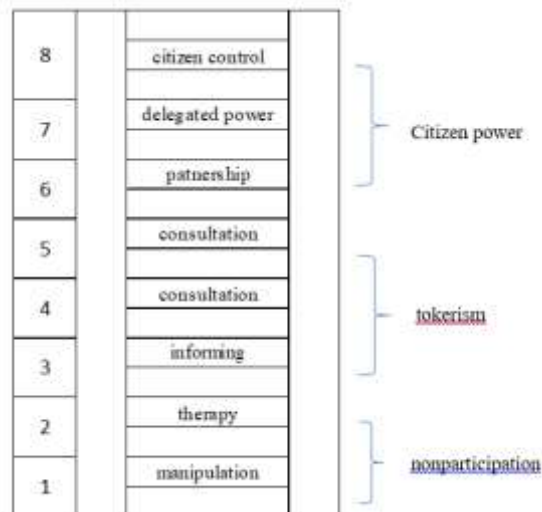


Figure 2: Main target in RPJPN 2005-2025
Source: society participation in amstein

The two lowest ladders are categorized as “non-participation” by placing forms of participation called therapy and manipulation. The goal of both forms is to educate and treat participating communities. The third, fourth and fifth steps are the level of Token, which is a level of participation at which the public is heard and allowed to have an opinion, but they cannot have the ability to get assurance that their views will be considered by decision makers. According to Arnsteinyang’s statement, if participation is limited to this level, there is little chance that there will be changes in society towards a better state. Included in the Tokenism level is the delivery of information (informing), consultation, and reduction of anger (placation). Furthermore, Arnstein categorizes the top three ladders into the level of citizen power. People at this level have influence in the decision-making process by running partnerships by having the ability to bargain with entrepreneurs or at higher levels delegated power and community control (citizen control). At levels 7 and 8, the community (non-elite) has a majority of votes in the decision-making process and may even have full authority to manage a particular policy object. The eight ladders of participation that have been described provide an understanding that there is enormous potential for manipulating community participation programs into a way that deceives (devious methods) and reduces the ability of the community to influence the decision-making process. As Hessel cites Nelson’s statement which states that there are two forms of participation:

1. Horizontal participation, namely participation among fellow citizens or members of the community, where the community has the ability to take the initiative in jointly completing a development activity.
2. Vertical participation, namely participation between the community as a whole and the government, in a relationship where the community is in a position as a follower or client.

So, someone is said to participate in a development activity if the individual really engages himself completely mentally and emotionally, not just being present and being passive towards the activity. There is a sense of responsibility as an element of participation, as it is a determining aspect in individual decision making to participate in any development activity. Hicks’s opinion is also quoted by Hessel regarding formulating a sense of responsibility as a quality of society to develop independently, when the person consciously and freely chooses and agrees on all things, absorbs a value, or accepts a task.

4. DISCUSSION

Community participation is one form of community political participation which is very important in the context of creating good governance. Public participation in the formation of

statutory regulations (regional regulations) can be seen in Article 96 Paragraph (1) and Paragraph (2) Law No. 12-2011 which states that the public has the right to provide input orally and / or in writing in the formation of laws and regulations. Oral and / or written input as referred to can be made through public hearings, work visits, socialization and / or seminars, workshops and / or discussions.

The concept of participation is related to the concept of democracy, as stated by Philipus M. Hadjon that in 1960 the concept of participatory democracy emerged.

1. Basically everyone has the same rights in free and secret elections;
2. Basically everyone has the right to be elected;
3. Everyone has political rights in the form of the right to freedom of opinion and assembly;
4. People's representative bodies influence decision-making through the means of "(mede) beslissing-recht" (the right to participate in deciding decisions and / or through the supervisory authority;
5. The principle of openness in decision making and the nature of open decisions;
6. Respect for the rights of minorities.

From the explanation above, it clearly shows that in the decision-making process, there is the right of the community to participate in the planning and implementation process, namely to provide input orally and / or in writing in preparation to implementation. Indicator indicators in habitable settlements are the fulfillment of basic infrastructure needs in a settlement.

Table 1: Indicator in habitable settlement

Building Conditions	Irregularity of building
	Density building
	non-conformance with the technical requirements of the building
Environmental road conditions	environmental road service coverage
	Environmental road surface quality
Water supply of conditions	Availability of safe access to drinking water
	Unfulfilled drinking water needs
Environmental drainage conditions	Inability to discharge runoff
	Unavailability of drainage
	Drainage construction quality
Wastewater management conditions	The wastewater management system
	does not comply with technical standards
	Wastewater management
Garbage management conditions	infrastructure and facilities do not comply with technical requirements
	The infrastructure and waste materials are not in accordance with the technical requirements
	Solid waste management system that does not comply with technical standards
Fire protection conditions	Unavailability of fire protection infrastructure
	Unavailability of fire protection facilities

Source: Permen PUPR No 14 Tahun 2018

5. CONCLUSION

In the research studies that have been carried out, the development of sustainable habitable settlements is more directed towards the narrative method. Where in the process of preparation, planning and implementation are more directed towards horizontal participation, namely participation among fellow citizens or community members, where the community has the ability to take the initiative to jointly complete a development activity.

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Control of the Implementation Time of the Integrated Work Project Design and Construction of the Main Stadium Development in Papua Province

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ABSTRACT

Time control in the construction management of the "Integrated Work Project Design and Construction of the Main Stadium of Papua Province", starting from the physical planning stage, including budget utilization plans, preparation of regulations and technical requirements, as well as administrative requirements, plans for material and equipment requirements, work implementation time, manufacturing drawings and requirements. The construction was carried out by the KSO Contractor PT. Housing Development (PP) (Persero) PT. Penta Rekayasa, through an auction process. Construction Management Consultant by Consulting Services Company PT. Virama Karya (Persero). From the evaluation of the S reschedule curve, it was found that development work experienced an increase in jobs, in December 2018 the cumulative plan was 96.874%, the cumulative actual monthly progress was 96.999%. January 2019 cumulative plan 97.653%, cumulative actual monthly progress 97.890%, February 2019 cumulative plan 98.400%, cumulative actual monthly progress 98.502% and March 2019 cumulative plan 100% cumulative monthly actual 100%. From the results of the evaluation of work progress, the construction of the Papua Province Main Stadium has progressed on the plan. In the work plan (or time schedule) you can see a graph of the realization of work progress.

Keywords : Control, Implementation Time, Construction Management.

1. INTRODUCTION

In order to plan and execute construction work and control the whole process properly, the Construction Project Team Leader / Project Manager expresses strategic concepts, the importance of having a good knowledge of construction work. By this means being familiar with the construction work process and being aware of the technical requirements of the on-site job duties. Precise project management competence is highly dependent on technical knowledge of construction.

Project development activities are activities that are planned using a variety of resources and funds to obtain future benefits. The activity of a project always aims to achieve a goal and has a starting point and an end point where results can be measured. However, there are often delays in project implementation time, this is due to natural factors, namely weather disturbances. In addition, it is also caused by the procurement of materials / materials that are not in accordance with the timeliness of implementation, for example after one work ends and another work will start as a result, the work that will be started is stopped due to supply. materials for work are delayed or not on time

This occurs in addition to the cost of purchasing materials / materials that have stalled, as well as the location where the materials / materials are collected are far from the project implementation which requires a very large amount of time and cost for transportation. these ingredients. Another factor affecting the delay in implementation time is the inadequate procurement of the equipment used. Empowerment of the workforce as a human resource that has not been optimal also has an impact on delays in implementation time

According to Assem, et.al (2018) construction management is used because it has many advantages compared to conventional systems. The advantages of implementing construction management can be seen from several aspects i.e. Cost Aspects, Aspect of Time, Quality Aspects, and Other Aspects;

The Construction Management for the Papua Bangkit Main Stadium Development Project, starting from the physical planning stage, includes planning for the use of the budget, drafting

regulations and technical and administrative requirements, planning for material and equipment requirements as well as the time of execution of drawing work and requirements. The construction was carried out by the KSO Contractor PT. Housing Development (PP) (Persero) PT. PENTA, through an auction process. Construction Management Consultant by Consulting Services Company PT. Virama Karya (Persero). According to Asnuddin (2018) construction management always checks and re-checks all stages of project implementation, so that optimal results are achieved in accordance with the wishes of the project owner.

In identifying the different concepts of Construction Management work on the Papua Bangkit Main Stadium Construction Project, are as follows: 1) Planning and control, 2) Coordinate with all relevant stakeholders, and 3) Developing a working relationship;

In its implementation, these elements are interrelated and interconnected following a predetermined pattern of working relationships. To get the results of the building according to the plan, it requires coordination and harmonious cooperation between elements. Likewise, the procurement of material needs, equipment, labor and funds must be in accordance with what has been planned (Asnudin, 2018). Based on the description above, the authors are interested in conducting research with the title "Time Control for the Implementation of Integrated Work Design and Construction of Main Stadium Development in Papua Province".

Based on the background of the problems above, the main problems examined in this study:

- 1) What is the pattern of construction management implementation in the Integrated Work Design Project for the Construction of the Main Stadium in Papua Province?
- 2) How to control the timing of the implementation of the Integrated Work Project Implementation Plan and the Construction of the Main Stadium in Papua Province

The objectives to be achieved in this research are:

- 1) To determine the pattern of construction management implementation in the Integrated Work Project Implementation, design and build the construction of the Papua Province Main Stadium.
- 2) To determine the level of control over the implementation of the Integrated Work Project, design and build the construction of the Papua Province Main Stadium.

In general, the discussion of this study aims to analyze the implementation pattern of construction management in the implementation of the Integrated Work Project, the design and build of the Papua Province Main Stadium Development and control of the implementation time of the Integrated Work Project Implementation for Development. Development of the Main Stadium Development in Papua Province.

The research location was determined in the Integrated Work Project design and build for the construction of the Papua Province Main Stadium, KSO Contractor PT. Housing Development (PP) (Persero) PT. Penta Engineering and Consultant MK PT. Virama Karya (Persero).

2. LITERATURE REVIEW

2.1. Management

According to Asnuddin (2018), management is a process to get the best possible path so that with limited resources, targets can be achieved according to the predetermined plan. Tarore, et al (2006), management is a process of using resources poured in a certain container, to achieve goals or objectives by using certain methodical and systematic, within certain space and time limits, in order to achieve maximum use and results. George R. Terry in Asnuddin (2018), states that management is a specific process consisting of planning, organizing, mobilizing human resources and other resources for predetermined goals.

According to Harrington Emerson in Asnuddin (2018), management is the ability to obtain results in order to achieve goals through activities, and has five elements, namely: 1) Human labor

(male), reliable and skilled implementers, 2) Availability of funds (money), to achieve goals, 3) The method used (method), to achieve the goal, 4) Materials (materials) needed in project implementation, and 5) Equipment as a work tool (machine).

Management is a process of activities carried out to achieve predetermined goals. The purpose of management is to find a good way or technique to do so that limited resources such as capital, labor, land and so on can be managed so as to get results or income that are effective and efficient, because of a good regulatory system. organized (Ervianto, et al. 2002).

2.2. Construction

Construction in English means development. So construction management system means a development management system. Construction is all activities related to the implementation of activities to build a building.

There are 4 (four) main types of construction (Construction) according to Donald S, et al (1987), namely:

1. Housing Construction, includes single houses, duplex houses, flats, flats, apartments, shared houses (condominiums), housing complexes and residential development areas, houses and shophouses (ruko) and others.
2. Building Construction, construction produces buildings such as school buildings, faculties, universities, hospitals, churches, mosques, multi-storey buildings for both offices and commerce (markets, shopping centers, malls), cinemas, government buildings, recreation centers, industrial factories. small / light, warehousing and others.
3. Heavy Engineering Construction, includes the construction of dams, tunnels, roads, filtering and distribution of drinking water, irrigation networks, pipe installations, ports / docks, airports, electricity networks, communication networks, reservoirs, waste material handling and disposal systems, loose buildings. beach (offshore), railroad (reil road) and others.
4. Industrial Construction, includes projects including: concrete iron factory construction project, cement factory, metal smelting plant, steel factory, aluminum factory, fertilizer factory, sugar factory, woven fabric factory, ceramic factory, aircraft factory, shipyard factory, facilities. others required by public services, basic industries and others.

2.3. Controlling Construction in controlling the implementation time

According to Ervianto, *et al* (2002), construction management is how a construction work is managed in order to obtain results in accordance with development objectives. The purpose of construction management is to manage the resources involved in a construction project or to regulate the implementation of construction in order to obtain results in accordance with requirements (*specifications*).

Assem Al-Hajj, et al (2018) stated, construction management as planning and controlling the implementation time. The most important feature of this concept is that expressing it is limited and organizes the time management work project in terms of the important attributes that focus on the construction work process. This focus implies that all attributes are key to management and center around the details of the job. The main attributes that form this concept of control include: 1) ability to plan; 2) knowledge of construction work; 3) commercial management knowledge; 4) communication skills; and 5) the ability to manage the team. Construction management is used because it has many advantages over conventional systems.

The advantages of implementing construction management can be seen from several aspects, namely:

1) Cost Aspects

By using construction management, project building work can be completed in a short time. This can provide cost savings to the project owner. Financial evaluations and audits by both staff and construction management consultants during project implementation will benefit the project owner with regular, comprehensive and sustainable project financial flow supervision so that the

owner can know the financial position of the project at any time. For example, purchasing materials (especially imported materials), which usually takes a long time, can be done as quickly as possible because of the available funds.

2) Quality Aspects

In projects classified as large-scale, the implementation of a construction management system will be very helpful in controlling the quality of the building. The combination of various areas of expertise of the construction management consultant team will make a positive contribution to the owner, especially during the implementation stage. A construction management consultant will be very helpful in providing an assessment / evaluation of the work progress proposal, the workings of the contractor so that the quality of work can be achieved. In a conventional system, the selection of specialist contractors (sub contractors) is handled by the project owner and assisted by the construction management team. The opportunity to improve the design results can be done more freely, because work packages are auctioned based on priority according to the main schedule.

3) Time Aspect

By implementing a construction management system, construction implementation can be controlled and can be carried out early, even though the planning has not been fully completed. This can be done because of the application of the fast track method, where some stages of the auction and implementation can be carried out before the entire sequence is completed. Thus the time to complete a project / work can be done shorter. In addition, with the construction management system, various matters such as managerial duties in decision-making at the planning, auction, material procurement and implementation stages can be arranged and timed according to the priority scale order of urgent project needs.

4) Miscellaneous Aspects

Management in the implementation of the entire project is handled by the construction management team by integrating all stages in one complete and integrated system state. Construction management always checks and re-checks all stages of project implementation, so that optimal results are achieved in accordance with the wishes of the project owner.

In principle, there are 3 main factors in controlling to determine the success or failure of a project.

1. Time Aspect

The time factor is very important for project owners who expect an operating or production profit from a completed project. The sooner a project is completed, the faster the "return on investment" and returns it will get. However, if the end time of a project does not really determine the "turnover of investment and profits, then delaying the completion of the project invariably entails additional costs".

2. Costs

The cost factor is very clearly the main concern of the project owner in general so that they can spend minimal costs for the project. Even if there is, for example, a project owner with cost constraints, he or she will demand very good quality for every money spent.

3. Quality

The quality factor is less than a function of time and cost. Two important things to note regarding costs are first; contract documents, particularly technical specifications that serve as a reference for project quality control, and second; method and process of implementing the design results. In its services, construction management strives to maximize project quality during the design and review process, followed by the preparation of work implementation procedures as well as coordination and supervision during implementation. The MK method does not damage the quality of the project by minimizing time and costs and at least maintaining the quality of the project.

The control of work progress is due to an indication of the link between project performance and the level of productivity of work progress. Performance with a high level of progress in construction work can increase profits and produce a competitive product. Thus time

management and control need to pay attention to various variables that have an impact on productivity and try to control them (Susetyo, et al., 2009).

In the process of achieving the goals and objectives of a construction project, 3 limits are set, namely the amount of budget allocation and the schedule and quality that must be met. These three constraints are called triple constraints: Cost, Time and Performance or Budget, Schedule and Quality.

According to Ratnayanti (2003) productivity and implementation time are fundamental factors that affect the performance of competitiveness in the construction industry. Increased productivity will reduce work time, and that means reducing costs, especially labor costs, so that minimum labor costs are obtained to obtain competitive prices for both auction and implementation.

In implementing the three limitations mentioned above, there are 3 (three) stages that must be carried out: 1) Planning, namely: setting goals (goal setting), planning (planning) and organizing (organizing), 2) Actuating, namely: filling staff (staffing), directing (directing) and 3) Controlling: supervision (supervision), control (control), and coordination (coordinator).

Therefore, it is very important to control time and increase the productivity of construction work on any construction project to produce a construction product that is in accordance with the quality, process and expected results, both in terms of quality, implementation time, and financing.

2.4. Project Control System

Control is not a tool to demonstrate lack or lack of management. The control technique (method) is formulated periodically (as far as possible is determined during the planning process), and researched so that it can be used continuously with the lowest possible control costs.

Control techniques / methods are tailored to the scope of the project, which are applied during implementation and are continuously being developed. By formulating meticulous control methods in the form of Work Planning methods, Flow Charts, Time Schedules. This tool can be used to help planning focus and accuracy, thus facilitating the implementation of control and achieving goals. So that a well-integrated work plan and control can be achieved. The control system generally consists of:

1. Observation (sensor), is a method for measuring performance (output). In a project schedule this tool generally takes the form of a person or group of people. The observer's function is to observe, measure, and report the time, cost and resources used by each activity in the project plan.
2. Monitoring. In terms of monitoring, performance (output from operations) is compared with predetermined performance standards (eg, actual resources used are compared to those planned according to the project schedule). This feedback function needs to be implemented to evaluate the progress status of a construction project, as well as to allow management to know where the problem is. This process is a function that must be carried out continuously.
3. Control (Controller), is an activity mechanism that functions to initiate corrective action if the performance is below standard. The main task of project control is to decide to what extent the minimum allowable performance is and at which point corrective action should be taken.

The purpose (objective) of the project control system is to maintain timeliness (time schedule), costs and resources.

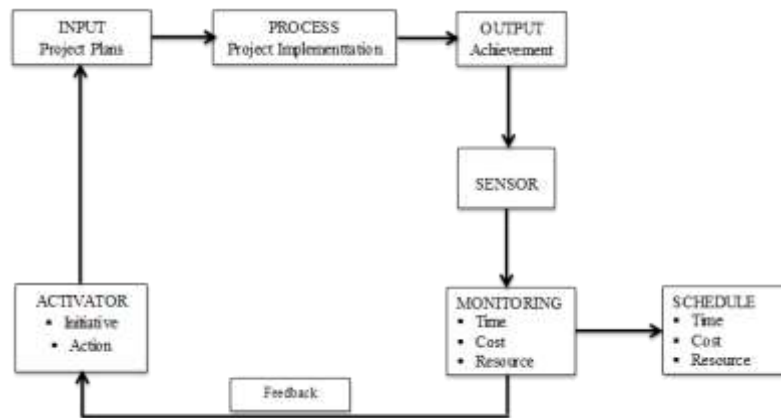


Figure 1: Project Control System
Source: Data Analysis, 2019

2.5 Analysis of Cost Control and Project Implementation Schedule

Performance standards are needed to take control measures against the use of existing resources in a project (Cleland, D. L, 1995). This is so that resources can be used effectively and efficiently in the project administrator.

1. Earned Value Method

The Earned Value method is a method that calculates the amount of costs according to the budget according to the work that has been completed. When viewed from the amount of work completed, this means that this concept measures the size of the work unit that has been completed when it is assessed based on the amount of budget provided for the work. With this calculation it can be seen the relationship between what has actually been achieved physically with the amount of the budget that has been spent. With this method it can be seen the performance of the project that has been running, so that corrective steps can be taken if there is a save from the initial project plan (Soeharto, Iman, 1995).

2. Analysis of Earned Value Indicators

There are three basic indicators that serve as a reference in analyzing project performance based on the earned value concept (Asiyanto. 2005). The three indicators are:

a) Planned Value (PV), it is a budget allocated based on a work plan that has been prepared against a certain time. Also known as BCWS (Budget Cost of Work Scheduled). PV can be calculated from the accumulated cost budget planned for a job in a certain time period.

b) Earned Value (EV), it is the value received from the completion of work during a certain period of time. Also called BCWP (Budget Cost of Work Performed). This EV can be calculated based on the accumulation of completed jobs.

c) Actual Cost (AC), it is a representation of all expenses incurred to complete work within a certain period. Also known as ACWP (Actual Cost of Work Performed). AC can be cumulative up to the period of calculating the performance or the amount of expenses spent in a certain time.

Analysis of Variance

Analysis of variance is used to determine the extent to which the predicted results were predicted. Analysis of variance consists of: Schedule Variance (SV)

a) Is the result of subtraction from Earned value (EV) with Planned Value (PV). The results of this Schedule Variance show the implementation of project work. The SV price is equal to zero ($SV =$

0) when the project is finished because all the Planned Value has been generated.

$$SV = EV - PV \quad (1)$$

b) Cost Variance (CV)

Is the result of the reduction between the Earned Value (EV) and the Actual Cost (AC). The Cost Variance value at the end of the project will differ between the BAC (Budgeted At Cost) and AC (Actual Cost) issued or used.

$$CV = EV - AC \quad (2)$$

Performance Index Analysis

Performance index is used to determine the efficiency of resource use. The performance index analysis consists of:

a) Schedule Performance Index (SPI). The performance efficiency factor in completing work can be shown by the comparison between the value of the work that has been physically completed (EV) with the planned expenses incurred based on the work plan (PV). The formula for the Schedule Performance Index is:

$$SPI = EV / PV \quad (3)$$

b) Cost Performance Index (CPI). Is the cost efficiency factor that has been spent can be shown by comparing the value of the work that has been physically completed (EV) with the costs that have been incurred in the same period (AC). The formula is:

$$CPI = EV / AC \quad (4)$$

Where,

CPI = 1: cost as planned

CPI > 1: less cost / savings

CPI < 1: more / extravagant costs

2.6 Framework of Mind

Based on the background of the problem and the theories described, this conceptual framework is based on Time Control for the Implementation of the Integrated Work Project design and build of the Main Stadium Development in Papua Province using Performance Index analysis, after knowing the progress of work progress and work that has not been realized, hence the conclusion to establish control of execution time. Schematically, the framework can be described as follows:

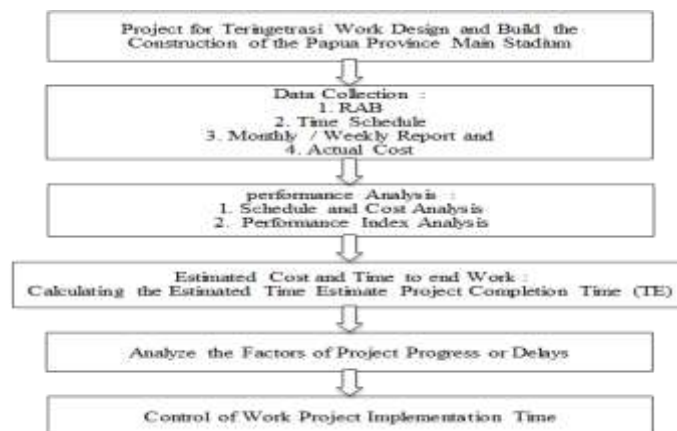


Figure 2: Framework of Mind
Source: Data Analysis, 2019

3. METHODS

This research is a case study research which aims to describe the state of the phenomena that occur in the field. According to Suharsimi Arikunto (2010: 3) descriptive research is a study that aims to describe or explain something, such as circumstances, conditions, situations, events, activities and others.

This research is a descriptive study that uses a quantitative approach. Descriptive research is research that aims to describe systematically, factually, and accurately about the facts and characteristics of a particular population or area.

This study seeks to describe or find out about the implementation pattern of construction management and time control of construction projects through the following steps:

1. Identify the problem, find out the subject matter of the object we are researching concerned with the title of the article and look for alternative solutions.
2. Studying literature, looking for library materials related to titles to support writing.
3. Preparation, specify the data that will be needed in writing.
4. Data collection, divided into:
 - a) Primary data, is direct data from the object under study, namely through surveys field and interviews.
 - b) Secondary data, namely data taken from existing data or data previously surveyed by other agencies or business entities in the form of time schedules, drawings and RAB.
5. Data analysis, analyzing data obtained from research results to make a discussion

This research was conducted at the Papua Main Stadium Development Project. This research was conducted in January-February 2019. The time dimension in this study is a one-stage study, namely research where data is collected at once. The data collected can be in the form of data from one or more research subjects covering one or more time periods (days, weeks, months and years).

In data collection, data collection techniques are needed in accordance with the problem under study and research objectives. So the authors use several methods that can facilitate this research, namely:

1. Observation. This field research was conducted to obtain the data needed in the study. The steps used are direct observation of the Papua Main Stadium Construction Project activities, to get a real picture.
2. Documentation. The objects that are considered are monthly reports, places, budget plans and others related to research data.

This study aims to describe cases that occur in construction work, precisely at the Papua Main Stadium Development Project. The analysis technique used to analyze the data used statistical data methods (quantitative descriptive data analysis).

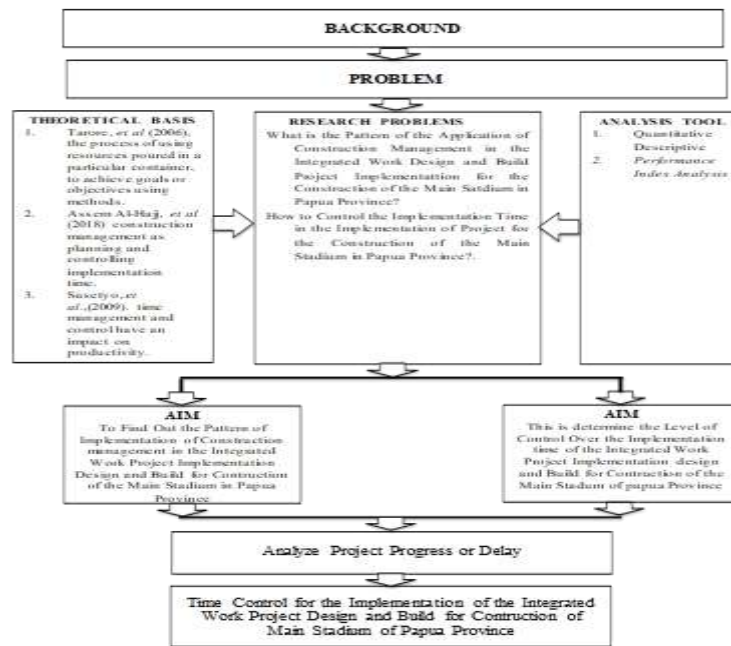


Figure 3: Research Flowchart
Source: Data Analysis, 2019

4. RESULT AND DISCUSION

4.1. General Data of Papua Stadium Construction Project

Papua's main stadium construction project is located in Sentani City, Papua Province. The development project value is Rp. 1,392,477,000,000, -. This development work starts from the planning stage which includes data collection, research or feasibility study investigations. Physical planning which includes floor plans, views, sections, details including construction calculations and requirements, including technical administrative regulations and requirements. Then proceed with the implementation of construction in the field and supervision of work. The work of making drawings as well as calculation and preparation of building budget plans is examined and reviewed by a construction management consultant, in this case as a Construction Management Consultant, PT. Virama Karya (Persero), and as the executing contractor is the KSO Contractor PT. Housing Development (PP) (Persero) PT. Penta Engineering. Implementation time of 24 months (730 calendar days), with a revised addendum of 27 months.

4.2. Achievement of Physical Implementation Results

this study, data was obtained from the implementation of the Integrated Work Project for the Construction Design of the Main Stadium Construction in Papua Province. As attached below:

February Cumulative Plan = 98,400%

Monthly Actual Cumulative Growth = 98,502%

Deviation = 0.102%

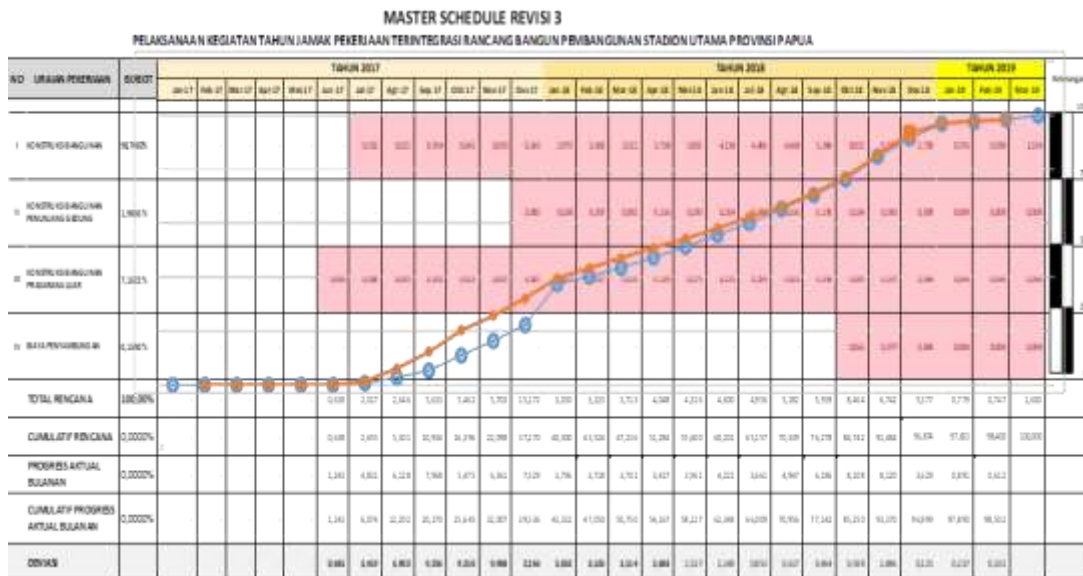


Figure 4: Master Schedule Revisi 3
Source: Data Analysis, PT. Virama Karya (persero) 2019

From the results of the evaluation of the progress of the work on the realization of the construction work in the Integrated Work Project, the design and build of the Papua Province Main Stadium Development at the end of its implementation has progressed and is in accordance with the plan. In the work plan or time schedule, you can see a graph of the realization of progress and delays in work achieved by the contractor (Table 4.1. Master Schedule Rev.3).

4.3. Data Analysis with Curve 'S'

The graph of progress and work delays in the Integrated Work Design and Build Project for the Construction of the Main Stadium in Papua Province is seen using the S Curve. From the S curve it can be seen that jobs have a positive deviation.

After uploading the weekly progress data, from December 2018 to February 2019 there was a positive deviation.

4.4. Earned Value (EV) Calculation

Earned Value (EV) can be calculated by multiplying the cumulative percentage of realization progress by the amount of the planned budget for a job (BAC). The cumulative percentage of realization progress is the cumulative percentage of project achievements that have been achieved in one month. The cumulative percentage of realization progress is obtained from the progress reports each month. The Budget At Completion (BAC) value is the total contract value after deducting value added tax (VAT). The Budget At Completion (BAC) value is obtained from the recapitulation of the Budget Plan (RAB).

The EV calculation for the 24th month is as follows:

$$EV = \text{cumulative realized weight} \times \text{BAC}$$

$EV = 96,999\% \times \text{Rp. } 1,392,477,000,000.00 = \text{Rp. } 1,350,688,765,230.00$. The calculation for the following month can be done in the same way as the calculation above. Table 4.2 shows the results of the calculation of Earned Value (EV) from the 24th month to the 26th month.

Table 1: Value Earned Value (EV) Month 24-26

The...Month	Cumulative Realization Progress (%)	EV value
24	96.999 %	1,350,688,765,230.00
25	97.890 %	1,363,095,735,300.00

26	98.502 %	1,371,617,694,540.00
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Source: Data Analysis, 2019

From table 4.3 it can be seen that there is an increase in the value of the Earned Value (EV) each month, which means that the monthly project cost expenditure plan has increased.

4.5. Schedule Variance (SV) Calculation

The calculation of Schedule Variance (SV) for the 24th week is as follows:

$$SV = \text{Retrieved Value (EV)} - \text{Planned Value (PV)}$$

$$SV = \text{Rp. } 1,350,688,765,230.00 - \text{Rp. } 1,348,948,168,980.00$$

$$SV = \text{Rp. } 1,740,596,250.00$$

A positive value indicates that the project implementation time has increased from the initial planning. The calculation for the following month can be done in the same way as the calculation above. Table 7 shows the recapitulation of the calculation of Schedule Variance (SV) for the 24th month to the 26th month.

Table 2: Recapitulation of Schedule Variance (SV) Calculation for the 24th month to the 26th month

The.....Month	Schedule Variance (SV)
24	1,740,596,250.000
25	3,300,170,490.000
26	1,420,326,540.000

Source: Data Analysis, 2019

4.6. Calculation of the Cost Performance Index (CPI)

$$\text{Cost Performance Index (CPI)} = \text{Earned Value (EV)} / \text{Actual Cost (AC)}$$

A CPI value greater than 1 indicates that expenditures are less than the budget. Table 4.6 shows the recapitulation of the calculation results of the Cost Performance Index (CPI) and the Schedule Performance Index (SPI) from the 24th month to the 26th week.

Table 3: Shows the recapitulation of the calculation results of the Cost Performance Index (CPI) and the Schedule Performance Index (SPI) from month 24 to month 26.

The.....Month	Cost Performance Index (CPI)
24	0.853
25	1.001
26	0.821

Source: Data Analysis, 2019

Table 4: CPI Value dan SPI Month 24 – 26

The.....Month	Cost Performance Index (CPI) value	SPI value
24	0.853	1.001
25	1.001	1.002
26	0.821	1.001

Source: Data Analysis, 2019

4.7. Estimated Cost and Time of Project Completion

There are 3 variants to be analyzed to estimate the final project cost, namely Estimate To

Complete (ETC), Estimate At Completion (EAC) and Time Estimate (TE).

1) Estimate To Complete (ETC) is the estimated cost for the remaining work. Estimate To Complete (ETC) calculation with a Progress Value > 50% as follows: $ETC = (BAC - EV) / CPI$ 26th month = Rp. 17,862,392,877.26

2) Estimate at Complete (EAC) Is an estimate of the total cost at the end of the project. Calculation of Estimate At Complete (EAC) for the 26th month is as follows:

$$EAC = ETC + AC$$

$$EAC = IDR 17,862,392,877.26 + IDR. 1,356,495,394,320.00$$

$$EAC = Rp. 1,374,357,787,197.26$$

1) Time Estimate (TE) Is the estimated time for completion of the project;

$$TE = ATE + ((OD - (ATE \times SPI)) / SPI) = 26.95 \text{ Months}$$

Implementation of construction management in the Integrated Work Project Implementation Plan and Construction of the Papua Province Main Stadium with Estimate To Complete (ETC), Estimate At Completion (EAC) and Time Estimate (TE), Estimated time for project completion (TE) is 26.95 or 27 months . This time is in accordance with the total planned project completion time of 27 months with an estimated final project cost (EAC) of Rp. 1,374,357,787,197.

5. CONCLUSION AND RECOMENDATION

5.1. Conclusion

Implementation of construction management in the implementation of the Integrated Work Project Design and Construction of the Main Stadium of Papua Province, with the Good category. Estimate AT Complete (EAC) estimated total cost at the end of the project is Rp. 1,374,357,787,197, - with a project value of Rp. 1,392,477,000,000, -

Control in the form of Work Planning methods Flowcharts, Time Schedules, so that the level of mastery of the implementation of the Integrated Work Project Implementation Plan for the Construction of the Main Stadium in Papua Province is well controlled and according to plan. Time schedule. Time Estimate (TE), the estimated time for project completion (TE) is 26.95 or 27 months. Other paragraphs are indented (BodytextIndented style).

5.2. Recommendation

Project development activities are activities that are planned using a variety of resources. Control (Controller) is an activity mechanism that functions to take corrective action if the performance is below standard. In the activities of a project, it is always aimed at achieving a goal and has a starting point and an end point where results can be measured, thus requiring management planning and control.

Based on this research, it is hoped that there will be further research related to Controlling Construction Project Implementation Time and for related agencies / institutions, making sustainable plans or programs to improve the quality of construction construction in various fields.

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Evaluation of Organic Village Wonokoyo Malang Planning Based on Land Ecological Enhancement

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ABSTRACT

Urban Villages are settlements that formed in Urban area without plan. Based of it's structure, the urban villages is one of element that formed the city which is physically on bad condition. This is mainly triggered by overcrowding problem and disorganization of the physical structure of the urban village environment. The absence of a formal structure this territorial is due to the absence of a formal spatial arrangement that programmed. Therefore, in urban village arrangement need to find rule-model based of Greenship Neighborhood from Green Building Council Indonesia as well as participation and empowering public to support the formation of villages with more quality and sustainable lives. This research is explanatory research with a qualitative descriptive method that aims to : evaluate the physical characteristics of the organic village of Wonokoyo's environment in Malang City and formulate a structuring model based on the concept of land ecological enhancement which includes : (1) basic green area, (2) green area for public, (3) habitat conservation, (4) land revitalization, (5) micro climate, and (6) productive land. The results show that the physical characteristics of Wonokoyo village are minimal and the quality of the housing infrastructure is low, where the total land ecological enhancement value is 13 points, from a maximum scale of 19 or 68.42%. The highest value is found in the parameters of the availability of productive land which acts as a provider of vegetables and fruit, as an added value of the existence of the organic village. In order to improve the quality of the settlement of the organic village in Wonokoyo, it is recommended that the arrangement give priority to the parameters of habitat preservation in the form of intervention, local or endemic plants that are in accordance with the village ecosystem.

Keywords : organic village, Kampung Wonokoyo, land ecological enhancement

1. INTRODUCTION

Urban villages are settlements that grow in urban areas without plan. Based on it's structure, the urban village is one of elements forming the city which is physically in bad condition. This is mainly triggered by overcrowding problem and disorganization of the physical structure of the urban village environment. The absence of a formal structure this territorial is due to the absence of a formal spatial arrangement that programmed.

One of the unique villages in Malang City is Wonokoyo Village, which is located on the slopes of Mount Buring, Kedungkandang District. Its wavy topography and dominated by hills which are still beautiful and the weather is very cool, is an added value as a vegetable and fruit farming area. Most of the housing establishments still have yards that are used for gardening vegetables (spinach, kale, mustard greens) and fruits (strawberries, tomatoes, longan, and other rare plants) using polybags and pots. Wonokoyo village, which was originally grown incrementally, was styled as a community-based area with the theme of an organic village.

The village planning concept is a response to the sustainability challenges of environmental, optimization of natural resources including energy sustainability is a consideration and benchmark in it's arrangement. In other words, it's realization will be referred to based on Kilbert's view (2008), the green architecture approach, green design, and ecological design. One of the pillars in the arrangement of the village is a reference based on the Greenship Neighborhood principles of the Green Building Council Indonesia. The problem is how to apply this concept, society participation and empowerment can be the basic capital to support the organic village of Wonokoyo, whose life is more quality and sustainable.

The objectives of this study are (1) to assess the suitability thematic design of the Wonokoyo organic village with the GBCI Greenship Neighborhood assesment and (2) to measure the green level of the Wonokoyo organic village using Greenship Neighborhood. In the future, it is hoped that this

research can provide recommendations for the optimization of the Wonokoyo organic village area based on the results of green measurements. In order to realize a sustainable urban area arrangement.

2. LITERATURE REVIEW

2.1 Benchmarks and Categories of Sustainable Areas

Benchmarks and guidelines for implementing and evaluating new buildings (New Buildings, Existing Buildings), Houses (Single Home), Sustainable Neighborhoods in Indonesia have been regulated in a regulatory formulation named Greenship issued by *Green Building Council Indonesia (GBCI)*. *Greenship Neighborhood*, published by GBCI in 2015, is an instrument, an assessment for an area that guides and inspires in the creation, arrangement, and development of a sustainable area.

In the Greenship Area certification, it is divided into 2, namely the planning stage (Plan) and the built project (Build Project). At the planning stage the project team gets the opportunity to get a Greenship assessment. This type of certification is given to areas that are still in the planning stage until finalization stage of the design. Meanwhile, for projects that are built and or already in operation, they can be certified against a comprehensive assessment from both design, construction and operational aspects (GBCI, 2015), where the age of recognition of the certificate is a maximum of 5 years.

Referring to the Regional Greenship according to GBCI (2015) the grouping of categories into 7 includes (1) Land Ecological Enhancement, (2) Movement and Connectivity, (3) Water Management and Conservation, (4) Solid Waste and Materials, (5) Community Wellbeing Strategy, (6) Building and Energy, and (7) Innovation and Future Development. Each category has a maximum point accumulated value according to the achievement of each indicator.

2.2. Parameter Land Ecological Enhancement

Assessment of the achievements and existence of the Wonokoyo organic village was carried out using the parameters of Land Ecological Enhancement - Basic Green area consisting of : LEE 1: green area for public, LEE 2: habitat conservation, LEE 3 : land revitalization, LEE 4: micro climate, dan LEE 5: production land, yang telah ditetapkan oleh GBCI 2015 (lihat tabel berikut). In the aspect of the category of Land Ecological Enhancement, it consists of 6 benchmarks as in table 1.

Table 1. Land Ecology Improvement Indicators

Code	Benchmark	Maximum Score
LEE	Land Ecological Enhancement	
LEE P	Basic Green Area	P
LEE 1	Green Area For Public	4
LEE 2	Habitat Conservation	6
LEE 3	Land Revitalization	4
LEE 4	Micro Climate	3
LEE 5	Productive Land	2
Maximum Total Score		19

Source: GBCI Greenship Neighborhood Checklist Assessment, 2015

3. RESEARCH METHODS

This research in this explanatory research with qualitative descriptive methods aims to: evaluate the physical characteristics of the environment in the organic village of Wonokoyo in Malang City

and formulate a structuring model based on the concept of land ecological enhancement. The object of study is the Community-based Wonokoyo Organic Village Management Document carried out in 2018.

The study was conducted in three main stages, namely: (1) Data Collection Stage; (2) Data Analysis Phase refers to the GREENSHIP Neighborhood V.1.0 standard; and (3) stage provides a synthesis of the discussion in the form of recommendations. Data were collected on a macro scale, that is the area of Wonokoyo Village, and assessment of the site of the village, from the land ecological enhancement variable which includes parameters: (1) basic green area, (2) green area for public, (3) habitat conservation, (4) land revitalization, (5) micro climate, and (6) productive land. The data were obtained through field surveys and literature studies. The analysis and measurement is based on the Greenship Neighborhood Checklist Assessment (GBCI 2015) and is carried out by the scoring method of the measured parameters and criteria. Based on the sum of the total scoring scores, it can be stated that the level of sustainability of the Wonokoyo organic village, Kedungkandang, Malang City.

4. RESULTS AND DISCUSSION

The Wonokoyo organic village originated from the community in the RW 4 area who had a habit of farming. It's strategic location at the foot of Mount Buring encourages the community to establish independent farming groups. This effort is expressed by the construction of a number of green houses in RT 01 (Pesona Agro), RT 04 (PKK and Karang Taruna). The site where the green house is built is a land grant from local residents.

The Wonokoyo organic village also has a farmer group "Organic vegetable farming natural agribusiness" called "Pesona Agro". With a population of 6,025 people, it has social activities that are harmonious and productive with a beautiful and clean residential environment. In this area there are also 3 rivers, namely: Brantas River, Bango River, and Amprong River.

4.1. Site Analysis

Based on the results of site analysis and optimization of its potential, the strategy for planning the organic village of Wonokoyo was developed based on differentiation through thematic areas, which were then interpreted in the thematic components of the organic village. So, the arrangement of Wonokoyo organic village is divided into several focuses of attention, the descriptions of which are as follows.



Figure 1. Analisis Site
Source: Disperkim Malang City, 2018

4.2. Planning Area Segments

The Gate theme is presented at the first point of entry. Development at the first point is the

construction of a marker gate at the entrance of Wonokoyo Village. The location is the main access road to the location of the Wonokoyo organic village with a design on the theme of leaf ornament from acrylic material. The choice is based on the Introduction of one of the vegetation elements (leaves) which symbolize fertility and well-being for the public.

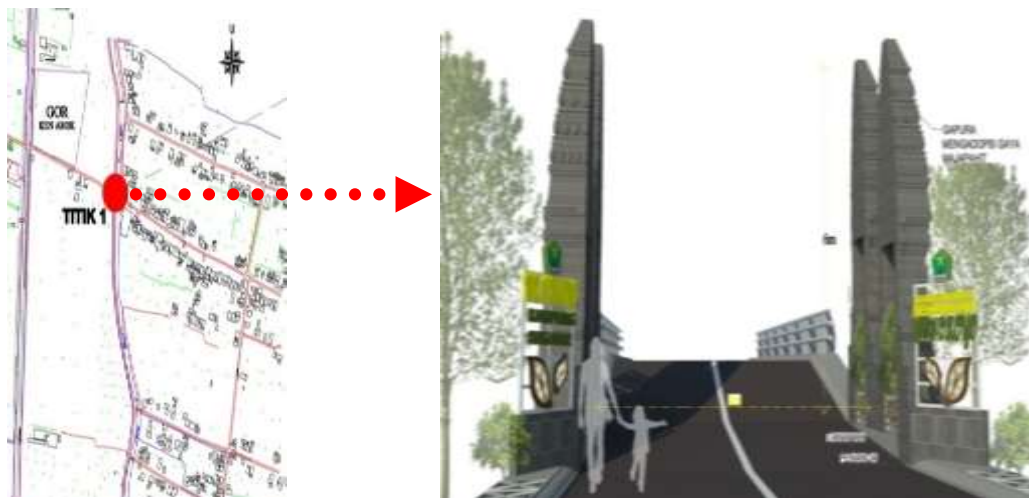


Figure 2. Visualization Of Entrance Gate
Source: Disperkim Malang City,2018

The second segment is a development that is realized in the form of a Public Green Open Space (the field area of Wonokoyo Village). The theme of this second segment is a plaza or square shaded by vegetation. In addition to fulfilling public facilities, the existence of this public space is also expressed as a social space equipped with supporting facilities in the form of stands, parking areas, shop stands, shelters, and arrangement and addition of plant vegetation

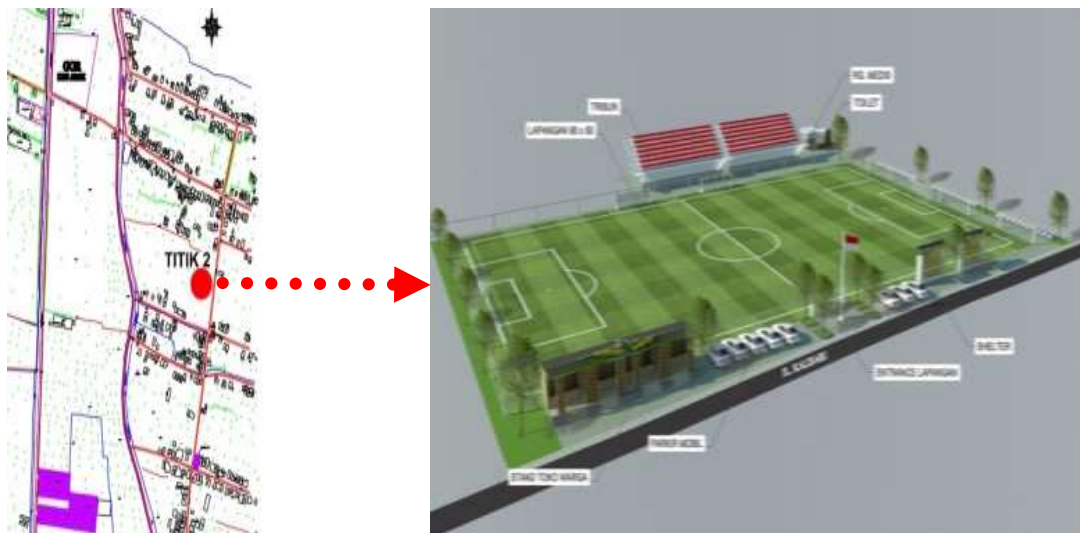


Figure 3. Visualization Of RTH Field
Source: Disperkim Malang City,2018

The arcade village theme was developed in the third segment, namely in the form of planning accessibility and circulation to Wonokoyo Organic Village. Its realization is equipped with the formation of green art systems, vegetation arrangement, vertical gardens, pergolas, greenhouses etc. In this area, the image of an organic village is highlighted by its appearance so that the impression created is formed by accentuation of soft material elements from the regional

landscape as well as the spatial ornamentation that maintains its architectural and psychological messages.

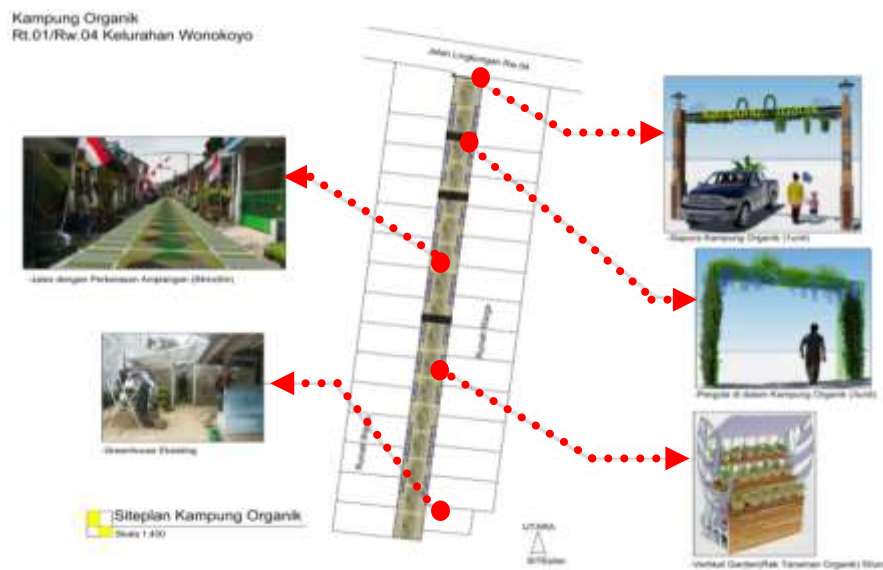


Figure 4. Visualization Of Organic Village
Source: Disperkim Malang City, 2018

The fourth theme presented is the arrangement of the historical memorial area, by presenting a memorial monument where the national hero Hamid Rusdi was shot, which can be accessed easily and is equipped with lighting and other marking elements. This shooting monument expected to provide a message and enlightenment for the community to always remember and appreciate the heroes' struggles which can then be a lesson for the nation's future younger generations. has a high historical value.



Figure 5. Visualization Of Hamid Rusdi Monument Gate
Source: Disperkim Malang City, 2018

The fifth segment developed in the arrangement of the Wonokoyo Organic Village is the Road Corridor with the theme of the village corridor along the main road corridor of the Wonokoyo

Village, equipped with aesthetically pleasing green layouts and complete street furniture and an ecological landscape.

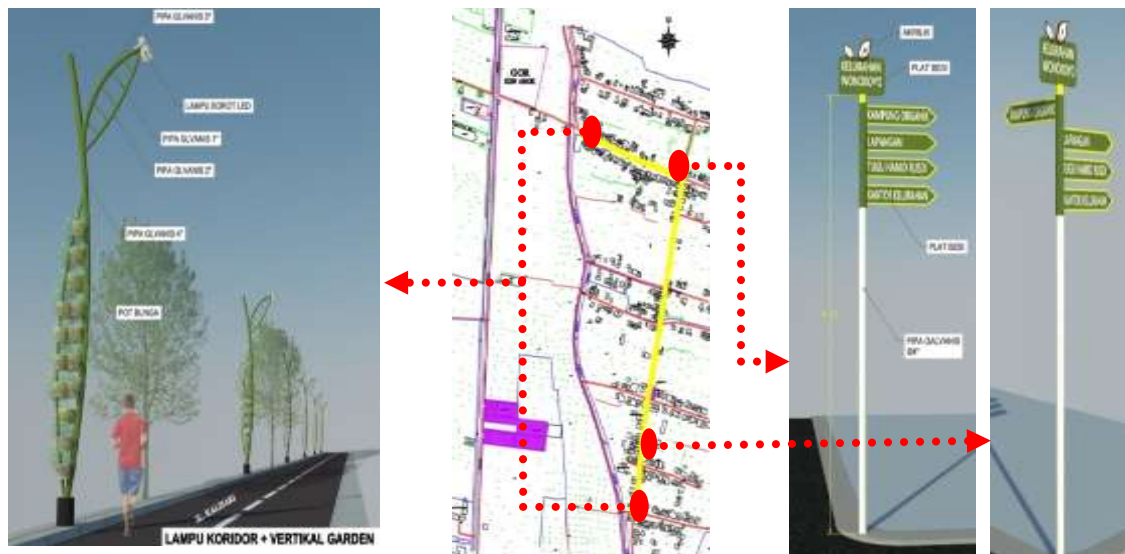


Figure 6. Visualization Of Supporting Facilities
Source: Disperkim Malang City, 2018

The thematic arrangement of the segments within the Wonokoyo Organic Village area was directed into a serial vision sequence, and at several points it is designed with a distinctive facade. The transformation face of the village was created with a contextual formation. The area with this theme becomes a centralized design area, where the image of an organic village area is expected to emerge.

Approach the area was captured by the formation of architectural artifacts that were revealed by visual physical language that could become a signifier (*sign/tetenger*) in the form of a gate that represents the contents of the area. The visual signs that were caught then streamed into a physical direction in the form of the Hamid Rusdi Monument. The Village Corridor which is designed to function as a street light (street furniture) which leads to the area of the Wonokoyo Organic Village.

4.3. Basic Green Area

The main benchmark for green basic areas is the availability of a Green Open Space (RTH) area that can be used as a space for public interaction and its existence must be in accordance with local government regulations. The purpose of the green baseline area indicator is the harmony and balance of the ecosystem and improving environmental quality.

The green area contained in the Wonokoyo Organic Village area is still suitable, which is more than 30% of the total area. The available green areas include productive agricultural land, gardens, built green open space and private green open space, namely the home or yard. The existence of a public green open space area, namely the Wonokoyo field, which was developed with the theme of a plaza or square shaded by vegetation. In addition to fulfilling public facilities, the existence of this public space is also expressed as a social space equipped with supporting facilities in the form of stands, parking areas, shop stands, shelters, and arrangement and addition of plant vegetation.

Table 2. Basic Green Area

LEE P	Basic Green Area	Score Obtained	Total Score
Num	Benchmarks	Score Max	
1	The availability of Green Open Space (RTH) that can be used to interact humans with nature	P	P
2	The availability of existing green open spaces (RTH) as required by the local government	P	P

Source: GBCI Greenship Neighborhood Checklist Assessment,2015

4.4. Green Area For Public

The assessment criteria with green area indicators for the public aim to improve environmental quality, public health, and support community interaction with green open spaces. The overall arrangement of the Wonokoyo Organic Village area is based on benchmarks for the fulfillment of green areas for the public. The public green area in the Wonokoyo Organic Village area consists of 5 segments, namely the gate, Wonokoyo Village field, accessibility and circulation to Wonokoyo Organic Village, Hamid Rusdi monument, and the road corridor area.

Table 3. Basic Green Area

LEE 1	Green Area For Public	Score Obtained	Total Score
Num	Benchmarks	Score Max	
1	Providing Green Open Space for the Public At least 25% of the land area	3	0
	Or		
2	Providing Green Open Space for the Public At least 35% of the land area	4	4

Source: GBCI Greenship Neighborhood Checklist Assessment,2015

4.5. Habitat Conservation

The assessment criteria with indicators of habitat preservation aim to minimize the development impact of the balance and biodiversity of natural species. The efforts that exist in the Wonokoyo organic village area are to maintain large trees and increase the number of trees by arranging along the accessibility and circulation to the Wonokoyo Organic Village along the length of the road. The field area is also laid out with the theme of a plaza or square shaded by vegetation.

Table 4. Habitat Conservation

LEE 2	Habitat Conservation	Score Obtained	Total Score
Num	Benchmarks	Score Max	
1	Maintain at minimum 20% of the mature large trees in the area	2	2
2	Increase the ecological value of the area's land on the recommendation of a competent landscaping expert or biologist	2	1
A	Use of local plants trees and or shrubs in the area and have a management plan.		3
	Percentage of native plants 30% to 60%	1	
	Percentage of native plants more than 60%	2	
	Or		
B	Fauna protection plans or plans to increase local fauna diversity	2	
3	Plant a minimum of 10 saplings of young trees, for each tree in the area that is uprooted and felled	2	0

Source: GBCI Greenship Neighborhood Checklist Assessment,2015

4.5. Land Revitalization

Assessment criteria with land revitalization indicators aim to avoid development in greenfield areas and avoid new land clearing. In the arrangement design of the Wonokoyo organic village area the sports field location and the abandoned Hamid Rusdi shooting monument were processed into educational tourism objects. The construction of road infrastructure and supporting infrastructure is carried out to support access and mobility of people and items. In addition, the use of idle land in the area of the home yard becomes productive land which is an added value for the organic village area of Wonokoyo.

Table 5. Land Revitalization

LEE 3	Land Revitalization	Score Obtained	Total Score
Num	Benchmarks	Score Max	
1	Revitalization and development on land that is negative and unused due to former development or the negative impact of development on the area's land	4	1
	Percentage of the minimum area of land revitalized by 50%	1	1
	Percentage of the minimum area of land revitalized by 100%	4	

Source: GBCI Greenship Neighborhood Checklist Assessment,2015

4.6. Micro Climate

The assessment criteria with micro-climate indicators aim to improve the quality of the microclimate around the area and reduce the Urban Heat Island (UHI). The addition of plants along the pedestrian area of the access road is not only a utility value but also an effort to create natural shelter and an effort to improve the quality of the microclimate. In addition, the microclimate aspect in the Arcade Village Organic area is supported by the use of the land in front of the house as organic gardening.

Table 6. Micro Climate

LEE 4	Micro Climate	Score Obtained	Total Score
Num	Benchmarks	Score Max	
1	Shows efforts to improve the quality of the microclimate for regional public spaces. Under the condition :	3	3
	Percentage of total public space 40%	1	
	Percentage of total public space 60%	2	
	Percentage of total public space 80%	3	

Source: GBCI Greenship Neighborhood Checklist Assessment,2015

4.7. Productive Land

The assessment criteria with indicator of productive land aim to encourage local food production and reduce the carbon footprint that comes from transportation emissions for food providers. In the arrangement of the Arcade Village Organic, access is planned to improve by utilizing the land in the yard of the house as a gardening place.

Table 7. Productive Land

LEE 5	Productive Land	Score Obtained	Total Score
Num	Benchmarks	Score Max	

1	Provide land for local vegetable production to meet local community needs	2	2
	Area to RTH less than equal to 10%	1	2
	Area to RTH more than 10%	2	

Source: GBCI Greenship Neighborhood Checklist Assessment,2015

The use of land on the front yard of the house as productive land can increase the value of benefits to the rate of microclimate change in the area. In addition, the productivity value of land will be even higher. According to Sassi (2006) land use is a very valuable natural resource because it not only provides a place for humans to live but also provides a source of human life.

4.8. Assessment Standards Greenship Neighborhood

The results of the recapitulation of the assessment of the six aspects of Land Ecological Enhancement are as follows:

Table 8. Land Ecological Enhancement

Code	Benchmark	Maximum Score	Score Obtained
LEE P	Basic Green Area	P	P
LEE 1	Green Area For Public	4	4
LEE 2	Habitat Conservation	6	3
LEE 3	Land Revitalization	4	1
LEE 4	Micro Climate	3	3
LEE 5	Productive Land	2	2
	Total Score	19	13
	Percentage	100%	68,42%

Source: Personal Data,2020

5. CONCLUSION

The arrangement of the Wonokoyo organic village area consists of five thematic segments, namely Gate/Entrance Access, Plaza/Square RTH, Arcade Village Organic Village, Hamid Rusdi Shooting Monument, and Village Corridor. Evaluation of the results of the arrangement of the Wonokoyo organic village based on Greenship Neighborhood on the aspect of Land Ecological Environment according to the GBCI obtained a total value of 13 points from a maximum of 19 points or 68.42%. Utilization of the yard in front of the house as productive gardening land for the community obtains maximum value in the measure of the availability of productive land to community needs for vegetable and fruit. It needs to be considered further related to the other six aspects in evaluating the design of the Wonokoyo organic village according to the Greenship Neighborhood guide. The Wonokoyo organic village area should be developed further as a means of tourism considering the natural potential and the large participation of community initiatives.

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Road Pavement Evaluation and Planning (Systematic review of the literature)

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ABSTRACT

The increasing number of population and high mobility has also raised the pressure for local stakeholders to fulfil the necessity of basic infrastructure (roads). Roads play crucial a role in a society as they are the necessary means in moving people, facilitating access to development, as well as in driving the economic growth of a community. The volume of road traffic will eventually influence the durability of roads. The higher volume of traffic a road experiences, the shorter service life spans the road will have. This article reviewed previously existing studies regarding the evaluation, planning, and repairment method of concrete, paving, and asphalt pavement by utilising narrative review method. The review was conducted by scrutinising relevant body of literature. The findings suggest that the evaluation and repairment methods for road pavement vary.

Keywords : road evaluation: planning: road pavement

1. INTRODUCTION

This article reviews existing studies concerning the methods in the evaluation, planning and repairment of road infrastructures. The increasing number of Indonesia's population and the high mobility that entails has raised the necessity of basic infrastructure that local stakeholders need to fulfil. Previous studies have discussed the road evaluation, planning and repairment.

Roads play crucial a role in a society as they are the necessary means in moving people, facilitating access to development, as well as in driving the economic growth of a community. The volume of road traffic will eventually influence the durability of roads. The higher volume of traffic a road experiences, the shorter service life spans the road will have (Teguh Yuono, S.T. and Kukuh Kurniawan Dwi Sungkono, S.T., 2019)

In order to have a good, comfortable, and safe road, the pavement layer to be used on road structure must be in a good condition. Pavement is the layer that overlays on top of subgrade layer and rubs against the wheels of vehicles. In general, road pavement construction is divided into two types, namely rigid pavement and flexible pavement. Rigid pavement is comprised of a concrete plate, foundation layer, and subgrade. Based on the binder, rigid pavement is a structure of pavement construction in which the top layer uses a concrete plate placed above the foundation or directly above the subgrade foundation. (Teguh Yuono, S.T. and Kukuh Kurniawan Dwi Sungkono, S.T., 2019)

With regards to that issue, this article investigated the stages of evaluation, planning, and repairment stages by reviewing previous studies. It aimed to draw an understanding of which approach that each study had employed regarding the issue under discussion.

2. LITERATURE REVIEW

Infrastructure is a term that refers to social overhead capital which embodies social and economical characteristics. Infrastructure plays a vital role when viewed through physical, social, economic, and environmental perspective. Infrastructure planning is a complex process which consists of needs estimation, supply identification, demand and supply balancing, design system nomination, pricing, and institutional arrangements. (Riwayati and Rachman, 2019).

Land transportation infrastructure comprises all parts of road, including complementary buildings and equipment intended for traffic on the ground, below ground and/or under water,

as well as on water surface except railroads, lorries, and cable roads (Umum, 2012)

Primary Neighbourhood Road (Jalan Lingkungan Primer), which in the rest of this publication will be referred as JLing-P, is a road that links the centres of activities in rural areas with the Village roads (Umum, 2012)

Pavement is a hard surface placed above earth formation after the completion of earthwork. Pavement is divided into three types, namely composite pavement, flexible pavement, and rigid pavement (Suryawan, 2009)

Rigid pavement is cement concrete pavement made of a mixture of cement, sand, and crushed stone with or without reinforcement (Wilayah, 2004)

Paving block is a building material composition made of a mixture of Portland cement or something similar to hydraulic adhesive, water, and aggregate with or without other additives, but without reducing the quality of concrete bricks (Badan Standar Nasional Indonesia, 1996)

3. METHODS

In a study entitled "Evaluating the Road Network and Pavement Conditions in Kelurahan Gilingan Surakarta" (Teguh Yuono, S.T. and Kukuh Kurniawan Dwi Sungkono, S.T., 2019), the researchers used a quantitative approach and collected the data by using a field survey. The data required in this research included (1) Road sizes; (2) Pavement types; (3) Types of road damage as the primary data. The secondary data were obtained by involving elements of the community and local stakeholders, including: (1) data on pavement structure; (2) data on mixed designs; (3) data on execution time.

This research incorporated three stages of data collection, namely; (1) identification and problem formulation, literature and theory study as well as equipment preparation; (2) primary and secondary data collection; (3) research and analysis.

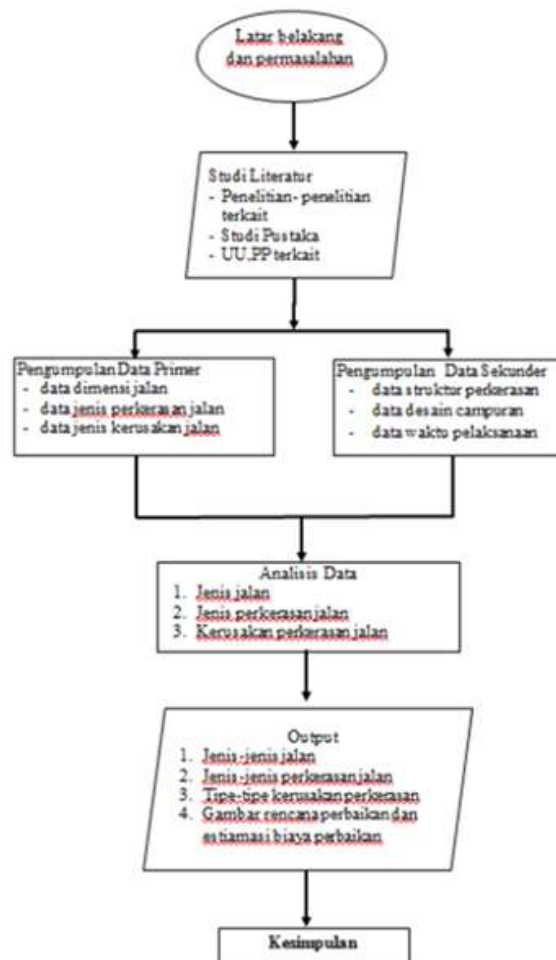


Figure 1. Research Structure

(Source: Teguh Yuono, S.T. and Kukuh Kurniawan Dwi Sungkono, S.T. 2019)

Table 1. Road Types

No	Road Types	Length (m)
1	Alley (Jalan Gang)	4.444
2	Neighbourhood Path (Jalan Lingkungan)	19.38
3	City Street (Jalan Kota)	3.146
4	National/ Provincial roads (Jalan nasional/Provinsi)	2.744
Total		23.316

(Source :Teguh Yuono, S.T. and Kukuh Kurniawan Dwi Sungkono, S.T., 2019)

Table 2. Pavement Types

No	Road Types	Length (m)
1	Pavement/Asphalt	18.875
2	Concrete Road	3.541
3	Paving Road	503
4	Dirt Road	398
Total		23.316

(Source:Teguh Yuono, S.T. and Kukuh Kurniawan Dwi Sungkono, S.T., 2019)

This research analysed the types of road damage. The common types of damage for concrete roads are: (1) reduction or fracture; (2) damages at the joint covers; (3) longitudinal, transverse, and block cracks; (4) surface damages; and (5) divided slab. The common types of damage on asphalt pavement include: (1) cracks on pavement edges; (2) pavement surface texture damages (loose grains, slippery and peeled aggregates); (3) holes and filling damages; and (4) longitudinal,

transverse and block cracks; (5) deformation (subsidence, bump, and collapse).

A study entitled “An Analysis of the Damages of Concrete Road on the Village Road of Badurame-Geger in Turi District” (Susilo and Hartantyo, 2017) used an observation, on-field object documentation, and sample picking as the research methods. The data acquired in this research were: (1) Observation; (2) Road data; (3) Documentation; and (4) Interviews as the primary data. Meanwhile, the secondary data included: (1) location maps; (2) Road Names; (3) Data on road damages. The data analysis technique was divided into several stages, namely: (1) Identification process, problem formulation, literature and constitutional study, and equipment preparation; (2) Primary and secondary data collection; (3) and Research and analysis.

Table 3. Data on Road Damages (Nr)

No	Types of Road Damage	Road Damage Area (m ²)	Road Area (m ²)
1	Transverse Cracks	15	7500
2	Subsidence	7	7500
3	Lengthwise Cracks	700	7500
4	Fading of concrete	6	7500

(Source: Susilo and Hartantyo, 2017)

Table 4. Damage Percentage

Road Types	Length (m)
Retakan Melintang	9,33%
Ambias	0,093%
Retak Memanjang	0,093%
Memudarnya beton	0,08%

(Source: Susilo and Hartantyo, 2017)

Table 5. Road Damage Percentage Value (Source: Binamarga)

Percentage	Category	Value
< 5%	Minuscule	2
5%-20%	Little	3
20 - 40%	Moderate	5
> 40%	Mass	7

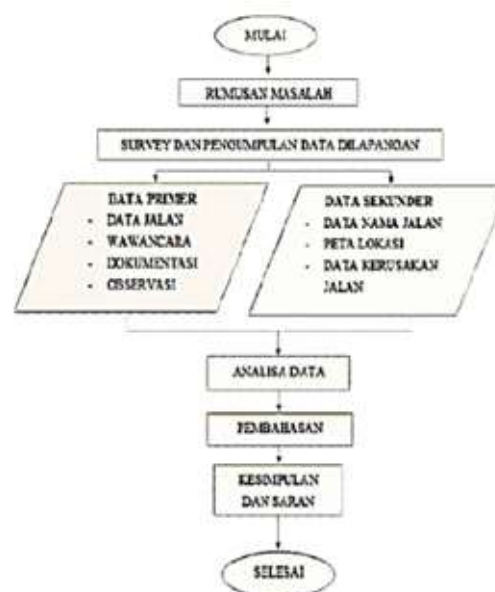


Figure 2. Research Stages
(Source: Susilo and Hartantyo, 2017)

Another study by (Purwanto and Putra, 2018) was “An Analysis of Road Pavement of Jalan

Pramuka in Gandus District of Palembang City as Scrutinised from Cost Efficiency". This research used a quantitative approach to determine the road to be investigated by considering whether or not there had been road pavement prior to the research. The research was conducted in several stages, namely: (1) Reviewing previous studies and all applicable legislation; (2) Collecting secondary data; (3) Determining the parameter of planned pavement thickness; (4) Calculating the thickness of flexible pavement; (5) Calculating the thickness of rigid pavement; (6) Calculating the estimated construction costs; and (7) Analysing the research findings to draw conclusion and make recommendations regarding the possible approaches based on empirical and statistical data. This research used numerical data and operationalised variables.

Table 6. Basic CBR

STA	CBR
00.000	2.17%
00.100	0.95%
00.200	0.87%
00.300	1.52%

(Source : Purwanto and Putra, 2018)

Table 7. Determining the CBR Designs

CBR (%)	Equivalent Amount or Greater	Equivalent Percentage or Greater
2.17	1	$1/4 \times 100\% = 25\%$
1.52	2	$2/4 \times 100\% = 50\%$
0.95	3	$3/4 \times 100\% = 75\%$
0.87	4	$4/4 \times 100\% = 100\%$

(Source: Purwanto and Putra, 2018)

Table 8. Provisioned Road Width

Road Function	Road Width (m)
Artery	≥ 11.0
Collector	≥ 9.0
Local	≥ 7.5

(Source: Purwanto and Putra, 2018)

Table 9. Traffic Lane Width

Road Class	Traffic Lane Width (m)
Boulevards (Wide Road)	$2 \times \geq 7.0$ compared to medium
Streets (Medium Road)	$\geq 1 \times 7.0$
Lanes (Narrow Road)	≥ 5.5

(Source: Purwanto and Putra, 2018)

Table 10. Road Transition Width

Road Function	Traffic Lane Width (m)		Roadside Width (m) (left & right)	
	Ideal	Transition	Ideal	Transition
Artery	7.0	6.0	2×2.0	2×2.50
Collector	6.0	5.5	2×1.5	2×1.75
Local	5.5	3.5	2×1.0	2×2.00
		4.5		2×1.50

(Source: Purwanto and Putra, 2018)

Table 11. New Road Pavement Age Plan

Pavement Types	Pavement Elements	Age Plan (Year)
Uncovered Roads	All elements (including road foundation)	Minimum 10
Rigid Pavement	Top layer foundation, bottom foundation layer, cement concrete layer, and road foundation layer	40
Flexible Pavement	All pavements for areas where overlay is not possible, such as urban roads, underpasses, tunnel bridges	

Cement Treated Based (CTB)	
Asphalt layer and grained layer	20
Road Foundation	

(Source: Purwanto and Putra, 2018)

Table 12. The Age of New Road Pavement Plan

Number of lanes each direction	Commercial vehicles on the design lanes (% against commercial vehicles)
1	100
2	80
3	60
4	50

(Source: Purwanto and Putra, 2018)

Table 13. Distribution Coefficient

Pavement Width (Lp)	Number of Lanes	Light Vehicles		Heavy Vehicles	
		1 arah	2 arah	1 arah	2 arah
L < 4.50 m	1	1.00	1.00	1,0	1,0
4.50 m ≤ L < 8,00 m	2	0.60	0.50	0,0	0,0
8.00 m ≤ L < 11.25 m	3	0.40	0.40	0,0	0,75
11.25 ≤ L < 15.00 m	4	-	0.30	-	0,5
15.00 ≤ L < 18.75 m	5	-	0.25	-	0,25
15.00 ≤ L < 18.75 m	6	-	0.20	-	0,0

Table 14. Determining Growth rate Factors

	Java	Sumatera	Kalimantan	Average in Indonesia
Arteries dan urban	4.80	4.83	5.14	4.75
Collector and rural	3.50	3.50	3.50	3.50
Village roads	1.00	1.00	1.00	1.00

(Source: Purwanto and Putra, 2018)

Table 15. ESA Value

Types of Vehicles	LHR 2018	HVAG Cumulative (axis group)	ESA/HVAG Factors	Design Traffic Expenses (Actual)
Passenger car and other light vehicles	500 x 94% = 470	-	-	-
Heavy vehicles	500 x 6% = 30	252,945	3.16	8 x 105

(Source: Purwanto and Putra, 2018)

The next study under scrutiny was conducted by (Hidayat and Putra, 2018) and entitled “An Analysis of Infrastructure Conditions of Neighbourhood Roads in Kelurahan 3-4 Ulu in Palembang”. The research was divided into several stages including research planning, research implementation, and report preparation. A more detailed stage breakdown are as follows: (1) Selecting and identifying the object to investigate; (2) Carrying out a preliminary study, in this case, the study used a field research to obtain the necessary information; (3) Determining the research object, obtaining the research data by using research analysis method; and (4) Collecting primary and secondary data. The primary data were acquired through documentation, field survey, interviews with community members and stakeholders. Meanwhile, the secondary data were obtained from public data and a number of references concerning neighbourhood road infrastructure; (5) Analysing and discussing; and (6) Drawing conclusions. This study gathered its research data through a survey and on-field documentation. The mapping data acquired from the earlier process were then processed by using Argis program to change it into a thematic map of the neighbourhood roads. In addition to that, this study also conducted interviews with related stakeholders.

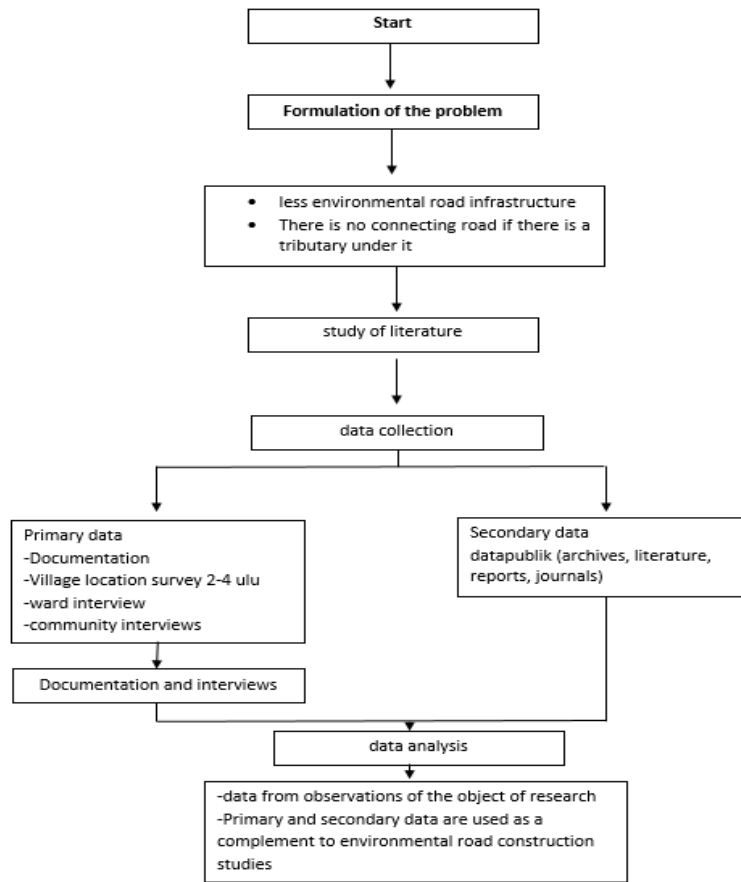


Figure 3. Research Stages
(Source: Hidayat and Putra, 2018)

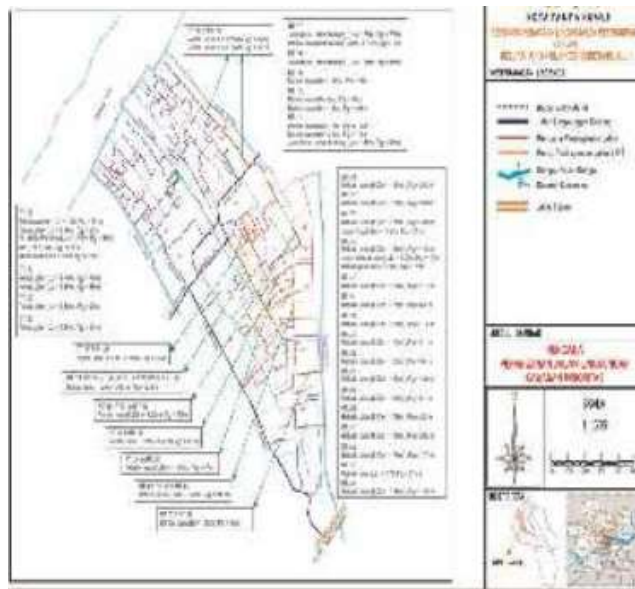


Figure 4. Thematic Map
(Source: Hidayat and Putra, 2018)

Furthermore, through their study, (Rachman and Riwayat, 2019) made “An Analysis of Basic Infrastructure Needs in Sako Baru Village of Sako District in Palembang City”. This study

conducted its investigation through the following sequence: (a) Building a coordination with village government; (b) Making an observation and identifying the existing infrastructure; (c) Conducting interviews; (d) Performing development needs by priorities; (e) Taking measurements at a preferred location; and (f) Calculating Budget Plan. As for the data collection technique, this study follows these orders: (a) Conducting interviews with village stakeholders; (b) Conducting interviews with neighbourhood leaders (RT) and local community members; and (c) Making measurements on the objects as a basis for making a Budget Plan. The data collection method includes (a) Conducting interviews with relevant parties; (b) Conducting interviews with neighbourhood leaders and residents; (b) Carrying out surveys and measurements, and then proceeding to making Budget Plan.

Based on the data obtained from the survey and on-field measurements, the researcher then chose the work plan priorities and continued with the preparation of Budget Plan. The measurements were taken in two ways, namely by using Google Earth application and by manual measuring equipment.

A study by (Staniek and Czech, 2018) entitled “Self-correcting neural network in road pavement diagnostics” examined the damages on road pavement by using a 3D-based method with the assumed stereo vision road imaging technology.

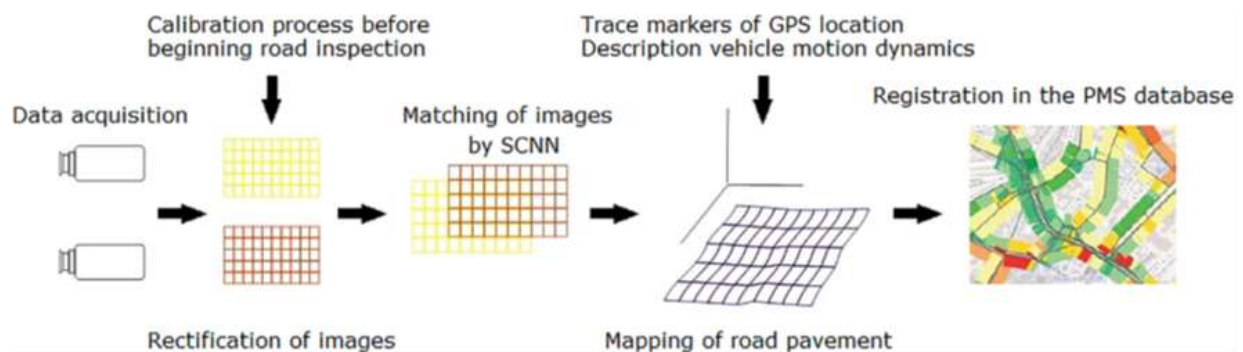


Figure 5. Flowchart of developed system of road pavement mapping (Source. Staniek and Czech, 2018)



Figure 6. Test vehicle with the stereo vision measuring station (Source. Staniek and Czech, 2018)

The next study that this article reviewed is “Evaluation of pavement condition index by different methods: Case study of Maringa, Brazil” (Pinatt et al., 2020). This study discusses a pavement evaluation using Pavement Condition Index (PCI) method, which is an objective method for visual road evaluation by considering the level and severity of damage found in certain research sites. PCI was implemented on the surface of evaluated flexible pavement together with the Global Severity Index, signified by the use of comparative analysis that PCI is more comprehensive and

appropriate for the conditions under evaluation. Boyopati and Kumar (2015) used a PCI method to determine the condition of pavements in two areas (Thanjavur - Ayyampetai dan Sathamagalam - Keelapur) according to the procedure described in ASTM D5340 (ASTM, 2007). The first area had a section with PCI scores in the range of 24-56, covering three different pavement conditions (poor, very poor, and fair) as well as priority levels of maintenance (PR1: reconstruction; PR2 and PR3: rehabilitation). The second area showed PCI scores ranging from 40-45. In this case, all sections were classified in accordance with the pavement condition, rated as fair, with priority level of PR3 (rehabilitation).

Another journal article entitled "Pavement structural evaluation based on roughness and surface distress survey using neural network model" (Fakhri and Dezfoulian, 2019) used some comparisons. In the methods, the researcher evaluated the structural conditions of pavement according to colour coding system.

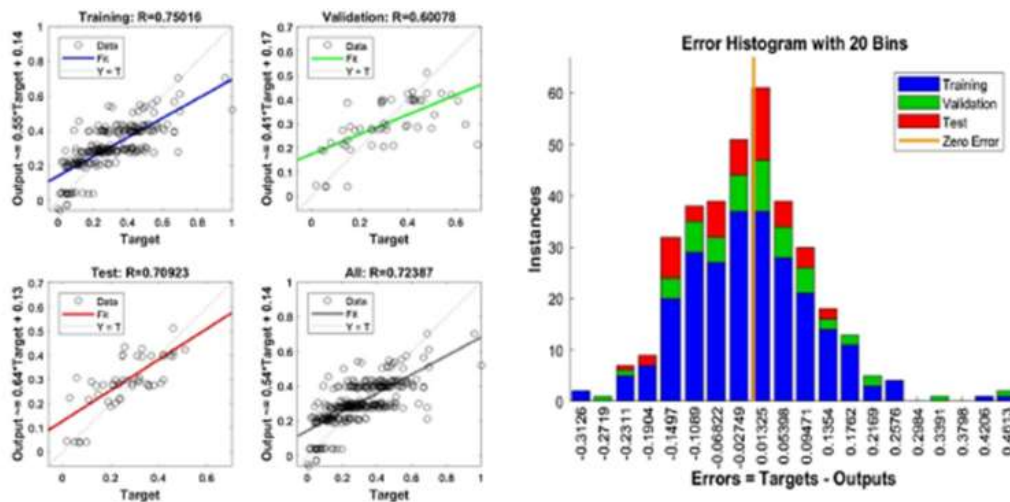


Figure 7. Regression and Error Histogram Results for Structural Indices (318 sections) (Source: Fakhri and Dezfoulian, 2019)

Table 16. ESA Scores

Route	Length	Asphalt surface		Subbase	Age	Rehabilitation Maintenance	
		Thickness	Thickness	Thickness	Year	Last Type of Work	Time since Last Activity (year)
Kermanshah Ghazanchi	8	22	20	20	> 15 (widening)	cracked	1
Ghazanchi Kermanshah	15	26	26	26	> 15 (widening)	Thin layer	6 months
Eslamabad Kermanshah 19	30	20	27	27	> 15 (widening)	Thin expanse 1	1

(Source: Fakhri and Shahni Dezfoulian, 2019)

In another publication entitled "Is cement pavement more sustainable than permeable brick pavement? A case study for Jinan, China" (Wang *et al.*, 2019), the researchers employed a method that allowed them to evaluate the types of pavement by tracking the thermodynamic conversion of a product or service system one by one.

The research method in this study allowed for a comprehensive evaluation of the capacity of sustainable development of cement pavements and permeable brick during the construction and operating period. The energy input from cement pavement and permeable brick pavement

during the construction stage consisted of three components: (1) Natural renewable resources that were absorbed by a system such as solar energy, rainwater chemical energy and wind energy (R); (2) Non-renewable natural resources: net loss of topsoil (N); (3) Non-renewable auxiliary energy such as pavement materials (including gravel, sand, permeable bricks and cement), machinery, fuel, and externally purchased labour (F). The energy flow List of cement and permeable brick pavement flowchart during the construction phase.

Moreover, a study entitled “Deterioration of flood affected Queensland roads – An investigative study” by (Sultana *et al.*, 2016) collected and analysed the data concerning surface conditions (roughness and flow) of road pavements affected by flooding from TMR, Queensland and deflection data of Falling Weight Deflectometer (FWD) from Brisbane City Council (BCC). FWD test is the most widely used technique for non-destructive pavement evaluation. During the FWD test, the pavement deflection response is measured by a transducer with a different set of number loads. The pavement removal in transducer location is collectively referred as deflection bowl (or deflection basin) or the time deflection history in each receiving location is then reported as a pavement response. With the thickness of the pavement layer as a given input, the measured pavement response is analysed or recalculated infer the elastic layer moduli of the pavement layer.

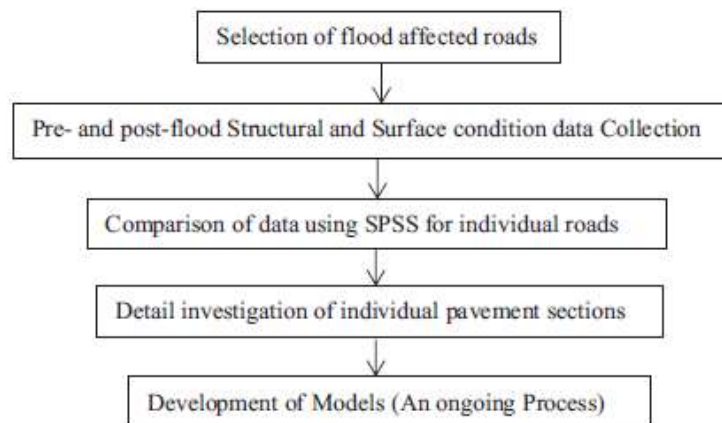


Figure 8. Analysis scheme and data collection (Source: Sultana *et al.*, 2016)

4. DISCUSSION

Drawing on the discussion above, this study divides the methodologies used in the aforementioned articles into two groups, namely the methodologies concerning road repairment evaluation and the methodologies regarding road planning. Articles entitled “Evaluating the Road Network and Pavement Conditions in Kelurahan Gilingan Surakarta” (Yuono and Sungkono, 2019) and “An Analysis of the Damages of Concrete Road on the Village Road of Badurame-Geger in Turi District” (Susilo and Hartantyo, 2017) both discussed the types of damage on concrete roads and followed it up by recommending some solutions.

Table 17. The Similarities and Differences of the Articles Evaluation

No	Similarities	Differences
1	Research Sites	Research objects are located in different locations
2	Data Collection Method	Primary data were obtained through field survey, including the data on road dimension, types of road pavement, and types of road damage. Secondary data were acquired from relate stakeholders in the form of data

No		Similarities	Differences
		on pavement structures, mixed designs, and execution time	
3	Types of Equipment Needed	Measuring tools of length, width, and thickness, as well as road segment markers, stationery and digital cameras	Pavement evaluation study using the Pavement Condition Index (PCI), which is an objective method for road visual evaluation
4	Data analysis technique	Using a quantitative method	Using FWD test

(Source: Author's analysis of several related articles under review)

The articles that fall into "road planning" category are "An Analysis of Road Pavement of Jalan Pramuka in Gandus District of Palembang City as Scrutinised from Cost Efficiency" by (Purwanto and Putra, 2018), "An Analysis of Infrastructure Conditions of Neighbourhood Roads in Kelurahan 3-4 Ulu in Palembang" by (Hidayat and Putra, 2018), "An Analysis of Basic Infrastructure Needs in Sako Baru Village of Sako District in Palembang City" by (Rachman and Riwayati, 2018), "Self-correcting neural network in road pavement diagnostics" by (Staniek and Czech, 2018), and "Evaluation of pavement condition index by different methods: Case study of Maringa, Brazil" by (Fakhri and Dezfoulian, 2019). Some articles even present the Budget Plan for each project.

Table 18. Similarities and Differences in the Articles regarding Road Planning

No		Similarities	Differences
1	Research Sites		Research objects are located in different locations
2	Data Collection Method	Primary data were obtained through field survey, including the data on road dimension, types of road pavement, and types of road damage.	Using 3D-based method with the assumed stereo vision road imaging technology.
		Secondary data were acquired from relate stakeholders in the form of data on pavement structures, mixed designs, and execution time	Pavement evaluation studies using Pavement Condition Index (PCI) method, which is e on objective method to evaluate road visually.
3	Types of Equipment Needed	Measuring tools of length, width, and thickness, as well as road segment markers, stationery and digital cameras	
4	Data Analysis Technique	Using a quantitative method	

(Source: Author's analysis of several related articles under review)

5. CONCLUSION

Put together from the findings and discussion above, this research concludes that the pavement evaluation, planning, and repairment methods, as well as the research stages used by the researchers in those reviewed articles are identical. All of them used a quantitative method. The data required in the reviewed articles are: (1) Road size; (2) Pavement types; and (3) Types of road damage as the primary data. The secondary data such as: (1) Pavement structure; (2) Mixed designs; (3) Time execution were obtained by involving local community elements and stakeholders.

It is worth-noting that some studies utilised a 3D-based method and Pavement Condition Index (PCI), a colour coding system to compare the pavement structural conditions, and even used FWD test to analyse the pavement.

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Anvantages of Bamboo as A Biomaterial for Sustainable Building

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ABSTRACT

Architects as designers, are well aware that material selection for sustainable building construction has become a major problem. Each construction material must have the design value required for structural analysis. The sustainability of bamboo to supply building construction materials can be guaranteed as long as its management is carried out properly. Bamboo as a monocot plant can grow very fast, with the rate of photosynthesis demonstrating excellent sinusoidal equations to form its superiority. Therefore, bamboo as a wood substituting material for construction is very promising. However, bamboo is an inhomogeneous natural material with very high variations, including the value of the allowable stress and its reference strength. With certain preservation, bamboo can last more than 20 years. This study aims to determine the optimal preservation technique based on a number of research results before the material becomes an option for sustainable building construction. The method used is descriptive qualitative. The results are based on a number of studies that have shown that the advantages of bamboo are based on its strength, which is largely contributed by sclerenchyma cells which are bound in its vascular bonds to form bamboo strength and stiffness. To maintain and increase its strength, preservation is needed. One way to increase the superior quality of bamboo is to use a combination of biological preservation methods (determining the period of cutting / harvesting bamboo in the dry season, especially in March, April and May as the best cutting times in Indonesia, which is an area with a wet tropical climate) and chemical (vertical soak diffusion system using camphor with kerosene and / or smoking with sulfur), is a way of preservation that can increase its superior value as a construction material.

Keywords : bamboo, building, construction, material, sustainable.

1. INTRODUCTION

The depletion of forest areas for agricultural land, plantations, residential development and basic building materials is one of the causes of global warming (YUWONO, 2016). Starting from this phenomenon, the world of architecture responded with an energy-efficient architectural concept. According to Muhsin et al., (2015) energy-efficient architecture does not only talk about saving energy at the time of use, but also about the materials used whether they require a large amount of energy when making them or when they are transported. One of the criteria is the selection of environmentally friendly materials. Building materials that are traditional and conventional are increasingly being abandoned because they are replaced by modern manufactured products. Whereas according to the view of Li et al., (2017), the advantages of traditional building materials, are good thermal performance, can also directly reflect regionalism.

Indonesia as a maritime country with 17,504 islands, including 9,634 islands that have not been named, and 6,000 uninhabited islands are all countries that are rich in natural resources, a country known for the second highest level of biodiversity in the world after Brazil 1 (Andi Surya Kurnia, 2013). This means that the availability of biomaterials for building construction is quite abundant, even though its utilization requires wise action. These biomaterials are wood and bamboo.

Wood and bamboo are known as biomaterials that have the lowest impact on the environment, because they can be developed and cultivated, while bamboo can live well in almost all types of soil, from lowlands to highlands, and is relatively short to harvest (Andi Surya Kurnia, 2013). However, currently the use of these two biomaterials is rarely used as the main material in the construction of an architectural object. Even though wood and bamboo have the advantage of their photosynthetic process using the C4 mechanism to absorb carbon gas. To fulfill the need and availability of bamboo to supply building construction materials, its sustainability can be guaranteed in the long term, it is necessary to prepare certain types of bamboo, such as replanting (reforestation), determining the time for cutting, treatment when it has been cut, transportation of logging, until it is managed into buildings.

2. LITERATURE REVIEW

2.1 Availability of Bamboo

Bamboo plants are monocot plants that can grow very fast, with the rate of photosynthesis demonstrating excellent sinusoidal equations to form their superiority. sympodial bamboo plant. Muhsin et al, (2020) stated in their research that bamboo is a local material in Indonesia whose existence has a long history. Existing data shows that from 1,200 - 1300 types of bamboo in the world, 143 species or 11% of them are native species of Indonesia. This figure actually shows the potential of bamboo that Indonesia has.

According to Alamsyah et al, (2019) in their research, the number of bamboo clumps per hectare is 83 clumps / ha, with a lot of bamboo culms in one hectare of 4.047 stems / ha. The potency of tillers in Timbang Lawan Village's bamboo forest in one hectare is up to 19 stems / ha, while the potential of culms per clump is around 49 stems / clump.

From the results of Liana's search, (2020) it is known that there are 22 bamboo genus that are widespread in Indonesia. The genus with the most species are Gigantochloa, Dinochloa, Bambusa, and Schizostachyum, respectively. The regions of Indonesia with the largest distribution of genera are Java, Bali, Sulawesi and the Lesser Sunda Islands. When compared with the results of previous studies, there was an increase in the number of bamboo genus by 12 genus.

2.2 Strengths and Weaknesses of Bamboo

Bamboo is one of the strongest plants. The fibers are about 10 times stronger than wood fibers. Bamboo is usually planted around village houses. The use of bamboo in traditional house construction is 100% environmentally friendly, can mean a lot of savings in materials used and transportation. The traditional bamboo houses are not the product of any theoretical design, but the influence of instinct, intuition, common sense and communal memory. Traditional houses are designed by owners and based on low investment, local materials, combined with the help of relationships between friends and neighbors (Li et al., 2017).

Arsad, (2015) argues that bamboo is cosmopolitan, that is, it can survive in all weather, both in hot and cold areas, lowlands, cliffs and mountains. Bamboo has the basic properties of wood and not wood because it can be used for the construction of houses, bridges, handicrafts, musical instruments, curtains, kitchen utensils, chopsticks and so on.

The use of bamboo as a building material can be shaped interestingly so that it is not monotonous. The advantages of bamboo are its strong traction, stronger than steel, and cheap, they also try to change the perception of bamboo, it is just a traditional material that can be used on a small structure scale (Andi Surya Kurnia, 2013) . View (figure 1 & 2)



Figure 1. Construction of Green Village using bamboo and Figure 2. Construction of Green Village using bamboo. Source: SCAN # 4.

Hartanti, (2010) in his study stated "Bamboo is one of the fastest growing plant groups in the world, reaching more than 60 cm. per day, depending on soil conditions and local climate. it can grow well in tropical climates like Indonesia. The height of bamboo trees varies, from 100 cm - 300 cm, with a diameter of 7.5 cm -18 cm "see (Figures 3 & 4).



Figure 3. Bamboo planting group 1



Figure 4. Bamboo planting group 2

Sumber : <https://doi.org/10.21512/humaniora.v1i1.2143>

According to Hartanti, (2010) bamboo has the following advantages: (1) The time for bamboo growth is the fastest, which is five years for harvesting. Meanwhile, wood takes dozens to decades to harvest. In addition, with one crop, it can be cultivated forever. (2) By using roots, bamboo continues to reproduce into new shoots or rhizomes. the topsoil layer becomes a place for the bamboo roots to spread. Because bamboo can reduce erosion, the sloping land surface is suitable for planting to avoid landslides. (3) Bamboo roots absorb soil pollutants and increase water reserves. On the riverbank, the presence of bamboo clumps will purify the water. Bamboo roots can be plucked into food sources, namely bamboo shoots and young bamboo shoots. (4) Exports of bamboo as a substitute for wood to Europe can ward off barriers to ecolabelling requirements or the level of ecological friendliness because when bamboo is not used it will rot and release emissions. (5) Bamboo can be used as a raw material for tissue, paper and textiles. Bamboo wipes are not easily torn. There are socks and panties made from 95% bamboo. Bamboo textiles are soft, cold, thin, and strong. Bamboo can be processed into fiber or fiber. Like plastic pellets, bamboo fiber is easy to shape. (6) Bamboo is also global warming friendly because photosynthesis of bamboo is classified as the most efficient. In respiration, bamboo can reabsorb the carbon dioxide produced by the C carbon chain. (7) Bamboo has a strength that can compete with steel. Due to their high flexibility and strength, bamboo structures are also earthquake resistant structures. If it is used as a building it also has advantages and disadvantages such as (Table 1)

Table 1: Advantages and disadvantages of bamboo as a building material

Advantages	Deficiency
1. Includes renewable building materials	1. Susceptible to termites
2. The application does not need to use educated personnel	2. The public perception that bamboo is a building material for low-income communities
3. The processing is enough using simple tools	3. Belum ada standar /tatacara baku dalam membuat rumah bambu
4. Short time if used as construction	
Low prices	

Source : Hartanti, (2010) The existence of bamboo material as a substitute for wood materials in the application of interior design and architecture. *Humanities*, 1(1), 11. <https://doi.org/10.21512/humaniora.v1i1.2143>

There are several types of bamboo (Figures 5 & 6) according to research by Hidajat et al., (2014), namely friend bamboo (*Gigantochloa Atter*), feather bamboo (*Phyllostachys Aurea*), rope bamboo (*Gigantochloa Apus*) and gombong bamboo (*Gigantochloa Atrouviolacea*).



Figure 5. Friends of Bamboo Stems (*Gigantochloa Atter*), (b) Clumps of Friends Bamboo (*Gigantochloa Atter*), (c) Bamboo Stems of Feather (*Phyllostachys Aurea*), (d) Clumps of Feather Bamboo (*Phyllostachys Aurea*) Source : <https://doi.org/10.21512/humaniora.v1i1.2143>

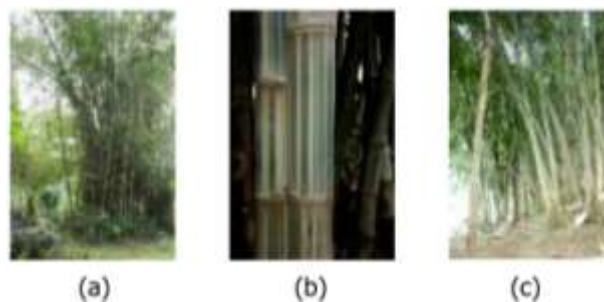


Figure 6. (a) Clump of string bamboo (*Gigantochloa Apus*), (b) Bamboo stem gombong (*Gigantochloa Atrouviolacea*), (c) Gombong Bamboo Clump (*Gigantochloa Atrouviolacea*)

Source : <https://doi.org/10.21512/humaniora.v1i1.2143>

3. METHODS

This qualitative descriptive research was conducted based on a number of studies to determine the optimal preservation technique based on a number of research results before the bamboo material became an option for sustainable building construction.

4. RESULTS AND DISCUSSION

Literature studies were conducted on 13 articles, scientific journals accessed from Google, Google Scholar and Elsevier such as the writings of Alamsyah, R., Affandi, O., Batubara, R., (2019), Andi Surya Kurnia. (2013), Arsad, E. (2015), Hidajat, A., Fatharani, F., Martika, D., P, Fitria, A., & White, G. (2014), , Li, N., Dong, L., & Lang, M. (2017)), Liana, A. (2020), Muhsin, A., Febriany, LM, & Hidayati, HN (2015), Muhsin, A., Kamaludin, D., Ganiar F, R., Allam, A. N., & Utami, R. D. (2020), and YUJWONO, AB (2016) from research conducted by researchers on the advantages of bamboo as Biomaterials for Sustainable Building Construction are:

Bamboo has an important role in rural communities living in Indonesia. According to Alamsyah et al., (2019), there are approximately 8.16 ha of belangke forest bamboo species (*Gigantochloa Pruriens* Widjaja) in Timbang Lawan village, Bahorok District, Langkat Regency. however, awareness of the importance of bamboo is still low in general.

Bamboo is an abundant natural resource owned by Indonesia, so there is an opportunity to explore more deeply about optimizing the use of bamboo as a bamboo material to contribute optimally to more meaningful architectural works supported by illustrations that clarify the discussion so as to allow efforts to optimize local potential for architectural sustainability (Andi

Surya Kurnia, 2013).

With simple technology to high technology, Indonesian Bamboo can be developed both in the fields of plantation, processing technology, process technology, preservation technology with maximum attention to quality, in order to increase the added value and economic value of bamboo properly (Arsad, 2015).

The world of modern architecture is certainly never separated from architecture using wood and bamboo materials. The use of these materials that can not last long, it requires a process of preservation and treatment. For bamboo materials, preservation is carried out using the soaking method within one week. To maintain the durability of bamboo material in the venakualar house, the residents of the house need to carry out regular maintenance so that the house can last a long time (Hidajat et al., 2014).

In finding a method that must be done with bamboo material (Muhsin et al., 2020) trying to be able to unleash the potential therein and it affects the material both to climatic conditions and surrounding conditions.

Bamboo can be an alternative building material that is environmentally friendly, which can replace wood, because bamboo is easy to cultivate, can live well in almost all types of soil, from lowlands to highlands, and is relatively short to harvest and after that it can be harvested regularly continuously (Yuwono, 2016).

According to the results of the researchers above, the discussion of the advantages of bamboo as a biomaterial for sustainable building construction is as follows:

1. Bamboo is an abundant natural resource owned by Indonesia
2. Existing data shows that from 1,200 - 1300 species of bamboo in the world, 143 species or 11% of them are native to Indonesia.
3. From the results of Liana, (2020) search it is known that there are 22 genus of bamboo that are widespread throughout Indonesia.
4. Bamboo is easy to cultivate, can live well in almost all types of soil, from lowlands to highlands, and is relatively short to harvest and after which it can be harvested continuously, it is necessary to raise awareness of the important role of bamboo in the lives of rural communities.
5. Optimization of the use of bamboo is used for clothing, food and board needs, it is also widely applied to architectural works such as being used for trusses, roof trusses, wall and column frames, floors, and doors, and the development of interior design.



Figure 7. Jhon Hardy workshop the Honeycombers-Bali



Figure 8. Eco-Conscious Guide to shopping and dinning-Roob Report

Source :

https://www.google.com/search?q=john+hardy+jewellery+bali&source=lnms&tbm=isch&sa=X&ved=2ahUKEwjivHu69vsAhXFdH0KHZ5dBGgQ_AUoAnoECCIQBA&biw=1366&bih=657#imgrc=9f6bwzy7XfcOcm

Source : <https://robbreport.com/travel/destinations/queen-green-elora-hardy-eco-chic-guide-bali-eg18-2812733/>

6. Bamboo can be developed using simple technology or high technology.

7. To be durable, bamboo needs to carry out procedures such as (1) harvesting time management, generally a good harvest season is during the dry season, (2) logging method, by cutting bamboo when the sugar and water levels of bamboo are low, (3) Traditional preservation methods, such as a mixture of camphor with kerosene or fumigation with sulfur (borax) can also be the Vertical Soak Diffusion (VSD) method (4) Preservation using chemicals.



Figure 9. Solution filling for vertical bamboos (Curing 1)



Figure 10. Solution filling for vertical bamboos (Curing 2)

Source : <https://doi.org/10.21512/humaniora.v1i1.2143>

5. CONCLUSION

Based on the description above, the following conclusions can be drawn: The superiority of bamboo rests on its strength which is largely contributed by the sclerenchyma cells which are bound in the bonds of its vessels to form the strength and stiffness of the bamboo. To maintain and increase its strength, preservation is needed. One way to increase the superior quality of bamboo is to use a combination of biological preservation methods (determining the period of cutting / harvesting bamboo in the dry season, especially in March, April and May as the best cutting times in Indonesia, which is an area with a wet tropical climate) and chemical (vertical soak diffusion system using camphor with kerosene and / or smoking with sulfur), is a way of preservation that can increase its superior value as a construction material.

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Ecological Green Open Space Revitalization At the Edge of the Mahakam River Corridor In the City of Samarinda

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ABSTRACT

Samarinda City is the capital of East Kalimantan, which is geographically located on the Mahakam River banks. The development of Samarinda city is much influenced by the development of the Mahakam river corridor because the Mahakam river is very close to the life of the people of Samarinda. The Mahakam River divides Samarinda's city by forming a corridor with a city symbol, characteristics, and very potential to be developed, especially in the green open space corridor on the Mahakam River. Through the revitalization of green open space for the Mahakam river corridor, it is hoped that Samarinda City will have a city identity characterized by an ecological river corridor area. This discussion uses a qualitative descriptive method through the development of an ecological green open space planning concept. The development of the concept of ecological green open space planning is carried out through eco-spatial analysis based on the theoretical synthesis, the results of field observations to maintain it's characteristics as a Mahakan Riverfront City.

Keywords : Revitalization, Green Open Space, Ecological Concept, Mahakam River Bank.

1. INTRODUCTION

Seeing the history of Samarinda City, it grew from three settlements of the Kutai clan Melanti tribe, namely Mangkupalas Village, Kararnumus and Karang Asam. These three villages joined Kelurahan Ulu Dusun in Kutai Lama under the leadership of Ngabehi Ulu. Since the 14th century the three villages have had a very strong influence from the Gowa Kingdom in South Sulawesi, however after the defeat of the Makassar Kingdom in 1667 or after the Bungaya Agreement (1662) the Makassar influence gradually diminished in East Kalimantan (Noor, Rasyid, & Achmad, 1986)

Currently Samarinda has developed into a city as well as the capital of the province of East Kalimantan. Samarinda City can also be called a river city or water city with the Mahakam river which divides the city into 2 (two) parts, namely Samarinda City and Samarinda Seberang. On the 2 (two) sides of the river bank a road corridor is formed which is very specific as a river city.

The Provincial Government and the City of Samarinda have several plans for the development of green open space areas in the Mahakam river corridor, one of which is: a revitalization plan for green open space in the Kukung River area which needs to be followed up immediately, this area has the potential as a district and is close with river corridors whose conditions are irregular in the use of land functions and various forms of green open space areas. It is very necessary to reorganize the Character District of Samarinda City as a Riverbank City due to the current physical development of Samarinda City which tends to be unfocused and its city growth is not balanced on the 2 (two) river banks.

An arrangement of green open space areas in Sungai Kunjang is needed to provide an example of an area arrangement that has a specific identity. Another thing is that the Sungai Kunjang which is located in the Mahakam river corridor has the potential both as a city arrangement and an architectural enhancement of the characteristic of a river city with a local identity. This **DISCUSSION** examines the arrangement of green open space on the Sungai Kunjang in the form of structuring a green open space system with an ecological approach that aims to obtain a city identity characterized by a riverside city.

Based on the description above, the goal to be achieved in this discussion is to obtain the identity of the city of Samarinda by making green open space arrangement in the form of city space arrangement and building facades characterized by local architecture characterized by riverside cities with urban design approaches on the banks of the Mahakam River. in area of Sungai

Kunjang so that the city of Samarinda has the characteristics of a riverside city which is nicknamed Samarinda the Riverside City.

2. LITERATURE VIEW

2.2. Area Revitalization

2.2.1. Definition of Area Revitalization

In the Regulation of the Minister of General Number: 18 / Prt / M / 2010, it explains that revitalization is an effort to increase the value of land / area through rebuilding in an area that can improve the function of the previous area supported by conservation activities supported by maintenance, restoration and maintenance of the building and its environment to restore the reliability of the building in accordance with the original or in accordance with the conditions according to the desired period (MPU, 2008)

2.2.2. Area Revitalization Objectives

The aim of revitalizing the area is to increase the vitality of the built area through urban interventions that are able to create local economic growth and stability, integrated with the city system, livable, social justice, with a cultural and environmental perspective (MPU, 2008).

2.3. Green Open Space

2.3.1. Definition Green Open Space

Green Open Space (GOS), is an area that extends / paths and / or groups, the use of which is more open, a place to grow plants, both those that grow naturally or intentionally planted. In Law No. 26 of 2007 concerning Spatial Planning, urban spatial planning must contain plans for the provision and utilization of green open spaces with a minimum area of 30% of the total area of the city. The plan for the provision and utilization of green open space in addition to being included in the RTRW Kota, RDTR Kota, or RTR for City Strategic Areas, is also contained in the RTR for Urban Areas, which are detailed spatial plans for Regency areas (MPU, 2008).

2.3.2. The Purpose of Implementing Green Open Space

The objectives of organizing GOS are:

1. Maintain land availability as water catchment areas;
2. Creating urban planological aspects through a balance between the natural environment and the built environment that is useful for the benefit of the community;
3. Increasing the harmony of the urban environment as a means of protecting the urban environment that is safe, comfortable, fresh, beautiful, and clean (MPU, 2008).

2.4. Ecological Concepts

2.4.1. Application of Ecological Concepts to Green Open Space

The application of ecological concepts to architectural design by emphasizing the harmony of buildings with natural behavior, from the construction stage until the age of the building is up. Buildings as the third human protector must be comfortable for residents, in harmony with natural behavior, efficient in utilizing natural resources, friendly to nature.

So that the planning needs to predict the possibility of incompatibility with nature that will arise when the building is built, operating until it is not used, especially from energy use, waste disposal from systems used in buildings. All decisions made must go through technical and scientific considerations that are holistic and interdisciplinary (MPU, 2008).

2.4.2. The Purpose of the Application of Ecological Concepts to Green Open Space

The purpose of architectural design through an architectural approach is an effort to participate in maintaining the harmony of human-designed buildings with nature for a long period of time. This harmony is achieved through the link and unity between natural conditions, time, space and

human activities which require technological developments that take into account ecological values, and are a continuous effort.

3. METHODS

3.1. Method of collecting data

There are several methods used in this discussion to collect data, namely as follows:

a. Primary data

- Interview; namely by direct interviewing (structured interview nature) of local people living in the kelurahan Karang Asam. This interview was supported by using audio recording to record the conversation because the interviewed subjects used the local language.
- Observation; namely by going directly to the location of the discussion and observing directly the physical condition, activities and behavior of the community.
- Field survey; namely by direct observation to feel the space of the object of the discussion. This is achieved by mapping, sketching, and recording still images.

b. Secondary Data

Document review, namely by looking at references or related literature (books / libraries) related to the object of discussion. This data is obtained from individuals, institutions (the Samarinda City Public Works and Spatial Planning Office), regional museums, regional libraries, as well as from electronic media (television, radio, and internet information technology).

c. Qualitative Data

- Location map (map of Samarinda City, map of location of RTRW of Sungai Kunjang / aerial photo, map of distribution of green open space in acid coral area, Sungai Kunjang)
- Description of an area under study
- Biographies of the sources that are used as references for the discussion
- History of the establishment of an area under study.

3.2. Qualitative Descriptive Discussion Methods

This Discussion uses a qualitative descriptive discussion method, which aims to describe what is currently applicable. In it there is an attempt to describe, record, analyze and interpret conditions that currently occur or exist. In essence, a qualitative descriptive discussion is a method of examining the status of a group of people, an object with the aim of making a systematic, factual and accurate descriptive, picture or painting of the facts or phenomena being investigated.

Qualitative research is a method of discussion based on the philosophy of postpositivism, used to examine the condition of a natural object, where the researcher is the key instrument, the sampling of data sources is done purposively and snowbaal, the results of the qualitative discussion emphasize meaning more (Sugiyono, 2013)

4. RESULT AND DISCUSSION

4.1. Regional Overview of Samarinda City

Samarinda City as the capital of East Kalimantan Province (Kaltim) has an area of 71,800 hectares (equal to 718 km²). Samarinda City is one of 14 regencies / cities within the province of East Kalimantan and directly adjacent to Kutai Kartanegara Regency. Samarinda City is traversed by the Mahakam River which is the longest river in East Kalimantan with a width of between 300-500 meters and a length of up to 920 km (Akmad Zailani, 2006)

Based on Government Regulation Number 21 of 1987, Samarinda City was divided into 4 (four) districts and in 1997 it was divided into 6 (six) villages with 42 (forty two) villages. FuGOSermore, in the Samarinda City Regional Regulation Number 01 of 2006 concerning the formation of villages within the City of Samarinda and referring to the Samarinda Mayor Regulation Number 10 of 2006 concerning the stipulation of 11 (eleven) new villages as a result of the expansion, the number of villages within the City of Samarinda becomes 53 (fifty three) villages. In 2010, the number of Districts in the City of Samarinda was divided into 10 (ten) Districts along with the determination of Sambutan District, Samarinda City District, Sungai Pinang District and Loa Janan Ilir District in Regional Regulation Number 02 of 2010. Until 2012, Samarinda City consists of 10 (ten) Districts with 53 (fifty three) villages.

Table 1: Area Of Districts and Villages Of Samarinda City

Districts	Villages	Area (km ²)
Palaran	1. Handil Bakti	72,00
	2. Simpang Pasir	65,00
	3. Rawa Makmur	11,89
	4. Bukuan	28,40
	5. Bantuas	44,00
		221,29
Sambutan	1. Pulau Atas	29,59
	2. Sindangsarri	1,70
	3. Makroman	20,96
	4. Sambutan	31,00
	5. Sungai Kapih	17,70
		100,95
Samarinda Ilir	1. Selili	1,49
	2. Sungai Dama	2,50
	3. Sidodamai	2,87
	4. Sidomulyo	1,40
	5. Pelita	8,92
		17,18
Samarinda Sebrang	1. Sungai Keledang	7,65
	2. Masjid	2,53
	3. Baka	2,31
		12,49
Sungai Kunjang	1. Loa Buah	16,90
	2. Loa Bakung	16,59
	3. Teluk Lerong Ulu	1,20
	4. Lok Bahu	3,42
	5. Karang Asam Ulu	2,25
	6. Karang Asam Ilir	1,29
	7. Karang Anyar	1,39
		43,04
Sungai Pinang	1. Temindung Permai	1,30
	2. Sungai Pinang Dalam	8,97
	3. Gunung Lingai	4,36
	4. Mugirejo	10,94
	5. Bandara	8,59
		34,16
Samarinda Kota	1. Karang Mumus	0,49
	2. Pelabuhan	0,72
	3. Pasar Pagi	0,48
	4. Bugis	0,58

	5. Sungai Pinang Luar	8,85
		11,12
Loa Janan Ilir	1. Simpang Tiga	4,21
	2. Tani Aman	3,92
	3. Sengkotek	4,95
	4. Harapan Baru	6,33
	5. Rapak Dalam	6,72
		26,13
Samarinda Ulu	1. Teluk Lerong Ilir	0,69
	2. Jawa	7,68
	3. Dadi Mulya	2,89
	4. Sidodadi	1,37
	5. Gunung Kelua	1,19
	6. Air Hitam	2,65
	7. Air Putih	2,16
	8. Bukit Pinang	3,49
		22,12
Samarinda Utara	1. Lempake	32,83
	2. Sungai Siring	75,83
	3. Tanah Merah	22,16
	4. Sempaja Selatan	40,34
	5. Sempaja Utara	58,36
		229,52
TOTAL AREA		718,00

Source: Badan Pusat Statistik Kota Samarinda, 2018

Based on Government Regulation Number 21 of 1987, Samarinda City was divided into 4 (four) districts and in 1997 it was divided into 6 (six) villages with 42 (forty two) villages. FuGOSermore, in the Samarinda City Regional Regulation Number 01 of 2006 concerning the formation of villages within the City of Samarinda and referring to the Samarinda Mayor Regulation Number 10 of 2006 concerning the stipulation of 11 (eleven) new villages as a result of the expansion, the number of villages within the City of Samarinda becomes 53 (fifty three) villages. In 2010, the number of Districts in the City of Samarinda was divided into 10 (ten) Districts along with the determination of Sambutan District, Samarinda City District, Sungai Pinang District and Loa Janan Ilir District in Regional Regulation Number 02 of 2010. Until 2012, Samarinda City consists of 10 (ten) Districts with 53 (fifty three) villages.

Regional government is the highest government executor in the region who is obliged to implement the technical decentralization policy. According to article 1 number 3 Law Number 23 of 2014, Regional Government is the Head of the region as an element of the Regional Government who leads the implementation of government affairs which fall under the authority of the autonomous region. The Regional Government of Samarinda City is a government agency that has the authority and responsibility for the activities of its people.

The implementation of spatial planning for a region (province and district / city), in relation to zoning compliance is considered important because it determines the location of various activities that have the same function and residential environment with certain characteristics. The compliance of an area with zoning provisions contained in local regional regulations is a matter that must be considered in the process of implementing regional development, which refers to the regulations regarding the local Regional Spatial Planning (RTRW).

One of the implementation of RTRW includes the provision of Green Open Space (GOS) in urban areas. This is an important issue today, due to the increasing number of pollution occurring in urban areas as a result of increased activity. The goal of providing green open space (GOS) in urban areas is expected to create a comfortable, productive and sustainable urban space. Thus, it is time for us to pay sufficient attention to the existence of green open spaces. The provision of

open space is an elaboration of the Law on Spatial Planning, where each urban area should provide GOS of 30% of the total area of its territory (Lussetyowati, 2011).

In Samarinda City as a city that has the potential for adequate green land, it is considered capable of meeting indicators in the provision of green open space. But in reality, the area of green open space in Samarinda City in 2019 was only less than 10% of the total area. This is still far from the target of 20% (Public GOS) as in the table below.

Table 2: Green Open Space Ratio Per Unit Area of Samarinda City 2014-2019

Number	Description	2014	2015	2016	2017	2018	2019
1	GOS Area (Ha)	2.297	2.987	3.446	3.906	4.078	4.304
2	Territory Area (Ha)	71.800	71.800	71.800	71.800	71.800	71.800
	Percentage of GOS Territory Area (%)	4%	5,2%	6%	6,8%	7,1%	±7,5%

Source: Data Dinas PUPR Kota Samarinda 2019

From the above conditions, it is known that during the last five years (2014-2019) there has been an increase in the area of green open space, but based on the area it has, Samarinda City still has not met the target set in Law Number 26 of 2007 concerning Spatial Planning. Meanwhile, the existence of green open space in a spatial planning subsystem is very important as a form of government commitment in striving for open public spaces that have vegetation in them, for the sake of creating shared comfort. For example, the procurement of parks in the city center and other strategic points, such as squares and other recreation centers. This is a form of local government responsibility. Therefore, a new breakthrough is needed by the regional government to issue a Regional Regulation (Perda) on GOS so that the green open space development planning has clear and firm legal force. Thus, the provision of green open space can be implemented in predetermined areas (Joga Nirwono., 2013).

The proportion of 30% is the minimum measure to ensure the balance of the urban ecosystem, both the balance of the hydrological system and the microclimate system, as well as other hydrological systems, which in turn will increase the availability of clean air needed by the community, and at the same time can increase the aesthetic value of the city. In order to achieve a 30% green open space in accordance with the mandate of the law, local governments need to develop a strategy to accelerate the achievement of the 30% green open space target.

Samarinda city is an area with sufficient resources, through regional regulations it has proclaimed and regulated the procurement of green open space, which is contained in Perda No.2 of 2014, one of which is in Article 2 which states that the urban green open space in question is spread across all sub-district capitals with an area of approximately 16,640 Ha. or 22.93% of the total area. However, it will be reviewed whether the 22.93% figure that has emerged is really a GOS.

4.1. Application of Ecological Concepts to Green Open Space

The application of ecological concepts to architectural design by emphasizing the harmony of buildings with natural behavior, from the construction stage until the age of the building is up. Buildings as the third human protector must be comfortable for residents, in harmony with natural behavior, efficient in utilizing natural resources, friendly to nature.

So that the planning needs to predict the possibility of incompatibility with nature that will arise when the building is built, operating until it is not used, especially from energy use, waste disposal from systems used in buildings. All decisions made must go through technical and scientific considerations that are holistic and interdisciplinary.

4.2. The Purpose of the Application of Ecological Concepts to Green Open Space

The purpose of architectural design through an architectural approach is an effort to participate in maintaining the harmony of human-designed buildings with nature for a long period of time. This harmony is achieved through the link and unity between natural conditions, time, space and

human activities which require technological developments that take into account ecological values, and are a continuous effort.

4.3. Application of the Concept of Green Open Space to Riverbank Areas in Urban Areas

To maintain the sustainability of the function of the river, there are no illegal or permanent buildings around the border. However, efforts to conserve the border area are less than optimal, the existing rivers are not well preserved so that floods occur. FuGOSermore, to determine the type of vegetation suitable for planting in green open space, it should meet the following criteria:

1. Non-toxic, not thorns, branches are not easily broken, roots do not interfere with the foundation
2. The header is quite shady and compact, but not too dark.
3. The height of the plants varies, the green color with other color variations is balanced.
4. The stature and shape of the canopy are quite beautiful with moderate growth speed.
5. In the form of habitat for local plants and cultivated plants.
6. Types of perennial or seasonal crops.
7. The spacing is half dense so as to produce optimal shade.
8. Resistant to plant pests.
9. Capable of absorbing and absorbing air and environmental pollution.
10. The selected vegetation types in the form of annual trees, shrubs, and shrubs are planted in groups or scattered to function as trees that create micro-climates or as a barrier between activities.

The selection of vegetation types to complement the GOS of Batu Sopang based on land suitability analysis, among others: resin (*Agathis alba*), butterfly leaves (*Bauhinia purpurea*), lamtoro gung (*Leucaena leucocephala*), acacia (*Acacia auriculi formis*), and banyan (*Ficus benyamina*) (Aipassa, I., Ruslim, & Sukartiningsih, 2017)

If the existing green open potential is reduced, it will have a negative impact on the micro climate. Research on the impact of reducing GOS. According to the Agency for the Assessment of Climate Policy and Industrial Quality in 2012 (Rawung, 2015), carbon dioxide (CO₂) provides the largest contribution to global warming, followed by methane gas (CH₄). More than 75% of the GHG composition in the atmosphere is CO₂.

The condition of green open space is described by the density of vegetation, the denser the vegetation, the better the green open conditions. The better the green open space conditions, the lower the air temperature and vice versa, the worse the green open space conditions, the higher the air temperature (Sangkertadi & Syafriny, 2008). Each 50% reduction in green open space causes an increase in air temperature by 0.4 to 1.8 °C, while the addition of 50% green open space only reduces air temperature by 0.2 to 0.5 °C (Sobri, 2009)

5. CONCLUSION

Based on the description of the discussion above, the following conclusions can be drawn:

1. Obtained area development in the Mahakam river corridor, especially on Jalan Slamet Riyadi, Samarinda City through a green open space revitalization plan with an ecological concept approach.
2. Characteristics of Samarinda City as "Samarinda Riverside City" are obtained through planning the revitalization of green open spaces with an ecological concept approach.

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The Privatization of the Meaning and Role of Public Space in The City of Malang

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ABSTRACT

Public space is a container the activity of the community, which in general serves as a means of activity, the liaison between the space, barrier or distance between the space and softens the formation of the architecture of the building. Ecologically functioning as a green open space, absorbing rain water, flood control, and maintenance of the ecosystem. Public space is characterized by three things: responsive, democratic and meaningful. One of the problems in big cities such as Malang is a frequent public space controlled, contested and commercialized by the parties and particular interests. This study aims to inventory and analyze the public spaces in the city of Malang that are privatized as a space of commodity economy and utility. The method used is field observation, and the results were analyzed by descriptive qualitative based on the theory of Carr. As a result, the path of pedestrians along the public space of the corridor Basuki Rahmat street, Jaksa Agung Suprpto, Parman, A. Yani, Kawi, road Corridor around the Large Market, and the City's main streets other unfortunates was taken over by the owner - managers of the buildings to the parking area of illegal cars and motorbikes, so pedestrians have a lot to maneuver among the vehicle park. As a result public space is extinct meaning and its role as a space of interaction democratic, and turned into the engineering space. The conditions of the anti-urban with the reason the pragmatism of the res economica has been to privatize public space. Attraction the reality of the urbanism already outnumbered by the space artificially and consumerism. The exoticism of the corridor Kayoetangan (Basuki Rahmat) as one of the historic landmarks of the pride of the citizens of the city of Malang as the great streets that are liveable has faded. The privatization of public space has made the citizens of the city of Malang at this time do not understand, understand, and appreciate the essence of public space.

Keywords : public space, privatization of space, Malang city

1. INTRODUCTION

This article is a review (review) on research and studies that discuss privatization and the meaning of public space in the city of Malang. As time goes by as well as rapid economic growth, the availability of public space as a container for the day on the wane. Public space that there is already intervened by the needs and the utilization of other functions. The impact of urban public space shrinking even when it is allowed to be scarce.

The scarcity of public space will result in political communication becomes difficult (Kohn, 2004:6), of course, will also inhibit the establishment of social capital in the community. That is, public space is very important for the social and political life of the community. Public space essentially has the benefits of social, economic, environmental, and public health (Carmona et al, 2008: 8). Associated with multi-benefits such, the phenomenon of seizure of urban space is something that almost always happens in the cities. One form of the seizure of the city that appears a lot is the privatization of public space. If judging is deeper, the privatization of public space is not solely a problem of social, aesthetic, or economic (Kohn, 2004:5). Certain segments of society (e.g., minorities) often use the assets of the private to convey the voice of the political into the public sphere, so that the owner of the assets of the private mind and the aesthetics of the public space is interrupted (Kohn, 2004: 4-5). Therefore, the privatization of public space in a corridor space of the city needs serious attention, especially to understand the diversity of patterns of utilization, functionality, and its meaning for urban life. The Road corridor has a public function and private function. In a democratic society, the street as a public space has the role of supporting the development of democracy, including the delivery of the voice of various political parties (Kohn, 2004: 147) and useful in the process of building social capital (social capital)(Kohn, 2004: 148; Carmona et al, 2008:7).

Malang city is a city designed by Thomas Karsten as the 'Garden City' where the road corridor

plays a role as a shaper of the structure and pattern of urban space. Even the existence of Ijen Street is not just for the utility function alone, but rather as a townscape which is very beautiful and becomes the shapers and the characteristic faces of the city. Such is the case with some of the road corridors such as road corridors Kayoetangan (Basuki Rahmat), Medan Merdeka, Agus Salim, Kawi, Panglima Sudirman, Corn Suprpto (Celaket), Sutoyo, A. Yani, Semeru, Slamet Riyadi, Jalan Bandung, and others. But in its development, the existence of the road corridor is only viewed as engineering space merely to accommodate the statistics of the flow of the vehicle solely, as well as more emphasis on the achievements of technical standards. In other words, the problems that surfaced in sections of the road corridor in the City of Malang as a public space a democratic no longer be a social space that is able to give the opportunity the city residents to interact socially in joy and willingly.

Identifikasi and analysis about a reversal of the meaning and the privatization of space road corridor as run public in the City of Malang the purpose of this study. This article is the result of the study of the problems of the city that stems from privatization and the meaning of public space, road corridors in the City of Malang.

2. LITERATURE REVIEW

2.1. Public Space

Carr (1992) see public open space as a space of belonging together, a place where people perform the activity of the functional and ritual in a bond of community, better life day-to-day or in celebration of a periodical has been defined as something open, where people perform the activity personal and group. Public open space is the container of social activities which serve and also affect the lives of the people of the city. Open space is also a container of the activities of the functional and ritual activities that bring together a group of people in normal routine everyday life activities and in the activities periodically. Patterns of utilization and the activity of the public open space has several factors that affect the activity space, the actors activity and activity time. Talk about open space (open space) which is always concerning landscaping which is composed of hard elements (hardscape) such as: road, pavement, I, rocks and so on) as well as elements software (softscape) in the form of plants and water. Open space the usual form of the field, the road, the border of the river, green belt, park and so on. In the planning of open space will be always related with the furniture or which can be called the attributes of this space can be in the form of lamps, bins, signage, park benches and so on.

According to Carmona (2003) there are several factors that can be seen from the relationship of the user activity with the public open space itself :

1. Comfort

Comfort is an important factor in public space. Long time spent by visitors is an indicator of comfort. A sense of comfort is affected by environmental factors (protected from sun, wind, and others), physical comfort (comfortable seating, and others), and even social and psychological. The last is depending of the character and quality of the space. Carr (1992) argue that this is an important need to expand the visitor experience in public spaces. A sense of security, where a person does not feel anxious. A sense of comfort can be influenced by the physical design of a space which is intended as a marketing strategy.

2. Relaxation

Although psychologically comfortable must appear before relaxation. Relaxation itself means more leads to a calm body and mind (Carr, 1992). In public spaces, natural elements such as trees, grass, water elements, and limiting the path limiting part in the public space to make visitors more easily relaxed. Elements of aesthetics that can also shut down access to the visually, giving the issue of security, and make visitors not want to utilize the space. Of all aspects of the design, it is very important to balance everything.

3. Passive engagement

The use of the passive is done by the users of public spaces is to observe the environment. Setting the spatial public space should allow the user to stop moving and enjoy the atmosphere that is supported by the furniture of adequate landscaping.

4. Active engagement

Occur in the form of activity that directly involves the user. The interactions that occur in the form of communication between users can occur spontaneously due to the presence of something interesting.

5. Discovery

The experience of space diverse will increase the attraction of people to engage in a public space. The experience of this space will be realized in the form of a unique landscape design, the appearance of the panorama of attractive natural, cultural shows, stalls, and others.

Carr (1992) mentions the presence of several factors that should be considered in optimizing the use of public space i.e.:

1. Use of space, where space-different space to accommodate functions and activities that different anyway.
2. Space form and context, be interpreted as the physical characteristics of the space. The shape of the space can be characterized by the presence of physical boundaries as well as the object of interest or focal point. Defining the space is also related to access and transition. The role of the architectural elements of a space of public activity patterns does not only occur in the public space itself but also has an influence on the environment around the public space, the relation to the existing buildings in the vicinity (Septariani, 2010).

The meaning of activity on a space (Gehl, 1987) can be divided into three kinds of activities, namely:

1. Main activity (necessary activities), which is a routine activity that is done because of the necessity to meet a particular need. A good environment is an environment that can accommodate and facilitate all types of activities required.
2. Activities (optional activities), i.e. activities that are performed when there is an opportunity or the right time. Usually, this activity is done in the environmental situation which is quite fun and the absence of any other activity that is urgent.
3. Social Activities (social activities), namely activities which involve interaction with other parties around them. These activities tend not to be well-planned in its implementation due to the presence of main activity and activity options.

2.2. Activity Patterns

Public open space is the place should be accessible physically and visually by the general public, so that physical elements play an important role in shaping activity patterns and the utilization of space (Kustianingrum, 2013). Carr (1992) categorizes the type of activity based on the level of/the level of involvement that active engagement (play, walking) and passive engagement (sitting, standing). An activity can also consist of various sub-activities that relate to each other, which is known by the term system activities/system of activity (Haryadi & Setiawan, 2010). System activity in a public space is closely related to the three main elements of street vendors as the activity supports the area, parking, and Pedestrian-related patterns of circulation. The pattern of activity associated with the utilization of existing space, divided into three types, namely fixed element/elements of fixed, semi-fixed elements/elements of semi-fixed and non-fixed elements/element is not fixed (Rapoport, 1982).

Based on the classification of the activity above, Rapoport (1977) also states that an activity can be composed of various sub-activities that relate to each other, which is known by the term activity system (system of activity). System activity in a public space is closely related to the 3 main elements. Elements of such activity are divided over:

1. Pedagang kaki Lima (PKL) as the activity supports the area.
2. Park
3. Pedestrians, related to patterns of movement/circulation the Role of the architectural elements of a space of public activity patterns do not only occur in the public space itself but also has an influence on the environment around the public space, the relation to the existing buildings in the vicinity (Septariani, 2010).

3. METHODS

From the reviews (review) the previous research can be formulated, carried out the study of literature as a basic foundation to perform the next action, then do the analysis. After analysis, will be used based on the formulation of the problem. The data collection method used is the survey method descriptive case study. A case study is a research strategy designed required if the research undertaken is holistic and immersive.

From field observations to identify and experience the phenomenon of the privatization of public space, the researchers conducted a data recording field containing a variety of events in the public space corridor major roads around the City of Malang, which belongs to the category of the utilization of public space in general. Recordings obtained in the form of digital photographs which are then categorized and disistematisasi to find the essence of the phenomenon privatisasi public space is growing. From the results of the tabulation of data visual field is brought together with the other information in the analysis, then found the map-the map of understanding about the phenomenon of privatization and the meaning of public space. Then the overall results outlined in the tabulation which shows the phenomenon, its function, and meaning.

4. RESULT AND DISCUSSION

Based on field observations the corridor of the main streets in the City of Malang showed that the privatization of the public space done by various groups, among which :

- a. Employers of commercial (stalls, kiosks, street VENDORS, small shop, a convenience store, supermarket, hotel, office, etc.)
- b. Among the family (household) and local community groups

Privatization by the developers of commercial and family/ community groups occurs on the spaces of the sidewalk the side of the road as well as space in the body and the shoulder of the road. The utilization of the privatization of public space is based on different purposes, i.e. by the interests, extension, and facilitation of business and commercial life with the residents. Privatization on the general nature of the occupancy of space serves to expand the space of activity of the participants using the empty spaces belong to the public because they are experiencing a shortage of space as well as the presence of empty spaces available in the corridor of the main streets in the City of Malang. The meaning of the privatization of public space in the main streets in the City of Malang is closely linked with the interests of the social, economic, and household. Privatization by local communities caused by the lack of space to serve the community and the availability of space-the space can be utilized because of the strategic location. From observations in the field found the phenomenon of the privatization of public space in the main streets in the City of Malang occurs in two places, namely on the :

- (1) the space agency and the shoulder of the road (public access);
- (2) the sidewalk side of the road.



Figure 1. The conditions of the street VENDORS on Ade Irma Suryani Street Malang



Figure 2. The conditions of the street VENDORS on Agus Salim Street Malang



Figure 3. The conditions of the street VENDORS on Kol. Sugiyono Street Malang

The privatization of public space that is high enough can be found in the corridors of the main streets in the City of Malang. The use of cover material loss asphalt road trying to show that the privatization on the road in the form of paved roads is more public.



Figure 4. The condition of illegal Parking Around the Town Square Malang



Figure 5. The Condition Of. The Great Market Street Malang



Figure 6. The Condition Of the Intersection Of Rajabali Street Malang



Figure 7. The Condition Of Zainul Arifin Street Malang



Figure 8. The Condition Of Merdeka Selatan Street Malang

The privatization is carried out by individuals who occur in the road corridor - the main road based on the economic interests of the party actors. The function of the space privatized is used as parking of motorcycles belonging to customers who come shopping. The owner of the commercial business generally does not provide or has provided to park the vehicles of its customers. Commercial business in the corridors of the main streets in the City of Malang general use of the building which is directly dealing with the road, without the presence of the parking area in front of the building as the facility. This phenomenon essentially is utilizing public rights for the benefit of the interests of privacy. That is the perpetrators of the privatization using the object (space) not his interests. Mode of privatization by economic actors formal or informal in the corridor of the main streets in the City of Malang is very strong based on the interests of economic gain. They do not provide parking facilities but customers are forced to use public space to park their vehicles when it comes to shopping. How such privatization is quite disturbing the comfort of the public, for the parking of vehicles in the road space (road agency) reduce the area of movement of the vehicle and how to put it that is not regulated (as good as his own) sometimes makes the flow of traffic at certain points become not smoothly. The privatization of the community for the benefit of the public can indeed create an atmosphere of privacy that is enough for them, but the privatization of the substantially intervene against the arrangement of the elements-elements of public space is directed to facilitate the interests of the public. Privatization is done by the developers of the commercial on-road space for the benefit of private create problems chain, because the mastery of public space by private interests of the private (economic) a lot more bring up the issue for the benefit of the public. The privatization of public space also occurred in the area of pavement along the way in the corridors of the main streets in the City of Malang. The utilization of public space on the sidewalk took place on the side of the road corridor - the main road in Malang City. Generally, privatization is carried out by (1) commercial business (shops, stores, cart VENDORS), and (2) among households at the edge of the road. The Phenomenon occurs, the privatization of public space by the businessmen of the

economy is to a commercial interest, in particular supporting the commercial business is run. Privatization by households intended to accommodate the functions of the household because of the space requirements is not sufficient. Privatization by the developers of the commercial on the pavement in the corridor of the main streets in the City of Malang can be said to be an act of occupancy of space for the benefit of entrepreneurs. Space utilization the pavement to put an information board, essentially including the privatization of the borrowing public space. Similarly in the cases of the pavement used for the parking of customers is the occupancy or extension of space for economic exploitation, not just borrow public space.

Table 1: Diversity of Privatization on the Broad Pavement by the Commercial Business

THE DIVERSITY OF PRIVATIZATION BY COMMERCIAL VENTURES ON THE PAVEMENT			
A VARIETY OF PRIVATIZATION	Park	Ramp Stall/Kiosk/Shop	Board Information
Privatization by individuals for the benefit of the commercial business	Pavement used for parking the motorcycle stalls/kiosks/shops (facilities for buyers)	The pavement used for the ramp entrance of the stall.	The pavement used to put an information board by the shop/kiosk/stall.

The phenomenon of the privatization of public space on the sidewalk side of the road – the main road by the employers most is the act of occupancy or the acquisition of space, i.e. by borrowing space temporary basis and manipulate the elements of public space. One of the most prominent elements of the privatization of public space undertaken by the businessmen of the commercial is that with the extension of space. The phenomenon of extension of public space greatly assist the entrepreneur but harm the public because often the impact of his actions they don't care for the public; traffic disrupted/jammed, pedestrian paths truncated by kiosks/billboards, parking of private vehicles, Privatization is done by the household on the tend to be efforts to complement the facilities of the house (parking, ramp) as well as an action extension functions of the household into the public space.

Table 2: The Diversity of the Privatization of the Facilities at the Pavement Side of the Main Road

THE DIVERSITY OF PRIVATIZATION BY HOUSEHOLD UNITS ON THE SIDEWALK SIDE OF THE MAIN ROAD		
A VARIETY OF PRIVATIZATION	Parking	Ramp
Privatization by individuals for the benefit of the household	The pavement used for the parking of motorcycles individual	The pavement used for the ramp entrance of the house lived the edge of the road.

The privatization of space is the sidewalk on the side of the main road that is made by employers of commercial (formal and informal: the stalls, laundry, warung angkringan street VENDORS carts, and street VENDORS with umbrellas. Variety privatization (ice juice, martabak), and put the information board (sell tickets, computer services, rental, motor, photo printing). The purpose of the privatization of the underlying is to support the commercial business that they do because of the shortage of place or container of activities and a strategic place for communication with the community.

Table 3: The Diversity of the Privatization of the Facilities at the Pavement Side of the Main

Road by a Commercial Venture

THE DIVERSITY OF PRIVATIZATION BY COMMERCIAL VENTURES ON THE PAVEMENT SIDE OF THE MAIN ROAD			
A VARIETY OF PRIVATIZATION	Park	The stalls/carts/tents	Board information
Privatization by employers for the benefit of the commercial business	The pavement used for the parking of vehicles of customers of the stalls/shops.	The pavement used to eksensi food stalls.	The pavement used to put the place information of the ticket sales, pulse, computer, translation services, rental, motor, and print photos.
	The pavement used for the activities of the stalls eat		
	The pavement used to activity cart		
	The pavement used for the activities of the stalls umbrella		

The phenomenon of privatization that is done is an act of permanent space, namely by utilizing the space regularly basis in the long term. The privatization is carried out generally using the properties placed in the public space, among others, garbage can, wheelbarrow, or the board says. Parties of the household are likely to see that the public space that they use into their space, so far no one acts as prevention or prohibition. They tend to utilize the empty spaces are located close to the housing units, so physically it is relatively fused. From this phenomenon, it can be said that the privatization of public space by units of the household triggered by two things, namely: space requirements for the extension activities and the availability of space which is very close. Privatization in the space of the sidewalk side of the main road, in addition to carried out by commercial enterprises and households, was also conducted by the local community. The purpose of privatization is to create public service facilities. Privatization is carried out because people with umbrellas on the interests of the public, that for the sake of the public interest, privatization should be done. Way of privatization by the society tend to do occupancy and the engineering elements of public space.

Table 4 : the Diversity of the Privatization of the Facilities at the Pavement Side of the Main Road by the Community

THE DIVERSITY OF PRIVATIZATION BY THE PUBLIC ON THE SIDEWALK SIDE OF THE MAIN ROAD		
	Park	The Poles Of the Flags
Privatization by the community for the benefit of the public	Pavement used for parking garbage carts.	The pavement used for laying buffer flag pole

The phenomenon of the privatization of public space in the corridor of the main streets in the City of Malang included in the category of “user space” for the interests of certain parties. Employers commercial utilize space agency on the road to give place customers park the motorcycle in front of the stall/shop because they do not provide it (have any land). Building entrepreneurs of the commercial is mostly already very close to the boundary line of the road. As a result, they do not have parking, and if pursued will require cost quite a lot. Commercial business in the road corridor – the main road in the City of Malang some of the inhabitants of the local change residential into business space, and could not provide adequate facilities for its customers.

5. CONCLUSION

Public space is a vehicle for interaction among the community for a variety of purposes, both individuals and groups. In this case, the public space is part of a social system whose existence can not be separated from social dynamics. The public space also serves to provide added value

for the environment, for example in terms of the aesthetics of the city, air pollution control, control of micro-climate, as well as give the “image” of a city. The privatization of public space which caused the narrowness of public space will result in increased social segregation, the issue of security, the formation of exclusive groups, and various other social problems.

The privatization of public space that occur in the corridors of the main streets in the City of Malang is made by employers of commercial (stalls, kiosks, street VENDORS, small shop, a convenience store, supermarket, hotel, office and etc), family units (households) and the local community. Privatization in the corridors of the main streets in the City of Malang is caused because of 2 things, namely

- (1) the encouragement of in (space requirement due to the shortage) and
- (2) the appeal of the outside (availability of empty spaces) in the public realm.

Privatization by employers of commercial (formal and informal) occur in space-the space the sidewalk side of the road; road shoulder, while by the family (household) and community groups occurs in the space of the pavement and the space of the road. The utilization of the privatization of public space related to the interests of the household, extension, and facilitation of business and commercial life with the local residents. Privatization generally serves to expand the activity in space-the empty space because of the shortage of space and the availability of empty spaces in the corridors of the main streets in the City of Malang. The meaning of the privatization of public space tends to be associated closely with the interests of commercial business, household needs, and the needs of the facilities with local residents.

The Advice in Order not to occur conflicts in the utilization of public space, it takes the management of public spaces that involve stakeholders consisting of the elements: the government serves as a mediator and holding control of the law enforcement, city planners, urban designers, architects, and NGOs have a concern for the public spaces, community groups, businesses, and the general public who utilize the public space. The existence of public open space is a form of necessity at once is an integral part of development activities and the existence of an urban area, as well as create comfort. Therefore, the role of urban design becomes very important to accommodate those needs.

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Analysis of Working Space Daylight Illumination at Coffee Shop “Good Dank” in Malang City

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ABSTRACT

The phenomenon of the rise of coffee shops in Malang, which is growing at around 20% per year, has presented various contemporary architectural forms of various styles. Its presence aims to provide appreciation and comfort to the audience. The appearance of the façade and interior design and workspace emphasizes eclectic design experimentation. The problem is that the daylighting aspect of these facilities is often under-considered. Even though these factors, mainly the reflectivity factor of objects in the room and outside factors such as the light of the celestial ball, greatly affect the level of comfort in a room or building. The purpose of this study is to evaluate the level of daylight illumination from the workspace with the case at the “good dank” coffee shop in Malang City. The method of analysis uses an explanatory research approach in a descriptive inductive manner. Based on observations, the illumination level of the coffee shop that is the object of the study has not reached 250 lux. This means that the workspace at the “good dank” coffee shop has not met the requirements required for visual comfort following the Indonesian National Standard (SNI) for tropical buildings in Indonesia.

Keywords : daylight, illumination, workspace, coffee shop.

1. INTRODUCTION

Daylight or what is referred to as natural lighting and its system is the ratio of the level of lighting at a point from a certain area in a room to the level of the plane in the open field which is a measure of the performance of the room's light holes. Natural lighting applied to buildings has many benefits, both in terms of visuals and energy consumption savings. The proliferation of coffee shops and working spaces has resulted in the increasing influence of minimalist tropical buildings that have the authority to have a standard design strategy including their respective lighting. Coffee shop and working space “Good Dank” are located in Merjosari Malang, which think about the level of lighting intensity, but to find out the comfort level of natural lighting to find the most comfortable time for customers to go to stalls and working spaces, measurements of natural lighting and calculation of the number of customers at any given time.

2. LITERATURE REVIEW

2.1. Definition of Coffee Shop

A coffee shop is a shop that is often visited by people of various backgrounds, socio-cultural for gathering, discussion, casual chat, citizen dialogue, community opinion with various backgrounds, interviews, drinking together to get useful information obtained.

A coffee shop is also a place as an effective form of communication for dialogue, discussion, interviews, research observations, a coffee shop where the appreciation of a public opinion that is brought up in daily life and is even used as a forum for discussion, dialogue among Indonesians (R Cahyo Prabowo, kompasiana 2013).

2.2. Definition Working Space

A working space is a workspace with the concept of sharing or sharing between individuals and companies, producing works, and even establishing relationships. In the current era, many professions involve a collaborative working environment, so the working space is chosen to accommodate the needs of workers, especially start-ups. However, the proliferation of start-ups has meant that the concept of working in a shared space has now become a natural thing for the

workforce.

Lately, working spaces are liked by many people. Many young people come to do work, study, or just brainstorm. Apart from young people, the increasing number of start-ups also enlivened the presence of co-working spaces. An ideal workplace atmosphere can be obtained as well as the support facilities provided to make visitors feel at home for a long (Satria fajar a, Kompasiana 2019).

2.3. Natural Lighting in Coffee Shops

According to Indriati (2012: 1), natural lighting is lighting whose light source comes from sunlight. The advantage of using natural lighting sources is that it saves energy and can kill germs.

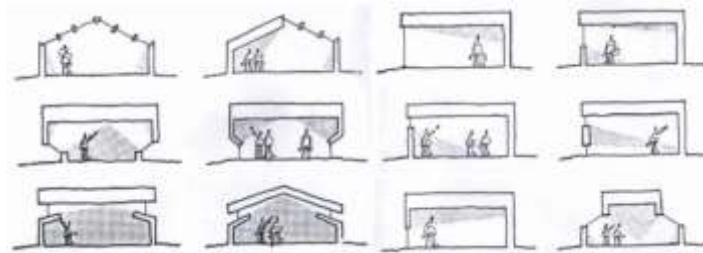


Figure 1. Natural Lights

According to Lechner (1968: 329), several design steps are most often used to enter light into a room, namely by making the top and side openings.

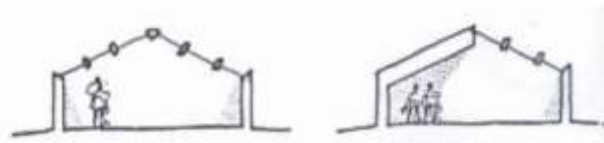


Figure 2. Top Lighting

Top lighting is the most efficient step to enter light into the room because the distribution of light is more evenly distributed throughout the room and the use of glass can be minimized.

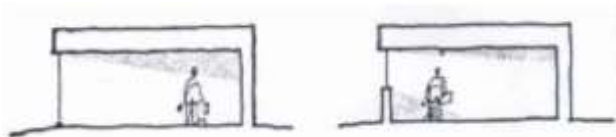


Figure 3. Side Lighting

The light that enters through the side openings can be used as natural light which is effective in conserving energy throughout the day. The side openings in the form of windows serve to fulfill the basic needs of a building, namely the aesthetics of the building, the surrounding view, the media for the entry of light, ventilation, sound absorbers, and emergency doors.

Side lighting applications on the wall can be:

Clerestory window is a window that is located between two sloping or stacked roofs which functions to enter sunlight into a high ceilinged room.

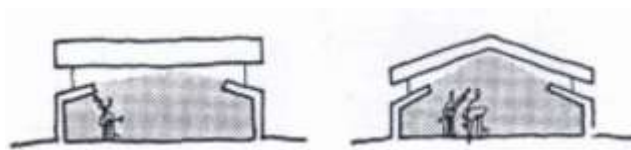


Figure 4. Clerestory window

Ribbon window is a window whose arrangement extends like a ribbon, can be made segmented or continuous.

Neufert (1996: 160) suggests that the total area of all windows must be at least 1/10 of the total area of all walls of the room, considering that windows are a very important tool to illuminate a room by utilizing light during the day.

SNI-03-6576-2001 concerning Minimum Illumination Level and Recommended Color Rendering states that the lighting level for the library is 300 lux.

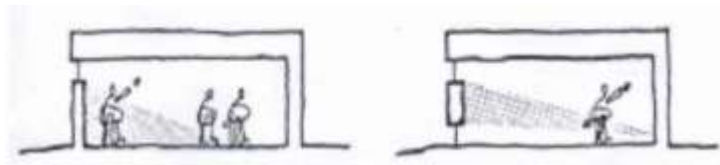


Figure 5. Ribbon Window

3. METHODS

The research was conducted in a coffee shop and a “good dank” working space at Jalan Joyo Utomo V, Malang City. The form of research is a qualitative research which tends to be descriptive and uses an inductive approach.

Data collection techniques are literature studies related to natural lighting, field observations focused on working space and quantitative data in the form of light intensity tables taken using a Luxmeter. Data collection was carried out in stages at 12.00 WIB, 14.00 WIB, and 15.00 WIB.

4. DISCUSSION

Coffee shop and working space “good dank” with the address at Jalan Joyo Utomo V, Malang City, with the building stretching from west to east and facing west. The north and south are bordered by residential buildings.

4.1. Evaluation of WorkSpace Daylight Illumination Levels in Coffee Shops "Good Dank" in Malang City



Figure 6. Maps location jl. Joyo Agung V Merjosari Malang

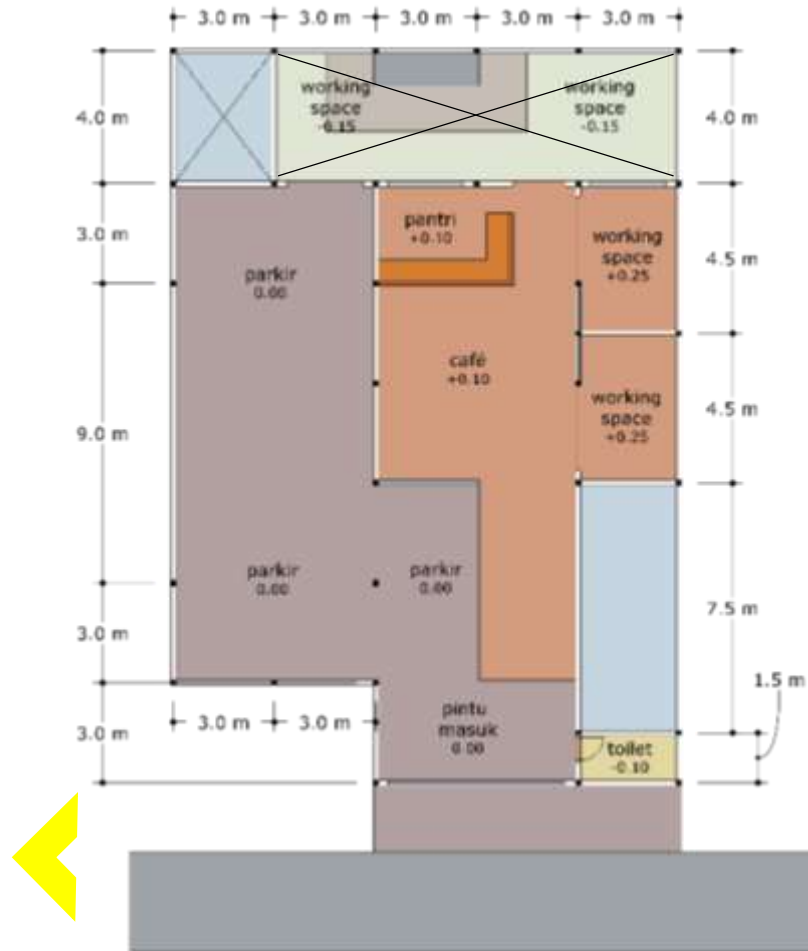
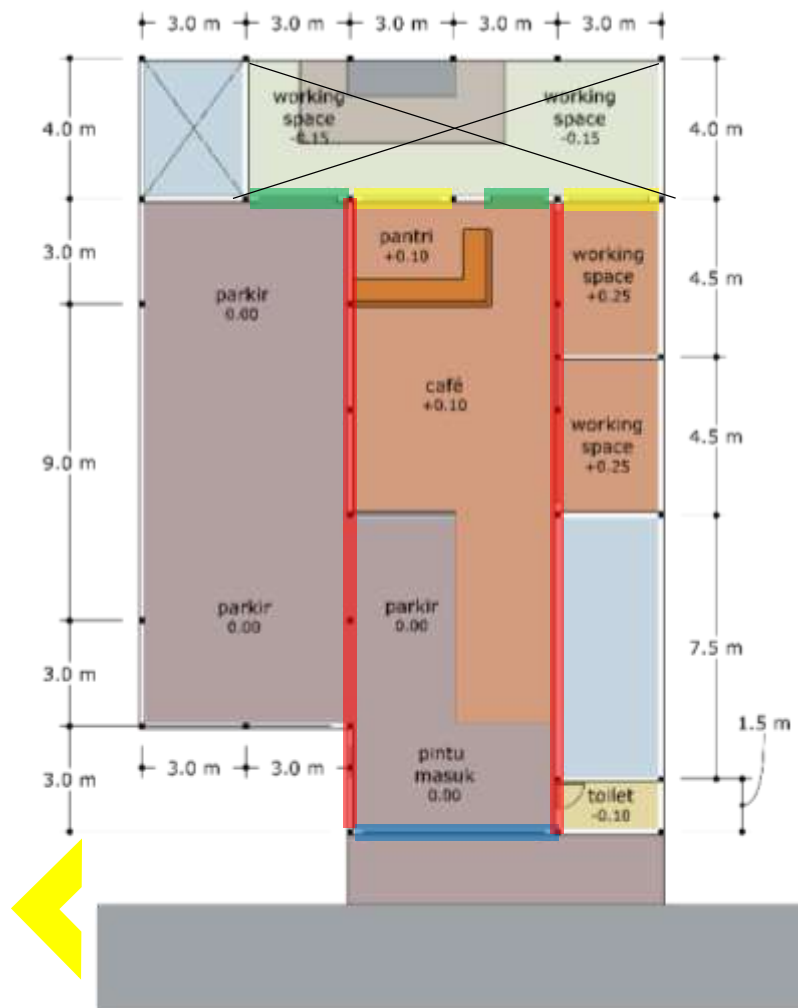


Figure 7. Floor plan

The plan above shows that 2 openings function as doors, side lighting (windows) on the eastern wall, and in the west, there is a wide warehouse door. Side lighting is in the form of a dead window that functions as a medium for the entry of natural light from the sun. The number of windows is 2, with the following details:

- a. 2 windows with a glass section of 225x210 cm to the east.
- b. 2 doors to the east with an area (160x240cm) and (220x240cm).
- c. There is a warehouse gate in the west with a cross-section of 520x240 cm.
- d. In the upper north and south, there are Clerestory windows with a cross-section (80x90 cm) with 36 left and right glass openings respectively.



- a. east window
- b. East door
- c. The "good dank" gate
- d. Clerestory window

Figure 8. Opening Place Description

The side lighting on the walls of the pantry café and eastern working space is known to be able to enter light because outside the eastern part of the building it is used for outdoor working spaces with sky roofs, this makes the eastern part bright, the western working space is rather dim, the café pantry and those in the middle have enough light, this is supported by the clerestory window under the roof.

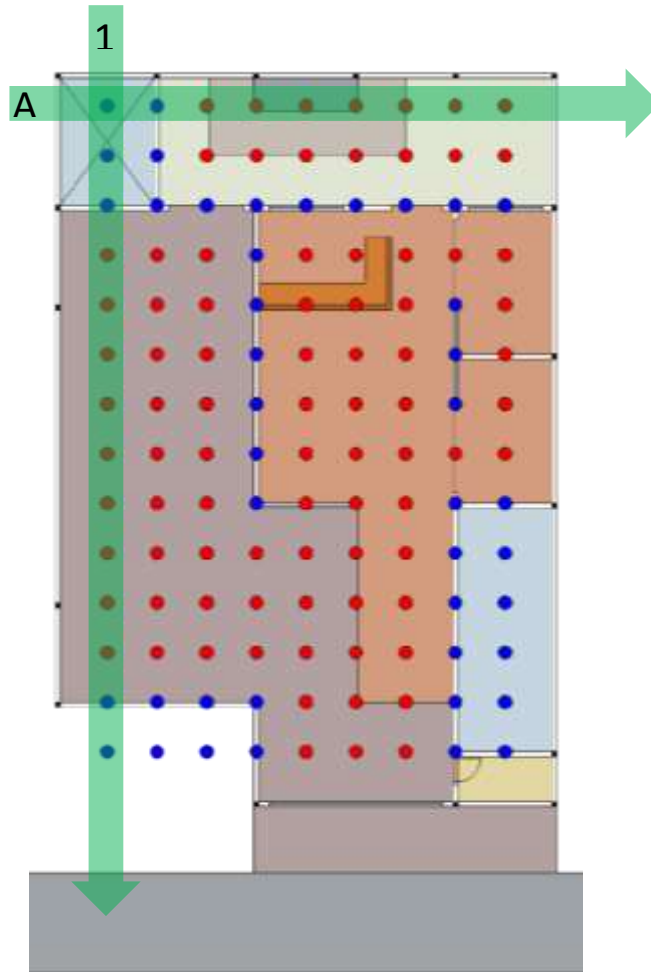


Figure 9. Measuring Point

The image above is the measurement points to determine the light intensity. The points from north to south are marked with the letters A-I and points from east to west are marked with the numbers 1-14. The light intensity is obtained using the Luxmeter tool. The distance from one point to another is 1.5 meters. The measurement is carried out in stages, namely 12.00 WIB, 14.00 WIB, and 15.00 WIB. The minimum standard of lighting based on SNI is 300 lux so that by measuring using a Luxmeter it can be seen whether the lighting in the reading room meets the standard or not. Measurements made at the aforementioned o'clock yield the figures as in the following table.

Table 1. Measurement results at 12.00 WIB.

No	A	B	C	D	E	F	G	H	I
1	-	-	10.000	10.000	10.000	10.000	10.000	10.0000	10.000
2	-	-	3000	3000	3000	3000	3000	3000	3000
3	-	-	-	-	-	-	-	-	-
4	115	225	450	-	350	250	350	250	350
5	56	115	225	-	250	200	250	-	250
6	35	56	115	-	115	100	115	-	150
7	25	35	56	-	75	95	80	-	75
8	10	25	35	-	75	95	75	20	25
9	10	25	35	-	75	95	75	-	-
10	10	25	35	56	80	95	80	-	-
11	10	25	56	125	125	125	125	-	-

12	10	25	56	125	250	250	250	-	-
13	-	-	-	-	700	700	700	-	-
14	-	-	-	-	3000	3000	3000	-	-

The table above is the measurement result at 12.00 WIB. Based on the table above, it is known that there are only a few points that meet the 300 lux standard, while at other points it is less than the recommended standard.

Table 2. Measurement results at 14.00 WIB.

No	A	B	C	D	E	F	G	H	I
1	-	-	3000	3000	3000	3000	3000	3000	3000
2	-	-	1000	1000	1000	1000	1000	1000	1000
3	-	-	-	-	-	-	-	-	-
4	75	125	250	-	250	150	250	250	200
5	46	75	75	-	200	150	200	-	150
6	25	45	45	-	115	100	75	-	60
7	15	25	25	-	80	95	80	-	25
8	10	15	25	-	95	95	95	20	10
9	10	15	35	-	115	115	115	-	-
10	9	15	65	145	210	250	210	-	-
11	6	15	75	325	425	425	425	-	-
12	3	8	75	325	750	750	750	-	-
13	-	-	-	-	3000	3000	3000	-	-
14	-	-	-	-	10.000	10.000	10.000	-	-

Table 3. Measurement results at 15.00 WIB.

No	A	B	C	D	E	F	G	H	I
1	-	-	1500	1500	1500	1500	1500	1500	1500
2	-	-	400	400	400	400	400	400	400
3	-	-	-	-	-	-	-	-	-
4	45	125	150	-	150	150	150	150	100
5	25	25	65	-	75	75	75	-	70
6	10	25	25	-	45	60	45	-	30
7	8	10	25	-	55	60	55	-	10
8	5	8	25	-	95	95	95	10	6
9	4	8	35	-	115	115	115	-	-
10	3	8	65	145	210	250	210	-	-
11	1	6	75	225	625	625	625	-	-
12	1	3	75	225	1200	1200	1200	-	-
13	-	-	-	-	6000	6000	6000	-	-
14	-	-	-	-	10.000	10.000	10.000	-	-

The table above contains figures showing the level of light intensity taken at 15.00 WIB. At that time the light is weaker than the measurements made at the previous time.

The infographic above shows that at 3:00 p.m. the natural light intensity at the “good dank” and working space shops decreased in the eastern part and increased in the west.

Based on the tables above, it can be concluded that the strongest light is at 12.00 WIB, but the

amount of lux if calculated as a percentage does not meet the minimum lighting standard of SNI.

4.2. Identification of Work Space Daylight Illumination Levels at “Good Dank” Coffee Shops in Malang City

Space-forming elements consist of floor, walls, and ceiling. Referring to Lechner's theory which states that neutral colors (white) and bright colors can distribute light more evenly.

The coffee shop and working space “Good Dank” is located in the Merjosari area of Malang, measuring 335.9 m². The floor surface is covered with concrete blocks in parking lots, terracotta (black tiles) in cafes, pantries, and indoor workspaces, and gravel concrete rebates to cover floors in outdoor working spaces. The choice of color is considered good because dark colors on the floor can absorb light and do not cause glare for customers.

The wall elements in the interior area use white. This also fulfills Lechner's color theory because he has applied a neutral color (white) as the main color on the walls. In the outer working space, the colors that appear are exposed bricks, this is planned so that customers who are inside the room do not get glare reflections from the outside working space walls.

The window is also an element that forms the space on the wall. Referring to Neufert's theory which states that the minimum window area in a room is 1/10 of the entire wall area of the room, the number of openings (windows) that is less can be the cause of natural light intensity in the reading room is less than the specified standard.

The total wall area of the “good dank” coffee shop and working space is 282.5 m², so the minimum window area provided should be 28.25 m². Data obtained from the field shows that the total number of glass cross-sections (windows) and openings is 62.1 m², which means that the window area is more than the recommended number. The recommended amount with the number in the field is more so that the quality of the space produced is very good. Remember the numbers on the low table are the spaces that are used for parking spaces.

5. CONCLUSION

Previous discussions about evaluating natural lighting and identifying the character of the elements that make up space can be concluded as follows:

- a. Natural lighting in the reading room Coffee shops and “good dank” working spaces have met the minimum requirements of both light intensity (lux) and minimum number of openings.
- b. The space-forming elements found in the coffee shop and “good dank” workspace have applied the right color, namely white so that light can be distributed more evenly and the room looks brighter.
- c. The light from the west in the results of the 2nd and 3rd discussion tables, shows an excessive level of brightness, this causes glare for customers.

Suggestions for the above problems are to add architectural elements such as those on the east wall using exposed brick walls, while for the western area using a partition wall why use partitions considering the western area of this building is the circulation of vehicles when parking, it is proposed a partition that has a pattern so that can reduce direct light at 14.00 WIB and 15.00 WIB.

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Typo-Morphology of Sudimoro Coffee Shop Area in Malang City. Spatial and Sociological Approaches to Urban Area Development

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ABSTRACT

The study of coffee culture and discussing the philosophy of coffee, changes in coffee (drinking coffee), even the development of a typology of coffee shop forms. The development of coffee shops greatly affects changes in lifestyle, characteristics, or social strata of coffee drinkers, influencing the emergence of various coffee shop typologies and new coffee shops. The emergence of several coffee shops in the Sudimoro area forms the character and pattern of developing the Sudimoro area into a Coffee Shop Area (CSA). The problem is the typology of coffee shops developed in the Sudimoro area and the development pattern of CSA Sudimoro. This study aims to analyze the morphological typology of coffee shops in the Sudimoro area of Malang City to obtain the morphological characteristics of coffee shops and development trends in the Sudimoro area. Data collection methods used were observation, spatial data analysis, and qualitative data. The results of this study are to determine the typical morphology of the Sudimoro area and the factors that influence the development of CSA Sudimoro and how it affects the development of the surrounding area. This study will be used as input for local governments to control the development of the Sudimoro Malang area.

Keywords : coffee shop typology, regional morphology, Sudimoro area morphology typology

1. INTRODUCTION

According to Narulita, R. Winandi, and S. Jahroh in the ICO, in 2012 Indonesia was one of the world's coffee exporters with an average of 4.76 percent of total world exports. Brazil 24.30 percent, Vietnam 17.94 percent and Colombia 10.65 percent. The level of coffee consumption per capita of the Indonesian people is very low compared to importing countries such as the European community, which on average consume coffee above five kg / capita / year and the United States above 4 kg / capita / year. (Narulita, Winandi, & Jahroh, 2014)

The spread of coffee plants in Indonesia has occurred since the 1700s, especially in Java. Apart from Java, the distribution of coffee plants was also carried out on the islands of Sumatra and Sulawesi after successful coffee planting experiments in Java. Coffee plantation areas in East Java are located in Ijen - Raung - Agropuro (Jember, Bondowoso, Banyuwangi, Situbondo), Bromo - Tengger - Semeru (Lumajang, Malang, Probolinggo), Wilis (Madiun, Kediri, Trenggalek), Lawu (Magetan, Ngawi) and the Pantura area (Situbondo, Probolinggo).

In Malang city itself, the number of coffee plantations is dominated in the areas of Ampel Gading, Tirtoyudo, Dampit and the slopes of Mount Semeru. The number of coffee plantations affects the amount of consumption in the city of Malang. This also affects the number of coffee providers in Malang. Some of the coffee providers are in the old market area. In addition, the availability of coffee in Malang has created a coffee shop area. (goleman, daniel; boyatzis, Richard; Mckee & Perdana, 2018)

The Sudimoro coffee shop area is a new coffee culinary area that is very potential and popular in the city of Malang. The role of students or workers is one of the factors that causes the emergence of K3. Their lifestyle and work and study models make them use the coffee shop to study, gather, discuss or just enjoy coffee. The Sudimoro area was not originally designed for K3. The area's land designation is for settlement and rice fields. Changing the Sudimoro area to K3 without any area planning would cause problems, especially in land use changes. The magnitude of the need orientation for the K3 Sudimoro area can be felt with the emergence of new coffee shops around this area.

The emergence of several types of coffee shops in the Sudimoro area has shaped the character

and pattern of development of the Sudimoro area into a Coffee Shop Area (K3). Based on the description above, the problems in the K3 Sudimoro area can be formulated into two problems, namely: What is the typology of coffee shops that developed in K3 Sudimoro, What is the pattern of K3 development in Sudimoro. The purpose of this research is to analyze the typo-morphology of coffee shops in the Sudimoro area of Malang, to obtain the characteristics of each type of coffee shop and the development trend of the Sudimoro area. The results of this study will be able to help determine policies from related parties, especially in terms of typomorphology of the Sudimoro Malang area so that later they can be used to determine regional rules and policies and can be used as references for further research.

2. LITERATURE REVIEW

2.1. Coffee shop typology

The typology of coffee shops in several regions of Indonesia is very diverse and has its own characteristics. The emergence of this coffee shop was also influenced by the existence of plantations and traders from other countries who stopped in the area such as the Pontianak area where coffee shops appeared and were developed by traders from China. In contrast to Aceh where coffee shops in this area thrive due to the existence of coffee plantations that exist to this day.

2.2. Definition of Typology

Typology according to architecture is the concept of sorting objects based on the similarity of basic properties. Typology to clarify, classify and clarify based on certain rules. (Ramadanta, 2010) Typology is the identification of categories to show the diversity of the object under study by grouping several buildings based on their respective characters. (Aninditatama, Antariksa, & Utami, 2020) identifying an architectural object for the type of an object based on a certain type. (Setyabudi & Sudikno, 2012)

2.3. Typology of coffee shops in several regions of Indonesia

Studies on the typology of coffee shops in several regions in Indonesia are very diverse, for example in the city of Aceh which is very well known apart from producing coffee beans and the culture of the people enjoying a cup of coffee in a coffee shop. Basically for the Acehnese people, enjoying coffee in a shop starts from the tradition of hospitality for men, this is also influenced by Islamic values, of course this is what causes them to often gather and this culture is a value that is characteristic of heredity. Gathering and staying in touch in coffee shops is a local cultural wisdom that has grown to this day in the city of Aceh. (Putra & Ekomadyo, 2015)

In the city of Tanjungpinang, Riau Islands, traditional coffee shops have blended with modern coffee carts and each has its own customers. In this city, the culture of coffee originates from the story of people who travel outside the area and they find it very difficult to find a coffee shop. From this, people start to think about the need to open a coffee shop to provide facilities for the surrounding community and outsiders who visit Tanjungpinang. Spending time at a coffee shop is common among the local community and is a means of obtaining information and sharing information for the public or politicians. The coffee shop as a public space finally creates comfort for the community, encouraging the emergence of a coffee culture among the Tanjungpinang community as if coffee is a lifestyle for the Tanjungpinang community. (Igiyasi, 2017)

In the city of Pontianak, the culture of drinking coffee in coffee shops originated from the big boat chefs of the Hainanese ethnicity to Pemangkat, Sambas around 1942 and began to develop in 1969. In the morning, dominant for those who are leaving for the office take coffee at the coffee shop. During the day is the time for those who work with high mobility who come to the coffee shop and at night is the time for those who are busy with the busy morning and afternoon who visit the coffee shop. (Zulestari, Ciptadi, & Susanto, 2017)

In the city of Bagansiapiapi, a coffee shop is not only a place for buying and selling and drinking coffee, a coffee shop is a place for open discussion, exchange of ideas, discussing problems and

issues around it, playing chess, reading newspapers, political issues. These reasons are the main attraction of the coffee shop which is used by the local community to spend their time there from morning to evening and night. The coffee shop is a place for them to get information and exchange ideas. (Erman, 2016)

In the cities of Surabaya and Sidoarjo, the phenomenon of drinking coffee in coffee shops is known as Cangkruan. Coffee shops, apart from functioning as cangkruan, are social spaces where each citizen socializes, interacts with each other, and at the same time releases all irritations towards the harsh contestation of life in big cities. For coffee shop visitors who have the same position and position as well as the same opinion on the issues that are the chatter of every day, the coffee shop is a neutral place for visitors. (Santoso, 2017)

The existence of coffee shops in the city of Malang is growing rapidly, as a student city, the coffee shop visitors are also dominated by students and university students. Different learning patterns have resulted in the emergence of many coffee shops in Malang. In the city of Malang, a coffee shop is more famous by the name café but actually the designation is the same, namely a place where people can drink (coffee) while chatting, but the frame that distinguishes is the exclusivity of the place, if the cafe is air-conditioned, there is a representative toilet, a parking lot spacious, available WIFI facilities, comfortable seating, separated between the smooking area and not, while coffee shops are usually conceptually simple, the important thing is to be a place to hang out.

2.4. Regional Morphology

According to Zhand (2003), urban area structure morphology is a method / method for recognizing solid void structures. (Ewing & Handy, 2009) Urban artifact forms the physical environment of a city and its development should be followed by learning the history of city formation. This is done to deal with the development failure of the city's progress in the future and will become the identity of the city. Community activities, social and cultural development, are dynamics in shaping the morphology of the city. (Pemerintah et al., 2017)

According to Tallo, Pratiwi, & Astutik (2014) in urban planning and design as a controller of urban development as a formal process that implies urban morphological patterns. Indications of the dynamics of urban morphology can be seen from changes in structure, certain developments, shifts in environmental functions, land use and government policies related to spatial planning. (Tallo, Pratiwi, & Astutik, 2014)

According to Zand studies in city morphology are manifested structurally, visually and functionally which together with urban space form a physio-socio-spatial system, thus realizing city architecture as a formation of activity processes carried out by humans into city artifact products. According to several sources, the review of city morphology emphasizes the physical forms of the urban environment and this can be observed from the physical appearance of the city which includes elements of land use, road patterns and building types. The method of assessing city morphology, first is to study buildings, building blocks, road patterns, open spaces, land use and building details which are recorded, measured, mapped, and analyzed using existing and historical information (Tallo et al., 2014)

3. METHODS

Research methods The data collection method used was observation accompanied by qualitative data analysis methods. The results of this study were to determine the typomorphology and factors that could give rise to a coffee shop area and what effect it had on the area. A type of method in which the findings are not obtained by statistical procedures or other forms of calculation. Trying to understand and interpret the meaning of an event of human behavior interaction in a particular situation according to the perspective of the researcher himself. Performed under reasonable circumstances. The qualitative method is more based on the phenomenological nature which prioritizes appreciation. Qualitative methods attempt to understand and interpret the meaning of an event of interaction with human behavior in a

particular situation according to the perspective of the researcher himself. Research that uses qualitative research aims to understand the object under study in depth. Aims to develop a concept of sensitivity to the problems at hand, to explain the realities associated with exploring the theory from below and develop an understanding of one or more of the phenomena at hand. With this method, later in order to get an achievement about the morphology of the Sudimoro Malang area and the typology of the existing coffee shops and how the existing market management of the coffee shop.



Figure 1. Map of the Sudimoro area (Google map source)




3. DISCUSSION




























Typo-morphology of the Sudimoro Area




























Typology comes from the Greek 'typos' and 'logos'. 'Typos' or type has the meaning of 'denotes origin', of several variances and the same nuances. Whereas in various sciences, morphology is closely related to the form and process of composing components or compositions with regard to function. So it can be concluded that typomorphology is the study of the type of a building based on a review of its shape without forgetting the functional elements of the building. (Zafer, 2013)



















The Sudimoro area is included in the Mojolangu Village, which is a village located in the Lowokwaru District, Malang City. This sub-district consists of 19 RW (Rukun Warga) and 115 RT (Rukun Tetangga), so it is said to be the largest sub-district in the local sub-district. Administratively, Kelurahan Mojolangu is surrounded by other kelurahan in Malang City. To the north, Kelurahan Mojolangu is directly adjacent to Kelurahan Tunjungsekar, Kecamatan Lowokwaru. Meanwhile, in the east, this sub-district is also directly adjacent to Purwodadi and Blimbing villages, Blimbing districts. To the south, Kelurahan Mojolangu is bordered by Kelurahan Tulusrejo, District of Lowokwaru. Then, in the west, Mojolangu Village is bordered by Tunggulwulung Village, Lowokwaru District.

Table 1. Typo-Morphology of Coffe Shop in the Sudimoro Area

Coffee Shop	Store Size Category (25 Orang = Moderate) (+ 25 People = Large)	Visitor Characteristics	Amenities
 omah luwak coffee & roastery	large	 student	 Selling coffee and bean

	moderate		
kopi anika		student	Selling coffee and non coffee
	moderate		
Seduhlur		General and student	Selling coffee and non coffee
	large		
peaberry		General and student	Selling coffee and non coffee
	large		
lupa lelah		General and student	Selling coffee and non coffee
	moderate		
tekanuda		General and student	Selling coffee and non coffee
	moderate		
kuy cangkruk		General and student	Selling coffee and non coffee
	large		
kopikir kopi		General and student	Selling coffee and non coffee
	moderate		
pancong		general	Selling coffee and non coffee
	moderate		
Nara		general	Selling coffee and non coffee

 sawah	large	 General and student	 Selling coffee and non coffee
 kopi Arti	moderate	 General and student	 Selling coffee and non coffee
 CJDW	moderate	 General and student	 Selling coffee and non coffee
 teko'o	large	 General and student	 Selling coffee and non coffee
 tanduk	large	 General and student	 Menjual kopi dan non kopi
 kon.co	large	 General and student	 Selling coffee and non coffee
 letek	large	 General and student	 Selling coffee and non coffee
 hidden garage	large	 General and student	 Selling coffee and non coffee
 kopi sini	large	 General and student	 Selling coffee and non coffee

	large		
take a break		General and student	Selling coffee and non coffee
	large		
kopi beit		General and student	Selling coffee and non coffee
	large		
jail merah		General and student	Selling coffee and non coffee
	large		
bos		General and student	Selling coffee and non coffee
	large		
Antara		General and student	Selling coffee and non coffee
	large		
100 kata		General and student	Selling coffee and non coffee

4. CONCLUSION

Indonesia is one of the exporters of coffee in the world, the culture of drinking coffee has long existed in Indonesia and the coffee beans themselves were planted during the colonial period. It is proven that there are several coffee plantations spread across Indonesia. The coffee culture itself has entered and developed in several areas, the existence of coffee shops in several areas has almost the same function, including a place for gathering, seeking information or a gathering place for several communities. The existence of coffee shops in several areas besides being close to coffee plantations, there are also those brought by traders who sailed from other countries. Most coffee shops are located around the settlement because it used to be a gathering place for residents of the area.

In some areas it has its own characteristics and uniqueness in making coffee ready to be enjoyed in the Aceh area which is famous for filter coffee and inverted glass coffee, in the Pontianak area it is known as filter coffee and in Tulungagung it is known as nyete coffee. These uniqueness and

characteristics have their own meaning for the area and are a potential tradition to generate income both from the coffee shop itself and from a tourism perspective.

Visitors in the Sudimoro area are dominated by students because this area is close to the campus, besides that there is a soccer sports field that makes this area develop.

The data collection method used was observation accompanied by qualitative data analysis methods. The results of this study were to determine the typomorphology and factors that could give rise to a coffee shop area and what effect it had on the area.

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Inflatable Stage Cover for Virtual Expo During the Covid-19 Pandemic

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ABSTRACT

Small and Medium Enterprises (SMEs) have a very important role in economic development in developing countries. In the context of developing SME businesses, the SME product exhibition is an effective way of marketing, especially for SMEs who are just starting a business. The SME product exhibition is a medium to increase marketing. However, the COVID-19 outbreak that has emerged worldwide has a significant impact on holding SME exhibitions, due to large-scale social restrictions that restrict SMEs from participating in offline exhibitions. This led to the idea of holding a virtual exhibition, the SME Virtual Exhibition which could take place in just 2 hours by applying a portable stage and a roof inflatable stage with independent solar photovoltaic power. Virtual exhibitions can be watched live (live streaming) or view edited video recordings via the Youtube channel.

Keywords : inflatable cover stage, covid-19, virtual expo

1. INTRODUCTION

Small and Medium Enterprises (SMEs) have a very important role in economic development in developing countries (Abor & Quartey, 2010; Tambunan, 2008; Tutuko & Shen, 2014; Wang, 2016). In the context of developing SME businesses, the SME product exhibition is an effective way of marketing, especially for SMEs who are just starting a business (Budiyanto, Suprpto, Rofieq, & Poerwoningsih, 2018; M. & Pinem, 2016). Exhibition is an important means of marketing products, this makes dependence on exhibition as an attraction and introduces product identity (Yi, Fu, Jin, & Okumus, 2018). The study related to E-exhibition has created a new engine in dragging economic improvement, it also helps traditional products to compete in the global era that is important for SMEs (Zheng et al., 2009). The most important thing is that exhibition attendees understand an exhibition is the organizer, exhibitors, facilities and equipment, and the environment of the venues (Yi et al., 2018). So that the stage as one of the attraction facilities for an exhibition becomes something that must be studied further. One of the most important parts of the SME product exhibition is the entertainment stage which attracts visitors to come and be in the exhibition area. The study on the application of inflatable stage roofs as a cheap, fast, and easy alternative in moving to another location (Budiyanto, Winansih, Setiawan, & Setiawan, 2018), so the study shows that this technology is affordable for SMEs in participating in the exhibition.

Researchers have designed and prototyped a stage roof using a pneumatic blown membrane structure with an independent supply of electricity, namely a solar power plant where this electricity is used to drive pumps / blowers to fill air into blow tubes, lights and a portable sound system. The roof of the inflatable stage uses a PVC coated tarpaulin (Singha, 2012). The choice of PVC tarpaulin material is based on the ability of the material to be airtight and lightweight and compact so it is fast in installation and dismantling (Budiyanto, Winansih, et al., 2018).

The COVID-19 pandemic that is currently sweeping the world has a very large and broad socio-economic impact, as many people become poor, lose their jobs, cause depression, and increase mortality (Cepel, Gavurova, Dvorsky, & Belas, 2020). The COVID-19 crisis has affected global economic development and threatens companies around the world, office-based work being turned into home offices with the aim of ensuring social distancing. Amri (Amri, 2020) quoted data from the Ministry of Cooperatives, which stated that there were many cooperatives and SMEs affected by the pandemic. During the COVID-19 pandemic, many SMEs decided to close their businesses because their income fell to a loss. This is due to the lack of buyers so that people

are reluctant to visit stores and choose to shop online through social media or e-commerce (Hidayat, Nulhaqim, & Fedryansyah, 2020).

One way to increase SME sales is through exhibitions, where SME entrepreneurs can meet directly with customers and buyers at exhibitions scheduled according to time and place (Yahya & Lubis, 2017). However, due to the current pandemic, 90 percent of large-scale exhibition activities have to be postponed or even canceled due to Government regulations regarding crowd restrictions during large-scale social restrictions (Antara, 2020). One solution is a virtual exhibition, an event that can be watched on computers and cellphones using the internet anywhere and anytime with 24 hours per day and 365 days a year visitor time (Khoon & Ramaiah, 2008). The problem that will be answered in this study is the effectiveness of using an entertainment stage for SME virtual exhibitions during the Covid-19 pandemic.

2. LITERATURE REVIEW

2.1. Marketing for Small and Medium Enterprises

Small and Medium Enterprises (SMEs) is one of the fields that makes a significant contribution to Indonesia's economic growth (Hadiyati, 2015). This is because SMEs have a very large workforce and are close to the small people. According to Jauhari (Jauhari, 2010) SMEs in Indonesia still face obstacles in marketing and product sales. Along with the development of information and communication technology, it has also been used to market and sell products through cyberspace which is often referred to as E-commerce (Zhang, 2014). Sales and marketing of products through cyberspace have many advantages, namely a wide reach, do not recognize space and time, can be done anytime and anywhere via the internet or world wide web networks (Ahsyar et al., 2020). The rapid development of information and communication technology or what is known as Information and Communication Technology (ICT) and the internet has increased business and commerce (Zhang, 2014), the marketing and sales process can be carried out at any time without being bound by space and time.

2.2. SMEs Virtual Exhibition

One way to increase sales of SMEs is through exhibitions, where SME entrepreneurs can meet directly with customers and buyers at exhibitions that are scheduled according to time and place (Yahya & Lubis, 2017). However, due to the current pandemic, 90 percent of large-scale exhibition activities must be postponed or even canceled due to Government regulations regarding crowd restrictions during large-scale social restrictions (Antara, 2020). One solution is virtual exhibitions, which are events that can be watched on computers and cellphones using the internet anywhere and anytime with 24 hours per day and 365 days a year visitor time (Khoon & Ramaiah, 2008). Initially, online virtual exhibition (VE) was considered only as a complement to supporting physical exhibitions because VE can overcome the limitations of space, time and location (Lee-Kelley, Gilbert, & Al-Shehabi, 2004) and VE allows global visitors to access products or interesting objects that are kept on the exhibition for 24 hours. A well-built VE can provide an alternative experience for viewing a "real" product or atmosphere and allows visitors to enjoy exhibitions, learn and be able to participate actively through forums and posts, online shopping, etc. (Foo, 2008).

2.3. Inflatable Stage Cover for SMEs Exhibition

To support the SME virtual expo, stage facilities that are quickly built are needed. Portable stage and independent energy inflatable stage roof (Budiyanto, Setiawan, Winansih, Setiawan, & Suntoro, 2018) are very suitable for the needs of SME virtual exhibition exhibitions, this is because of the speed (Coelho, Bletzinger, & Roehl, 2011), comfort and convenience of the building structure. The time required for the installation of the portable stage is 2 hours, while for the installation of the inflatable stage cover it takes 6 minutes and 10 minutes for dismantling. Electric energy for blower and portable sound system can be fulfilled by 4 photovoltaic solar cell panels, in sunny weather the weather produces a minimum current of 13.2 Ampere and a voltage of 19.2 volts, this electric current is stored in 2 batteries, each with a capacity of 100 AH so that

it is able to supply 1,500 WH electricity, so it doesn't need electricity from generators or electricity from PLN.

3. METHOD

This study used a mix of qualitative and quantitative descriptive method (Creswell, 2007; Merriam, 2009) with a case study of the use of a portable stage and an inflatable roof stage with independent photovoltaic energy for the Virtual Expo and SME Workshop activities. The research focuses are: a) portable stage and inflatable stage roof, b) virtual expo and craft workshop.

4. RESULTS AND DISCUSSION

Referring to Yahya & Koon's opinion (Khoon & Ramaiah, 2008; Yahya & Lubis, 2017), that Virtual Expo is an exhibition that can be accessed online anywhere and anytime. In the implementation of the Virtual Expo for SME Products which was held at Merdeka University Malang, even an exhibition of its products can be watched in real time for 2 hours and a workshop for handicrafts UKM was held for 3 hours, all of which were edited into 20 minutes on YouTube channel. This activity uses stage facilities and participant tents that are easy and fast to build, so the participant tent and portable entertainment stage as well as the roof inflatable stage were selected. The entertainment stage is made of multiplex material supported by a portable steel frame, while the roof of the stage is a PVC tarpaulin that uses a pneumatic inflatable structure with a solar power generator produced by Higher Education Excellence Research. In line with Coelho's opinion (Coelho et al., 2011), the advantage of this inflatable stage roof is the speed in building which only takes 2 hours and requires 2 people to assemble and dismantle. The inflatable stage roof made of PVC tarpaulin only takes 10 minutes to install and requires 2 people to blow it using a blower equipment. The electricity needs for the blower and sound system are met by a solar power plant with a capacity of 1,500 WH.

The advantage of this stage roof is the beauty created from PVC-tarpaulin material with a curved shape so that the focus of the virtual expo is on the stage and the roof of the inflatable stage. While the weakness of this inflatable stage roof is in the PVC-tarpaulin fabric, which cannot withstand the heat of the daytime. The difference in air temperature outside and below the stage reaches between 1 and 2 degrees Celsius so that during the day the outside temperature can reach 38 degrees Celsius. This was overcome by installing 2 portable air conditioners so that the temperature under the roof of the stage could be maintained at a maximum of 25 degrees Celsius.

Virtual Expo at the University of Merdeka Malang Parking Lot starts at 08.00 to 10.00 AM, followed by 6 associations / associations as follows:

Table 1: Virtual Expo Participants

NO	COMMUNITY	BUSINESS FIELDS
1.	Malang City Craftsman Association for Handicrafts	Craft
2.	Plate N Crafter Community	The Craft & Fashion
3.	HOBIKAYU Malang Chapter	Crafts and Wooden Furniture
4.	Culinary Association Indonesian	Culinary
5.	Indonesian Young Entrepreneurs Association of University of Merdeka Malang	Crafts, Culinary, Services
6.	University of Merdeka Malang Business Incubator	Crafts, Culinary, Services

Each participant arranges their products in a conical tent with the arrangement as is usually done at offline exhibition. Each community was interviewed, photos and videos were taken and broadcast live (live streaming) via Youtube Channel, Universitas Merdeka Malang. Visitors who do not have time to watch the virtual exhibition in person can view it via Youtube <https://www.youtube.com/watch?v=-F-Eic0L41M&t=7041s> which has been edited for 20 minutes. Until now, there have been 417 visitors to this virtual exhibition online.

The workshop for making knitting masks was held on a stage, involving 12 participants with 2 instructors, and was held for 3 hours. The workshop participants were the wives of lecturers and employees of University of Merdeka Malang who did not have knitting skills at all. With the direct learning method and practice by the Vissti Gallery, the participants were able to make knitting masks in just 3 hours. The atmosphere of the knitting training venue was comfortable even though the activities were held during the day. This is possible because the room under the roof is conditioned to use 2 portable air conditioners so that the maximum temperature is 25 degrees Celsius.

5. CONCLUSION

The portable stage and solar powered inflatable stage are perfect facilities for virtual expo exhibitions and handicraft workshops. A portable stage can be built in as little as 2 hours and an inflatable stage roof is installed in 10 minutes. Comfort under the roof of the stage can be achieved with a maximum room temperature of 25 degrees Celsius with the help of a portable air conditioner. This virtual expo activity involved 6 creative economy communities of crafts, fashion, and culinary which lasted for 2 hours resulting in an interactive exhibition that can be watched live streaming (for 2 hours). The craft workshop activity lasts for 3 hours. The virtual display of the expo and craft workshop can be watched online on the YouTube channel of University of Merdeka Malang (which has been edited for 20 minutes).

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Transformation of Traditional Dayak Architecture Elements in Government Buildings Designs in Kutai Kertanegara

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ABSTRACT

Traditional Dayak architecture is often used as a source of ideas or design inspiration for the functions of government buildings or other public buildings in Kalimantan. The application of traditional architectural elements through repetition is a common phenomenon in almost all regions of Kalimantan, including in Kutai Kertanegara Regency, East Kalimantan Province. In this regard, the purpose of this research is to examine the transformation of the traditional values of the Dayak people and their traditional architectural forms in the Regional Representative Council Building (DPRD) Kutai Kertanegara Regency. The selection of the DPRD building as the object of study is based on a shape and appearance that is easily recognized and recognized by the public. The study method was chosen through a comparison technique between the functions, roles, and values of traditional Dayak architectural elements with their existence in buildings with new functions. The results obtained from this study were the discovery of several characteristics and characteristics of the Dayak customary elements in the DPRD building of Kutai Kertanegara Regency in the form of shapes, colors, motifs, and ornaments. The use of ornaments on the facade and interior is quite prominent as an option in its application to the front facade of the DPRD building. The colors that are widely explored and applied to walls and facades are colors that symbolize greatness (yellow), eternity, repellent against distress, purity (white).

Keywords : architecture, dayak, DPRD, element, traditional.

1. INTRODUCTION

Traditional Dayak architecture is one of the archipelago architectures that have an important role and position for the people of Kalimantan so that the architects who design buildings in the current era often adopt elements that exist in local architecture. The Regional People's Representative Council (DPRD) building of Kutai Kertanegara Regency is a government building that is public in nature to accommodate the activities of council members who carry out their duties as partners of the regional government in government administration. The building has an expression and a facade with a touch of traditional Dayak architecture. Or it can be said that the existence of the Kutai Kertanegara Regency DPRD Building is a design product that can be categorized as a popular vernacular (Junianto, 2018). The problem is, not infrequently in the adoption of elements of traditional Dayak architecture, their meaning and role are not considered.

This study aims to determine how the application of the transformation of traditional Dayak architectural elements in the DPRD building of Kutai Kertanegara Regency. Second, identify the elements and elements of traditional Dayak architecture in the building. The DPRD building of Kutai Kertanegara Regency was chosen as the subject and object of research with the consideration of exploring how the process of transformation of elements or customary elements still upholds their values.

2. LITERATURE REVIEW

2.1. Architecture Traditional Dayak

From a historical point of view, the Dayak people are small groups that live along the major rivers. They have works of vernacular architecture where they live in the form of longhouses (lamin). One of the most famous traditional Dayak architectural works in East Kalimantan is the Lamin House building. The building is rectangular which is generally oriented towards the river. Pergitawati et al (2014, stated that the Dayak community has a system of life that is categorized

as a communal community group. With this social structure, they live in harmony, and every problem and life is resolved based on deliberation. The values of cooperation are also very thick in their daily life. These cultural values are also manifested in its architectural order.

According to Noviana (2013), a traditional Dayak house known as Rumah Lamin has a length of 200 meters and a width of about 25 meters. The foundation is made of ironwood which has properties that are often exposed to water, so the ironwood will be harder and stronger (Zein, 2017). Philosophically, the term lamin can also be interpreted as an embodiment of a culture of living together under one roof, cooperation, mutual understanding in the shade of clear customary law. According to Usop (2011), this becomes a real and logical picture of a traditional civilization when the physical environment is still vicious, either in the form of threats from natural conditions or threats from other Dayak sub-ethnic groups.

Rumah Lamin is the result of the local wisdom of the Dayak tribe, which from an architectural perspective is a building that really takes into account the factors of safety, security, comfort, and health. Furthermore, Usop (2011) explains the factors that are owned in Dayak Traditional Architecture (Rumah Lamin), namely as follows.

Table 1. The factors contained in the Traditional Dayak Lamin Architecture

No	Basic Factors	Purpose	Design Character
Safety and Security Factors			
1.	Building Aspects	Protect / provide a sense of security for residents	Height, space connectivity and quality of building materials
2.	Environmental Aspects	Gain harmony with the natural surroundings	The orientation of the place or site selected
Convenience factor			
1.	Air Circulation	Provide and ensure the comfort of residents	The height of the building and cross ventilation which results in a circulation pattern that is suitable for the local climate and weather
Circulating Health Factors			
1.	Ventilation	Improve air circulation	There is a main door, windows, room position adjustment, and several ventilation holes
2.	Lighting	Make optimal use of natural sunlight during the day	Local material as a filter against the hot tropical sun
3.	Material	Eliminate adverse impacts on residents	Use of selected local materials



Figure 1. Architecture Traditional Dayak “Rumah Lamin”
Sumber: Kemendikbud.go.id

The foundations, pillars, and walls of a lamin house are decorated with ornaments that have symbolic value according to their customs and beliefs, especially as a tribute to their ancestors and ancestors. Every carving and ornament also has a certain meaning. Symbolic expressions are also expressed by the Dayak people in their traditional clothes, ritual tools, and equipment for religious ceremonies and customs. (Mayasari, Tulistyantoro, and Rizqy 2014).

2.2. Lamin House Architectural Elements and Ornaments

Some of the main characteristics of Rumah Lamin are the presence of ornaments, paintings on the exterior and interior. This element uses colors that are also full of messages and meanings. Marlina (2019) and Yuuwono (2019) state that the color yellow: symbolizes greatness, nobility and wealth. Red color: a symbol of immortality. White color: as a symbol of purity. Blue: symbol of hope. The green color: symbolizes the essence of the universe, and the black color symbolizes the repellent.

Apart from the color of the motifs, it is also a dominant element in traditional Dayak architecture. In the view of Mayasari, Tulisyanto, & Rizky (2014), the motifs on the Dayak architectural ornament are in the form of continuous curved lines which are expressed as symbols of tribal chiefs and other traditional instruments. Some examples of elements that stand out are shields. Apart from being a shield for a weapon of war, it also symbolizes the existence of a Customary Chairman who has the power obtained from the universe, and functions to protect the people who are in his power (Marlina, 2019). Therefore, these elements are placed in the building columns and the main door of the house.



Figure 2. Ornaments in Traditional Dayak Architecture of Rumah Lamin
Sumber: Jurnal Intra Vol.2, No.2, 2014.

Figure 2. Above shows the motive of young leaves of spiral ferns which are widely used as interior and exterior decorative laminates. This motive symbolizes the continuity of the Dayak people who are hereditary and their successors must not be cut off.

3. METHODS

This study uses a qualitative descriptive method and is enriched with a precedent study approach. Data and information were collected through documents, while precedent studies were used to analyze the character and skills of an architectural, visual aesthetic work, so that elements of Dayak architecture and culture were found in the building of the DPRD Kutai Kertanegara Regency (Pujantara 2015), by revealing forms of visual expression transformed from elements of Dayak architectural elements.

The object of study of the transformation of traditional Dayak architectural elements is the Regional Representative Council Building of the Kutai Kertanegara Regency. This building was chosen with the consideration that its design has a facial shape where there are elements,

ornaments and colors that have a touch of the Dayak tradition. Identifying the transformation process carried out with the aim of finding elements of the Dayak tribe culture in the DPRD Building Kutai Kertanegara Regency with a new function but having local architectural expressions.



Figure 1. Kutai Kertanegara Regency DPRD Building
Sumber: Kaltim. Go.id. 2020.

4. RESULT AND DISCUSSION

The face of the Kutai Kertanegara Regency DPRD Building is an amalgamation of the traditional architecture of the Lamin House with a touch of modern architectural principles known by the ornamental characteristics found in the traditional architecture of the Lamin House and the simplicity of forms and ornaments in modern architecture. In general, the shape of the building of the DPRD Kutai Kertanegara Regency adapts to the environmental situation and site conditions. In this context the transformation of its physical formation does not fully follow the principles and rules of the traditional Dayak architecture, but the utilization of local potentials is still visible, even though it is carried out by trial and error.



Figure 4. Kutai Kertanegara Regency DPRD Building
Sumber: Kaltim. Go.id. 2020.

In Figure 4 above, it can be seen that the main reference for the main entrance and the posture of the building that looks distinctive, the dimensions are large enough, and the building height is quite proportional, still shows the use of Dayak vernacular architectural rules, namely transforming the traditional Lamin house which is full of philosophy. The exposed front column adopts the appearance of threaded wood column pillars in the lamin housing structure. It can be stated that the architectural form of the Kutai Kertanegara Regency DPRD building is influenced by the interaction of the Dayak tribe with their natural environment.

The courtyard is an important space in the landscape of Rumah Lamin because it is an open space for various kinds of traditional ceremonies, which are equipped with customary properties whose placement follows the orientation of the rising sun which is believed to be a source of strength. At first glance, this pattern is also considered in the courtyard landscape of the DPRD Kutai Kertanegara Regency building.

The front part of the Kutai Kertanegara Regency DPRD building partly also uses yellow as a symbol of majesty which is applied to the main wall which supports the architectural details on the facade of the Kutai Kertanegara Regency DPRD Building. The red color has a timeless meaning applied to the large details of the shield. The black color symbolizes the repulsive force applied to the building wall pattern as a counterweight to the shield-shaped windows on the facade. The white color means holiness which is applied to the connection lines that form the facade and architectural details of the Kutai Kertanegara Regency DPRD Building.

The motive of ferns that are widely used in interior and exterior carvings of traditional Dayak architecture are transformed into the roof walls and main doors of the Kutai Kertanegara Regency DPRD building. In general, this motive can be applied to buildings because it does not have special requirements such as the application of human motive (kelunan) to traditional Dayak architecture.



Figure 5. Kutai Kertanegara Regency DPRD Building
Sumber: Kaltim. Go.id. 2020.

Typical local materials that have been used from generation to generation in traditional Dayak architecture (ironwood), the building design of the Kutai Kertanegara Regency DPRD building is also used in the carved ornament section on the ceiling of the entrance to the building which is from the elements in the building. the traditional architecture of Rumah Lamin where the carved ornaments have symbolic value according to their customs and beliefs, especially as a tribute to their ancestors and ancestors. This shows the transformation of the elements in the traditional building.

The elements that exist in traditional Dayak architecture as expressions of local wisdom are tangible and intangible, including the physical form of the architecture and the philosophical values of Rumah Lamin, partially transformed in the facial design as well as the spatial layout and landscape of the Regency DPRD building. Kutai Kertanegara. In other words, the transformation of these elements has not been maximally linked to the function of the Kutai Kertanegara Regency DPRD building which is a government public building. Whereas the potential of the site and the quality and character of the environment, solutions can still be found, including increasing the appreciation of local values from the traditional Dayak architecture. If you find a lack of optimism in the transformation process of the elements of traditional Dayak architecture, it only happens because the translation of the concept of locality is quite full and its similarity to ecological design has not been fully explored.

5. CONCLUSION

Based on the analysis and discussion above, it can be concluded that the transformation of traditional Dayak architectural elements in the DPRD building of Kutai Kertanegara Regency is as follows.

1. Local wisdom in traditional Dayak architecture is the basic inspiration in the design of the Kutai Kertanegara Regency DPRD building both in its tangible and intangible forms.
2. The integration of traditional Dayak architectural elements with modern architectural principles in the building is an adequate eclectic step, although the impression of the patch is still strong.
3. Plant motive as one of the elements of traditional Dayak architecture are used on the roof walls and entrance motive. The combination of traditional Dayak architectural elements with modern architectural principles in the building is an adequate eclectic step, although the impression of the patch is still strong.
4. The colors that symbolize majesty, eternity, repellent against disaster, and sanctity in traditional Dayak architecture are transformed as the main color choices for the building face (yellow, red, black, and white), despite attempts to disguise them.
5. Ironwood is the main material in traditional Dayak architecture that has been used for generations, used on the entrance ceiling.

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Challenges and Obstacles on The Implementation of Sustainable Development Construction Building in Indonesia

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ABSTRACT

This study uses literature review method, which is an analysis that aims to describe the content of the materials based on the collection of information obtained from various scientific articles related to the application of the concept of sustainable development construction as well as finding solutions to obstacles and challenges in building the construction project process buildings in Indonesia. The obstacles and challenges faced by contractors in implementing Green Construction as followed: 1) Technology adaptation, 2). The active role of the project owner, 3). Lack of regulations 4). Education to society, 5). Government financial support. The process of implementing Green Building in the field needs to pay attention to the process are planned, designed, executed, controlled and evaluated. Conducting education for construction actors in the practical sector through internal collaboration mechanisms between service providers based on company qualifications. Socialization to the public is needed especially saving water, energy, not using hazardous substances such as mercury, styrofoam which are not environmentally friendly. Thus, in achieving Green Construction is accordance with the principle of sustainability, awareness of the community and contractors are needed in choosing materials friendly environment on the concept of implementing Sustainable Development Construction on buildings in Indonesia.

Keywords : Building construction, sustainable development, green construction

1. INTRODUCTION

In the current pandemic phase of the Covid-19 outbreak, of course the real world in architecture will also experience a significant impact on the challenges and obstacles that have been entered by all countries in the world, especially the Indonesian people. Moreover, with the government's recommendation to carry out physical distancing, working from home, studying from home, meetings from home, it is very influential on communal movements with the implementation of sustainable construction buildings in Indonesia. Sustainable development or Sustainable Development Goals (SDGs) is a development agenda that will improve the development agenda in the Millennium Development Goals (MDGs) which ended in 2015, which consists of 17 goals and 169 achievements for world development, bringing to humanity and the earth. From sustainable development issues, including poverty and hunger eradication, improving health and education, urban development, overcoming climate change, and protecting forests and marine ecosystems. Until now, Indonesia is still in the early stages of implementing to move towards the desired sustainable construction.

The progress towards a sustainable construction has started to show from year to year. The concept of development that creates a comfortable environment based on the efficiency of natural resources and an environmentally friendly design is called the concept of Sustainable Construction. Sustainable Construction is a concept that creates a comfortable environment based on the efficiency of natural resources and an environmentally friendly design. The concept of sustainable development or we can call it Sustainable Construction, is no longer something that is too foreign to the world of construction. Environmentally friendly concepts can be a solution to existing environmental problems. This concept offers an impact that does not damage the environment, and can even save energy in the construction process. Sustainable Construction has been widely implemented in various parts of the world as well as in Indonesia, but this method is not an easy way to implement.

One form of sustainable developments is green construction. Green construction is defined as a planning and implementation of the construction process to minimize negative impacts on the environment in order to create a balance between the carrying capacity of the environment and the needs of the construction process or activity in the future." (Ervianto, 2014). The green

construction movement is also synonymous with sustainability, which puts forward a balance between short-term benefits against long-term risks, with the current form of business which certainly does not damage future health, safety and well-being. In Indonesia there is still a trend towards a significant increase in the value of construction, so it is necessary to apply an environmentally friendly approach. One of them was developed by the private non-profit organization Green Building Council Indonesia, while the construction stage specifically developed a Green Construction Assessment model which is used to evaluate the performance of contractors. Contractors must be able to think and work harder so that Sustainable Construction can be implemented effectively and correctly.

There are many challenges that must be overcome in implementing Green Construction, namely: 1). Capital or Cost, 2). Selection of environmentally friendly 3). Planning strategic design, 4). Financing and maintenance of green buildings, 5). City arrangement to realize the green building concept, 6). Preparation of legal regulations in the application of green construction, 7). The factor of lack of concern for public health (Sinulingga, 2012).

In this paper, the author explores various sources to find challenges and obstacles that can arise from various sides in striving for Sustainable Construction and looking for solutions to overcome it. The development process involves several aspects, and several parties, challenges and constraints from some related information from various parties during the building construction process in its implementation.

2. METHODS

This study uses literature review method, which is an analysis that aims to describe the main content based on the collection of information obtained. The information in these questions comes from various scientific articles relating to the application of the concept of sustainable development construction in building construction projects in Indonesia as well as the obstacles and challenges they face. The scientific articles on questions are articles obtained from well-known national journals and international journals indexed by Scopus. The analysis used is content analysis. Whereas the way to draw conclusions uses causation.

3. DISCUSSION

In striving for Sustainable Construction, of course there are challenges and obstacles that can arise from various sides for which solutions must be sought. The construction process involves various aspects, as well as several parties that cause these challenges and obstacles, which can arise from any side during the construction process. Global awareness and the importance of sustainability in the building sector is increasing and various other problems such as climate change, increasing population, rapid urbanization which increases the demand for green buildings for sustainable development (Butera, 2010);(Gou & Xie, 2017).

All sectors must play a role in overall development goals as a sustainable sustainable construction solution by setting several goals to ensure sustainability in the construction sector, such as: a) minimized resource consumption, b) maximized reuse of resources, c) use of materials that can be recycling or renewal, d) preserving the environment, e) maintaining a healthy environment, and the quality of the built environment is further improved.

However there are many challenges and obstacles such as lack of public awareness, higher costs, rules and regulations, etc (Shafii, F., Ali, Z.A. and Othman, 2006) which slows down the adoption of green buildings. The biggest challenge to be environmentally friendly are the challenge of human resources, they must be informed, educated, made aware so that they are motivated towards sustainable construction (Sharma, 2018).

There are several benefits of green buildings, namely to reduce waste, reduce pollution and environmental degradation, protect occupant health, increase employee productivity, reduce resource consumption, increase asset value, increase rental income, reduce risk and minimize life cycle costs (WorldGBC, 2013).

Living activities during the Covid 19 pandemic, it is hoped that the public will pay more attention to use building materials and non-toxic products on the selection of materials so that it will improve indoor air quality, and can also reduce the level of infection with asthma, air allergies and sick building syndrome. The use of building materials that are emission-free and resistant to preventing moisture that can produce spores and other microbes. The quality of indoor air must also be supported by the use of an effective ventilation system and humidity control materials that allow the building to have air ducts as needed so that residents can breathe more freely. The use of natural or natural materials is known to be quite susceptible to disturbances in the environment itself, such as the presence of micro-organisms, as well as humidity and temperature outside and in the room which must be balanced to minimize damage to the building itself. Construction activities often consume large amounts of naturally occurring inert materials for the preparation of aggregates and building blocks such as clay blocks, granite, and natural stone. Uncontrolled extraction of raw materials from their place of origin to meet increased demand, which may not initially be considered unsustainable, has resulted in severe environmental problems and damage to local ecosystems that can lead to regional instability (Thomas & Praveen, 2020).

The demands for implementing policies and regulations on material energy efficiency coupled with the urgent need for certification in the environmental sustainability of existing building systems, as well as for renovating, repairing, replacing components or parts of redundant building units (Andrić et al., 2017).

One thing that must be emphasized is how to build public awareness of the importance of green building. Basically, a healthy building will be able to support physical, psychological and social health as well as community welfare in building the built environment. Thus, the construction of a building is also an effort to promote good health because most people often do most of their activities indoors.

Of course, we all know that during the Covid 19 pandemic, almost all work is done indoors, both in office work and education. This of course requires an atmosphere and room conditions as well as a comfortable environment, so as not to make residents feel bored and bored. This is a challenge that is important enough to solve and find a solution. This is because most Indonesian people do not know the importance of implementing Green Building. Starting from the Green Building concept, the benefits of its long-term application and implementation in the field. Counseling or socialization about Green Building should also be given to the Indonesian people to know more about the role of Green Building in the development of development in Indonesia. Especially with the minimal economic development of the Indonesian people, the Green Construction plan is limited because it is only intended for building developers with large capital and for people with middle and upper income levels. The concept of "Green Building" for architecture field refers to the structure and using environmentally responsible processes and resources efficient throughout the building cycle: from planning to design, construction, operation, maintenance, renovation, and demolition. Practice this extends and complements the new building design of economic, power concerns resistance, utility, and convenience.

Therefore, one thing that is very important and must be considered which is the need to increase public awareness to find out the importance of making buildings with the Green Construction concept as well as education in the form of technical training for contractors as construction implementers in the field, so that they can choose environmentally friendly building materials.

In essence, to achieve the Green Construction value, on a construction project construction must be carried out Green Behavior and Practices (GBC), which is the behavior of individual construction implementers on the field in accordance with the principles of sustainability.

Study results from (Ali & Alkayed, 2019) also supports the concept of sustainable construction so

that serious steps are needed, in this case the direction of transition from traditional construction methods to sustainable construction. This concept is the right way to live comfortably from an economic, environmental, health and social aspect. Continuous implementation on building practice into professional practice is an urgent need in Jordan.

The results of previous research that highlighted the financial constraints imposed by (Hussain et al., 2019) found that Pakistan was underfunded when compared to Hong Kong which turned out to rank additional costs due to the first green requirement and in the end the costs were higher until it reached the third rank. But in this case the construction sector, the country of Pakistan was struggling to better implement a sustainable construction process.

Research findings from (Yin et al., 2018) namely, the perception of economic problems as a barrier to implementing sustainable construction practices needs to be emphasized in paying attention to economic, social and environmental issues of acceptable sustainable practices from stakeholders.

According to (Sinulingga, 2012) in implementing Green Construction, of course there are many challenges that must be overcome, namely: 1. Capital or Cost for example in the use of experts will definitely cost a lot of money, 2. Selection of friendly environment on building materials / healthy materials conditional, 3. Planning a strategic design, 4. Financing and maintenance of green buildings, 5. City arrangement to realize the green building concept, 6. Preparation of legal regulations in the application of green construction, 7. Lack of factors which are concern for public health.

This is in line with the results of research finding from (Sudiartha et al., 2014) shows that the order of the ranking of the most constraint factors influential or dominant in application green construction in Badung, Bali in Indonesia are as follows: 1) cost factor, 2) green construction awareness building factors, 3) environmentally friendly material selection factors, 4) efficient design factors, and 5) government regulatory factors.

Particularly on the importance of policies in the public sector, strengthening strong policies and regulations as a driver for sustainable construction practices from the city level and nationally in realizing a sustainable building environment.

Green Building on green construction, the authors interpret as a concept of beautiful, green, healthy buildings condition and environmentally friendly development for sustainable living (Sustainable Construction). It can be useful on building green constructions hopefully for the future development of a country as Indonesia.

4. CONCLUSION

From the explanation described above, the authors get several solutions which can be concluded as follows:

1. The process of implementing Green Building in the field must also pay attention to the aspects of how a process is planned, designed, executed, controlled and evaluated.
2. There are many obstacles and challenges faced by contractors that must be overcome, namely: a). Technology adaptation, b) Capital or Cost, c). Selection of environment friendly building materials / healthy materials conditional, d). Planning a strategic design, e). Financing and maintenance of green buildings, f). City arrangement to realize the green building concept, g). Preparation of legal regulations in the application of green construction, h). Lack factor of concern for public health, i) Education to society of green concept, y). Government financial support for contractors.
3. In order for contractors to implement Green Construction in the field, good supply chain performance is the key for supporting the creation of sustainable construction in the field construction.
4. The Green Construction System required must cover the extent to which the contractor

practices green behavior in the field, consciously or already, because the contractor has made the system. In other words, it is necessary to educate construction actors on the practical sector through internal collaboration between service providers based on company qualifications.

5. There are needs to be government intervention in supporting funds or costs, updating various efficient equipment, simplifying regulations and so on.

Thus, in achieving Green Construction that is in accordance with the principles of sustainability, awareness of the community who use services and the contractor implementing the project are more focused on choosing environmentally friendly building materials. It can also reduce waste in order to achieve results in accordance with the concept of implementing Sustainable Development of buildings in Indonesia.

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Mitigation of the Work Accident Risk on Construction Industry

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ABSTRACT

Work accidents in the construction industry can harm all parties involved in project activities, especially for workers because they can cause disability or even death. Work accidents can also affect the time, cost, and quality of a project. The risk of work accidents can be caused by many factors. This study is to review research articles that have been previously published using a Systematic review on Interviewing Technique, Root Cause Analysis (RCA), and Fault Tree Analysis (FTA). The goals of this study are to group factors causing the potential risk of work accidents. The result of this study is the factors that cause the risk of work accidents that are divided into 4 factors, namely human factors, environmental factors, management factors, and work method factors. This study is expected to help contractors in mitigating and minimizing the risk of work accidents in the construction field.

Keywords : Fault Tree Analysis, Interviewing Technique, Root Cause Analysis, Work Accidents Risk Factor, Work Health and Safety

1. INTRODUCTION

A construction project is a job full of uncertainties and unexpected events. The construction industry plays a very important role in economic growth, but this industry is also classified as a high-risk industry as indicated by the high number of accidents and deaths (Hamid et al., 2019; Hosseinian & Torghabeh, 2012; Simanjuntak & Praditya, 2012). The risk of work accidents can cause losses to all parties involved in a construction project and can cause disability or death for workers who experience work accidents.

The construction industry consists of a group of activities related to the type of technical construction (Mahmoud al-Mukahal, 2020). The construction project is an industry in which various resources consisting of humans, equipment, time, and financial resources work together to achieve certain goals, so it has the potential to cause risks (Samsuri, Lusiana, & Mulyani, 2014). Work accidents can cause loss of workforce so that it is harmful to all parties, both the owners, contractors, and workers, and their families, thus affecting the smooth running of construction project work (Chim, Chun, & Wah, 2018; Samsuri et al., 2014). Work accidents can affect, cost, time, and quality of a project so that it can interfere with the achievement of project objectives. Work accidents can be avoided with proper planning.

Cooperation of all parties involved in the implementation of construction projects, namely, owners, contractors, and workers are important in implementing occupational safety and health in construction project work (Bole & Kurniawan, 2019). Increasing knowledge, understanding, and development in construction work safety needs to be done (Endroyo & Tugiono, 2007). Many factors can cause accidents which significantly increase the possibility of danger, and lead to work accidents (Hoła, Nowobilski, Szer, & Szer, 2017). To prevent and minimize the occurrence of work accidents on construction projects, it is necessary to know the factors that cause the risk of work accidents.

There are some methods to identify work accident cause factors, but this review article will only discuss 3 methods namely, Interviewing, Root Cause Analysis (RCA), and Fault Tree Analysis (FTA). The goal of this systematic review study is to classify the potential cause of work accident risks so that contractors can conduct preventive action and to minimize work accident risks on a construction project based on previous studies.

2. LITERATURE REVIEW

2.1. Work Accident

Accidents in the construction industry explain as an undesirable, unexpected, and uncontrolled event that can cause injuries or even death (Simanjuntak & Praditya, 2012). A work accident is an event that disrupts the production process, harms the workforce, damage equipment, and also environment where this incident was unplanned and unexpected (Harianto, Firdaus, & Ardian, 2019). A work accident can also be defined as an accident when going to / coming home from work or happening at the workplace where this event can occur because of harmful conditions based on machinery, production process, work environment, nature of work, and procedure (Waruwu & Yuamita, 2016).

Previous studies show that unsafe action and unsafe conditions are the direct cause at the time of the work accident (Ali, Kamaruzzaman, & Sing, 2010; Hoła et al., 2017). A series of events or several factors can cause work accidents, and if one of these events or factors is eliminated, work accidents can be avoided (Martiw, Koesyanto, & Pawenang, 2017). In addition to factors that are the direct cause, work accidents can also occur due to "hidden factors".

2.2. Interviewing Method

101 interviews were conducted with engineers and site supervisors in Israel, where the research involved 14 construction projects. The purpose of this research is to predict the fluctuating level of error risk and support safety planning in an effective safety management effort. The results of this study indicate 699 possible events that cannot be controlled, and the most frequent occurrence is exterior work at high altitudes (Rozenfeld, Sacks, Rosenfeld, & Baum, 2010). Research in Hong Kong used interview techniques with workers who were victims of accidents and recorded their safety experiences while working on construction sites. The purpose of this study was to determine the causes of construction workers engaging in unsafe behavior. The results showed that workers engage in unsafe behavior due to lack of safety, to show toughness, work pressure, coworker attitudes, organizational factors, economic and other psychological factors (Choudhry & Fang, 2008).

Interviews using questionnaires and direct interviews were used in research on high rise building projects in Banjarmasin. In this study, 30 respondents were consisting of site managers, site engineers, logistics, mechanics, foreman, team leaders, supervisory consultants, and finance department. The purpose of this study is to determine the most dominant risk that occurs in a multi-stories building project and to determine the risk response from the most dominant risk. The results showed that the dominant high-risk variable on costs was a lack of labor, low worker productivity, worker fatigue, design changes, and the owner did not accept the work. The dominant high-risk variables concerning time are bad weather, lack of labor, low worker productivity, worker fatigue, design changes, and late payment by the owner (Yuliana & Hidayat, 2017). This method allows us to get deeper information from each informant to be able to develop work accident identification.

2.3. Root Cause Analysis (RCA)

RCA is a method for analyzing accidents and their consequences and is an effective way to understand the causes of events. The RCA method is used to identify accidents in the construction industry in Iran. This research was conducted on 82 construction projects during the last 11 years and 1232 accidents were selected for analysis. The results show that the factors that cause unsafe conditions are risk management factors and organizational factors, while unsafe action is caused by individual factors, demographic factors, and safety education factors (Soltanzadeh et al., 2019). RCA can show many causal factors and interdependent aspects, but this method has weaknesses in the subjectivity and depth chosen by the analyst (Pasman, Rogers, & Mannan, 2018).

77 work accidents occurred at PT PAL in 2014-2016. The RCA method is used to analyze work accidents. The results show that the causes of unsafe conditions include limited space for workers and bad housekeeping and the most common causes of unsafe action are lack of concentration in

work and not using PPE (Kuswardana, Eka, & Natsir, 2017). This method is also used in the Juanda International Airport Terminal 2 Surabaya development project. The purpose of this study is to analyze human, environmental, material, machine, and method as factors that cause work accidents. The results showed that the dominant underlying cause was human factors, namely fatigue, inexperience workers, workers who did not understand work procedures, and workers' lack of awareness about Work Health and Safety (Indrayani, 2017). This method requires us to know the root cause of a problem so we can do corrective action to anticipate the future event.

2.4. Fault Tree Analysis (FTA)

FTA is used to analyze 411 deaths due to the construction work occur in Taiwan from 2001 until 2005. This research aims to give an overview based on the cause of accidents that lead to deaths. This research found various accident causes, namely unsafe behavior, unsafe environment, unsafe machine and tool, and harmful environment (Chi, Lin, & Dewi, 2014). This method is also used to analyze the risk of work accidents in the construction project of the Srondol Mixed Used Hotel in Semarang City. The Risk Priority Number (RPN) is used to determine the biggest risk in a development project, then the FTA is used to determine the factors causing the greatest risk. This research shows that human factors, environmental factors, and equipment factors are the main factors causing accidents (Nugroho, Suliantoro, & Utami, 2018).

Research using FTA was used in the construction of the Grand Sungkono Lagoon Apartment in Surabaya. This study aims to identify the types of accidents and causes of work accidents and provide solutions to overcome them. The results show that limited work time, limited time for supervision, lack of Work Health and Safety employees, and inappropriate schedules are factors that cause frequent accidents (Hendarich & Drs. Ir. Karyoto, 2017). FTA is a structured diagram to describe the internal and external root causes (Abdelgawad & Fayek, 2011). FTA is a method for investigating the causes of work accidents by looking for internal and external causes to find out how the accident happened so that it can help all parties make occupational safety and health management plans.

3. METHODS

3.1. Interviewing Method

Interviews with open-ended questions allow informants to develop their ideas but still produce specific information to meet the research objectives (Atkinson & Westall, 2010; Sidik & Hariyono, 2005). This method is also used to ask opinions from experts related to the research being carried out, as well as to crosscheck the data that has been previously obtained (Simanjuntak & Praditya, 2012). One of the advantages of this method is that we can obtain unexpected information so that it can develop research results.

In-depth interviews are usually conducted to investigate the basic reasons for workers' unsafe behavior (Li, Lu, Hsu, Gray, & Huang, 2015). By conducting interviews with the parties involved we can find out whether the safety management system is working properly based on in-depth information from various parties. Guidelines in investigative interviews can be seen in table 1.

Table 1: Guidelines in investigative interviews

No	Guidelines
1	Conduct interviews immediately after the accident so the information is accurate.
2	Strengthen the purpose of each interview for prevention.
3	Interview in private.
4	Create a calm atmosphere during the interview.
5	Clarify the information obtained to ensure the interviewer gets the correct information from the interviewee.
6	Accidents rarely happen for just one cause. An accident is a final event in the sequence of events.
7	Look for immediate causes, hazardous conditions, employee behavior, and system weaknesses.
8	Consider the employee being interviewed as a member of the accident prevention team.
9	Ask open-ended questions to get more information.

Source: (Haney, MPH, RN, Cohn-S, & CSP, 2003)

3.2. Root Cause Analysis (RCA)

RCA is a method used to identify not only what and how an event occurred, but why the event or failure occurred, so we can determine corrective actions that prevent future events (Rooney & Vanden Hauvel, 2004). RCA is a structured method to find root causes (Al-Zwainy, Mohammed, & Varouqa, 2018). This method is used to solve the mismatch or problem that occurs so that the root cause of the problem can be found so that improvements can be made (Ferjencik, 2010; Kuswardana et al., 2017; Wicaksono & Singgih, 2011). RCA can diagnose root causes and predict future events (Leu & Chang, 2015; Zhang, Chettupuzha, Chen, Wu, & AbouRizk, 2017). RCA is a method to analyze the causes of problems and find the root causes, where the investigation starts from the results, and then looks for the root cause.

RCA is often used as an important prerequisite for risk control and is the oldest and most widely used method for analyzing the causes of bad events (Cuvelier, Bencheckroun, & Morel, 2017). The purpose of the RCA method is (1) Describe the occurrence of events or problems in the past (accidents, incidents, disasters, etc.) (Peerally, Carr, Waring, & Dixon-Woods, 2017). (2) Increase public knowledge about accidents (Cuvelier et al., 2017) (3) Predicting future events from an event based on available data and identifying possible root causes of an observed event (Leu & Chang, 2015). The steps for implementing the RCA method are shown in Figure 1.

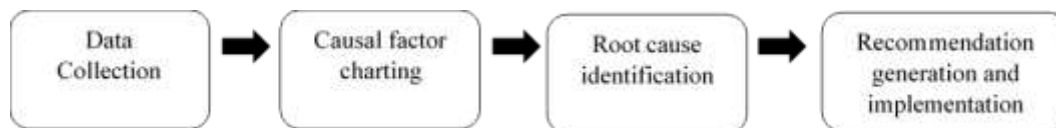


Figure 1: The steps for implementing the RCA method
Source: (Rooney & Vanden Hauvel, 2004)

The things that must be considered in the RCA method are: (1) Identifying problems, (2) Determining problems, (3) Understanding problems, (4) Identifying root causes, (5) Correcting actions, and (6) Monitoring the system (Kuswardana et al., 2017). The analysis in the RCA method should be carried out by a safety expert or a group led by a safety expert who has been trained in safety methods and issues by using information gathered from different stakeholders (Dien, Dechy, & Guillaume, 2012). Information from an incident is collected through field investigations involving observation and document analysis as well as semi-structured interviews (Cuvelier et al., 2017).








3.3. Fault Tree Analysis (FTA)

The FTA method is a method that connects several events to produce other events, where this method is a graphical model for analyzing the causes of undesirable events in project work (Hendarich & Drs. Ir. Karyoto, 2017). FTA is a systematic method for analyzing the causes of risk using the deductive method, which is defined in the form of a downward logic tree, so that we can find out how accidents can occur (Hyun, Min, Choi, Park, & Lee, 2015), (Pasaribu, Setiawan, & Ervianto, 2017). FTA is a top-down method, where general events (general damage) are events that are analyzed at the top, then proceed with the causes (specific) to the bottom (Abdelgawad & Fayek, 2012; Leu & Chang, 2015). FTA is a graphical model that analyzes system failures and their combinations that result in undesired events (Nugroho et al., 2018). The FTA method requires a lot of data and documentation related to work accidents, to make a good FTA construction model, so that work accidents can be analyzed properly.

The stages in the FTA are (1) Problem definition, used to find top events. (2) FTA constructions that describe a logical relationship between top events and basic events. (3) FTA solution, where handling and prevention of work accidents are carried out before and after the incident (Hendarich & Drs. Ir. Karyoto, 2017). The use of symbols is used by FTA in describing the causes and effects of an incident, namely (1) Gate symbols that show the relationship between events either individually or collectively which can cause other events to occur. (2) Symbols of events that show the nature of each event (Pasaribu et al., 2017). FTA gate symbols can be seen in table






2 and FTA event symbols can be seen in table 3.

Table 2: FTA gate symbols

No	Gate Symbols	Name	Explanation
1		And gate	Is an event output, appears when all input events occur simultaneously.
2		Or gate	Is an event output, appears when at least one input event occurs.
3		k out of n gate	Is an event output, occurring when at least k outputs from n inputs occur.
4		Exclusive OR gate	Is an event output, appears when only one input but does not occur.
5		Inhibit gate	Input will produce output when certain conditions arise.
6		Priority AND gate	Is an event output, appears when the event input is on the right or left.
7		Not gate	Is an event output, that appears when the event input does not occur.

Source: (Blanchard, 2004)

Table 3: FTA event symbols

No	Event Symbols	Name	Explanation
1		Elipse	The symbol for the event at the top level in the diagram.
2		Rectangle	The symbol for intermediate events in the diagram.
3		Circle	The symbol for events at the lowest level in the diagram.
4		Diamond	The symbol for an unexpected event in a diagram that is generally the onset of a breakdown.
5		House	The symbol for controlled but capable of causing malfunction input events.

Source: (Blanchard, 2004)

4. DISCUSSION

The construction industry is a high-risk industry because of the high work accident. Several methods are used to determine the causes factor of an accident in the construction industry field. There is various work accident risk factor that causes unsafe action and unsafe condition, so it necessary to group accident risk factor to make parties involved easier to mitigate work accident

risk factor and to create work health and safety in the construction field. Identify accident before and after an accident occurs is one of the accident preventive action. This study will classify construction accident risk factors into 4 factors, namely human factors, environmental factors, management factors, and work method factors from several previous studies. Each group is shown in table 4, table 5, table 6, and table 7.

Table 4: Human factors

No	HUMAN FACTORS	No	HUMAN FACTORS
1	Bad work attitude that causes boredom, fatigue, and physical disabilities	16	Psychological disorders such as boredom, and lack of enthusiasm at work
2	Workers are less careful	17	Doing work not following the SOP
3	Workers Lack of concentration	18	Workers are not feeling well
4	Workers do not use PPE	19	Workers excessive joking
5	Workers lack motivation	20	Workers do not pay attention to signs
6	Workers are too tired due to overtime	21	Lack of workers awareness of the importance of Work Health and Safety
7	Workers daydream	22	Workers are under production pressure
8	Workers work in haste	23	Lack of concern for location cleanliness
9	Workers do not obey the rules	24	Workers take drugs
10	Workers do not understand the function of the tool	25	Workers have high self-esteem
11	Lack of work experience	26	Lack of knowledge about work risks
12	Workers are under time pressure	27	Workers have low education
13	Workers experience family pressure	28	Workers are less sensitive to surrounding conditions
14	Less skilled workers at work	29	Workers lack discipline in obeying the rules
15	Lack of communication in doing work		

Table 5: Environmental factors

No	ENVIRONMENTAL FACTORS	No	ENVIRONMENTAL FACTORS
1	Small workspace	5	The location is not clean and tidy
2	Disturbance in the form of gas, dust, mist, vapor	6	Noise and vibration
3	Bad weather	7	Bad temperature and humidity
4	Lack of lighting at the worksite	8	A workspace that is not well planned

Table 6: Management factors

No	MANAGEMENT FACTORS	No	MANAGEMENT FACTORS
1	Lack of warning from management regarding hazard situations	8	Lack of socialization about work procedures and how to use the correct tools
2	Lack of Work Health and Safety training	9	Limited costs
3	Lack of socialization about Work Health and Safety	10	Heavy work schedule
4	Lack of Work Health and Safety planning	11	Limited employees who handle Work Health and Safety
5	Lack of supervision of workers	12	The work schedule doesn't fit
6	Limited monitoring time	13	A poor quality control system
7	Working under unfavorable conditions	14	Lack of top management commitment

Table 7: Work method factors

No	WORK METHOD FACTORS	No	WORK METHOD FACTORS
1	There is no standard technique for carrying out repetitive work	12	Removal of material that does not use unsuitable equipment
2	Unclear shop drawing	13	The position of the tool is dangerous
3	Work Health and Safety equipment is not feasible	14	The appliance is too tightly positioned
4	Lack of availability of Work Health and Safety equipment	15	Unsafe work procedures
5	Unavailability of Work Health and Safety equipment	16	Work procedures that are difficult to carry out
6	Unclear traffic signs	17	Broken Equipment
7	Incomplete signposts	18	The condition of the tool has started to wear out
8	Signs too small	19	Lack of tool maintenance
9	Signs blocked by objects	20	Material defects
10	Incorrect placement of materials and equipment	21	Structure failure
11	Incorrect heavy equipment placement	22	Design error

Previous studies have shown that human factors are the most dominant cause of work accident risk. This factor is influenced by the age, years of service, and educational background of the workers. There is a need for socialization related to the importance of work health and safety to all employees to increase workers' awareness. Work training needs to be done to be able to improve human resources. Reward and punishment application to less awareness of work health and safety workers is one of the work accident mitigation. Improvement of occupational safety and health management is also needed to ensure that the implementation of occupational safety and health management in the construction industry can run well. Maintenance of work equipment and replacing equipment that is no longer appropriate must be done for the safety of workers. Improving work safety and health management is also needed to ensure that the implementation of work safety and health management in the construction industry can run well. Cooperation of all parties must be carried out to mitigate and minimize workplace accidents. Good safety planning needs to be done before project activities are carried out. Commitment from the top leader supports the prevention of work accidents.

5. CONCLUSION

The risk factors are grouped into 4 factors, namely human factors, environmental factors, management factors, and work method factors which aim to facilitate the parties involved in mitigating work accidents and implementing work safety and health management in a construction environment. From the table, it can be seen that there are 29 human factors, 8 environmental factors, 14 management factors, and 22 work method factors that can cause work accidents. Based on previous research, human factors are the most dominant factor affecting the risk of work accidents. Prevention of work accidents is not only the task of the contractor but is the duty of all parties involved in the construction project. A comprehensive approach is needed in construction safety management.

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Immersive Virtual Reality in Architecture: Architect's Response during Pandemics

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ABSTRACT

The covid-19 pandemic resulted in changes in the environment and all lifelines, including architecture. In architectural design, it is important to communicate ideas effectively in visual form. Virtual practice strengthens as interaction patterns change during pandemics. The purpose of this article is to review architectural adaptations during a pandemic, the stages of architectural design, presentation of architectural works, virtual reality concepts, the use of virtual reality technology in architecture, the step of development work and immersive use of virtual reality technology in architectural design. This article uses a descriptive narrative method that is the description of research or literature, by combining context based on the data collected. The conclusion obtained from this article review, that virtual reality technology is very effective in architectural design, gives the user the experience to immerse in an artificial environment with touchless principles.

Keywords : architecture, immersive, pandemics, touch-less, virtual reality

1. INTRODUCTION

The Covid-19 pandemic has changed the function of housing and employment relations, utilization of public open environments, the safety and security of transportation and make all access to resources equal (Banai, 2020). Pandemics have impact the ecosystem, and to rebuild the built environment, require an architect to adjust new pattern of life. On architecture, the design that is formed will adapt to new values, new habits works, different home and workplace functions (Megahed & Ghoneim, 2020)

In recent years, demandss for accurate information related to architecture and engineering, clear and easy-to-understand continues to increase. This is the task and challenge of providing proper communication between various project-related entities. The surge in digital transformation in architecture has become unsinged avoidable, this transformation must be closely related to the ability to work from and the use of artificial intelligenceand touchless technologies (Dinis et al., 2020; Megahed & Ghoneim, 2020). Virtual reality is now a growing field in terms of development of applications in both architecture, medicine, military, culture and (Walmsley & Kersten, 2020). Virtual reality-related studies in architecture show, with appropriate architectural planning (with virtual reality modifications) can affect a person's psychological emotional condition (Mouratidis & Hassan, 2020). This also applies the opposite, with the study of differences in a person's psychological condition, may influence design selection (Banaei et al., 2019). And many more research related to the development of immersive virtual reality in the field of interesting architecture user attention (Banaei et al., 2019; Bashabsheh et al., 2019; de Klerk et al., 2019; Dinis et al., 2020; Mouratidis & Hassan, 2020; Narasimha et al., 2019; Portman et al., 2015; Wolf et al., 2017; Yilei Huang et al., 2019).

Virtual reality is defined as the resulting three-dimensional (3D) spatial environment by computer, where there is real time user participation (Vr, 2003). Virtual reality works by integrating simulation technology, computer graphics, interface human-machine, multimedia, sensors and networking. In addition to the visual perception of computer graphics, there are other sensations in the virtual reality system such as hearing, touch, perception feelings, even smells and flavors. Motion simulation can animate the movement of the head, eyes, and other movements according to the virtual environment (Song et al., 2018).

The use of virtual reality is rooted in the science of visual communication, its mechanisms and the application is different so that it distinguishes it from other visualization tools (Portman et

al., 2015). The use of virtual reality in architecture, today, aims to increase 3D modeling becomes an immersive visualization as a form of communication with the user. Virtual reality facilitates architecture and construction practitioners users or service consumers to personally experience the environment built in depth (Yilei Huang et al., 2019).

In this article, it will be reviewed about the adaptation of architecture during pandemics and the use of virtual reality technology in architecture, so that it can be an overview and consideration in its use in the architectural design stages of the adaptation of new habits and post-pandemic period.

2. LITERATURE REVIEW

2.1. Adaptation of architecture during pandemics

The spread of Covid-19 in almost all countries by early 2020, making The World Health Organization (WHO) declared it as a global pandemic (Megahed & Ghoneim, 2020). Pandemic conditions force human behavior on new normal habits, all activities are accommodated in a built environment with architectural design adjustments different from before (Megahed & Ghoneim, 2020). The historical approach shows that space control has been carried out to combat disease outbreaks. Movement against tuberculosis in the 1830s, characterized by the emergence of ventilation and acceptance principles sunlight for architecture. In the 1920s developed the concept of hygienic as the basis of modern architecture and urbanism, and in the 1970s, green architecture emerged as a critique of social modernist (Megahed & Ghoneim, 2020).

Physical distancing and quarantine of the region became the first design problems in architecture as a form of reducing the potential for covid-19 transmission. In addition, there are other factors that have the potential to increase covid-19 transmission: namely population density (densely populated areas are shown to be susceptible to infection transmission); household size (household size, large households have a greater potential in contagion Covid-19); social distancing level (working from home can reduce social contact, but challenges for those living in small, crowded homes and or without areas open); shared facilities (People living in the same building, using shared facilities are also potentially greater in covid-19 transmission) and housing characteristic (Megahed & Ghoneim, 2020).

In light of these dramatic changes, there are ideas related to the area of architectural research how to update space or build a built environment that can be prevent the transmission and spread of Covid-19. One of the areas of post- corona virus is digital transformation and telecommuting (Megahed & Ghoneim, 2020). Transformation architecture has begun since the use of Computer-Aided Design. And undeniably since the development of digitization, architects are increasingly not interacting with work stations or have deployed remotes work, and have shared image ideas virtually through digital platforms as well (Casso et al., 2020; de Klerk et al., 2019). Over the past decade, the role of technology has become central in the field of architecture and is very influential in the design process. With digitalization, design forms complex geometry exploration, fabrication and manufacturing technologies are also more visually realized (Coomans & Oxman, 1996). While telecommuting or remote working is a new alternative in the remote working method, which has been developed since in the 1970s and was increasingly adopted by many companies during the pandemic in social distancing framework to reduce the spread of Covid-19 (Belzunegui-Eraso & Erro-Garcés, 2020)

Global pandemic forces people to enter a new world order by digital transformation across all activities. Within a few months, pandemic offering virtual and augmented reality alternatives in various aspects (Megahed & Ghoneim, 2020). Automation, voice technology, and intelligence-based facial recognition artificial and touchless technology will affect emotionally and physically so it can affect the choice of architecture (both at the design stage and the final result/physical building) (Ergan et al., 2019)

The use of virtual reality in architecture gives an illusion or description as in an environment that is formed, and can be trusted by the user interactively with immersive feelings (drifting) in

artificial environments and effects presence related to the feeling of being in a virtual environment (Banaei et al., 2019). With virtual reality media, architects also don't need to provide narrative structures for the delivery of design ideas to service users (Whyte, 2003).

It can be inferred from this description, that the benefits of virtual reality are at this stage architecture design, especially on design concepts and schematic design, lies in ability to work from home, as well as the use of artificial intelligence that applies the principles of touchless technologies, which are expected to reduce covid-19 transmission without reduce the delivery of design ideas built.

2.2. Architectural Design Stage

According to the Guidelines for working relationships between architects and users of services issued by IAI 2007 Chapter 3 on architectural services article 33 on the type of service, in general, architectural services are divided into 4 categories, namely main services, additional services and special services. As for the main services of architecture service is the work of architectural design and management of the development process or the target environment implemented in the following stages of work:

1. Draft concepts

At the stage of the activity before the predesignation stage, there is a need for clarity regarding the information from service users and others on development needs and requirements so that the activity can run smoothly. The concept of predesignation is the basis of related fields (structural, mechanical, electrical, and or other fields) a draft idea to accommodate all aspects, needs, objectives, costs, and project constraints

2. Schematic Design

At the Schematic Design stage, architects devise patterns and shapes architecture embodied in the pictures. Functional values are formed in diagrams. Diagram. Qualitative and quantitative aspects (estimated floor area, material use, construction system, cost, and time of construction) and others are presented in the form of written reports or drawings. Predesigned stage goals exist four: help service users understand the design programs and concepts that have been formulated by architects; a fixed design, short development, and the cost of the most economical; conformity of the draft concept to the feasibility of environment; and align the draft concept to the provisions of the spatial plan in the licensing frame.

3. Design development

At the design development stage, the architect works with the consent of the service user, who the architect will then work with the relevant sector in accordance with the approved at the pre-designed. The goal at this stage is to ensure and decipher the size and shape of the buildings; and refine the draft concept in terms of system alignment, feasibility of and functions, aesthetics, time and economic value.

4. Working image creation

At this stage the architect presents the implementation document in the form of a working image, specifications and conditions of development techniques, as well as calculations of quantity of work, precise and detailed cost estimates.

5. Construction implementation procurement process

At this stage, there is a process of selection of construction implementers, the assignment of construction, supervision of construction implementation, large calculations of area and volume and clear development implementation costs.

6. Periodic supervision

Architects conduct periodic reviews and supervision in the field and conduct regular meetings with service users and integrated supervision (Construction Management) appointed by the service user (Ikatan Arsitek Indonesia, 2007).

While according to AIA (American Institute of Architect) the services of architects consist of five stages namely; conceptual design stage, design development stage, document stage negotiation or auction stage, and construction stage. At the conceptual design stage the architect ensures the project objectives and requirements that must be met, at this stage the research phase of the

architectural design project, the result of this stage is the tread image, floor plans, looks, pieces and presentation materials such as rendering results and models. (The American Institute of Architects, 2007)

IAI	AIA
Draft concept Design	Conceptual design
Design development	Design development
Work image creation	Construction documents
Procurement process of construction implementers	Negotiation / auction
Periodic supervision	Construction Services

Figure 1: Architect's Main Service Cuts According to the Indonesian Architects Association and the American Institute of Architect
Source: (author's analysis)

At the conceptual stage (the concept level of design and predesignation according to IAI or conceptual design stage according to AIA) this is where architects first communicated ideas to service users. Architect will dig into all the pontensi and collect all information relating to service users, which includes all aspects of the both qualitative and quantitative that bridges the expectations of service users without the rules in the architectural displin and in accordance with the government regulations. This is important in realizing and determining the success of a design Conceptual.

2.3. Presentation of architectural works

Spatial experience is a subjective assessment that arises through visual perception. According to Mihelj et al. cited by (Sapto Pamungkas et al., 2018), some of the elements form human visual perception is the perception of light, the perception of color, and the perception of depth or immersive perception. Bill Scott in (Sapto Pamungkas et al., 2018), says that the medium is an intermediary used in the delivery of information from the speaker to the audience. The goal is the efficiency of information or messages. Architectural presentations tend to media in the form of images and models. Sending information is not only through verbal language, but also non-verbal. He added in his book "The Skills of Communicating "that constraints in communicating are caused by listeners may be do not hear and may not understand what the speaker means, and also the listener may disapprove of information from the speaker as a result of the lack of feedback in communication (Sapto Pamungkas et al., 2018)

Efforts to visualize the work of architecture have been carried out for a long time from the stages to the use of cutting-edge technology (Bashabsheh et al., 2019). The visualization of architectural works develops from simple technology, with clay media, to the growing use of Computer-Aided Design technology from the '80s and continues to be developed to this day. At the beginning of his appearance Computer-Aided Design technology is a 2-Dimensional image visualization medium, which then redeveloped with 3-Dimensional image visualization (de Klerk et al., 2019). The development of computer-aided design programs has changed many design methods. In a project, the design process using CAD technology can make the preparation of design and alternative design is faster and more effective. Then came technology Building Information Modelling (BIM) in the late '80s that could present or visualize a 3-Dimensional image and be able to integrate information comprehensive building so that it can be evaluated from various points and angles.

The use of presentation media depends on its purpose (Marr, 1982). Although so far, presentation media that is widely used in architectural design is a chat model, where its use is still limited to the design concept stage (Ibrahim & Pour Rahimian, 2010). Other widely adopted methods for building media presentations where the most efficient delivery of information to users is use of virtual technology.

Virtual reality technology is generally presented through computer screens, and today developed in an immersive environment, where users can engage in 3D data (Cruz-Neira et al., 1993). In the early 2000s, media and visualization methods of architectural work began to adopt graphics technology that more realistic. The use of virtual reality technology was increasingly rife in early 2011 with the cheaper prices, assimilation of virtual reality technology in architectural design with a more immersive visualization picture began to develop (Fuchs et al., 2011). The arrival of head-mounted devices provides opportunities for architects to visualize his work more manifestly in a more interactive virtual space, different from previous media such as: collage, photo montage, rendering (Vital, R., 2008).

In the study of the use of Voxel-based virtual reality in the early stages of development compare between design modeling with AutoCAD, SketchUp Rendering, the creation of an architectural mockup model (3-Dimensional design) as an illustration with a scale of 1:100, shows that the use of virtual reality in designing is easier than sketchup, the use of virtual reality in making mockups (3-Dimensional) is also faster in the first step of design and virtual reality to be a supporter and alternative media better in architectural presentations (de Klerk et al., 2019).

2.4. Virtual Reality Concepts

The virtual reality environment has the nature of the experience coming from three sources: feelings of immerse, interactivity and multi-sensory feedback. Two sources first more testing was done in the study. On the immerse effect, the user felt surrounded by the environment, which was tested in a way that ensured a sense of presence or the feeling of being completely drifted away in the world depicted. Interactivity can be seen as the ability to control events in a simulated environment using the movement of the human body which in turn initiates a response in the simulation environment as a result of this movement (Abdelhameed, 2013).

According to Kirner and Kirner in Mouratidis & Hassan (2020), virtual reality defined as human and computer interfaces that allow users to interact in a three-dimensional space, exploring this aspect of space through vision and hearing in real time with a dedicated device. Many studies have related to the exposure of virtual reality experience in the field of architecture, which all include the virtual natural factor, immersive (drifting), feeling presence and interaction (immersive research in the table). Whereas Sherman and Judkins's in Portman et al. (2015) explains the obligation to have 5 "I" factors in virtual reality, namely: intensive, interactive, immersive, illustrative and intuitive, the five characters are a good start in defining virtual reality. Immersive or feeling involved immersed or drifting in the virtual realm refers to the extent to which the user is isolated from the real world, and brought on artificial environments displayed in virtual realms. In an immersive-virtual reality, the user is fully surrounded by a virtual environment and not interact with the real world. Presence in virtual reality is defined as the feeling of being in a virtual environment that exceeds the feeling of being in the real place. The immersive level offered in virtual reality is one of the factors that can be affect feelings of presence by users (Mouratidis & Hassan, 2020; Portman et al., 2015).

Kim et al. (2013) classified virtual reality systems into three kinds, namely immersive system, non-immersive system and augmented system. Immersive virtual reality system generates a virtual environment around the user that is generally generated with special devices such as head-mounted displays or wall-mounted displays. Non-immersive systems generally use similar software but do not the sensation of plunging into a virtual environment as it is only displayed inside the a screen. Augmented reality system showcases virtual environment directly on the world allows users to interact directly with both worlds (Kim et al., 2013)

The thing that becomes contentious is the extent to which the work of the synthesis element (virtual reality), and can be fully made copies of the real world to make fully intact virtual environment. Virtual reality is connotated or associated with larger sistesis components defined as augmented reality and mixed reality (Portman et al., 2015). Augmented reality shows virtual images on images and or real environments dynamically, so that the real environment is still part of the from the visual view seen by the user. While mixed reality is described sustainability between digital experiences that depict real nature to nature (Guo et al., 2008). In the presentation of function comparison between virtual uses reality and mixed reality in the field of

architecture and construction, it is concluded that virtual facilitating architecture and construction practitioners to personally experience immersive environment. Mixed reality with capabilities unique overlays in digital information and in the real world allow practitioners to visualization in place for construction planning and verification built. The two techniques differ in characteristics, but complement each other in functions for architecture and construction industry (Yilei Huang et al., 2019).

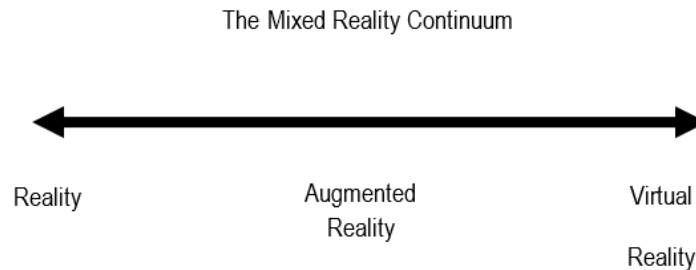


Figure 2: Milgram's reality-virtuality continuum
Source: (Guo et al., 2008)

2.5. Virtual Reality in Architecture

The most common use of virtual reality in architecture is to improve experience "walking in or around a structure that does not exist". Virtual reality researchers has attempted to make virtual reality an effective tool for the creation and exploration of design. As this article was written, virtual reality has been widely used in design or visualize different design solutions for the main reason that use of virtual reality is much easier and cheaper (in evaluating the form of and design in a virtual environment) instead of building or modifying physical models. In addition to visualizing virtual environments, viatural reality systems can be used as tools to build model design and environment, in other words virtual environment itself. Designers and architects have adopted virtual reality into the design process and use it to explore design as well as its relationship to spatial layout. In other words, virtual reality has a peculiarity in helping to make relationships spatial and topological design (Abdelhameed, 2013).

The demand for the use of virtual reality in the design of built environments raises concerns that could limit the scope for designers to be creative and restrictions on the use of imagination and architectural sensitivity. Also, on virtual media reality does not provide the narrative structure required for the presentation of external ideas. Two of the architectural practices taken by data are enthusiastic about virtual use reality, but not proven uses in their design process. Three characteristics the use of virtual reality in architecture include:

1. System integration, prototype product and simulate construction process
2. User Interface, giving users greater understanding of design
3. New markets, by using virtual reality to diversify to business benefits in the building design process (Whyte, 2003).

The use of 3-Dimensional technology, especially virtual reality in a project, can be make a very positive contribution to the improvement of information transfer from designers or architects to service users, and can provide an understanding of spatial configuration in in a "real" environment and make it more interactive and immersive in a development environment (Sampaio et al., 2010).

The utilization of virtual reality in the field of architecture is still at an increasing stage of 3D models become an immersive visualization. In line with the development of virtual reality technology and the development of motion tracking sensors into opportunities in the field of architecture to improve 3D modeling that enables active and more realistic interactions in a virtual environment (Duarte, 2007).

The use of CAD and virtual reality is helpful in many areas, such as architecture, engineering or construction, but the introduction and penetration of virtual technologies in architectural or design practice is still few (Duarte, 2007). Regardless of limited adoption of virtual technologies in architecture, research on the environment immersive has increased over the last two decades. However, when swallowed more related to virtual reality related research in architectural design the number of studies decreased Drastically. Comparative, quantitative and experimental research between 2005 and 2005 until 2011 from 150 publications in leading international journals related to the application of virtual reality in artificial environments gets an average of 4.6 articles per year (Kim et al., 2013).

The main possibilities and lack of research on this topic due to virtual reality technology the scientific boundary of the field of architecture (Otto et al., 2003). In addition, other factors is the possibility of perception in distinguishing research on involving the use of computer technology, "is in the realm of discipline architecture or informatics technology?", as well as perceptions of where technology can be shifting the role of human existence in providing a view (Paes & Irizarry, 2016), especially in an indusri that affects productivity, work efficiency and optimization of time (Kim et al., 2013). Although in the end the assessment of the results of a involving technology based on human views as subjects of research (Steuer, 1992).

Assessment of virtual reality research results can result from an experience users compare and respond between artificial environments and reality (Kuliga et al., 2015). Emotional evaluation results on architectural interior forms based on differences personality with the use of virtual reality shows that there is a new approach about the influence of architecture on emotions taking into account the categorization of and systematic combinations, personality differences, and virtual reality settings (Banaei et al., 2019). Mouratidis develops visual reality studies with 360° video app for assessment of public spaces, the result concludes that public space planning is not only affected by aesthetic perception problems but also emotional conditions (Mouratidis & Hassan, 2020). Results of comparison of virtual reality with 2-Dimensional images for project visualization construction also shows that the visual information depicted in virtual reality more effective in terms of memory accuracy and presepsi. And, immersive virtual reality technology according to the needs of architects and construction technicians, as it facilitates the improvement of conventional 2-Dimensional representation (Calderon-hernandez et al., 2019). Use of methods comparison is considered more objective than comparing multiple objects (Kim et al., 2013). It is also confirmed by other studies, that the development of immersive virtual reality in the field of architecture provides experience to users to be drifted into the artificial realm that has been conditioned or adapted,, feel more interested and have the opportunity to communicate better with designers design or architect (Banaei et al., 2019; Bashabsheh et al., 2019; de Klerk et al., 2019; Dinis et al., 2020; Mouratidis & Hassan, 2020; Narasimha et al., 2019; Portman et al., 2015; Wolf et al., 2017; Yilei Huang et al., 2019)

A firm's performance can not only be judged by its technological advances, but from human involvement in the technology, the virtual reality involving the human or user's view to judge an object to be a Important. (Paes et al., 2017). Therefore research on virtual reality technology with based on an immerse user assessment on an architectural design concept can provide an overview of some of the information to provide a better view of the the effectiveness and optimization of the performance of an architectural firm (Paes et al., 2017; Wann & Mon-Williams, 1996).

2.6. Virtual Reality Development Work

The use of virtual reality in architecture focuses on direct manipulation of design at the conceptual stage that is at the core of 'providing experience' to the service users. The development of this virtual reality technology will begin with the use of motor interface that can be captured and translated motion. The activity will then be sent into a "calculator" that responds to it as a request in changing the environment. "Calculator" will answer the request in the form of sensory reactions to the user, as illustrated in the following activity circles (Fuchs et al., 2011).

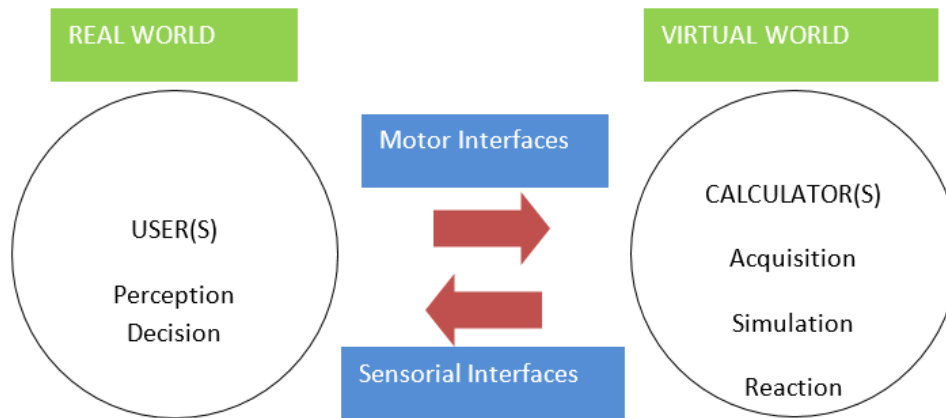


Figure 3: Circle of activity "looping perception, cognition, action" in Virtual Reality
Source: (Fuchs et al., 2011)

According to Fuchs et al. (2011) there are three fundamental issues in virtual reality, namely analysis of activities between the real and virtual worlds, interface modeling analysis in interactions virtual environment, and modeling the creation of virtual environments (Fuchs et al., 2011). Virtual reality media is also a very supportive tool in many sectors, one of the in the cultural sector in terms of the development of heritage buildings. Virtual reality development using 360° panoramic imagery app described in the following stages (Walmsley & Kersten, 2020):

1. 3D data recording with camera scanner to present building shapes
2. 3D modeling with AutoCAD using segmented point clouds
3. Texture mapping of polygon models with virtual Autodesk and substance pointer
4. Scene creation with UE4 game engine
5. Interaction integration in UE4 and 360° panoramic imagery
6. Interactive and immersive visualization with Virtual Reality

Virtual reality simulation design developed by Pamungkas et al. (2018), use another app again. In its development, the design was developed with sketchup software, then to add virtual effects, the results of the from SketchUp rendered using the Unity3D and Kubity apps (Sapto Pamungkas et al., 2018). Application usage kubity is also performed by Hernandez to develop immerse effect on virtual reality (Calderon-hernandez et al., 2019).

2.7. Immersive Effects

In the development of architectural concepts, a new breakthrough in the form of virtual systems reality, i.e. using a computer device connected to a motor system a person, where an artificially built context is made so as to provide different experiences. Fuchs et al. (2011) explains that the perception resulting from sensory use of userface technology, can be accompanied by images, sounds or effects artificially so that the resulting perception is in accordance with the user's expectations. Interactions resulting from the use of virtual reality technology for new users will be experience of feeling drifted in an artificial environment, and will provide perception that affects aspects of psychology and cognitive.

The use of virtual reality in architecture gives an illusion or description as in an environment that is formed, and can be trusted by the user interactively with an immersive feeling (drifting) in an artificial environment. Some psychological effects conveyed in studies related to virtual reality use, among others immersion effect associated with the physical configuration of the virtual system interface reality and presence effects related to the feeling of being in a virtual environment (Banaei et al., 2019)

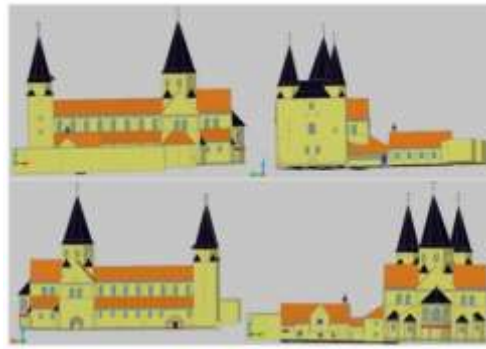


Figure 4: Seen in AutoCAD Konigslutter Cathedral Church, Germany
Source: (Walmsley & Kersten, 2020)

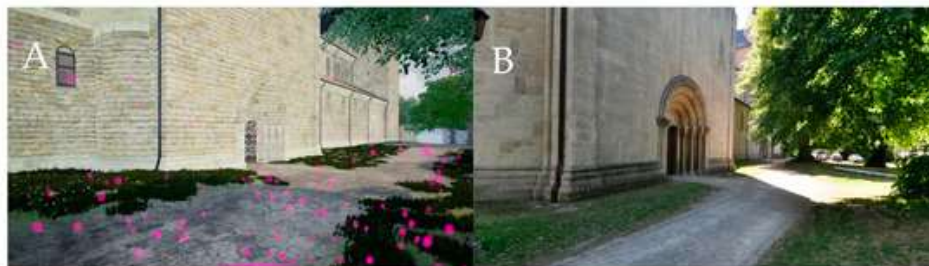


Figure 5: (A) An artificial environment (B) Looks genuine in the neighborhood of Konigslutter Cathedral Church, Germany
Source: (Walmsley & Kersten, 2020)

Five other effects of virtual reality use, namely: immersion, sensation of being in established environment; presence, i.e. feeling like being present in an environment that is formed; interactivity, i.e. feeling connected to the established environment; and autonomy, i.e. feel free for exploration; and collaboration, i.e. feelings connected with many people (Iii, 1993).

The study by Sherman mentioned the effects it had on four factors: the first is the connection and objects in the space or environment rules on these objects; the second, the sensation-forming or feeling like being in an artificial environment that includes physical immersion, mental immersion and sense of presence; third, the reciprocity that can be felt directly by the user; and fourth, the interactivity factor, where the user can feel and respond through direct action (W. Sherman & Craig, 2018).

Fuchs et al. states that the immersion factor gained from the experience the use of virtual reality technology is caused by several things: the absence of depth perception or depth of visual interpretation on 3D objects; proprioception or preepsi are located in a space where the movement of the body is on the X,Y, and Z axes; sensory isolation or feeling separated from the real world; reflect action or the reciprocity of the action given; and presence performance or a feeling of presence in an environment that is Formed. In his study, Fuch presented subfactors of interaction among others; Behavior in visual observation, the ability to determine or locate the direction of the road; make movements with accurate time lag; selection and manipulation, i.e. the ability to select and manipulate and position objects; application control and input or application of the user interface used. The subfactor factor will make the virtual reality experience even more immersive (Fuchs et al., 2011).

3. CONCLUSION

The architect communicated his ideas first to service users at this stage early or conceptual.

Pandemic conditions make a big change in the way it works, where digitalization of fast-growing technologies as well as customized architectural design with the need for the spread and transmission of Covid-19. Conceptual delivery ideas architecture was originally poured into the evolving visualization media of the technology to the use of the latest technology namely Computer-Aided Design and virtual reality. Virtual reality itself is defined as a human interface and a computer that allows the user to interact in a three-dimensional space, exploring aspects of the through real-time vision and hearing with special devices, which has 5 elements/ forming factors, namely: intensive, interactive, immersive, illustrative and intuitive. In line with the development of virtual reality technology and the development of motion tracking sensors are an opportunity in the field of architecture to improve modeling 3D, but the penetration of virtual reality technology in architectural or design practices is still Little. Whereas virtual reality technology has several priorities, namely the high engagement in its system that makes it easy to describe representation of distance. In addition, in the use of virtual reality technology also contains virtual reasoning that includes mental imagery and visual analogical transfer which is very abstraction of architect ideas to service users. With advantages this, virtual reality becomes a good tool in presenting architectural works. This technology, is also considered responsive to pandemic conditions, as it applies the principles of touchless. From this review it is concluded that virtual reality technology is very effective in concept of architectural design and can provide the user with the experience to immerse (drifted) and feel present in an artificial environment, as well as applying the principles of so that in accordance with health procedures in the prevention of Covid-19 transmission, so that the decision-making or evaluation process of the user is more efficient.

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Comparative Study of Local Wisdom of the Built Environment between Sasak Senaru Architecture, Lombok, Indonesia and Jeju Architecture, Korea.

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ABSTRACT

This study aims to analyze the similarities and differences in responding to climate and geography as well as spatial design through a comparison of the traditional Sasak Senaru residential area of Lombok, Indonesia and the traditional residential space of Jeju, Korea. Researchers used qualitative research methods. The results of the study found similarities in efforts to respond to climate, in ways that are similar but for the purpose of specific comfort in the built environment. Traditional settlements in Lombok are only used as shelter, while on Jeju Island they are used as shelter from the weather. Both forms of architecture use materials from nature to make housing. Another result is that the residential space of the Sasak Senaru architecture is dominated by ritual / customary needs for communal interests. Meanwhile, Jeju architectural residences prioritize residential privacy. Sasak Senaru architecture shows a hierarchy of spaces according to social class in society. Meanwhile, in Jeju architecture, there are no social class differences in the arrangement of settlements.

Keywords : built environment sustainability, Sasak Senaru architecture, Jeju-Korea architecture, local wisdom

1. INTRODUCTION

The diversity of architectural forms is one of the identities of a particular tribe or nation. Much local wisdoms is studied in order to find patterns of resistance to change and a sustainable built environment. The variety of architecture of a nation is influenced by several factors, including climatic and geographic factors which will later be related to socio-cultural and locality aspects. Climate and geography affect the physical building but also affect the culture. This study aims to analyze the similarities and differences in responding to climate and geography as well as spatial design through a comparison of the traditional Sasak Senaru residential area of Lombok, Indonesia and the traditional residential space of Jeju, Korea. The two different forms of traditional architecture were chosen to represent their respective existence in different climatic and geographic backgrounds but have similar performances. This research is expected to add insight into a deeper understanding of residential characters, similarities and differences in spatial layout, and to be able to find out how the life of the population affects the spatial configuration in Sasak Senaru traditional dwelling in Lombok and Jeju traditional dwelling in Korea and can contribute to further efforts to find the essence of traditional architectural space in order to strengthen the locality of the nation's identity.

2. LITERATURE REVIEW

According to Amos Rappoport (1969), architecture is a space where humans live, which is more than just physical, but also involves basic cultural institutions. These institutions include: the arrangement of social and cultural life of the community, which is accommodated and at the same time influences architecture. Architecture is always related to people's culture. Natural and environmental conditions play an important role in shaping the culture of a society. Nature is always a major consideration when making a building. Different natural conditions will give birth to different cultures, as well as architecture. Traditional architecture grows and is developed by people in responding to their natural and social environmental challenges. Therefore, traditional architecture is known to have the essence, meaning and philosophy of space that is oriented towards locality values.

According to Antariksa (2017) the value of locality in traditional architecture is something related to certain ethnic cultures (local / local culture), and is reflected in the life of certain (local)

communities. In fact, in the locality there is a culture which contains principles, in the form of thoughts, life philosophy, socio-political, economic, religious, technological and scientific systems and values. According to Hirsan (2005: 34) Cultural changes in a community group will influence the social structure of society. This socio-cultural change will affect the arrangement of residential spaces, thus affecting the concept of changes in spatial structure. According to Maria Hidayatun (2008), the belief of a society at that time (especially in an agrarian society) also influenced the formation of space, the influence of natural forces in general became the basis of the formed trust. Trust contains teachings and instructions that must be obeyed by the community, this is manifested in customs and then upgraded to rules that are used as guidelines for making a building (space).

The definition of space according to Johara T. Jayadinata in Arimbawa & Santhyasa (2010), space is a place of community interaction in relation to social and community life. In this case space can be said to be a forum for channeling various social, economic and cultural activities of its people. The aspects that are attributes of spatial order include spatial configuration, spatial orientation, wind orientation, space hierarchy, and spatial forming elements. According to Hiller (1996: 27) Configuration becomes power and becomes the effect of freedom in which buildings and the built environment are formed and how they function according to their purpose. The orientation of the building is a kind of direction or toward the space and its architecture. According to Roger (2012) hierarchy refers to the ranking arrangement for parts of a common attribute that distinguishes them from determining importance. Traditional residential spaces are arranged according to a hierarchy according to their beliefs. So the hierarchy of space in traditional architecture describes how important the components in a building.

Next is the Space Forming Elements according to Irawan Surasetja (2007) In general, space is formed by three elements that form space, namely:

1. The base plane. Because the floor is a support for our activities in a building, of course, structurally it must be strong and durable. The floor is also an important element in a space, its shape, color, pattern and texture will determine the extent to which this field will determine the boundaries of space and serve as a basis from which visually other elements in the space can be seen. The texture and density of the material under the feet will also affect the way we walk on the surface.
2. The wall / divider (the vertical space divider). As an element in the design of the wall plane, it can be integrated with the floor area or made as a separate plane. This field can serve as a neutral background for other elements in the space or as a visual element that is active in it. This wall plane can also be transparent like a light source or a scene. The overhead plane.
3. The roof plane is the main protective element of a building and serves to protect the inside from climatic influences. Its shape is determined by the geometry and the type of material used in the structure and the way it is placed and the way it crosses the space above its supports. Visually, the roof plane is the 'cap' of a building and has a strong influence on the shape of the building and its shading.

3. METHODS

The research was conducted to examine the Traditional Residential Spatial Arrangement of Sasak Lombok in Senaru Village, Bayan District, North Lombok Regency, West Nusa Tenggara and Jeju Traditional Shelter, Korea. The consideration of choosing two traditional areas with different cultures as research locations was based on the researcher's curiosity about the existence of the preservation of traditional settlements from different parts of the world represented by Senaru residential architecture in Indonesia and Jeju residence in Korea. This curiosity is also based on the thesis of the relationship between architecture, humans and the environment that applies generally and universally, especially in traditional architecture. Researchers used qualitative research methods. In this qualitative research, the researcher made direct observations to find out information about the similarities and differences in the character of the traditional Sasak residential space, Lombok and the traditional living space of Jeju, Korea. In addition, it is also to

find out how the life of the population affects the configuration of the traditional residential space in the case of these two traditional areas.

4. RESULT AND DISCUSSION

The research was conducted in two different objects, namely Lombok Island, Senaru Traditional Village to be exact, and Jeju Island, to be precise Korean Jeju Traditional Village. Senaru traditional village is located in Bayan District, North Lombok Regency, West Nusa Tenggara, Indonesia. Meanwhile Jeju Traditional Village is located in the south of the Korean Peninsula. These two regions have different climatic and geographical conditions. The following is a comparison table of the climatic and geographic conditions of the traditional village of Senaru, Lombok, Indonesia with the traditional Korean village of Jeju.

Table 1. Comparison of Climatic and Geographical Conditions









Components to be compared	Traditional Villages Sasak Senaru Lombok-Indonesia	Jeju-Korean Traditional Village
Location	Located in a highland, mountainous region near the entrance of the Mount Rinjani Climbing.	Located in the coastal area, but also close to mountainous areas, namely Hallasan mountain.
Climate	Lombok Island has a Tropical Climate	Jeju Island has a Sub Tropical climate
Season	2 Season	4 Season
Natural Conditions	Earthquakes frequently	Windy Areas
Wind Speed	Soft breeze	High speed wind









Source: researcher data

Geographical and climatic conditions greatly influence the existing architecture (Poerwoningsih, 2018) in these two regions. Nature is always taken into consideration when planning and designing a building. In Indonesia, shelter is needed not to protect itself from the threat of a deadly climate, but to provide shelter. against a climate that only presents dry and rainy seasons. In Korea, shelter is made as a refuge from climate threats, such as the threat of strong winds. Homes in Korea are designed to control the effects of rain and wind, as well as cold and heat.

4.1. Comparison of Traditional Residential Characteristics of Sasak Senaru Lombok and Korean Jeju Traditional Shelter.

Table 2. Comparison of Traditional Residential Characteristics of Sasak Senaru Lombok and Jeju Korea.

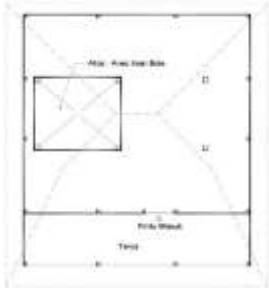

Components to be compared	Traditional Shelter Sasak Senaru Lombok	Traditional Shelter Jeju Korea
Traditional house name	The traditional Sasak house is called Bale. 	The traditional Jeju house is called <i>Chojip</i> 
Building Materials	Made from natural materials such as stone, wood, bamboo, palm fiber, soil etc. 	Made from natural materials such as stone, wood, soil etc. 
Orientation	The orientation of the building is facing east or facing west 	The orientation of the house is facing east or facing south. 
Fences Element	Individual residential fences are made of 80cm high woven bamboo just to cover the terraces. 	Fences surround individual shelters consisting of 1 to 4 houses and are made of basalt 

	Meanwhile, the fence used to surround residents' settlements uses bamboo.		rock arranged around individual dwellings.	
Wall Element	The walls are made of woven bamboo		The walls are made of stacked stones, and inside is given a mixture of soil to glue the stones as a substitute for cement.	
Floor Element	The floor is made of dirt and buffalo dung which is mixed and then polished on the floor as a substitute for cement. However, currently many are using cement.		There are some rooms with dirt floors, but some are using wood as a floor.	
Roof Element	The roof is made of alang-alang grass or fibers woven together and arranged to form a gunungan. The roof in Sasak is made high so that the air circulation in the room can run smoothly and coolly.	 	The roof is made of straw. Arranged with an angle of 30 degrees to keep the air in the house cool. Above the thatched roof is covered with sae ropes that are tied to the beams under the roof to protect the house from strong winds.	

Source: Researcher Data

4.2. Comparative Study of Traditional Residential Spatial Layout Sasak Senaru Lombok, Indonesia and Jeju Traditional Shelter, Korea.

Table 3. Comparison of Lombok Sasak Traditional Residential Spatial Layout and Korean Jeju Traditional Shelter

Components to be compared	Traditional Shelter Sasak Senaru Lombok	Traditional Shelter Jeju Korea
Space Division Structure		 Plan type 3 khan

Source: Researcher Data

From the table above, it can be seen that traditional Sasak housing does not have too many dividers between spaces. Inside the bale is only a large room without a partition in which there is a storage room, kitchen and bed. Above the room are Inan Bale and Amben Beleq. Amben beleq is used for a special ceremony for women. Meanwhile, Inan Bale was made as a place of prayer or a place to carry out a series of traditional rituals. Meanwhile, in the traditional Jeju type 3 khan there are several rooms that are separated according to their function. The first room, namely Sangbang, functions as a multipurpose room located in the middle of the house, usually used to receive guests or hold certain ceremonial ceremonies. The next room is large Gudeul and Small Gudeul, both of which are places to sleep. Large Gudeul is a bedroom for husband and wife or father and mother, and small Gudeul is a bedroom for children. The next room is Jeongji, which is

a room for cooking and functions as a storage room. Another storage room, namely Gopang, is used to store jars and other items containing food and seeds.

Table 4. Comparison of Traditional Settlement Patterns for Sasak Senaru Lombok and Jeju Korea

Components to be compared	Traditional Shelter Sasak Senaru Lombok	Traditional Shelter Jeju Korea
Settlement Spatial Planning		









Source: Researcher Data

Based on the table above, it can be seen that the spatial arrangement formed in the traditional Sasak Senaru residence includes elements of religious ritual space found in Inan Bale, elements of space for living in Bale, elements of space for gathering called Berugaq, elements of production space contained in the cage, and an element of the storage room called Sambi geleng, besides that there is also a toilet that is used to share. The settlement space arrangement is arranged from north to south and the orientation of the building faces east. The construction of houses with the layout of the Sasak Senaru settlement reflects the population consisting of several generations who live in one fence. This order is one with strong community cohesion. Whereas in Jeju there is only one generation living in one fence. When their children get married, the parents live in Bakgeori which is near the gate entrance, and their children live in Angeori which is also located within the fence. The traditional Jeju house layout emphasizes individual life and respects family privacy as the housing is arranged around the grounds, is well ventilated, and the family community is gathered around the grounds and arranged for mutual cooperation. Another thing that distinguishes it is the number of dwellings that are within one fence, namely that the occupancy in Sasak Lombok is more than the existing dwellings on Jeju Island, Korea. If Sasak Lombok consists of about 20 bale buildings in 1 fence, then in Jeju the maximum is only 4 buildings in one fence.

4.3. Analysis of the Philosophical Aspects of Traditional Residential Room Arrangements for Sasak Senaru Lombok and Korean Jeju Traditional Residential.



Table 5. Comparison of social values in Sasak Senaru Lombok and Jeju Korea








Social Value	Sasak Senaru Lombok	Jeju Korea

<p>Social and Economic Status</p>	<p>The space in the residence is not divided. Women sleep indoors, and men sleep on outdoor terraces to protect women. Men are the backbone of the family, but women also participate in their husband's work. The main livelihood of farmers.</p>		<p>The interior of the dwelling is divided into barriers according to the function of the space. (Room, living room, kitchen, etc.). Men generally farm, and women work as divers in the sea (haenyeo), sharing common responsibilities.</p>	
<p>Kinship Relations</p>	<p>After marriage, the children and parents will be separated and begin to live independently in their respective homes, even though the settlement is still within one fence. The child will build a new house next to their parents' house.</p>		<p>When the children of the traditional Korean Jeju community get married, the parents will live in Bakgeori which is near the gate entrance, and their children will live in Angeori which is also located within the fence. This is to respect adults as well as to keep elderly parents in close proximity while placing importance on personal life.</p>	
<p>Social interaction</p>	<p>The room that shows the relationship of social interactions in Sasak Senaru is beruqaq. Communal spaces such as beruqaq become more important for socializing activities and holding traditional events in his village.</p>		<p>The spatial arrangement is shown in the form of a large yard for the community to gather when there are activities that are mutual in nature.</p>	
<p>Social Structure</p>	<p>There is a social class that is formed in society, so that Seniority appears. The form of applying seniority to residential spaces is shown by placing the customary chief's house at the front near the entrance to the Senaru traditional hamlet.</p>		<p>There is no difference in the social structure, there are only classifications in terms of occupations such as fishermen, farmers, etc.</p>	

Source: Researcher Data

Table 6. Comparison of Cultural Values in Sasak Senaru Lombok and Jeju Korea.

Culture Value	Sasak Senaru Lombok	Jeju Korea
<p>Human View of God.</p>	<p>Most of the Sasak people of Lombok are Muslim. The relationship between human and God is manifested in the spatial arrangement, namely the inan bale which functions as a place of worship which is placed higher than the other rooms in each dwelling.</p> 	<p>In Jeju there is a Shamanism belief that forms the cultural space of the Jeju people. Jeju people believe that there is a guardian deity in every space.</p> 

<p>Human Views of the Environment.</p>	<p>The people of Senaru hamlet have an obligation to maintain and organize the ecosystem on Mount Rinjani.</p>	 	<p>Jeju people, especially the Haenyeos, protect the marine environment by understanding the character of marine life so they can harvest properly.</p>	
<p>Human to Human View.</p>	<p>When entering the traditional house, the melokaq (house of the traditional chairman) must wear traditional clothes to respect the traditional leader. When there is a traditional event, the chairman and elders sit on the berugak, while the common people sit at the bottom. Men sit down near the berugak while women sit on the bale terrace.</p>	  	<p>Respect individual life, but participate in important things in the village.</p>	

Source: Researcher Data

From the table above, it is explained that the human relationship with God in the Sasak Senaru community is implemented in Inan Bale which is positioned higher than other spaces as a manifestation of glory to the Creator. Meanwhile, Jeju adheres to the Shamanism belief which forms the cultural space of the Jeju people. Jeju people believe that there is a guardian deity in every space. Viewed from a human perspective with their environment, the people of Senaru hamlet have an obligation to protect and organize the ecosystem on Mount Rinjani. Unlike the traditional Korean Jeju society who rely on seafood. They understand the character of marine biota habitat so that they can predict the process of seasonal marine biota growth and harvest accordingly. The human-to-human view of the Sasak Senaru community is shown by the existence of a hierarchy of space according to social class in the community. Meanwhile in Jeju Korea, there are no social class differences in the arrangement of their settlements.

5. CONCLUSION

The results of the study found similarities in efforts to respond to climate, in ways that are similar but different in the purpose of specific comfort in the built environment. Traditional settlements in Lombok are only used as shelter, while on Jeju Island they are used as shelter from the weather. Both forms of architecture use materials from nature to make housing, such as stone, wood, bamboo, soil, and grass or straw. Another result is in spatial arrangement which indicates differences in function and space requirements. The layout of the Sasak Senaru architectural residential space is dominated by ritual / customary needs for communal interests. Meanwhile, Jeju architectural residences prioritize residential privacy. Jeju people respect individual life more, so individual buildings are more important than communal buildings. Another difference is seen in the layout of the communal space. Sasak Senaru architecture shows a hierarchy of spaces according to social class in society. Meanwhile, in Jeju architecture, there are no social class differences in the arrangement of the settlements.

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The Parameters of Emergency Disaster Hospital with Inflatable Pneumatic Structure

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ABSTRACT

This Research Design begins from the problems at handling sick inhabitants and emergency medical facility on disaster areas. Speed and Efficiency at handling disasters, effective preventive measures, rehabilitation and recovery, on time delivery of disaster relief will minimize negative results after the disasters happened. Disaster relieves are intended to shelter a lot of disaster victims in a livable and comfortable building, one of the disaster countermeasures facility is Disaster Emergency Hospital, which is consist of basic diagnostic equipments and treatments that is : Triage, ICU, Operation Room, Therapy/Treatment, Consultation room, Radiology, Laboratory/Diagnostic, Pharmacy. Until today, Integrated Disaster Emergency Hospital Facility is not yet available in Indonesia, some of disasters that happened in Indonesia only facilitated with health post with tents or emergency building built with conventional structure and technology which is steel frame tent with a high cost and long time to build. Therefore, Disaster Emergency Hospital need a structure that can be built in a short period of time, using pneumatic air inflated structure. The Disaster Emergency hospital design concept are focused on speed and efficiency in handling the patients so that will help the healing process. The research method for the design of the Disaster Emergency Hospital is using evidence based design that is a design based on scientific evidence in form of earlier research results and own research. There are 5 parameters in the design of the Disaster Emergency Hospital, that is : mobility, portable, build speed, safety and convenience for the patients and the medical personnels.

Keywords : hospital, emergency, disaster, pneumatic, air inflated.

1. INTRODUCTION

This research is started from the problems at handling victims and medical emergency facility in disaster areas, for examples : Tsunami, earthquake, Avalanche, Fire, etc. Any disasters that often occurred in every territories at Indonesia need a readiness and fast and effective handling. Regional disaster management agency published "The Technical Guidelines of Health Crisis Management that is Resulted by Disasters" (Roswati et al., 2007) and the regulation of Regional disaster management agency number 17 of 2009 about the Disaster Management's Equipment Standardization Guidelines, provides direction that effective preventive measures, rehabilitation and recovery and on time delivery of disaster relieves will minimize the harmful effects of the disaster. The helps and disaster relieves are intended to shelter lots of the disaster victims in a building that is livable and comfortable, one of the disaster management facility is Disaster Emergency Hospital.

Until today, Integrated Disaster Emergency Hospital Facility is not yet available in Indonesia, some of disasters that happened in Indonesia are only facilitated with health post with tents or emergency building built with conventional structure and technology which is steel frame tent with a high cost and long time to build. Some of the emergency hospital alternative structure told by Bakowski that is "Mobile Hospital". (Bakowski, 2016), an emergency hospital using container trucks that is customized to be Hospital. Durumunda said that Field Hospital at least is a place and tents that can accomodate 10 patients bed at minimum, 1 operation room and 1 clinic laboratory. (Durumunda et al., 2017). Disaster Emergency Hospital needs a fast building structure, among others is using inflatable structure which frame is inflated by air (*air inflated structure*). This structure is a building structure that uses fabric, rubber or custom built materials for weather barrier so that the structure can be used for more than 10 years. Other than that, Air inflated structure material must be strong and reliable against tensile test force until it exceeds 200 kg/cm², material is durable to temperature more than 70° C, fast installation and dismantling. Inflatable structure can be used at restricted areas, light structure materials, easy to move, folded nor transported to another locations (Budiyanto, 2008;)(Budiyanto et al., 2018).

2. LITERATURE REVIEW

2.1. Emergency Hospital

Bakowski (2016) wrote an article about Disaster Response Emergency Hospital in form of mobile hospital. The functions of emergency hospital consists of emergency room equipped with surgery and diagnosis section. The criteria of the emergency hospital establishments lies on the related technical solution, not only emergency hospital unit construction matters, but for generally cellular architecture, that is modularity aspect (the ability to pack function into a cubic container) and mobility (construction convenience to be transported from one place to other places).

“Emergency” hospital consists of simple basic diagnostic equipments and treatment rooms, with operation or resuscitation room with considering room organization and circulation. Parts of emergency consists of: 1. Triage area, 2. Trauma (resuscitation), 3. Observation units, 4. Therapy / Treatment, 5. Waiting room, 6. Consultation, 7. Registration / Reception, 8. Intensive care unit, 9. Laboratory / Diagnostic, 10. Operation room, 11. Corridor/Hallway, 12. Ambulance’s Entry, 13. Pedestrian’s entry (Figure 1)

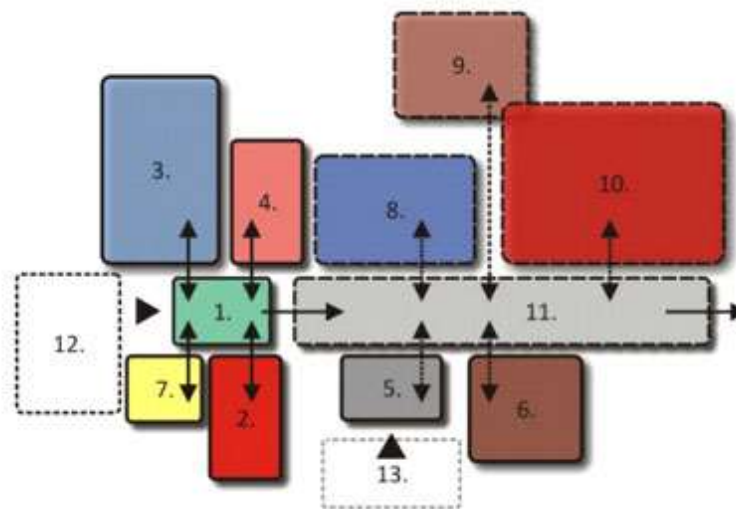


Figure 1: Emergency Facilities Parts
Source: (Bakowski, 2016)

2.2. Field Hospital

Palupi (Roswati et al., 2007) explained that field hospital is a service unit which was created for helping referral health service functions (outpatient, inpatient, emergency, operation room, laboratory, etc) which is implemented in an emergency condition. Field hospital is an hospital that established because of disasters with the intention of providing safe health care, services for the disaster victims also treatments for patients being treated at temporary hospital in a safe location. According to World Health Organization, Field hospital is a unit that consists of the place, tents, inflatable module which have at least 10 beds, 1 operation room, 1 basic laboratory, also portable X-Ray equipments (Durumunda et al., 2017). There are 2 categories of functional health facilities in disaster zone. Field hospital which is a permanent building and temporary facilities (Bitterman & Zimmer, 2018). A) Permanent hospital is a medical unit that function independently and can be transported from and to disaster zone as a complete unit, according to needs, this hospital have their own power and mobility aids which is on their structure with using water, air or earth as transportation medium. B) Temporary Health Care Facility transported to the disaster zone as a separated elements that was built or installed in a location and then dismantled

In WHO's standard are not specifically mentioned about the shape of field hospitals, but based on minimum standard of treatments capacity, there are 4 types of *Emergency Medical Team* (EMT) services. Type 1, is an outpatients service which is able to do non-operative services to at least 100 patients each day, work during office hours, can be in the form of mobile or stationary. Type

2 is a surgical service and 7 inpatient beds that works 24 hours a day, can do 7 major surgeries or 15 minor surgeries each day. Type 3 is a referral service with complete facilities like complex surgery, and 4-6 ICU beds with 24 hours work hours. Other than 3 of the mentioned service types, there is a special service that is called *Specialist Cell* which is a supplementary to the type 2 EMT, type 3 EMT, or local hospital for example burn wounds services, hemodialysis and crush syndrome, facial surgery, orthoplastic surgery, etc. (WHO, 2013)

Table 1. Field Medical Treatment Type

Description	FMT-Type 1	FMT-Type 2	FMT-Type 3
Description	Outpatients early emergency treatment for injuries and important health (daily treatment)	Inpatient critical treatments, surgery and obstetrics for traumas and other main conditions. (24 hours treatment)	Complex inpatients referral care including intensive cares capacity. (24 hours treatment)
Main criteria	Triage and 100 outpatients care each day	7 major operations or 15 minor operations each day	15 major operations or 30 minor operations each day
Setup time	In 24-48 hours	As soon as possible in several days	As soon as possible in 5-7 days
Length of services	At least 2-3 weeks	At least 3 weeks, or more	At least 2 months
Facilities needs	<ul style="list-style-type: none"> - Triage room - Portable lamp - Adequate shelter for outpatients while waiting for treatments 	<ul style="list-style-type: none"> - Surgery Triage room - At least 20 inpatient beds each 1 operation table - Enough capacity for supporting area which is required for manage cleaning and autoclave, medicines storage, disposable materials, X-Ray area and equipments 	<ul style="list-style-type: none"> - Triage room similar to type 2 - At least 2 operation table in 2 separated rooms - At least 40 beds for inpatients (20 for each tables) - 4-6 intensive care bed with patient ventilation - Supporting area similar to type 2

Source: WHO (2013)

2.3. Modular Coordination

Modular coordination is a dimensional coordination system from various ingredient products, components and building elements in a building which is based of basic module, Multi module, and/or sub module. In each of the mentioned modules have different calculations, that is Basic Module and Multi Module (Subekti et al., 2016) Basic Module is a base size in modular coordination with M symbol, with definition $1M = 10\text{cm} = 10\text{mm}$; Multi module is a module which size is determined by the multiply of the integers from basic module. Basic multiplier of the basic module selected from several multi module as a standard of multi module. Submodule is a selected fraction that is $\frac{1}{2}$, $\frac{1}{4}$, or basic module. Sub module is used if smaller dimension than base module is needed. Submodule size should not used for the distance between two modular vertical reference fields.

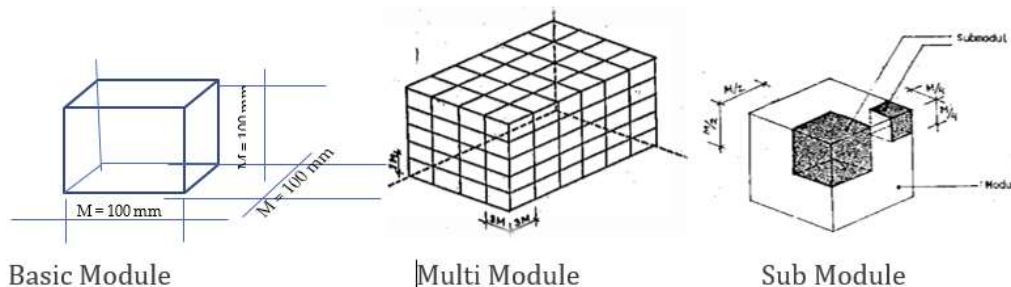


Figure 2. Basic Module, Multi Module & Sub Module

Source: (Subekti et al., 2016)

2.4. Inflatable Pneumatic Structure

Pneumatic membrane structure is one of the soft shell structure system, which is the structure

can stand as a result of the difference in air pressure inside of pneumatic structure and outside of it (Sukawi, 2011). Pneumatic structure is divided into 2 large group, that is air supported structure and air inflated structure (Schodek, 2001). a) air supported structure which is referred to as single membrane structure because they only need 1 layer of membrane and low air pressure (around 2-20 pound per feet above atmosphere pressure). B) air inflated structure (figure 3) also called double membrane structure



Figure 3. Air Inflated Structure

Structure with cloth material that is inflated by air is included in structure which is tensed categories and have unique advantages in their use compared to traditional structures. This advantages including light design, quick and easy installation, quickly transported and small packing volume (Budiyanto et al., 2019).

3. RESULT AND DISCUSSION

3.1. Design parameters of the Disaster Emergency Hospital

There are 5 parameters in the design of the Disaster Emergency Hospital, that is : mobility, portable, modularity, safety and convenience for the patients and the medical personnels.

3.1.1. Mobility

One of the Disaster emergency hospital design parameter is mobility (construction convenience to be transported from one place to another) In various literatures about field hospital, building structure can be made from various materials, for example : Container, iron framed tent, inflatable tent, fiberglass, etc. Disaster location consideration, Emergency hospital placement and amount of units will determine type of structure and the materials of emergency hospital. As an illustration, one biggest set of field hospital owned by Indonesian national army can reach 58 tents, which is generally 12-14 tents are held in emergency moments. Meanwhile, EMT that is already verified by WHO as type 2 like the one belong to Australian Medical Action Team consists of 28 tents, British 108 tents with all of the completeness similar to Kemenkes guidelines, when held, they need an area as large as soccer field area. To transport that complete facility, 12-14 tents and its personnels, needs 3-4 hercules planes as average.

3.1.2. Portable

As temporary facilities didnt have built-in means of transportation, they could move to disaster site by almost by means of transport available (ie, ships, planes, parachute, or tracks), alone or in combination, depending on the location of the disaster, the urgency with which support was needed, weather conditions, the safety of the site and the routes to reach it, and the physical properties (eg, weight and dimensions) of the facility. Thus, the time required for arrival and efficiency of supply could be reduced and improved, respectively. Construction methods could vary and included traditional building methods (eg, tent erection), local materials (mud, debris, and wood), air inflating techniques and Do It Yourself systems, recruited non-professional teams of local people and devices, and had a positive impact on resilience of the local community. Temporary health care facilities were recommended for places where humanitarian missions were also needed, given that these units could supply shelter for refugees, survivors, and families of the wounded and could provide other humanitarian services in addition to medical support.

A temporary facility, or a portion of it, could remain at the site and continue to function partially as a health care facility, housing for locals, a school, or to support community organizations. The modular configuration could enable deployment and operation in different stages, depending on changing needs at the disaster site and a gradual build-up of the facility. Functional components of clinical services, operational command, administrative support, and accommodation were generally included

3.1.3. Modularity

Elements size, components, structure and rooms in emergency hospital can be coordinated using modular coordination principle. Table 2 is showing the modular coordination which set submodule, basic planning module, vertical module, horizontal module and multi module.

Table 2. Base Module in Modular coordination

No.	Module	Use	Unit
1	Basic planning module	Smallest module is used to determine the position and the size of the components, elements and for installation	M = 100 mm
2	Horizontal planning module		Mh = 3M (300mm)
3	Vertical planning module		Mv = M (100mm)
4	Multi module (corresponding to ISO)	Planning module for main framework dimension especially horizontal dimension span	3M, 6M, 9M, 12M
5	Sub module	Usually used in different grid displacements	M/2 M/4

Modular construction technique is the primary needs in the Disaster emergency hospitals construction acceleration. Pre-fabrication part can be made from materials like concrete, steel, wood, aluminium or factory made pneumatic structure fabric, then sent to the construction location, ready to be applied right after land leveling completed. Modular construction technique guaranteed the establishment to take place quickly, safe and smooth in any weather conditions Hospital building from pre-fabrication units are guaranteed to be completely safe although the construction process is accelerated. Every unit made in controlled environment in the factory, so that the designer and producer can ensure the quality of every units before sent. In brief, there are 5 advantages of modular construction technique which makes it the right solution for disaster response, that is:

1. Streamlining building design aspects, because it can build many units repeatedly corresponding to the existing blueprint (repeatability)
2. Minimalize the construction cost
3. Faster building completion with strict schedule
4. Guarantee the building quality in accordance with every units standard (consistency)
5. Reducing the construction trashes in disaster environment

3.1.4. Safety

Disaster Emergency hospital planning must ensure the safety of the planned facilities and utilities, useful and supportive for the patients, patient's family, staffs and visitors. To achieve this goal, need to be careful when planning the space connection, which rooms can be connected and which one should not with each other. Other than that planning related to human circulations (paramedics, patients, visitors), and stuffs circulations (clean and dirty) physical contact that can spread infectious diseases in the disaster area should be avoided as much as possible. Rooms that there will be hazardous materials later (radioactive materials, toxic waste), according to that handling, storage and utilization system are planned in utensils and utility layout concept.

3.1.5. Convenience for the patients and medical personel

The comfort in the building and the disaster emergency hospital's environment is one of the important element, not only affecting the hospital image, but also for the patients. Uncomfortable hospital building didnt help to relieve patient's suffering. Comfortable hospital building psychologically help the healing process of the patients. The needs of all patients in the hospital (including visitor) is : A) physical comfort, among them are related with the suitable room temperature, enough lighting, comfortable furnitures, reachable nurse dial device placement from the beds, bad odor and noise free. B) Social contact, covers personal privacy, limiting what other people see and hear from each others. As example if in the design a place for families and the doctor consultation is not provided, then the patient might hear the conversation and can be demoralized. C) Symbolic meaning, covers non verbal message that blends in with the design, for example an uncomfortable ward will make the patients not only feels uncomfortable physically but also makes them doubt the hospital's ability to take care of them. D) Way-finding, the easiest aspect to be found in a hospital is direction loss, Stressed uncomfortable patient will be easier to feel lost in the hospital's crowd. Meanwhile visitor will be scared if they are not careful and go to the forbidden areas. Someone need to be in a room with a human scale where they can control and locate themselves

3.2. Part of the Disaster Emergency Hospital Building Concept Design

Based on the Design parameters, then the part of disaster emergency hospital building concept that use inflatable pneumatic structure are described as follows:



Figure 4. Design of early disaster treatment tent with 10 patients capacity



Figure 5. Design of Triage and 2 patients treatment tents with 20 peoples capacity



Figure 6. Design of Triage and 2 patients treatment tents and ICU tents with 25 patients capacity

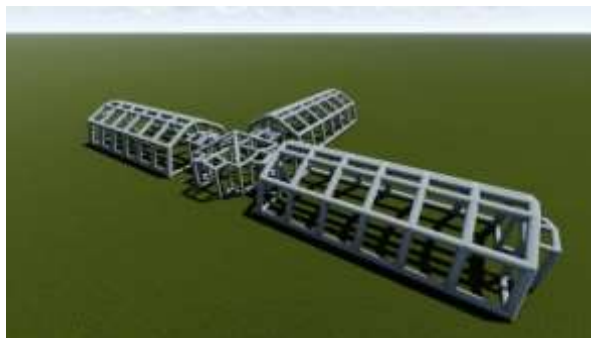


Figure 7. Main inflatable pneumatic structure design of Triage, treatment rooms and ICU

4. CONCLUSION

Disaster Emergency Hospital need a quicky built structure, which is using inflatable structure that its frames are air inflated (air inflated structure). This structure is a building structure using fabric, rubber or specifically built for weather barrier so they can be used for more than 10 years There are 5 parameters in the design of the Disaster Emergency Hospital, that is : mobility, portable, modularity, safety and convenience for the patients and the medical personnels.

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HUMAN SECURITY, GOVERNANCE AND POLICY

Malang, INDONESIA
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Topic 2:

Human Security

in relation to **Economic Development and Trade**

Investment Attractiveness Assessment (Comparison Batu City and Malang City)

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ABSTRACT

This study aims to: 1) compare factors of investment attractiveness between Batu City and Malang City, and 2) compare rating of investment attractiveness between Batu City and Malang City. Data analyzed uses Independent Sample t Test, with 80 investors as a respondent, 40 investors from Batu City and 40 investors from Malang City. Based the results of independent samples test obtained: 1) there are significant differences in the factors of investment attractiveness between Batu City and Malang City. The distinguishing factors are: business licensing system, leadership, politics and security. Batu City has a higher average value than Malang City in that factors; 2) there is a significant difference in the investment attractiveness rating between Malang City and Batu City. The rating of investment attractiveness of Batu City is more higher than Malang City

Keywords : business licensing system, investment attractiveness, leadership, politics and security, rating

1. INTRODUCTION

According on Law No. 32 of 2004 (UU, 2004) relating to Regional Government concerning Regional Autonomy, regional autonomy gives regions the right to manage their own households. Regional autonomy is widely believed to be the best way to encourage regional development (David Osborne & Peter Plastrik, 2000). The implementation of regional autonomy is expected to improve services in various sectors, mainly the public sector so that investors are interested to invest in the regions. If an area has adequate infrastructure, investors will be interested in investing and the community can also carry out daily activities comfortably so that it will have an impact on increasing productivity. The increase in community productivity and the number of investors investing is expected to increase local revenue (PAD) which in turn will impact on increasing regional spending (Abimanyu, 2005). This related with research of Windhyastiti, said that if local governments are able to increase the value of investment in their regions, it will have a positive impact on increasing local revenue (Windhyastiti I et al, 2019). Therefore, investment is one of the main things that drives the achievement of quality development. This is partly because investment has an influence on aggregate growth in terms of its ability to boost output and job opportunities, so that it has an impact on capital formation which in the long run can increase maintain growth and output potential (Hamid, 2006).

2. LITERATURE REVIEW

2.1. Regional Investement

Regional investment is investment in an area carried out by components of government, the private sector (business world), and society. The region should has "potential" to sell to attract investment. The ability of regions to sell should also be supported by a conducive climate such as legal certainty and security. Murwito believes that the Regional Government must produce regulations to trigger economic growth to attract investors. In addition, the system in government must be improved to be more effective and efficient. Long-winded procedures must be abandoned. Some local governments have taken steps to attract investors, but not yet thoroughly (KPPOD, 2013). Kuncoro said that several initiatives were carried out including providing and increasing physical infrastructure, reforming the investment service bureaucracy, and building information systems of investment potential (Kuncoro, 2004)

The attractiveness of investment is one type of lure that is targeted to attract a businessman to a special location. The attractiveness of city investment is related with the resources availability, the competence of cities to manage them and attract new ones so as to benefit from other cities and ensure the development of the city (Snieskaa & Zykiene, 2015). This attractiveness definition implies that it is a cyclical process, as an attractive city will be able to attract and retain certain target groups (tourists, new residents, and investors), where the outcome of the attraction will contribute, which in turn will impact on the outcome (Servillo et al, 2012)

Based on the description above, this study aims to: 1) compare factors of investment attractiveness between Batu City and Malang City, and 2) compare rating of investment attractiveness between Batu City and Malang City. The choice of Batu City and Malang City as the object of research is because Batu City and Malang City has the similar characteristic. They are the cities in the East Java Province of Indonesia, which are the potential tourist cities with a fairly high number of tourists. Usually tourists who travel to Batu City will stop by in Malang City or choose to stay in Malang City. This is because the number of star hotels in Malang City is more than in Batu City. The number of star hotels in Malang is 29 hotels, while in Batu there are 17 hotels. Investment is needed to support the development of tourism in the two cities. But, even Batu City and Malang City has the similar characteristic as a tourist city, the economic growth rate in Batu City is more higher than Malang City. In 2019, economic growth rate in Batu City obtained to 6,52%, while di Malang City only 5,73%.

2.2. Investment Attractiveness

The attractiveness of investment is one type of lure that is targeted to attract a businessman to a special location. The attractiveness of city investment is related with the resources availability, the ability of cities to manage them and attract new ones so that they can benefit from other cities and ensure the development of the city (Snieskaa & Zykiene, 2015). This attractiveness definition implies that it is a cyclical process, as an attractive city will be able to attract and retain certain target groups (tourists, new residents, and investors), where the outcome of the attraction will contribute, which in turn will impact on the outcome (Servillo et al., 2012)

2.3. Factors Affecting Investment Attractiveness

Mcdonald & Bailly state that the characteristics of city that have the most highly value are: 1) economy growth potential, workforce that has highly skilled, and resistant of external shocks and the decrease of economic; 2) the leader of the city should pro-investment, which prioritizes a city investment, has many consistent policies, has a good profile attitudes, and has bargaining power with the central government; 3) reliable connections of transportation, both intracity and intercity (nationally and internationally), as well as a the system of transportation that can support the economy expansion; and 4) focus on delivery, a responsive to planning system pro-investment, has a team with good access to investment expertise, and will to help immediately when necessary to facilitate investment (Mcdonald & Bailly, 2017). Danciu & Strat states that, Foreign Direct Investments (FDI) in the Romanian Regions uses scores of the factor extraction for the six variables: 1) infrastructure; 2) labor; 3) agglomeration; 4) knowledge; 5) market; and 6) cost and dummy variable as a general measures determinants of location for the inflow of Foreign Direct Investment. The dependent variable shows the probability of either invest or not invest in any given region, with the Bucharest-Ilfov region being a comparison group. The results shows that there are substantial differences of the attractiveness in Romanian regions, when the initial inflows of Foreign Direct Investment are evaluated. Foreign Direct Investment were attracted by the potential of the regions, th accessibility of the region and the mentality of local business. It is shown that if input costs and the availability of resources and labor are factors that be an main concern by investor for investing in Romania, then all regions are more favored for the inflow of foreign investment than the Bucharest-Ilfov area (Danciu & Strat, 2014). Snieskaa & Zykiene shows that, in many cases, for investment in Lithuania, the choicement of the city is effected by the accessibility and the cost of skilled workforce, price of resource and market (Snieskaa & Zykiene, 2015)

In line with the results of the study above, the 2018 Global Cities Investment Monitor established several investment criteria, namely: 1) the political stability and the juridical security; 2) the

availability of infrastructure; 3) the availability of human resources skills; 4) the growth of economic; 5) the accessibility and size of the market; 6) salaries , tax level and living cost; 7) the availability and cost of real estate; 8) education quality ; 9) life quality, 10) the quality of research and innovation; and 11) start up ecosystem (KPMG, 2018)

This study uses several combination variables from the research of McDonald & Bailly, Danciu & Strat, the Global Cities Investment Monitor and Kuncoro. Factors used in this research are: 1) infrastructure; 2) availability of labor; 3) agglomeration; 4) natural resources, 5) market; 6) business licensing system, 7) leadership and 8) political and security. Factors of attractiveness investment and attractiveness investment rating is measured by an investor assessment. The hypothesis is formulated as follows:

H1: There is a difference of the investment attractiveness factors in Malang City and Batu City

H2: There is a difference of investment attractiveness rating in Malang City and Batu City

3. METHODS

This research is a case study research in Batu City and Malang City, East Java. Data analyzed uses Independent Sample t Test with 80 investors as a respondent, 40 investors from Batu City and 40 investors from Malang City. The choice of Batu City and Malang City as the object of research is because Batu City and Malang City has the similar characteristic. They are the cities in the East Java Province of Indonesia, which are the potential tourist cities with a fairly high number of tourists. In 2019 the number of tourist arrivals in Batu City increased by 7% from 5,644,168 tourists in 2018 to 6,047,460 tourists consisting of 6,035,724 domestic tourists and 11,736 foreign tourists. Whereas in Malang City, the number of tourist visits in 2019 reached 5,186,806 tourists consisting of 16,286 foreign tourists and 5,170,523 tourists. Batu City and Malang City are cities which are located next to each other. Usually tourists who travel to Batu City will stop by in Malang City or choose to stay in Malang City. One of the caused is the number of star hotels in Malang City is more than in Batu City. The number of star hotels in Malang is 29 hotels, while in Batu there are 17 hotels. But, even Batu City and Malang City has the similar characteristic as a tourist city, the economic growth rate in Batu City is more higher than Malang City. In 2019, economic growth rate in Batu City obtained to 6,52%, while di Malang City only 5,73%. In terms of local revenue in Batu City in 2019 amounted to IDR184,490 million and Malang City amounted to IDR675,931 million. If we look at the population of Batu City, which is only 207,490 people compared to Malang City, which reached 870,682 people, the local revenue per capita of Batu City is higher than Malang City.

Factors used in this research are: 1) infrastructure; 2) availability of labor; 3) agglomeration; 4) natural resources, 5) market; 6) business licensing system, 7) leadership and 8) political and security. Investment attractiveness factors and investment attractiveness rating is measured by an investor assessment with scale 1 until 5 (from very less to very good). The indicators of each factor can be seen in table 1 below:

Table 1. Variables and Indicators of Research

No	Variables	Indicators
1	Infrastructure	Cost of public transportation
		Number of public transportation
		Road condition
		Number of terminal
		Terminal condition
		Completeness of facilities and infrastructure
2	Av Availability of labor	Cost of labor
		Education of labor
3	Agglomeration	Availability of industry centers
		Availability of industrial supporting components
		Availability of similar industries
4	Natural Resources	Availability of raw material
5	Market	Market Potential
6	Business licensing system	Convenience
		Cost
7	Leadership	Competence
		Commitment
		Reputation
8	Politics and security	Potency of demonstration
		Crime rate

4. RESULT AND DISCUSSION

The result of the average investor assessment of each factor (table 2) shows that of the 8 factors investment attractiveness, Batu City has a higher average value than Malang City in 5 factors: 1) agglomeration, 2) market, 3) business licensing system, 4) leadership, and 5) politics and security. Meanwhile, Malang City has a higher average value Batu City in 3 factors: 1) infrastructure, 2) availability of labor, and 3) natural resources.

Table 2. Mean of Each Factor

Factors	Mean	
	Batu City	Malang City
Infrastructure	3.57	3.68
Availability of labor	3.16	3.44
Agglomeration	3.55	3.39
Natural resources	3.71	3.99
Market	3.60	3.50
Business licensing system	3.84	3.08
Leadership	3.95	2.94
Politics dan security	3.90	2.95
Investment attractiveness factors	3.64	3.42
Investment attractiveness rating	4.15	3.15

Source: data analyzed 2020

Table 3. Independent Sample t Test

Variables	t-test for Equality of Means	
	t	Sig. (2-tailed)
Infrastructure	-1.074	.286
Availability of labor	-1.803	.075
Agglomeration	1.153	.253
Natural Sources	-1.533	.129
Market	.662	.510
Licensing system	4.856	.000
Leadership	6.187	.000
Politics and security	6.254	.000
Investment attractiveness factors	2.598	.011
Investment attractiveness rating	4.783	.000

Source: data analyzed 2020

Based the results of independent sample t test (Table 3) obtained: 1) there are significant differences in the factors of investment attractiveness between Batu City and Malang City. The distinguishing factors are: business licensing system, leadership, politics and security. Batu City has a higher average value than Malang City in that factors; 2) there is a significant difference in the investment attractiveness rating between Malang City and Batu City. The rating of investment attractiveness of Batu City is more higher than Malang City

Batu City has a higher average value than Malang City in business licensing system. The significant difference in the licensing factor between Malang City and Batu City is that in Batu City, the Regional Government conducts intensive socialization regarding online licensing (Online Single Submission/OSS). It's line with the research of Windhyastiti, said that licensing system showed by Online Single Submission (OSS) performance has a positive and significant effect on investment attraction in Batu City (Windhyastiti I et al, 2019). The local government also intensively goes into the field to assist the entrepreneur in reporting on his business development. The other research shows that pro-investment policies, including the licensing process, can help achieve investment targets (Suhendra, 2017). This research also line with Widhayanti's research results which show that the highest score in determining the attractiveness of regional investment is apparatus and services in business licensing (Widhayanti N & Muta'ali L, 2012). So that Malang City has to improve the licensing business system as Batu City to attract investor.

In terms of political and security factors, Batu City also has a higher average value than Malang City. Batu City is relatively more stable, its political condition can be seen from the rare public demonstrations. Even when the leadership changes, it runs safely. It line with result of Kuncoro, shown that social and political factors rank third in investment attractiveness in Daerah Istimewa Jogjakarta (Kuncoro M & Rahajeng A, 2005). The potential for demonstrations in Malang City is higher than Batu City because of the large number of college students in Malang City. There are 3 State Universities and many Private Universities in Malang City. The college students are more critical if there is a change in policy that is deemed inappropriate. But, from the perspective of the availability of labor, the condition of the large number of universities and college students in Malang City has a higher investment attractiveness value.

Batu City has a higher average value than Malang City in the term of leadership. The Regional Government of Batu City is able to shown its commitment to creating a conducive climate for investors. Batu City had collapsed with the Lapindo mud disaster in 2007, where the number of tourist visits was less than 1 million people. However, the government took the initiative to persuade entrepreneurs/investors to stay in their place of business. The government began to make various activities that could attract tourist visits such as East Java Cultural Festival, National Paragliding Festival, Batu Flower Festival Batu Night Race, and others. The government

also provides security guarantees to investors to invest their capital. During its development, investor confidence began to increase their investment. Educational tour with target are students and families, become investor focus. This educational-based tourism has turned out to be able to make Batu City widely known again. Seeing the increase in the number of tourist visits, the government began to beautify the Batu City Square as a centre tourist to attract tourist (Windhyastiti I & Widiawati D, 2016). In 2019, Batu City has been able to increase tourists to reach 6 million people.

According to the results above, local government of Malang City should has commitment to create a conducive climate for investor specially in easily of licensing system and stability of politics and security aspect. While, for Batu City, if local government of Batu City wants to increase investment, especially foreign investment, the local government must immediately make an investment regulation.

5. CONCLUSION

Based the results of independent samples test obtained: 1) there are significant differences in the factors of investment attractiveness between Batu City and Malang City. The distinguishing factors are: business licensing system, leadership, politics and security. Batu City has a higher average value than Malang City in that factors; 2) there is a significant difference in the investment attractiveness rating between Malang City and Batu City. The rating of investment attractiveness of Batu City is more higher than Malang City

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Web-Based Online Information System Model: One way to increasing the financial inclusion of MSMEs during the Covid-19 Pandemic (MSMEs Case Study in Blitar)

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ABSTRACT

During the Covid-19 pandemic, made human interactions and activities reduced, this also had an impact on all business sectors, especially MSMEs. The government identified four main problems by MSMEs during the Covid-19 pandemic. To support MSMEs survive, the government has provided various incentive and stimulus facilities. Many opportunities for MSMEs to access credit from the government. In the new normal using of technology to increasing the accessibility of banking products by MSMEs is needed. The research objective is to create a Web-Based Online Information System Model to increasing financial inclusion of MSMEs during the Covid-19 Pandemic. The data analysis technique uses descriptive analysis to describe the findings and policies. In the web-based online information system, there are 3 users, namely MSMEs, Banking and the Office of Cooperatives and MSMEs. The Office of Cooperatives and MSMEs is in control of this model, to log in to this system, MSMEs and Banks must create a user login via the Office of Cooperatives and MSMEs. The function of banking in this model is to provide information on banking products that can be accessed by MSMEs. The last user is MSMEs, when MSMEs apply for credit, the Cooperative Office will verify the existence and business of MSMEs, then if according to the Cooperative Office it is feasible to apply for credit, then MSMEs are welcome to complete and input all credit requirements.

Keywords : Web Based Online Information System Model, MSMEs, Banks, Office of Cooperatives and MSMEs.

1. INTRODUCTION

Micro, Small and Medium Enterprises (MSMEs) are an important sector and have a major contribution to achieve national economic development goals, such as economic growth, employment opportunities and regional economic development. The MSMEs problems can be seen from two sides, namely internal and external (Susilo, 2010). From the internal side, the inhibiting factors are limited capital, weak business networks, and the ability to penetrate the market. From the external side, the inhibiting factors are unfavorable business climate, limited facilities and infrastructure, the implications of regional autonomy, the nature of products with short life times, and limited market access. MSMEs capital is a problem that always exists even though the government has issued various policies to help overcome these problems.

The results of research from Nisa (2016) reveal that government policies requiring credit distribution to MSMEs from Commercial Banks in Indonesia do not have a positive impact on increasing credit growth to MSMEs. On the other, it is difficult for the Bank to get the target of lending to MSMEs of 15% of total loans in 2017 (Kompas.com 21-5-2017 at 13:16)³, this is because MSMEs have not met bank requirements for obtaining credit. Increasing financial inclusion be able to develop MSMEs because MSMEs better understand the basic concepts of financial products, carry out better financial planning and management, and protect against fraud and unhealthy business in the financial market, it is also expected that MSMEs have the ability to survive in financial crisis (Financial Well Being). Increasing financial literacy and inclusion for the development of MSMEs also requires optimizing the use of financial technology to facilitate access and expand outreach.

During the Covid-19 pandemic made human interactions and activities reduced, this also had an impact on all business sectors, especially MSMEs. The government identified four main MSMEs problems during the Covid-19 pandemic, namely decreased demand, product marketing, access to raw materials and low human resources, and the main problem is decreased demand (DDTC News, 2020). To support MSMEs survive, the government has provided various incentive and

stimulus facilities with a total value of IDR123.4 trillion. This figure is divided into six stimulus policies. First, an interest subsidy of IDR 35.2 trillion. Second, the placement of government funds in commercial banks for credit restructuring of Rp. 78.7 trillion.

Third, spending on guarantee fees of IDR 5 trillion. Fourth, guarantee for working capital of IDR 1 trillion. Fifth, investment financing to cooperatives through the LPDB (The Agency For Revolving Fund Management) Ministry of Cooperatives and MSMEs is IDR1 trillion and the sixth MSMEs DTP final PPh tax incentive is IDR 2.4 trillion. Many opportunities for MSMEs to access credit from the government during this pandemic and new normal life to carry out an activity, including the obligation to wear masks and physical distancing, then the use of technology to increasing the accessibility of banking products by MSMEs is needed. Based on this background, it is interested to conducting research with the title "Web-Based Online Information Systems: One way to increasing the financial inclusion of MSMEs during the Covid-19 Pandemic."

Creating Web-Based Information System model to increasing the financial inclusion of MSMEs during the Covid-19 Pandemic and it is hoped that with an increasing financial inclusion, MSMEs can survive during the Covid-19 pandemic. In the "New Normal" era of the Covid-19 pandemic, it is be able to return activities, and attention to health protocols, one of which is physical distancing, with this Web-based Information System minimizing people coming to the Bank, all credit application data is uploaded by web.

2. LITERATURE REVIEW

2.1. "New Normal" Protocol to Prevent Corona Covid-19 Transmission

New Normal is a new life that must maintain productivity to adapt Covid-19, because until now there has not been found a definitive vaccine with international standards for the treatment of the corona virus. The Ministry of Health (Kemenkes) issued the Minister of Health Decree number (HK.01.07 / MENKES / 328/2020)⁵ concerning Guidelines for the Prevention and Control of COVID-19 in Office and Industrial Workplaces in Support of Business Continuity in Pandemic Situations. One of these guidelines is the implementation of Physical Distancing in every activity of at least 1 meter. With this rule, the use of technology is needed to keep people doing activities during the Covid-19 pandemic.

2.2. Financial Inclusion

The Consultative Group to Assist the Poor (CGAP) defines financial inclusion as a condition where all working-age people are able to get effective access to credit, savings, payment systems and insurance from all financial service providers. Sarma (2011)⁶ defines financial inclusion as a process that guarantees ease of access, availability, and benefits of the formal financial system for all economic actors. Central Bank of Indonesia (2013)⁷ defines financial inclusion as all efforts aimed at eliminating all forms of price and non-price barriers to public access in utilizing financial services.

Central Bank of Indonesia made a policy to increasing financial inclusion called inclusive financial policy. The policy took the form of financial service deepening targeting the lower middle class people. So financial services in Indonesia are not only for the upper middle class, but also the lower middle class. Based on the National Financial Literacy Survey of Indonesia (SNLKI) conducted by OJK in 2013, the MSMEs financial literacy rate reached 15.7 percent while the MSMEs financial inclusion rate was only 53.3 percent. This number is lower than the national average of 21.8 percent (financial literacy) and 59.7 percent (financial inclusion). MSMEs in Indonesia are growing rapidly, even the Financial Services Authority (OJK) assesses that there is potential in the MSMEs sector to develop further in financial management. Access to financial services can be measured by the number of banking offices and the number of ATMs scattered in a region, the use of financial services is measured by the number of deposits and credit thrown / distributed. Sarma (2012)⁸ summarizes it all in one concept namely Index of Financial Inclusion.

2.3. Bankable and MSMEs Financial Well Being.

Banks usually see the bankability of a company or project to be funded with the 5Cs criteria, namely Capital, Collateral, Capacity, Character and Condition. Financial well-being definition according to OJK Regulation No. 76 / POJK.07 / 2016 is a condition characterized by the ability of the community to survive when a financial crisis occurs. So far, MSMEs are known to be resilient and able to survive in a state of crisis, as happened in 2013 (weakening global financial conditions), many large companies in Indonesia have collapsed and eventually closed operations due to the monetary crisis. But not like these large companies, it turns out that the MSMEs is more resilient to the financial crisis. On the other research from Susilo (2010) shows that the role of banks in financing MSMEs in Surakarta and Jojakarta small-scale needs to be improved.

3. METHODS

This research is a descriptive study and applied research and units of analysis are 1) MSMEs 2) Bank and 3) Office of Cooperatives and MSMEs. The sampling technique was based on purposive sampling. The research instrument used a questionnaire, interview and FGD. The data analysis technique uses descriptive analysis to describe the findings and policies that involve interested parties to create a web-based online information system model to increase the financial inclusion of MSMEs during the Covid-19 Pandemic.

4. RESULT AND DISCUSSION

In Blitar City, there are approximately 21,291 MSMEs spread across at 3 Districts and 21 Sub-Districts. About 12,898 were micro enterprises, while small and medium enterprises had less than 100 businesses. The types of MSMEs businesses that are respondents as manufactured 28%, trading 50%, service 16% and livestock 6% (sisharini et al., 2019) .

The large number of micro businesses is due to ability, the majority do not have enough capital. The impact of, 1,715 micro-entrepreneurs in Blitar City received Productive Micro Business Assistance (BPUM) from the Central Government. The proposed micro-entrepreneurs have met the requirements, including having a valid National Identity Number (NIK), not having loans or credits and having a maximum balance of IDR 2 million. From the requirements for obtaining BPUM, it can be seen there are 1,715 micro business actors who have not received credit from financial institutions.

According to BPS data in a lack of capital, some companies / businesses do not use banking services, the reasons include: Don't Know the Procedure (The lack of knowledge about the procedures for borrowing money at the bank), Difficult Procedure (The mechanism / procedures for borrowing money from a bank is difficult / convoluted), No collateral (It has no guarantee / collateral such as; home, car certificates and so on which are one of the conditions for borrowing money), High Interest Rates (The high interest rate on loans at banks), Not interested (There is no desire to get a loan from a bank), Proposal Rejected (Submitted a loan proposal, but the bank has not granted the proposed loan).

Based on the conditions of MSMEs during the pandemic and current technological developments, the use of technology to increasing financial inclusion while still attention to health protocols is very necessary. In accordance with the unit of analysis, there are 3 parties involved in the web-based online information system model to increasing financial inclusion of MSMEs during the Covid-19 Pandemic, namely MSMEs, Banking and the Cooperative Office and MSMEs.

The flow of the 3-party involvement in this model is shown below.

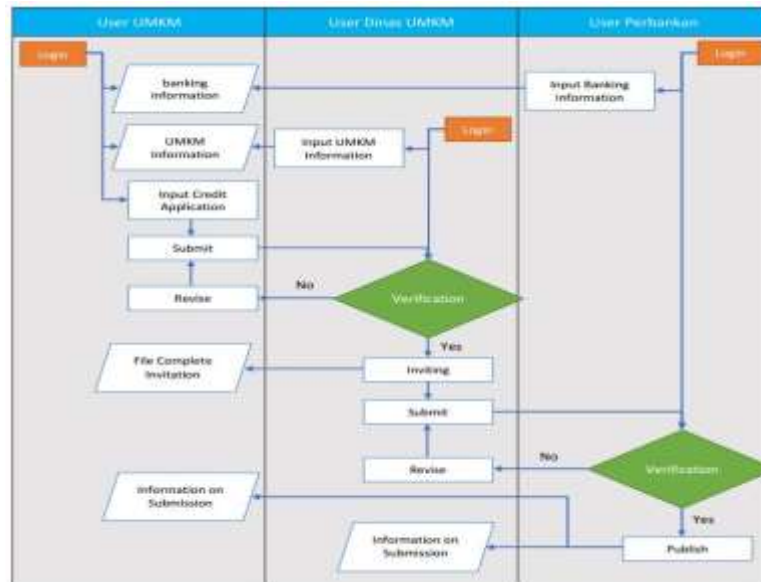


Figure 1. Web-based online information system model to increasing financial inclusion of MSMEs

There are 3 users, namely MSMEs, Banking, and the Department of Cooperatives and MSMEs, the roles of each user are as follows:

1. Department of Cooperatives and MSMEs.
It is the control holder of this system, to be able to login to MSMEs and Banks, you must create a user login through the Cooperative and MSMEs Office. In addition, it also provides information related to MSMEs that are fostered by the Cooperative and UMKM Office.
2. Banking.
The role of banking in this model is to provide information on banking products that can be accessed by MSMEs, accompanied by information on the requirements for applying for credit.
3. MSMEs.
From this model, MSMEs obtain information about MSMEs as a whole and information about banking. When MSMEs apply for credit, the Department of Cooperatives and MSMEs will verify the existence and business of MSMEs, then if eligible to apply for credit MSMEs are welcome to complete and input all the credit requirements required by the bank. The Cooperative and MSMEs Office then forwards the credit application file to the bank, then the bank verifies if there is a file that is lacking, the UMKM can revise it. All information, whether from MSMEs to Banking or from Banking to MSMEs, always goes through the Department of Cooperatives and MSMEs. In the end, if the completeness of the credit is complete and approved by the bank, the credit can be disbursed.

5. CONCLUSION AND RECOMMENDATION

5.1. Conclusion

The web-based online information system model is one of the solutions to increasing MSME financial inclusion. Information on banking products can be accessed by MSMEs quickly by utilizing technology, especially during the Covid-19 pandemic. MSMEs to get credit do not have to come to the banking directly but simply through online, thereby reducing direct physical contact and reducing the spread of covid-19.

The process of channeling credit by banks can take place quickly without compromising the principle of prudence, the first verification of MSMEs is carried out by the Cooperative and UMKM Office, then followed by the Banking for the requirements required by the banking sector.

5.2. Suggestion

The web-based online information system model is one of the solutions to increasing the financial inclusion of MSMEs by utilizing technology, therefore there is a need for socialization to parties with an interest in this web by the Cooperative Office and MSMEs as controllers.

The fulfillment of credit terms by MSMEs remains the main requirement so that MSMEs can access credit from banks, therefore MSMEs must be able to prepare these credit requirements.

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The Effect Of Perceived Usefulness And Perceived Ease Of Use On Online Buying Interest Is Through The Attitude Of Using Social Media

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ABSTRACT

The development of information technology has penetrated various aspects of social life, including the pattern or lifestyle of the community in buying and selling activities. With the very rapid development of technology today plays an important role in fulfilling all the needs of society. Currently, on average, all levels of society use internet media every time they do something, especially during the Covid 19 period, where like it or not and like it or not, people are required to use something online, including in buying and selling or trading transactions. Electronic commerce or e-commerce is an e-lifestyle trading system today by enabling buying and selling transactions to be made online. This research is used to see from the Technological Acceptance Model (TAM) theory with every activity related to technology or information systems used to find out the easy benefits and ease of use of the technology used and associated with the attitude of using social media towards online buying interest. The population in this study are all people who use or have purchased goods transactions online, the sample in this study amounted to 147 respondents. Data analysis using: Validity Test, Reliability Test, path analysis. The results of the analysis show that the perceived benefits and ease of use have a significant effect on the attitude of using social media and buying interest online. However, when viewed from the indirect effect, the perceived benefits and ease of use do not have a significant effect on online buying interest through the attitude of using social media.

Keywords : Technology Acceptance Model, perceived benefits and ease of use, Buying Interest Online, Satisfaction

1. INTRODUCTION

The development of the era of digital technology is inevitable, especially during the Covid 19 pandemic like today, where every company has to adjust to the use of a marketing strategy with an online system to sell all of its products. Online shopping has become a habit for many people because of the convenience it provides, and many people think that online shopping is one of the means to find the items needed. The research method used is to compare the results of research and journals that examine online shopping in Indonesia and abroad. Furthermore, the existing theory of consumer behavior is reviewed and reviewed so that it can be concluded that consumers' considerations of shopping online at an online store are reviewed. The findings from previous studies show that many factors influence it. The results of research from several previous studies are used by the author as a reference and consideration for online shops in Indonesia in linking and keeping customers shopping online.

On the other hand, companies that are currently booming in the use of online sales systems have understood that almost all people, from students to professionals, use internet access to connect, provide and access information quickly. The birth of social media makes people's behavior patterns experience a shift in both culture, ethics and existing norms. Indonesia with a large population with various ethnic, racial and religious cultures has a lot of potential for social change. From various backgrounds and ages, almost all Indonesians own and use social media as a means of obtaining and conveying information to the public. Searching for the information needed at this time on average uses the internet which is used as a source in making decisions, and can even buy goods online. Online shopping has been shown to provide more satisfaction to modern consumers who are looking for convenience and speed (Yu and Wu, 2007).

According to (Bai et al., 2008) has tested empirically with a conceptual model of the effect of website quality on customer satisfaction and purchase intention. The results show that the quality of the website directly has a positive effect on customer satisfaction, and customer

satisfaction has a positive influence on purchase intention. Meanwhile, according to (Amit et al., 2006) the quality of the website has an influence on buying interest. From the factors and references to previous research and literature and based on the acceptance model theory (TAM), it is the researcher's interest to conduct an in-depth study of some of the attributes that shape people to shop online such as easy benefits and ease of use linked to the attitudes and interests of consumers who do online shopping transactions.

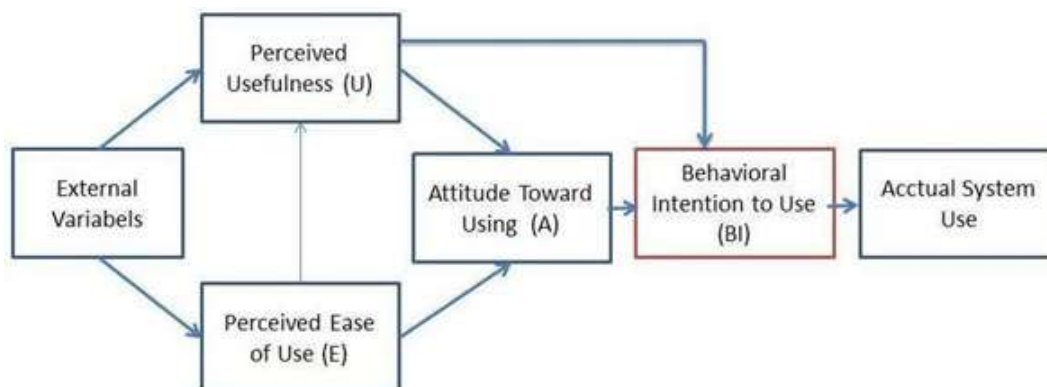
2. LITERATURE REVIEW

2.1. Management Information Systems

The Management Information System (MIS) is an information system between humans and computer machines that is teringrasi for use as decision making in which an information system is provided that can be used by users with various needs. (Mcleod, 2008). SIM has the objective, one of which is to meet the needs of general information for all lines and sub-lines within the company, SIM can also be used to provide information in the form or in the form of the required reports, and other outputs from the system itself depending on the SIM application used.

2.2. Technology Acceptance Model (TAM)

TAM was originally obtained from the opinion of Ajzen and Fishbein (1980) in Theory of Reasoned Action introduced and developed by Davis (1989). In TAM, the system of a person's acceptance of information technology is described as seen from two main variables, namely Perceived Usefulness and Perceived Ease of Use (Perceptions of Ease of Use). The following is a drawing of the initial TAM construct introduced by Davis (1989):



Gambar 1 : Technology Acceptance Model (TAM) Davis Bagozzi dan Warshaw (1989)

Figure 1. Technology Acceptance Model (TAM), Davis (1989)

2.3. Ecommerce

Ecommerce is a system of buying and selling goods or services over a network with an internet connection (Nugroho, 2006: 5). Ecommerce has advantages such as sales and marketing systems and information on a product can be done easily. Another advantage is that buyers can make purchase transactions more easily, especially in selecting and comparing the goods or services to be purchased. Thus, consumers can get products in the form of goods or services that are desired, which are good and at prices that are in line with the budget. Besides the advantages of using e-commerce, it also has disadvantages such as security factors, knowledge of online buyers, and the availability of supporting infrastructure.

2.4. Attitude to Use of Social Media

Attitude is a general term that describes and defines certain behavior of a person (Fishbein and Ajzen, 1975). The concept is summarized as attitudes such as one's attractiveness, one's liking and existing behavioral intentions, which in the organization can be described as loyalty to brand beacon, brand image, and general attitudes towards existing products (Fishbein and Ajzen, 1975).

In other words, attitude is not behavior in itself but it is disposition that can influence the behavior of a person. (Fishbein and Ajzen, 1975).

2.5. Buying Interest Online

Purchase interest is a behavior of a person (consumer) where consumers have the desire to choose, use and even want the products offered by producers or companies (Kotler, 2005: 205). Online buying interest is described as someone's buying interest online where the individual has the desire and goal to be involved in conducting an online transaction. Online transactions can be considered as a process in which information retrieval takes place, transfers information and purchases products / services (Kwek, et al, 2010).

2.6. Social media

Social media is defined as "a group of applications that use the internet and build on the ideology and technology of Web 2.0 and enable the creation and exchange of user-generated content" (Kaplan & Haenlein, 2010) examples of social media such as Wikipedia, YouTube, Facebook, Second Life, and Twitter, and others.

2.7. Relevant Research

To avoid plagiarism, researchers conducted a search on previous research. From the results of these searches, several titles were obtained related to the problem to be studied, namely:

Technology Acceptance Model Revised - An Investigation on the Managerial Attitudes towards Using Social Media in Innovation Processes, Jennifer Austermann, Birte Mertins, 2014, Conclusion This research model is based on the extended Technology Acceptance Model (TAM2) and is revised for the purposes of this study. The research model consisted of PU, PEU, PBC, SN, PIIT, ATT and BI factors. It aims to explain the influence between PU, PEU, PBC, SN and PIIT on managerial ATT on the use of social media for innovation and to see whether there is an influence of attitudes on the use of BI in using social media in process innovation.

The Impact of Website Quality on Customer Satisfaction and Purchase Intentions: Evidence from Chinese Online Visitors, author of Bai, Law & Wen / 2008, where website quality has a positive impact on customer satisfaction, and customer satisfaction variables have a positive impact on online buying interest. There is an effect of website quality on purchase intention, customer satisfaction significantly mediates this effect.

The Influence of Website Quality on Purchase Intention for Jaben Bandung Products, author Yuliandi & Prasetyo / 2012, conclusions There is a simultaneous influence between the quality of the website and the interest in buying Jaben Bandung products.

3. METHODS

Explanatory research is the type of this research. The population in this study are all people of Malang City who use social media to shop online. Because the population in this study is unknown, the number of samples in this study is based on opinion (Hair, Jr, 2015) which suggests a sample size of 5 to 10 for each indicator used when the population is unknown. The number of indicators in this study is 21 indicators, so the number of samples that can be taken is between 105 and 210 samples. The number of samples taken in this study is $21 \times 7 = 147$ respondents. Data analysis using the SPSS program using 2 regression models.

3.1. Operational definition :

Table 1: Research Variables and Indicators

Variable	No	Indicator
<i>Usefulness (X1)</i>	X1.1	Social Media allows me to get work done more and faster
	X1.2	Social media is currently very qualified in online sales
	X1.3	Social Media makes it easier for me to transact
	X1.4	Social Media can improve my innovation in shopping
	X1.5	The use of social media increases the effectiveness of online shopping

Variable	No	Indicator
	X1.6	Social media gave me access to a lot of information about online shopping
	X1.7	The advantages of shopping on social media outweigh the disadvantages
Ease Of Use (X2)	X2.1	Overall, existing social media is easy to use
	X2.2	Shopping online with social media is very easy to operate
	X2.3	Shopping on social media doesn't confuse me
	X2.4	Social media in online shopping is easy to navigate
	X2.5	Social Media allows me to have more accurate information
Attitudes towards using Social Media (Z)	Z.1	I think positively about using social media for online shopping
	Z.2	Social media is a positive tool for online shopping
	Z.3	Using social media for online shopping is a wise idea
	Z.4	Social media is worth using in online shopping
	Z.5	Using Social Media in online shopping is fun
Interests Buy online (Y)	Y2.1	I use social media for online shopping
	Y2.2	I plan to use social media for regular online shopping in the future
	Y2.3	The pleasant feeling of seeing interesting information for online shopping
	Y2.4	Promotions on social media make me shop online

Source: Taken from several articles, processed (2020)

3.2. Research Conceptual Framework

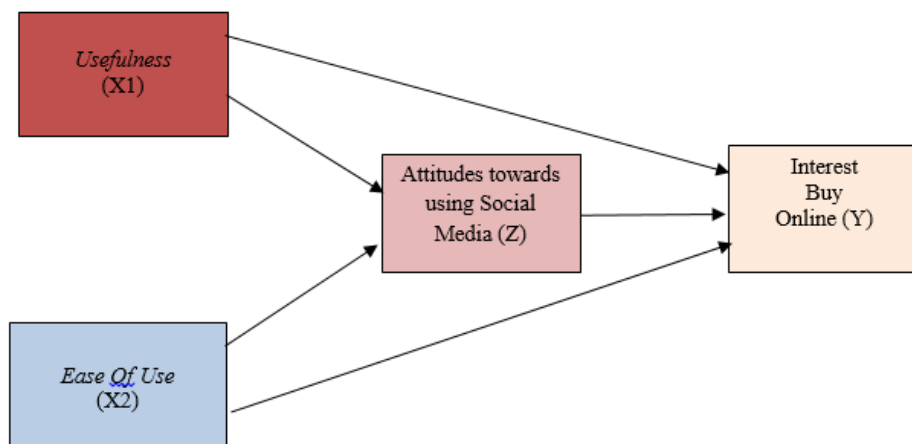


Figure 2 : Conceptual framework for research

Main Reference:

1. (Luarn & Lin, 2005) : Understanding how to use the mobile internet
2. (Alharbi & Drew, 2014) Technology Acceptance Model on Behavioral Intention of Using Learning Management Systems for academics
3. (Shroff et al., 2011) Technology acceptance model towards the intention of student behavior in using the e-portfolio system
4. (Hong et al., 2006) Comparison of three models in the context of the mobile internet: Behavioral models of information technology use

3.3. Hypothesis :

From the existing pathway model, 7 (seven) hypotheses can be made in this study. The existing hypotheses are as follows:

- H1 : Usefulness affects Attitudes towards using Social Media
- H2 : Ease Of Use affects attitudes towards using Social Media
- H3 : Usefulness affects Buy Online Interest Attitudes

- H4 : Ease Of Use affects Buy Online Interest Attitudes
- H5 : Attitudes towards using Social Media have an effect on Buy Online Interest Attitudes
- H6 : Usefulness affects Buy Online Interest Attitudes through Attitudes towards using Social Media
- H7 : Ease Of Use affects Buy Online Interest Attitudes through Attitudes towards using Social Media

4. Analysis Test

4.1. Multiple Linear Regression Model 1

This analysis is to determine the effect of Usefulness and Ease Of Use variables on Attitudes towards using Social Media. The regression model of this equation is:

Equation Model 1 $\rightarrow Z = PZX1 + PZX2 + e$

Table 2: Results of SPSS Analysis of Regression Equations Model 1

Model	Unstandardized Coefficients		Standardized Coefficients	T	Sig.
	B	Std.Error	Beta		
Usefulness (X1)	0,749	0,068	0,660	10,969	0,000
Ease Of Use (X2)	0,230	0,070	0,198	3,294	0,001
<i>Dependent Variabel</i>	Attitudes towards using Social Media (Z)				
R	0,775				
R ₂	0,601				
R _{2Adjusted}	0,596				
F _{hitung}	108,596				
<i>Probability</i>	0,000				
<i>Line Equation</i>	$Z = PZX1 + PZX2 + e$				
<i>Result</i>	$\epsilon_1 \quad Z = 0,660 X_1 + 0,198 X_2 + e$				

Source: Primary research data, processed by SPSS (2020)

In the regression equation model for model 1 (table 2) it is known that the probability value of the Perceived Benefit variable (X1) = 0,000 and the Easy-to-Use variable (X2) = 0,000, when compared with the alpha used (5% = 0.05) it can be concluded that The two variables studied were X1 and X2 which had a positive and significant influence on the attitude variable of using social media (Z). Furthermore, to find out how much the contribution of the independent variable under study is used the value of R Square with a value of 0.601 or 60.1% of variables X1 and X2 affect variable Z and the remaining 39.9% is the contribution of other variables not analyzed in this study. And the value of $e_1 = \sqrt{(1-0,775)} = \sqrt{0,225} = 0.474$.

The next analysis looks at the effect of the variables together using the F test. The F test results are 108.596 with a probability of 0.000, when compared to the standardized probability of 5% (0.05), it can be concluded that the regression model 1 together with Perceived benefits and easy-to-use variables affect the attitude of using social media.

4.2. Multiple Linear Regression Model 2

This analysis is to determine the effect of the variables Usability, Ease of Use and Attitudes on online buying interest. The regression model of this equation is:

Equation Model 2 $\rightarrow Y = PYX1 + PYX2 + PYZ + e$

Table 3: Results of SPSS Analysis of Regression Equation Model 2

Model	Unstandardized	Standardized	T	Sig.
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	Coefficients		Coefficients		
	B	Std.Error	Beta		
Usefulness (X1)	0,345	0,072	0,327	4,761	0,000
Ease Of Use (X2)	0,387	0,057	0,359	6,833	0,000
Attitudes towards using Social Media (Z)	0,292	0,065	0,314	4,481	0,000
<i>Dependent Variabel</i>	Buy Online Interest Attitudes (Y)				
R	0,848				
R ₂	0,720				
R ₂ Adjusted	0,714				
F hitung	122,311				
Probability	0,000				
Line Equation	Y = PYX ₁ + PYX ₂ + PYZ + e				
Result	Y = 0,327X ₁ + 0,395X ₂ + 0,314 Z + e				

Source: Primary research data, processed by SPSS (2020)

The regression equation model for model 2 (table 3) shows that the probability value of the Perceived Benefit variable (X1) = 0,000, the Easy-to-use variable (X2) = 0,000 and the Attitude variable for using social media (Z) = 0,000, when compared to the alpha used (5 % = 0.05) it can be concluded that the three variables studied in model 2 such as variables X1, X2 and Z have a positive and significant influence on the attitude variable online buying interest (Y). Furthermore, to find out how much the contribution of the independent variable under study is used the value of R Square with a value of 0.720 or 70.2% of variables X1, X2 and Z affect the variable Y and the remaining 29.8% is the contribution of other variables which are not analyzed in this study. . And the value of $e_1 = \sqrt{(1-0,848)} = \sqrt{0,152} = 0,390$.

The next analysis looks at the effect of the variables together using the F test. The results of the F test are 122.311 with a probability of 0.000, when compared to the standardized probability of 5% (0.05) it can be concluded that regression model 2 is jointly variable. Perceived Benefits, Easy to Use variables and attitude variables of using social media have an effect on online buying interest.

4.3. Hypothesis testing

From the results of the analysis that has been done, it can be seen that the direct effect and indirect effect as well as answering the hypothesis proposed in this study. The results of the hypothesis in this study can be seen in the following table:

Table 4: The value of the direct, indirect and total effects of each variable

Hypothesis	Direct Influence	Prob	Indirect Effect	Total Effect	Information
X1 → Z	0,660	0,000			Significant
X2 → Z	0,198	0,001			Significant
X1 → Y	0,327	0,000			Significant
X2 → Y	0,359	0,000			Significant
Z → Y	0,314	0,000			Significant
X1 → Z → Y			0,660 x 0,314 = 0,207	0,660 + 0,327 = 0,987	No Significant
X2 → Z → Y			0,198 x 0,314 = 0,062	0,359+ 0,327 = 0,686	No Significant

Source: Primary research data, processed by SPSS (2020)

Based on the results of hypothesis testing as involved in table 4, it can be seen that the direct effect and the indirect effect can be seen. For the direct effect of all the variables studied with the free variables, easy to use and easy to use, which are associated with the attitude of using social media and buying interest online, all of them have a positive and significant effect, but for all the independent variables associated with interest through attitude, all of them are not significant. This can happen because in the use of social media in doing online shopping, respondents think

they do not need an attitude because from the open questionnaire, respondents do shopping based on urgent needs so that there are still concerns in respondents about the quality and suitability of the goods purchased so that respondents do not think something positive and a wise idea to make purchases for certain items on social media. Moreover, the security aspect must also be considered.

5. DISCUSSION

5.1. The effect of perceived benefits on attitudes in the use of social media

The results of statistical testing with the SPSS program in the regression equation model I obtained the effect of perceived benefits on the attitude of using social media, the result is the perceived benefit variable (X1) obtained Beta value 0.660, t count = 10.969 and a significance level of 0.000. By using an alpha standard of 0.05, it means that the X1 variable is smaller than the standardized significant limit, so that it can be concluded for the first hypothesis which says there is thought to be an influence between the perceived benefits on the attitude of using social media which can be accepted or statistically tested. This article is in line with the research conducted by (Nasution, 2018) The results of his research said that there was an effect of convenience and price simultaneously on the decision to purchase clothing products online. Case studies of online shopping students at FEBI IAIN Padangsidimpuan. This research is also in line with research conducted by (Fitriana & Wingdes, 2017) Where this research proves that partially the three factors of Perceived Usefulness, Perceived Ease of Use, and Perceived Credibility are proven to influence Indomaret consumer interest in using e-Money.

5.2. The effect of ease of use on the attitude of using social media

The results of testing with SPSS on Model I regression, it is known that the effect of ease of use on attitudes to using social media, the result is the X2 variable (easy to use) obtained a Beta value of 0.198, t count = 3.294 and a significance level of 0.000. By using an alpha tolerance limit of 0.05, it means that the significance value of X2 is smaller than the standardized significant limit so that it can be concluded for the second hypothesis which says that there is an influence between ease of use on attitudes towards using social media which can be accepted or tested statistically. This article is in line with the research conducted by (Sugianto Putri, 2016) said the perceived ease of use of online shopping had a significant effect on consumer attitudes on the attitude of using social media. This research is also in line with research conducted by (Syahril & Rikumahu, 2019)(Rachmawati et al., 2019) This study used 380 respondents with the results of perceived benefits, perceived ease of use, and perceived risk, both partially and simultaneously, had a positive and significant effect on the interest in using e-money.

5.3. The effect of perceived benefits on online buying interest

The test results with the SPSS program for regression Model II in Table 3 show the effect of perceived benefits on Purchase Intention, the result is that the X1 variable (perceived benefits) has a beta value of 0.327, the value of t count = 4.761 and a significance result of 0.000. By using a significant alpha standard limit of 5% (0.05), it means that the significance value of X1 is smaller than the significance limit used, this can be concluded for the third hypothesis which says there is an effect between perceived benefits on online buying interest can be accepted or statistically tested. This article is in line with the research conducted by (Silaen & Prabawani, 2019) from the results of research with multiple linear regression analysis shows that there is an effect of perceived convenience, perceived benefits and promotions on repurchase interest.

5.4. Effect of ease of use on online buying interest

The test results with SPSS on Model II regression showed that the effect of ease of use on online buying interest, the result was that the X2 variable (easy to use) obtained a beta value of 0.359, t count = 6.833, and a significance level of 0.000. By using an alpha of 5% or a significant limit of 0.05, it means that the significance value of X2 is smaller than the significant limit used so the

researchers conclude for the fourth hypothesis which says there is an influence between ease of use on online buying interest that can be accepted or statistically tested. This article is in line with the research conducted by (Rizki et al., 2015) (Rachmawati et al., 2020) The results showed that the convenience and quality of information had a significant effect on purchase intention and purchase decision. The results of the analysis also show that the ease of use variable influences consumers to purchase interest and that the quality of accurate information about a product online has an influence on consumer buying interest or people buying online..

5.5. The influence of the attitude of using social media on online buying interest

The results of testing with SPSS in regression Model II show the influence of social media use attitudes towards buying interest, the result is that the variable Z (attitudes to using social media) is obtained beta (0.314), t count (8.559) and a significance level of 0.000. By using alpha 5% or a significant limit of 0.05, it means that the significance value of X3 is smaller than the significant limit used so that it can be concluded for the fifth hypothesis which says there is an influence between the attitude of using social media on online buying interest can be accepted or tested statistically. This article is in line with the research conducted by (Mila Setiawati , Yulfita Aini, 2015) Where from the regression analysis, the results show that there is a very strong and significant relationship between social media and buying interest, the researchers suggest that consumers who shop on social media should visit a trusted website and have a guaranteed level of security and be more careful. in using online shopping services so as not to be disappointed in the future.

5.6. The effect of perceived benefits on buying interest online through the attitude of using social media

The results of hypothesis testing in Table 4 show that the attitude of using social media as a moderating variable between the perceived benefits of online buying interest can be seen from the magnitude of the indirect effect (0.207) compared to the direct effect (0.327). Because the results of the direct effect are greater than the indirect effects, it can be concluded that the perceived benefits have no effect on online buying interest through the attitude of using social media so that the sixth hypothesis cannot be accepted or not statistically tested. The influence of the moderator variable is insignificant due to the attitude of using social media of consumers who shop online, not or not considering social media as a positive tool for online shopping transactions or not stuttering social media is a wise solution there in making transactions. This can happen because consumers are still afraid of the existence of negative information from online shopping such as goods that do not arrive as ordered, the difficulty of payment systems made with virtual money and others so that the perceived benefits do not get significant results. (Febrianto, 2018). Likewise the research results submitted by (Karnadjaja et al., 2018) The results of his research state that risk perception has a negative effect on the trust and attitude variables. This study also shows that beliefs and attitudes have a positive effect on people's intentions to transact or shop online.

5.7. The effect of ease of use on interest in buying online through the attitude of using social media

The results of the hypothesis test in Table 4 show that the attitude of using social media as a moderating variable between ease of use and interest in buying online, the value of the indirect effect is 0.062 compared to the direct effect of ease of use on the attitude of using social media as big as 0.359. Because the results of the direct influence are greater than the indirect effects, it means that the perceived benefits do not affect the interest in buying online through the easy use of social media so that it can be concluded that the seventh hypothesis cannot be accepted or not tested statistically. The insignificant influence of the moderator variable can be caused by consumers who buy goods online not only seeing the convenience, but also the existence of the desired item, so even though it is not easy to operate online purchases, if the desired item is there, consumers are willing to buy it. This is in line with what was stated by (Rachmawati et al., 2020) (Febrianto, 2018) where in online purchasing is not only the aspect of convenience but also the factor of trust and quality of information offered. In line with this (Hariyanti et al., 2020) (Shodiq

et al., 2018) Say what makes consumers satisfied in making online purchases such as Influence Of Design, Information Quality And Customer Services from existing websites.

6. CONCLUSION

The results of the analysis show that perceived benefits and ease of use have a significant effect on attitudes to using social media and online buying interest. However, when viewed from the indirect effect, perceived benefits and ease of use do not have a significant effect on buying interest online through the attitude of using social media. Consumer interest in buying goods online is not only seen from the variables that the researchers have done, but also from various aspects and many aspects. The quality of the goods, and the quality of the website are also very influential in the decision to buy online, especially in the current coronavirus situation (Hidayatullah, Khourouh, et al., 2020). In addition, the role of the marketing information system is also very important to inform the existence of a company in a comprehensive manner (Hidayatullah, Rachmawati, et al., 2020), as well as financial support with an online system development system so that system administrators must understand and understand also business development with investment (Windhyastiti et al., 2019). Online service business management is what is really needed is the trust in the services we will offer and the quality we provide, because service businesses can and can develop because of trust and satisfaction and vice versa, these service businesses can also lose money and even close because of lack of trust and quality there is no (Hidayatullah, Windhyastiti, et al., 2020)(Alvianna & Hidayatullah, 2020).

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Solid waste management strategy as an alternative energy source for economic driver in Kelurahan Gading Kasri, Malang City

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ABSTRACT

The economic factor is one of the keys to an area that can be said to be advanced and independent, until now the community is still dependent on expensive fuel, while how to use raw materials around the area in the Gading Kasri village is the right idea. One of the ideas to improve the economic factor of the community in the Gading Kasri village is how to convert waste into fuel. The benefits obtained are very large, including helping the community's economy, reducing plastic waste, and turning plastic waste into fuel that is useful for cooking, starting motorbikes, and other fuels. In this research, the design of the Combustion Optimization Tool for the Distillation of Plastic Waste into Oil Fuel (BBM) was made as an effective solution to produce an energy source in the form of gas oil with a maximum volume when compared to previous designs for similar devices. In this design, a plastic waste burner cross-section is made in the form of a circular crossbar so that the volume of waste and the effectiveness of combustion that is collected can be more in volume. Furthermore, this tool will be used by the community in the Gading Kasri Village so that it will be more beneficial for the community or general public.

Keywords : Biomass, alternative, energy, plastic, waste, distillation, gasification, economic

1. INTRODUCTION

Final Processing Site (TPA) is a place to collect waste from several temporary shelters (TPS). In Indonesia, currently, waste processing at TPA is carried out using open dumping methods and sanitary landfills. The open dumping method has is prohibited through Law number 18 of 2008 concerning Waste Management. With the issuance of this law and to overcome the increasingly urgent waste problem, Several studies have been conducted to design a friendly waste processing technologies environment (Perini et al. 2017). Initially, many countries used incinerators or heating technology. However, incinerator technology turns out to have an impact in the form of dioxins and furans as a result of emissions that are very harmful to the human body. As an effort tackling the impact of the incinerator, now experts have discovered processing technology new waste, namely methane or bio-mass fermentation technology (Yadav 2015). Biomass technology is a clean energy technology that has been agreed by several countries in the Kyoto Protocol to develop a clean development mechanism. Biomass is organic material produced through photosynthetic processes, either in the form of products or waste.

One of technology that uses biomass to produce energy is gasification technology. The supply of biomass raw materials in Indonesia is more than the source of other alternative energy. The only challenge faced today is the cost efficiency collection of materials and mobilization of materials so that production costs are not too high (Zeng, Song, and Wang 2012). So that this technology provides great benefits to society and regional development, biomass and gasification technology development must be accompanied by precise economic calculations (Parizeau, von Massow, and Martin 2015). The ESDM ministry's data states that the energy potential is generated from waste cities throughout Indonesia reached 49,810 MW. The current installed capacity of biomass technology only 0.89 percent.

The installed capacity and potential of biomass power plants in Indonesia. However, waste originating from plastic materials is always the main source of the problem, because it is difficult to process it into an energy source, therefore in this design a "Combustion Optimization Tool Design for the Distillation of Plastic Waste into Fuel" was made in this design. as an effective solution to produce an energy source in the form of gasoil with a maximum volume when compared to previous designs in similar devices. In this design, a plastic waste burner cross-

section is made in the form of a circular crossbar so that the volume of waste and the effectiveness of combustion that is collected can be more in volume.

2. LITERATURE REVIEW

2.1. Active Carbon

Activated carbon is an amorphous compound produced from materials containing carbon or charcoal which are specially treated to obtain high adsorption power. Activated carbon can adsorb certain gases and chemical compounds or selective adsorption properties, depending on the size or volume of pores and surface area. The absorption capacity of activated carbon is very large, namely 25-100% by weight of activated carbon (Morrissey and Browne 2004). Activated carbon can be divided into two types, namely: 1. Activated Carbon as Blanching Usually in the form of a fine powder with a pore diameter of 1000 Å, used in the liquid phase, and serves to remove disturbing substances. 2. Activated Carbon as a Vapor Absorbent Usually in the form of granular or very hard pellets, the diameter of the pore is 10-200 Å, generally used in the gas phase for solvent return, catalyst, and gas purification (Garner et al. 1972). In general, activated carbon/charcoal is used as a cleaning agent and absorbent and is also used as a catalyst carrier (Morrissey and Browne 2004).

2.2. Plastic Waste

The use of plastic material from year to year has increased and requires a large space to accommodate it. The number of plastic products produced in Indonesia consists of Poly Propylene (PP), Poly Ethylene (PE), Poly Styrene (PS), Poly Vinyl Chloride (PVC), Acrylonitrile Butadiene Styrene (ABS), Poly Ethylene Terephthalate (PET), Low-Density Poly Ethylene (LDPE), High-Density Poly Ethylene (HDPE), and Styrofoam, the products are already produced locally. Plastic products will be discarded by consumers because they are no longer used as waste. Of the various plastic waste that exists, Plastic Waste from the types of High-Density Poly Ethylene (HDPE) and Poly Propylene (PP) is the most abundant and easy to find. Some types of plastic have a market value, but most of the plastic snack wrap has no market value (Waste Management 2003). Source or Origin of Waste According to Wahid Iqbal and Nurul C (2009: 276) sources of waste can come from [1] Residential areas are types of waste in the form of food scraps, leftover materials from food processing or wet waste, dry waste, and ash. [2] Public places and trade centers are places of trading activity. The type of waste produced is in the form of food scraps, residual building materials, and others. [3] Agriculture and livestock Waste derived from animals or plants can be in the form of perishable food scraps and insect repellent materials.

3. METHODS

3.1 Structural Equation Modeling (SEM)

The analysis method uses a mixed-method, which combines the analysis of descriptive qualitative and quantitative analysis. Descriptive qualitative analysis was used to explain the relationship between variables based on the opinion or idea of the respondent to explore the potential of the region and society. Another analysis used SEM analysis to produce influence between the variables studied so that it is expected to be part of it in making decisions for poverty reduction programs. Analysis of Structural Equation Modeling (SEM) Statistical analysis using inferential statistics to test the strength of each indicator in forming a variable, so it can be known which indicator dominant in forming variables, by knowing the value of the factor loading each indicator against the variable. In addition, the influence between variables will also be known as independent and dependent variables. The analysis used in this study uses Structural Equation Modeling (Structural Equation Model or SEM) using packages AMOS 21 and SPSS Version 11.5 programs.

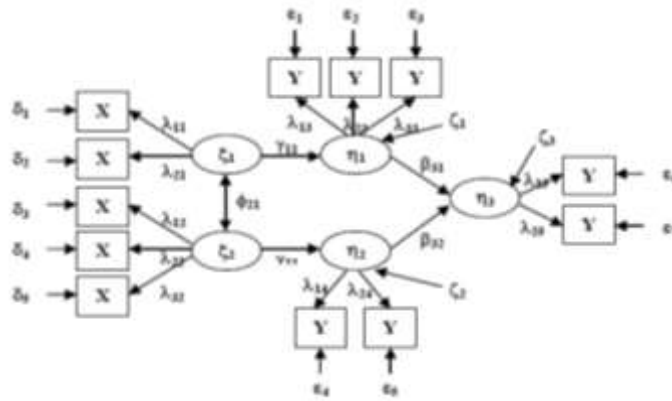


Figure 1. SEM Modeling

4. RESULT

4.1 Design and Specification

This tool has the following specifications:

- 1). Combustion Room I, 2). Distribution Pipe I (Between Combustion Room I and Filter Room I), 3). Filter Room I, 4). Condenser I (Between Filter Room I and Combustion Room II), 5). Combustion Temperature Indicator in Combustion Room I, 6). Drainage Residual Combustion, 7). Combustion Temperature Indicator in Combustion Room II, 8). Combustion Room II, 9). Condenser II (Between Combustion Room II and Storage Room), 10). Combustion Smoke Exhaust Pipe, 11). Burning Fume Exhaust Pipe to Smoke Minimizing Room, 12). Smoke Minimizing Room (filled with water to minimize combustion smoke), 13). Shelter Room (there is also a filter), 14). Faucets

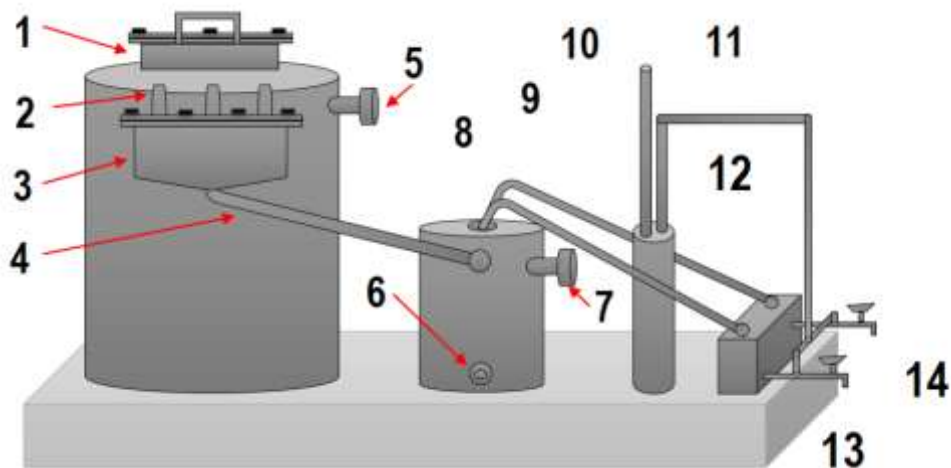


Figure 2. prototype design to convert plastic into fuel

The stages of the process can be seen at the following points, [1] The first thing that must be done is the process of sorting plastic waste because the type of plastic waste that will be processed will affect the output of the fuel to be released (clarity level). Plastic waste must be cleaned before burning. A good type of plastic waste for this tool is plastic waste from drinking mineral water bottles. [2] After sorting plastic waste, it is better for plastic waste to be crushed into plastic ore, because the firing process will be more optimal (there will be no plastic residue in the combustion chamber). The combustion capacity of this tool is + 10 kg. [3] Enter the plastic waste that has been crushed into Combustion Room I (+ 10Kg capacity), before burning the previous combustion exhaust in the drain, after there is no remaining combustion before, combustion can be carried out. The temperature in the combustion chamber, expected to be maximum (maximum

temperature indicator). [4] Steam from combustion in the combustion room I will enter Filter Room I, Filter Room I contains activated charcoal which can be replaced every 6 months. This activated charcoal is easily available at aquarium stores. [5] After passing through Filter Room I, the money from combustion will enter combustion room II, in this combustion room II the expected temperature is not more than 50 ° C. From combustion chamber II, the money from combustion will enter the Filter Room plus the Storage Room. [6] From the storage room, there is a channel to channel the smoke from the combustion residue to the Smoke Minimizing Room to minimize combustion smoke. [7] There is a Cooling Pipe to reduce the heat from the combustion oil before it is distributed to the storage room. [8] In the storage room there are two faucets to channel oil from the storage room to the next reservoir.

4.2 Testing of The Prototype

In this section, a trial will be carried out by entering the raw material for plastic waste. In this section, the plastics will be smelted to produce fuel. the amount of plastic will determine how many liters of fuel are produced.



Figure 3. prototype succeeded in producing fuel



Figure 4. Prototype succeeded in Gadingkasri

5. CONCLUSION

Combustion Optimization Tool Design for Plastic Waste Distillation into BBM as an effective solution to produce an energy source in the form of gasoil with a maximum volume when compared to previous designs in similar devices. The fuel produced by this tool can be used to fuel lawnmowers and two-stroke motorcycle engines. It is important to pay attention to sorting plastics before burning, the best is plastic waste from mineral water bottles. The main components consisting of Combustion Room I, Filter Room I, Combustion Room II, Filter Room + Storage Room, Smoke Minimizing Room. Furthermore, The fuel produced by the tool made in this research is successful, the fuel produced needs a further refining process to produce maximum filtering results to be used in cars and similar vehicles.

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An Estimated Model for Organization Performance of Small Medium Enterprises: Proposals for future Researchers in the Era of Economic Crisis

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ABSTRACT

This article proposes some appropriate indicators to measure the performance of Small and Medium Enterprises (SMEs) based on a situation analysis. This research type is a literature study. Several expert views and research results were collected for mapping. The technical analysis of this literature study uses comparative methods, situation analysis, and selecting the right indicators. The literature study results suggest a second-order estimation model for organizational performance consisting of ten SME's organizational performance indicators. Ten organizational performance indicators are divided into internal decisions measured by employee attitudes, commitment, human resources abilities, quality, service quality, efficiency and cost reduction, and external decisions measured by competitive and advantage, customer satisfaction, product innovation. The results of this study are useful for researchers who want to explain organizational performance according to the perceptions of SME owners before conducting further research that aims to determine the contribution of SME to the regional economy.

Keywords : organizational performance, indicators, an estimation model, economic recession

1. INTRODUCTION

The spread of COVID-19 at the beginning of the month in 2020 has been spreading widely almost all over the world. The World Health Organization (WHO) has declared a world pandemic that heads of state all over the world need to be aware of on March 11, 2020. The COVID-19 pandemic has been declared a national disaster by Presidential Decree No. 12/2020 and designated as a national health emergency based on the Decree of the Minister of Health. No. HK 01.07 / Menkes / 104/2020.

During the pandemic era, the lower level economic sector experienced a sharp decline. During the economic boom, the Small and Medium Enterprises (SME's) sector had a high contribution to the Indonesian economy, especially in East Java. In 2013, SME's performance contributed 19.91%, increasing steadily up to 21.70%. Even in 2017, it continued to increase until 2019. According to the Economic Census conducted simultaneously in 2016, it shows that the SME's population in East Java has experienced significant growth and provides the largest contribution to employment.

Changing environmental conditions can determine priorities regarding performance. During an economic recession, liquidity is more important than profitability. During the economic boom, profitability and growth take precedence. There are no studies that have successfully proposed and empirically tested a generalizable multidimensional model of organizational performance (Carton and Hofer, 2006). Testing about performance becomes a gap for researchers related to environmental changes from time to time. The proposal about performance becomes a gap for researchers related to changes in the environment from time to time. Changes in significant conditions such as the Covid-19 pandemic are very challenging to explain again the phenomenon of organizational performance.

The success of entrepreneurial businesses is multifaceted, depending on the form of SME's (Lussier and Pfeiffer, 2000; Shane and Venkataraman, 2000; Stevenson and Gumpert, 1985). SME's organizational performance can be a benchmark for researchers to determine the level of SMEs' contribution to the economy. In this economic recession due to the COVID-19 pandemic, no research explains the growth of SMEs and how much SMEs contribute to the economy.

The scarcity of measuring organizational performance in a situation of an economic recession is an opportunity to explore organizational performance indicators, especially SMEs. This study discusses several indicators of organizational performance in one factor and is helpful for future researchers who want to measure the organizational performance of SMEs according to the perception of SMEs owners to know the contribution of SMEs to the regional economy.

2. LITERATURE REVIEW

An understanding of the productivity of assets, human resources, physical and non-physical capital owned by the organization can be processed into the concept of organizational performance (Alchian and Demsetz, 1972; Barney, 2002). Every growth of all assets owned by the organization is called "value creation". The growth rate for organizational performance is determined by how the organization manages assets to obtain "value creation". The faster the organization gets "value creation", the more effective the organization will perform. Organizational effectiveness is the organization's ability to obtain "value creation" in a fast time according to the needs of the organization (Carton and Hofer, 2006).

Cameron (1986) has studied organizational effectiveness, concluded that there is no clear agreement on the concept of an organization called effective. Cameron (1986) and Hofer (1983) concluded that performance is a problem, theory only helps solve organizational problems. Every stakeholder organization such as passive investors, creditors, owners, academics, has different views on organizational performance and "value creation".

The motivation of researchers to propose organizational performance indicators of SMEs in economic recession situations is motivated by disagreement over an expert opinion about performance. Some experts argue that organizational performance can be determined from the core theory, entrepreneurial research results, and strategic management research results (Schendel and Hofer, 1979; Cameron and Whetten, 1983; Venkatraman and Ramanujam, 1986; Eisenhardt and Zbaracki, 1992). However, until now, there has been no agreement among experts to determine organizational performance indicators due to changing situations. Besides, views vary widely on performance indicators depending on the actions of the organization. Many experts have not agreed on the proper indicators to measure performance (Carton and Hofer, 2006). Based on these different views, researchers are interested in conducting in-depth explanations of organizational performance specific to SMEs.

Performance is a contextual concept related to the phenomenon being studied (Hofer, 1983). The important point of performance is a measure of the phenomenon that is related to the activities of the organization itself (Kunkel, 1991; Carton and Hofer, 2006). Performance is a multidimensional construct, which may arise due to the desire of researchers to measure phenomena (Steers, 1975; Murphy et al., 1996).

Murphy et al. (1996) conducted a study of organizational performance in entrepreneurship from 1987 to 1993, the result was organizational performance measurement consisting of efficiency, growth, profit, size liquidity, success, market share, and leverage.

There are five perspectives on organizational performance indicators according to the accounting literature, balanced scorecard, strategic management, entrepreneurship perspective, and microeconomic perspective (Carton and Hofer, 2006). Each of these views is described below:

1. View of the accounting literature. The accounting view focuses on presenting financial statements to measure organizational performance. Past financial reports can describe "value creation" to measure organizational performance.
2. The Balanced Scorecard View. To bridge the gap between practice and theory, Kaplan (1984) proposes a "balanced scorecard" to measure organizational performance. The balanced scorecard includes market share, changes in intangible assets such as patents or human resources skills and abilities, customer satisfaction, product innovation, productivity, quality, and stakeholder performance.

3. Views of strategic management. Drucker (1954) pioneered the view of strategic management for obtaining organizational performance. Organizational performance measures according to the strategic management view focus more on the survival and prosperity of the organization. Drucker (1954) explained that organizational performance is measured by eight aspects including (i) market position relative to market potential now and in the future; (ii) innovation; (iii) productivity; (iv) physical and financial resources; (v) profitability (vi) manager development; (vii) employee attitudes, and (viii) public responsibility.
4. Entrepreneurship Perspective. This view is relatively the same as the view of strategic management to measure organizational performance. Measuring organizational performance according to the perspective of entrepreneurship is focused on the "value creation" of investor capital and the owner's capital. Hence, business growth and profitability are the main indicators for measuring organizational performance (Slevin and Covin, 1995; Chandler and Hanks, 1993). However, other indicators can also be used following the performance phenomenon to be measured.
5. Microeconomic Perspective. Pandangan ini mengarah pada partisipasi dan kontribusi owners sebagai pemilik aset perusahaan. Pemilik berharap bahwa "value creation" yang dihasilkan perusahaan selalu tumbuh. Jika "value creation" telah memenuhi harapan pemilik, maka pemilik bersedia untuk mengambil risiko dan berinvestasi. Menurut perspektif microeconomic, kinerja organisasi dapat diukur oleh profits, pertumbuhan, competition among firms, competitive advantage (Peteraf, 1993).

Lita et al. (2020) examined SEM organizational performance in Indonesia. Research by Lita et al. (2020) uses indicators such as service quality and customer satisfaction (Brewer's and Selden's, 2000), commitment, and cost reduction Im et al. (2016). Many studies and research on the validity of organizational performance presented by several indicators are questionable (Carton and Hofer, 2006). Until now, it is still questionable if it is related to the research focus. This is a gap to present some indicators to measure organizational performance on SMEs for future researchers.

3. METHODS

This research type is a literature study. Researchers seek from some expert views and the results of previous studies that measure organizational performance variables. The results of research by Murphy et al (1996), Lita et al. (2020), and the views of experts such as Kaplan (1984), Drucker (1954), Slevin and Covin (1995), Chandler and Hanks (1993) and Peteraf (1993) are considered in the analysis in this article. Reference comes from a collection of several journals and books. This study was conducted for one month in studying several journal and book references to obtain the right size or indicator for SMEs in the COVID-19 pandemic situation. The technique of analyzing this literature study uses a comparative technique, which is to compare several indicators of previous research results and indicators according to the expert's view, conduct an evaluation, and select the right indicator as to the outcome of this study.

4. DISCUSSION

This COVID-19 pandemic situation is a difficult and challenging situation for SME's to carry out product development and market expansion. SME's just surviving is already a good category. Most SME's maintain their organizational life through innovation activities, namely developing existing products and services. Very high risk when developing new products. In this pandemic situation, many SME's have experienced insignificant growth.

The classic view of measuring organizational performance according to Drucker (1954) as a strategic management expert and Kaplan (1984) through the theory of "balanced scorecard". Drucker (1954) presents six indicators of organizational performance. In this pandemic situation, indicators of physical resource development, financial resource development, manager

development, and public responsibility have not yet become an urgent aspect for SME management. Employee attitude is very necessary for SMEs. The attitude aspect becomes important because employees must understand external situations and conditions that are not conducive. The organization hopes for a positive attitude in responding to pandemic conditions.

Kaplan (1984) presents nine indicators of organizational performance. In this pandemic situation, SMEs' efforts to expand market share into an unpromising business, SMEs prefer to maintain and focus on serving loyal customers. Patenting your product or service is not a priority. For the human resource aspect, SME's management prefers to develop the abilities of employees rather than creating new skills. Employee development to acquire new skills requires more time and adaptation, and there is no guarantee of gaining new profits from implementing new skills. To survive a pandemic situation, SMEs prefer to do service until customers are satisfied. Product innovation is needed when old products are experiencing marketing difficulties due to a pandemic. SMEs don't expect high productivity to earn big profits, but staying at the medium level is considered good enough. The quality of products and services is still considered to maintain customer's database. Not many SMEs are interested in performance for the benefit of stakeholders.

Table 1. Techniques for comparing organizational performance indicators

Drucker (1954)	Kaplan (1984)	Peteraf (1993)	Slevin dan Covin, (1995)	Murphy et al. (1996)	Lita et al. (2020)
physical resources	market share	profits	investor's capital	efficiency	service quality
financial resources	patents	Growth	owner's capital	growth	customer satisfaction
profitability	human resources skills	competition among firms	-	profit	commitment
development manager	human resources abilities	competitive advantage	-	size liquidity	cost reduction
attitude of workers	customer satisfaction	-	-	Success	-
public responsibility	product innovation	-	-	market share	-
-	productivity	-	-	leverage	-
-	quality	-	-		-
-	stakeholder performance	-	-		-

The modern view of organizational performance measurement is put forward by Peteraf (1993); Slevin and Covin, (1995); and Murphy et al. (1996). The indicators of profit and growth proposed by Peteraf (1993) are not different from those of Drucker (1954) and Murphy et al. (1996). In a pandemic situation, the survival of SMEs takes precedence over profit. For SMEs to survive it requires a competitive advantage. Competition among firms is not very necessary, but SMEs prefer cooperation and sharing of resources to satisfy customers.

The view of Slevin and Covin, (1995) proposes indicators of investor capital and owner's capital to measure organizational performance. In this pandemic situation, SMEs are more focused on liquidity. SME's hope that investors' capital can help with operational costs rather than removing funds from the owner's capital. The views of Murphy et al. (1996) regarding indicators of success and market share have not prioritized the economic situation of recession compared to liquidity and leverage.

In this last year, Lita et al (2020) examined organizational performance measured by four indicators, namely service quality, customer satisfaction, commitment, and cost reduction. In an economic recession, these four indicators are appropriate to measure organizational performance. Service quality and satisfaction are carried out to maintain the customer database.

The commitment of employees is needed by SMEs to better understand the recession situation that is being experienced. Cost reduction is needed so that the organization does not waste unnecessary costs.

5. CONCLUSION

Discussion of the views of experts provides new thinking for future researchers to conduct research. This article proposes to future researchers there are ten indicators for organizational performance, consisting of internal and external decisions. Internal decisions consist of workers' attitudes, commitment, human resources abilities, quality, service quality, efficiency, and cost reduction. External decisions consist of competitive advantage, customer satisfaction, product innovation. Use confirmatory factor analysis (CFA) before describing it. The proposed estimation model is presented in the figure below.

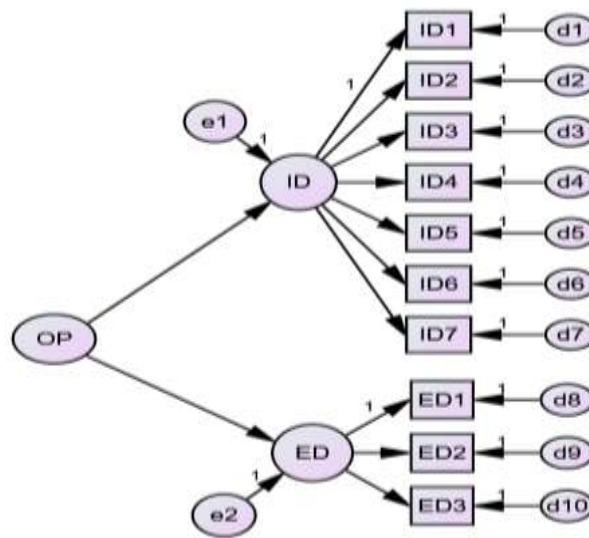


Figure 1. An Estimating Model of Organizational Performance

Table 2. Notes

OP	organizational performance	ED	external decisions
ID	Internal decisions	ED1	competitive advantage
ID1	workers' attitudes	ED2	customer satisfaction
ID2	commitment	ED3	product innovation
ID3	human resources abilities	e1	an error of latent variable ID
ID4	quality	e2	an error of latent variable ED
ID5	service quality	di	error variable for each indicator
ID6	efficiency	ID7	cost reduction

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The Effect of Reputation and Competence on Customer Loyalty Through Customer Trust

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ABSTRACT

This study aims to analyze the effect of reputation, competence on customer loyalty with customer trust as an intervening variable. The population in this study were students of private tertiary institutions in Central Java who are members of Services for Higher Education Institutions Region VI, while a sample of 5 private universities, using the purposive sampling method, was taken with the Slovin formula of 190 respondents. The analysis technique uses regression analysis. Research results show the customer trust variable can be an intervening variable or able to mediate between the direct influence of the reputation variable and the competency variable on customer loyalty variables.

Keywords : Reputation, Competence, Customer trust

1. INTRODUCTION

Maintaining customer loyalty in the current business era is a demand that must be implemented because basically by maintaining student loyalty, the survival of the college will be maintained, this means maintaining long-term relationships between customers and organizations, the term loyalty is considered to be the intention of the buyer to make purchases again and again to build ongoing relationships with organizations. Oliver, (1999) states that customer loyalty is a promise of buyers to buy certain products, services, and brands of an organization over a consistent period, regardless of new products and innovations competitors and customers are not forced to switch. This means maintaining a long-term relationship between the customer and the organization, the term loyalty behavior can be used in some different terms but is considered as the intention of the buyer to make purchases again and again to build an on going relationship with the organization. (Dick and Basu,1994); (Fornell,1992).

Gul, (2014) defines loyalty as a behavior, which is indicated by routine purchases based on decision-making units, customer loyalty is that customer loyalty is measured by the frequency of reuse of a service. then customer behavior can be reflected as customer trust and satisfaction in an educational context that can be observed in the behavior of students who carry out routine activities. Whereas Morgan and Hunt, (1994) in Gul's research, (2014), state that trust is a belief from one party to another that will fulfill customer needs and wants and have confidence in the availability of that service to meet customer needs, this can be applied. theoretically in various situations, namely the exchange of goods and services.

The results of research on customer trust and customer loyalty still have differences of opinion, Gul, (2014) in his research found that there is a positive and significant relationship between reputation, trust and customer loyalty. research gives a positive sign that with increasing reputation, customer satisfaction and trust, customer loyalty increases, but it is different from research conducted by Setyawan, (2015), which states that customer trust is negatively related to customer loyalty, this needs to be reexamined to fill the void theoretical. It has become a common belief, especially in the business world, customer satisfaction is one of the keys to the success of a business, this is because by satisfying customers, organizations can increase their profitability and gain a wider market share, so that for organizations or institutions, one of the factors the determinant of success in creating customer loyalty is satisfaction with the quality provided.

The results of research on company reputation and customer loyalty have differences of opinion between researchers, among others, that researched by Setyawan, (2015), which states that reputation is negatively related to customer loyalty, this research is different from research

conducted by Gul, (2014), which states that there is a positive and significant relationship between reputation and customer loyalty, so based on these findings it is necessary to re-examine to fill out the theoretical findings.

Indonesia Law Number 14 of 2005 concerning Teachers and Lecturers Article 1 Paragraph 2 (2006) lecturers are professional educators and scientists with the main task of transforming, developing, and disseminating science, technology, and arts through education, research, and community service. Thus, the position of lecturers as professionals at the tertiary level appointed according to the laws and regulations has three main tasks, namely in the fields of education, research and community service, from the description above, it can be concluded that the source of tertiary income comes from the number of students, Therefore, the university is trying to build customer loyalty, namely students by increasing the satisfaction and trust of students, on the other hand, the institution also needs to improve its reputation and the quality of the instructor through increasing the competence of the instructors, judging from the distribution of universities in Indonesia, it can be seen that the island of Java is a destination for continuing higher education so that many prospective students from outside Java wants to study in Java.

With the number of Public Universities (PU) being small and unbalanced with Private University or PTS, PTS in Java became a destination for further education. so many prospective students from outside Java who want to study Java. With the number of PU being small and unbalanced with PTS, PTS in Java became a destination for further education. so many prospective students from outside Java who want to study Java. With the number of PU being small and unbalanced with PTS, PTS in Java became a destination for further education.

2. LITERATURE REVIEW

2.1. Customer loyalty

To build strong relationships with customers and create loyalty, each educational institution strives to always hear and understand what customers want, solve problems faced by customers, pay attention to customers, and always help customers so that customer loyalty is one of the keys to successful existence companies or educational institutions, a large number of customers loyal to educational institutions will certainly have an impact and contribute positively to sustainability and progress. Customer loyalty is often interpreted by the behavior of customers who often make repeated purchases, whereas contributions from loyal customers are not only limited to that but can be broader in scope and sometimes can contribute more, namely customer loyalty to the brand and recommendations given by customers to others who later could become potential customers of educational institutions. Oliver, (2014:432) customer loyalty is a commitment that is held tightly by customers to buy or put forward a product in the form of goods or services consistently, this causes repeated purchases of the same brand, even though the customer has situational or marketing influence from competitors to change another brand.

Whereas Baloglu, (2002:47), states that customer loyalty is a customer doing repeatedly buying a product or service, or showing "loyalty behavior", for reasons other than a commitment to the brand or company attitude. Likewise, Kotler and Keller(2012:359), states that customer loyalty is strongly committed to repurchasing certain products or services in the future despite the influence of marketing and business situations that could potentially lead to behavioral shifts. In the opinion of Dick and Basu (1994:106), customer loyalty can be seen through three indicators, namely: a) Alternative search motivation, in the search for information for alternative products related to the consequences of loyalty, strong loyalty reduces motivation for alternative searches. b) Resistance to competitor entices, customers have a strong commitment to the company so that it shows increased resilience to competitors' persuasion efforts. c) Recommendations to other parties.

2.2. Customer trust

Trust is a term that is closely related to everyday life, but not many conceptually and theoretically understand it. Robbins and Judge, (2007), state that trust is a positive expectation that the other

party will not, through words, actions or decisions, take the opportunity to hurt the other party. According to McKnight, Kacmar, and Choudry, (2002), trust is built between parties who do not know each other either in the interaction or in the transaction process.

McKnight et al. (2002) stated that there are two dimensions of customer trust, namely: a. Trusting Belief is the extent to which a person believes and feels confident in others in a situation. Trusting belief is the perception of the believer (customer) towards the trusted party (seller) where the seller has characteristics that will benefit the customer. b. Trusting Intention is a deliberate thing where a person is ready to depend on another person in a situation, this happens personally and leads directly to the other person.

2.3. Reputation

Higher education is one of the important pillars that is expected to bring change to a nation. The world of higher education can not only be a means for improving the quality of human resources, but the learning process on campus is also expected to be an important vehicle to change the mindset of the community towards the realization of an educated civil society. A campus that has extraordinary potential by collaborating with other parties, in universities, co-branding is an embodiment of the collaboration carried out between universities and their external parties, such as the government, other universities (both domestic and foreign), companies related, community, institutions and community leaders, and others.

The atmosphere and atmosphere of a comfortable, beautiful college, Reputation, or organization are seen as an assessment of the relationship of attitudes, emotions, finance, social and culture of an organization with various people in general, there are several views about reputation. Fombrun & Shanley, (1990) states that a reputation is an overall form that describes the judgment and attitudes of various individuals with an interest in the state of a company. Melewar et al. (2005) state that reputation can be understood as a function of the image and identity formed in a company based on organizational cultures such as company history, activities, values, and behavior. Sontaite, there are four indicators in measuring reputation in higher education institutions and are considered the most important for customers of institutions or higher education institutions, namely: Innovation,

2.3. Competence

Competence according to Nafi & Supriadi (2018) states that the ability or capacity of an individual to perform various tasks in a job, the ability is a recent assessment of what someone can do. Robbins divides a person's overall ability into two groups of factors, namely: Intellectual ability, the ability needed to perform various mental activities, think, reason, and solve problems. Savvy individuals usually get more money and a higher level of education. Intelligent individuals are also more likely to be leaders in a group. While RI Law Number 14 of 2005 concerning Teachers and Lecturers Article 1 Paragraphs 2 and 10 (2006) lecturers, competence is professional educators and scientists with the main task of transforming, develop and disseminate science, technology, and art through education, research, and community service.

Thus, the position of lecturers as professional staff at the tertiary level appointed under statutory regulations has three main tasks, namely, in the fields of education, research and community service given the importance of the position, role and function of lecturers as university teaching staff, competence is needed, motivation and leadership for the improvement of quality human resources, thus indicators incompetence include pedagogical competence, professional competence, personality competence, and social competence.

Based on Gul, (2014), there is a relationship between reputation, customer trust, and customer loyalty. reputation is the main independent variable that has a significant relationship with customer trust, customer loyalty, that with increasing reputation, customer trust increases customer loyalty. Whereas Zambaldi, et, al (2010) states that there is a positive relationship between high-level relational competence which affects customer trust so that it has an impact on the relational effectiveness of workers and can add and maintain value for their company. Gorondutse, (2014) states that there is a positive influence between reputation and customer loyalty. Meanwhile, Nguyen (2012) positively helps to legitimize interfering customer trust as an

intermediary variable that increases the impact of reputation on customer loyalty. Setyawan, (2015), the results showed that satisfaction has an indirect effect on loyalty, with trust as a mediating variable.

2.4. Hypothesis

- H1. Reputation and competence have a positive and significant effect on customer trust.
- H2. Reputation, competence, and customer trust have a positive and significant effect on customer loyalty.
- H3. Reputation and competence have a positive and significant effect on customer loyalty through customer trust.

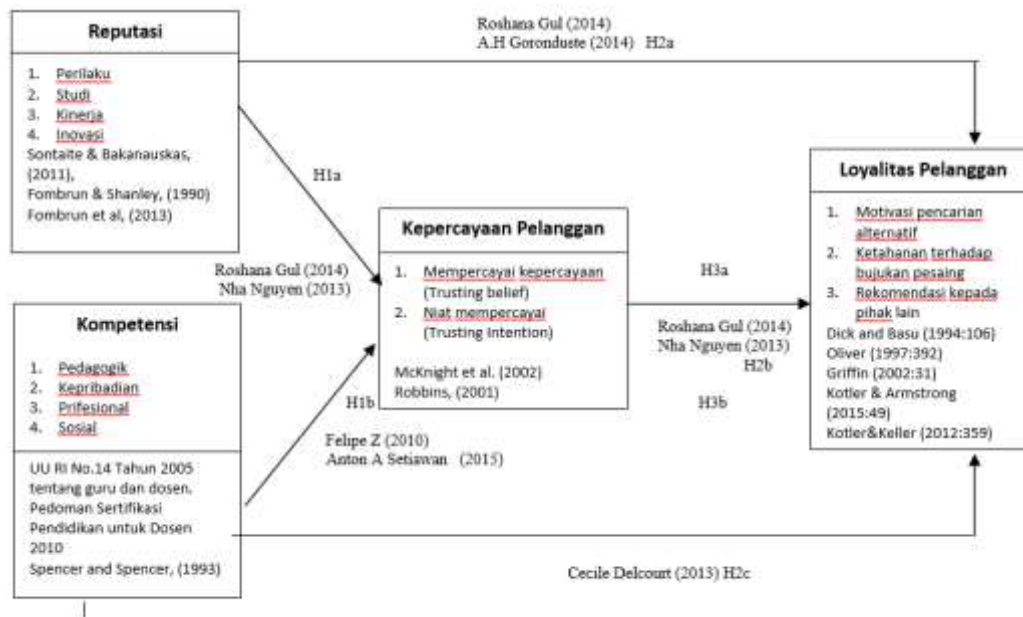


Figure 1. Conceptual framework

3. METHODS

The method used to be the respondent of this study was non-probability sampling with a purposive sampling method (Herman & Supriadi,2017); (Nafi,2017), the questionnaire was distributed to students who were included in the target population with the criteria of private tertiary institutions in Central Java incorporated in the development of Services for Higher Education Institutions Region VI. The population in this study were private tertiary education students in Central Java who were members of Services for Higher Education Institutions Region VI, consisting of D1, D2, D3, S1, S2 and S3 totaling 310,627,000 students spread over 262 educational institutions, while the target population was S1 university students in the Services for Higher Education Institutions Region VI environment totaling 254,714,140 consisting of universities, institutes, colleges, polytechnics, and academies.

While the sample criteria of this study are students with the following tertiary criteria; a). Universities that have accreditation of institution A, because the existence of accreditation shows the quality of a good university. b). Having S1, S2, S3 study programs, because with the existence of S2 and S3, there are many study programs so that public trust is better. c). Already taking the final semester of lecture/final project/thesis at the undergraduate economics faculty understudy, because to show the loyalty of students, data collection and can be processed as many as 190 respondents have been obtained. This research uses descriptive analysis and regression analysis.

4. RESULTS AND DISCUSSION

The results of research hypothesis testing of H1, H2 and H3 as follows:

Table 1. Research hypothesis testing

Hi	Variabel Eksogen	Variabel Intervening	Variabel Endogen	Koefisien Pengaruh Langsung	Koefisien Pengaruh Tak Langsung	Koefisien Pengaruh Total	Prob	Keterangan
1	2	3	4	5	6	7	8	9
H1	X1	Y1	-	0.136	-	0.136	0.000	H1 teruji
	X2		-	0.231	-	0.231	0.000	
H2	X1	-	Y2	0.138	-	0.138	0.001	H2 teruji
	X2	-		0.175	-	0.175	0.001	
	Y1	-		0.666	-	0.666	0.000	
H3	X1	Y1	Y2	0.136	0.666	0.228	0.000	H3 teruji
	X2		0.231	0.328		0.000		

Information:

X1 = Reputation

X2 = Competence

Y1 = Customer trust

Y2 = Customer Loyalty

Based on the table above, testing the research hypothesis can be described as follows:

a. Effect of Reputation and Competence on Customer Trust

The test results for the variable reputation and competence of customer trust shown by the probability value (p) less than 5% ($\alpha = 5\%$) in column 8, table, the direction of the regression coefficient is positive. This indicates that reputation and competence have a significant effect on customer trust. Thus, the first research hypothesis was tested.

b. Influence of Reputation, Competence and Customer Trust on Customer Loyalty

The test results for the variable reputation, competence, and customer trust on customer loyalty are shown by the probability value (p) less than 5% ($\alpha = 5\%$) in column 8, table, the direction of the regression coefficient is positive. This indicates that the reputation of competence and customer trust has a significant effect on customer loyalty. Thus, the second research hypothesis was tested.

c. Effect of Reputation and Competence on Customer Loyalty Through Customer Trust

The test results for the reputation and competence variables on customer loyalty through customer satisfaction are shown by the values in columns 5, 6, 7, and 8, table, where $0.175 + (0.231 \times 0.666) = 0.318 > 0,175$ with the direction of the regression coefficient value is positive. This indicates that competence has a significant effect on customer loyalty through customer trust. Thus, the third research hypothesis was tested.

5. CONCLUSION

Based on the results of the research and discussion described in the previous chapter, it can be concluded that: 1. Reputation and competence have a significant effect on customer trust. From the variables studied it turns out that competence is more influential on customer trust than other variables, this is supported by lecturers willing to accept criticism and suggestions from others and are willing to take the time to consult outside the classroom, so students feel it is appropriate to study at the best college now this. 2. Reputation and competence have a significant effect on customer loyalty, competence to obtain greater results affects customer loyalty, that is because the customer wants to recommend to others to study at the college where students study

so that the quality of service of this college gets a positive appreciation from others. 3. Customer trust can be intervening between the influence of reputation and competence on customer loyalty. The direct effect of reputation and competence on Customer trust produces and shows positive. The indirect effect of reputation and competence is positive, and the total effect is greater than the direct effect. This proves that customer trust can mediate the influence of reputation and competence on customer loyalty, or in other words, reputation and competence have a significant effect on customer loyalty through customer trust.

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The Effectiveness of e-Procurement Implementation for Fraud Prevention in Government Procurement (A Descriptive Study with a Qualitative Approach)

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ABSTRACT

This research focuses on scrutinizing a series of article concerning the effectiveness of e-procurement implementation for fraud prevention in the government procurement. There had been too many numbers of irregularities in the government procurement prior to the implementation of e-procurement. The implementation of e-procurement is expected to reduce the number of irregularities, so that the ultimate objective of good governance, which is indicated by effectiveness, efficiency, transparency, and accountability, can be achieved. This research employed several methods. After several considerations, a descriptive method with a qualitative approach was particularly selected because it embodied the needs to analyse the effectiveness of e-procurement implementation for fraud prevention in the government procurement.

Keywords : Effectiveness, E-procurement, Fraud

1. INTRODUCTION

This article reviews a number of studies concerning the effectiveness of e-procurement implementation for fraud prevention in the government procurement of goods and services. In investigating the issue, this research used several research methods such as descriptive qualitative, quantitative explanatory research, and many others, which were reviewed in a separate section.

E-procurement is a process of procuring goods / services electronically in accordance with applicable legislation to enable an effective, efficient, transparent, and clean procurement of goods/ services (Lestyowati J, 2018). Traditional procurement of goods/ services has a number of drawbacks such as an inaccuracy in product stock reporting, product shipment distribution and product delivery scheduling, ineffective work due to the diversity of media, as well as the lack of transparency that eventually harms the company. These drawbacks, however, can be reduced through the implementation of e-procurement of goods/ services (Tanesia, 2016).

In the event of financial fraud occurring within the body of a government, the people and the country will suffer the most. The country will have to bear the burden resulting from the fraud continuously. Financial fraud is a form of corruption. The government has established a series of legislation that regulates the procurement of goods/ services, which also incorporates the good procurement practice and regulations. Despite that, the practice of corruption, collusion, and nepotism keep on happening, and fraud becomes an unavoidable occurrence resulting from that process (Imtikhanah & Hidayah, 2018).

The problems and irregularities that have occurred before the implementation of e-procurement include bribery to win tenders, budget inflation, work package combination and breakdowns, direct appointment, or collusion between a provider and a procurement manager for tender arrangements (Kautsariyah & Hardjomuljadi, 2017).

The implementation of e-procurement is expected to bring out good governance practice that is effective, efficient, transparent, and accountable. The auction process for goods/ services through e-procurement should be open for public. The process starts from when a company makes a bid and completes when the auction is won, but most importantly, the number of bids and the average difference between the bids made by bidders should be rigorously monitored. An effective and efficient e-procurement can only be achieved by following that procedure. (Dewi et al., 2018).

This review aims to determine the most appropriate method to analyse the effectiveness of e-procurement implementation for fraud prevention in the government procurement of goods/ services.

2. LITERATURE REVIEW

2.1. E-Government

E-government is the utilisation of Information Technology by government institutions to transform its relationship with the public, business, or private sector and between government agencies. (Munir, 2013). E-government refers to all activity concepts in public sector (both in the central and local governments) that use information and communication technology to strive for efficient, transparent, and effective public service arrangements. (Dewi et al., 2018). Ultimately, it can be concluded that e-government is the utilisation of information and communication technology for every government institution activity both for public services or other types of activities. One of e-government implementations is e-procurement.

E-government aims to create a technology-based relationship between public, private sector, and governments. All institutions on executive, legislative, and judicative levels are engaged in e-government. For that reason, the establishment of a conducive business environment is highly necessitated to run a proper wheel of country's economy. Undoubtedly, this responsibility falls to the government. (Artantri et al., 2016).

2.2. Government procurement

Procurement is the act of obtaining goods/ services in a straightforward manner to bring out outcomes that meet the expectations of the customers. Government procurement is a process to obtain goods/ services and everything else that supports the implementation of a process within a certain period of time. ((Nugroho, 2015). Procurement of goods/ services is an act to obtain goods/ services by procurement actors that starts from planning the needs and concludes when the procurement actors complete all the required activities to obtain the goods/ services (Dewi et al., 2018).

Procurement of goods/ services at public sector differs from the one at private sectors. In government sector, the bookkeeping process for procurement of goods/ services and the potential conflict of interest receives a lot of attention. Local government uses electronic procurement of goods/ services to reduce the risk of fraud. The procurement process begins from planning, followed by an auction, and concludes with the delivery of goods/ services. The planning begins with the announcement of General Procurement Plan (RUP) through the Electronic Procurement Services (LPSE) system, and then followed by the auction which is carried out in accordance with the applicable regulations, and finally completes when the winner of goods/ services provider that satisfy the technical specifications and general principles of goods/ services procurement is announced (Artantri et al., 2016). The outline of the process of government procurement (PBJP) is shown in Figure 1.



Figure 1. The Outline of Procurement of Goods/Services (PBJ)
 (Source: Slide of Government Goods/ Services Procurement Policy Agency (LKPP))

There are two legislations underlying the process of government procurement. The first legislation is Presidential Decree No. 80/2003 on the Guidelines for the Implementation of Government Procurement (Keputusan Presiden 80/2003) and its amendments while the second legislation is the Presidential Decree on Goods/ Services Procurement after several amendments, with the last version of Presidential Decree No. 16 in 2018 on Government Procurement. The continuous transformation in the legislative level of government procurement allows for a better public service that is transparent, economical, efficient, and effective. The changes in the regulations that overarching the procurement of goods/ services also aim to assist the state and regional officials in carrying out the supervisory function of budget and financial management system in the institutions that they lead. Matters regulated in the goods/services procurement regulations include the requirement for the leaders to prepare a report on the procurement process, provisions regarding procurement contracts, publication materials regarding procurement so that the process meets the element of transparency. (Artantri et al., 2016).

2.3. E-procurement

A plethora of studies have confirmed that e-procurement is more efficient, effective and promotes performance better than the traditional counterpart. The implementation of e-procurement is beneficial in that it improves the quality of process, user's satisfaction, responsiveness and procurement services, promotes product innovation, market expansion and managerial effectiveness, as well as reduces procurement cost, purchasing cycle time, and staff worktime (Hashim et al., 2013).

E-procurement is an act to obtain goods/ services by government by using information and communication technology, or in other words, electronic government procurement of goods/ services. (Munir, 2013).

E-procurement is a web based electronic goods/ services procurement to support procurement process, including the demand, search, contract, order, purchase, shipment, and payment. (Habibi & Untari, 2018). E-procurement carries out procurement process including searching, sourcing, negotiation, order reception, and review of post-purchase by using an Internet based system which is integrated with information and communication technology (ICT). The implementation of e-procurement is expected to meet the procurement objectives by improving the quality, time efficiency, and cost, mitigating business, financial, and technical risks; optimising competition and integrity.

There are five main indicators of successful implementation of e-procurement, including:

1. Changes in total cost;
2. Changes in organizational characteristics;

3. Changes in organizational structures;
4. System specifications;
5. Implementation management. (Nugroho, 2015)

E-procurement is an information technology-based procurement of goods/ services, and an electronic transaction carried out in accordance with the applicable legislations through e-tendering or e-purchasing. (Munir, 2013). The selection of construction work providers is carried out through e-tendering. E-tendering is a goods/service provider election system that selects a goods/ services provider by nominating one of the providers that have already signed up in e-procurement system. In nominating the provider to work with, three methods are employed, namely:

1. public e-auction,
2. limited e-auction (complex work and limited providers), and
3. direct nomination e-auction (non-complex work)

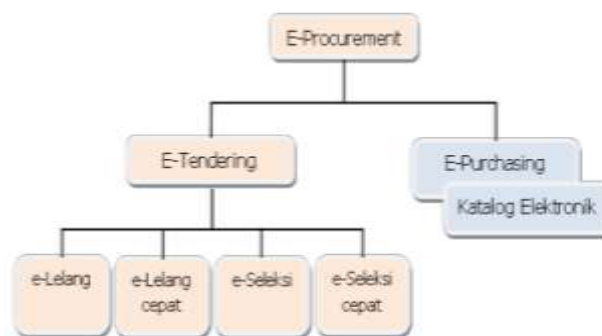


Figure 2. Scheme of the method of goods/services procurement through e-procurement
(Source : Kautsariyah and Hardjomuljadi 2017)

The goods/ services to be placed in the Electronic Catalogue should meet these criteria such as being the goods/ services necessitated by the ministries/ institutions/ regional institutions, standardised or can be standardised goods/ services that constitute recurring needs. The Goods and Services Procurement Policy Agency (LKPP) need to display the list, brands, types, technical specifications, price, and availability on the National Electronic Catalogue through the application developed by the Goods and Services Procurement Policy Agency (LKPP), <https://e-katalog.lkpp.go.id>. The e-purchasing sequence through the electronic catalogue. The procurement of goods and services through electronic catalogues is carried out in the following sequence.

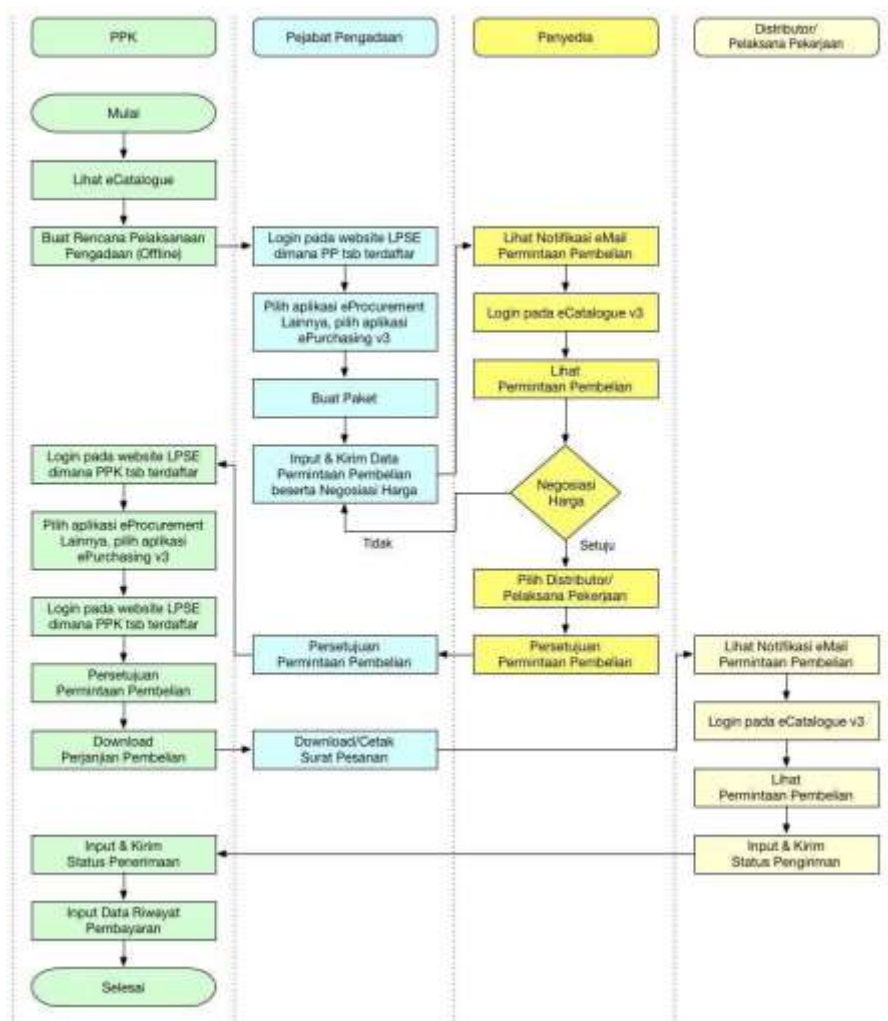


Figure 3. The sequence of e-purchasing through an electronic catalogue (Source: LKPP)

The e-tendering sequence is shown in table 1 below:

Table 1. The Sequence of Electronic Procurement of Goods/ Services

Nomination preparation	1	The Commitment Making Office (PPK) submits the procurement implementation plan (the package, technical specifications, Self-estimated Price – HPS, and contract plans) in the form of electronic document to the Procurement Service Unit (ULP)
	2	The Procurement Service Unit workgroup (Pokja ULP) prepares a procurement schedule
	3	The Procurement Service Unit workgroup (Pokja ULP) prepares and establishes procurement documents
Nomination implementation	4	Package Creation, Announcement, and Registration
	5	Briefing
	6	Entry of Qualification Data
	7	Bid Document Submission
	8	Bid Document Opening and Evaluation
	9	Winner Announcement
	10	Rebuttal
	11	Goods/ Services Provider Appointment

(Source : Kautsariyah and Hardjomuljadi 2017)

2.4. Effectiveness

Effectiveness is a measurement of an institutional success level when organising an activity or in achieving predetermined goals. Effectiveness is a measurement of goal achievement by comparing the predetermined goals with the outcome obtained, and eventually will show the work outcome whether it is considered effective or the opposite. Effectiveness indicates the relationship of output and the desired value. The greater the output compared to the desired value is, the more effective the unit will be. (Tanesia, 2016)

This article acknowledges three indicators of effectiveness, namely:

1. Achievement of goals
2. Integration
3. Adaptation ((Dewi et al., 2018)

The implementation of government e-procurement has an objective to improve the efficiency, effectiveness, and transparency of goods/services procurement. The procurement of goods/services through e-procurement should be concerned with the principles of procurement, which are efficient, effective, competitive, transparent, and accountable (Habibi & Untari, 2018).

2.5. Fraud

Fraud has become a concerning issue these days. Fraud is a law-breaking act indicated by any deliberate elements of fraud in the form of deceit for personal gains. Fraud is a crime that only gives financial benefit to the criminals. In this article, crime refers to any types of serious mistakes that are committed with evil intentions. (Artantri et al., 2016). Fraud is indicated by illegal actions through deceit, concealment, or breach of trust by using threats of physical violence, for the sake of personal gain, but has a detrimental effect on the interests of others.

In the context of government procurement of goods/ services, fraud can be classified into several categories, including: goods/ services that are not in commensurate with the needs of organisation/ community members, in terms of type, quality and quantity, goods/ services, that upon completion, have different specifications from the agreed ones in the contract, goods/ services, that upon completion, have differing volume (quantity) from the agreed ones in the contract, goods/ services that contain an element of mark-up, due to price differences with the market, overdue product completion from the agreed period in the contract (Nugroho, 2015). The irregularities, as known as fraud, include any deliberate irregularities and illegal acts. The fraud in the procurement of goods/ services is a deliberate act of deception to affect each stage of procurement process with a purpose of gaining benefit or causing losses. Fraud can be committed by an external contractor or sub-contractor and organisation's internal staffs as a form of irregularities and illegal acts that are deliberately done for certain purpose such as providing misleading overview. Fraud can be done by the internal or external parties of an organisation for personal and group gains and causes direct or indirect harms to other people. Drawing on the several definitions of fraud above, this article defines fraud as a deliberate illegal act committed by both the internal and external elements of an organisation that aims for personal or group gains and ignores the interests of other parties. The motives of fraud vary, including greed, opportunity, need, and exposure. Greed can be associated with one's insatiability toward themselves. Opportunity provides a chance for fraud to occur. Exposures are related to the actions or consequences that the fraud criminals need to bear when they are proven guilty. Therefore, the reason for people to commit fraud can be categorised into individual and organisational factors. Greed and need are factors that are related to the individuals (also called individual factors) while opportunity and exposure are linked to the organisation that needs to take the brunt of fraud crimes (also called generic factor). (Artantri et al., 2016).

Fraud can be further classified into three types of irregularities.

1. Asset Misappropriation includes the misuse/ theft of the company's or other companies' properties. This type of fraud is the easiest to detect because the assets are tangible or can be measured/ calculated (defined values).
2. Fraudulent Statement includes actions taken by a government official or a company's executive to cover up the actual financial condition. The financial cover-up is usually done

by performing financial engineering when presenting their financial statements, so that they can gain personal gains. This case is also known as “window dressing”.

3. Corruption. This type of fraud is often difficult to detect because the parties involved in the crime enjoy the shared benefits (symbiotic mutualism). Including in this type of fraud is an abuse of authority/ conflict of interest (Imtikhanah & Hidayah, 2018).

2.6. Goods/ Services Procurement Ethics

Ethics is a fundamental element that should be used as a reference and guideline, and embodied in the procurement of goods/services. In addition to that, government procurement of goods/ services needs to adhere to the philosophy that government procurement is an effort to obtain the desired goods/ services by using logical, systematic thinking, and the prevailing norms and ethics based on standard procurement methods and processes. With that being said, the norms in government procurement have legal standing, and thus, any breach to the norms or constitutions in the procurement process will result in legal consequences. Having a good understanding of the basic ethics of procurement of goods/ services will promote a better procurement practices and reduce budget leaks. The eight common budget leaks in government procurement can be seen in Figure-4 below:

1. Orderly and accountable
2. Professional, independent
3. Does not influence each other
4. Accepting and responsible
5. Preventing waste
6. Avoiding abuse of authority
7. Does not accept, offer/ promise.



Figure 4. Ethics in Government Procurement of Goods/ Services
(Source: LKPP, 2018)

3. METHODS

After reviewing several research articles, this study discovered that some articles used identical research methods, which can be categorised into the following groups:

3.1. Purposive Sampling Technique with a Qualitative Approach

This study selected its research samples by using purposive sampling technique. The samples consisted of 108 respondents who were staffs of Procurement Service Unit (ULP) and Electronic Procurement Services (LPSE) of the Regional Government of Lombok Island. The research data were obtained through literature review and questionnaires that were distributed to all research respondents. The role of e-procurement in this research was measured by the following indicators:

1. Transparency

2. Accountability
3. Comparison of cost and benefit,
4. Improve efficiency in the procurement process,
5. Support the monitoring and auditing process,
6. Meet the needs of real time information,
7. Provide public information transparency.

Procurement fraud includes:

1. Planning
2. Collusion in the bid price
3. Incorrect procedure of document submission
4. Specification criteria engineering
5. Unnecessary requirement addition
6. Self-estimated Price (HPS) quotation that does not abide by the applicable rules
7. Limited announcing information
8. Rebuttal arrangements
9. Postponement of Letter of Appointment of a Service Provider (SPJJ) issuance.

This research measured the variables by using semantic differential scale. Semantic differential scale is a measurement method that informs about the research about someone's attitude through seven-point rating scale that verbally expresses bipolar extreme assessments. (Artantri et al., 2016).

3.2. Descriptive Method with a Qualitative Approach

This research used a descriptive method with a qualitative approach. The data were collected through observation, interviews, and documentation, and then analysed using an interactive model. The data analysis consisted of three simultaneous processes namely data reduction, data display, and conclusion ((Habibi & Untari, 2018). A descriptive method has a purpose to gather actual and detailed information that expresses all indications, identifies the problems or examines the condition and active practices, makes a comparison or evaluation and identifies the actions that other people are taking when solving identical problems and learns from their experiences to formulate a future plan and make decision. A descriptive method was used to systematically describe the facts or characteristics of a particular population or a certain field based on actual data accurately. Descriptive method does not only elaborate (analytically) but also combine, not only classify but also organise. A qualitative research aims to provide an in-depth explanation about a phenomenon through in-depth data collection. It emphasises on the depth of data obtained. The deeper and more detailed the data are, the better quality of the qualitative research will be. In this research, particularly, the researcher partook in the event/situation under scrutiny. The researcher acted as the key instrument in data collection where he gathered all various types of data required for the research by himself (Lestyowati J, 2018).

A qualitative method with a description evaluation type in the form of case study. Evaluation research emphasises the effort to juggle the impact or benefits of a program through a rational descriptive explanation of the evaluation of those certain aspects. In this case, the implementation of e-procurement at the University of Lampung was analysed using an indicator of the difference between the contract value and the ceiling/Self-estimated Price (HPS) in each auctioned work package. Through the before-after approach, the results in the e-procurement become visible whether there was a higher difference between the self-estimated price (HPS) and the contract value or the other way around. The data were obtained through interviews with Commitment Making Officials (PPK), the Chief of Procurement Service Unit (ULP), the Chief of Electronic Procurement Services (LPSE), and some providers who won the tenders at the University of Lampung, as well as through secondary data acquired from electronic procurement system on <http://lpse.unila.ac.id>. Data validity was achieved through triangulation technique. Triangulation technique verified the data validity by utilising something other than the data itself for data examination or comparison purposes. (Mukhlis & Pranoto, 2020)

3.3. Quantitative Approach

This research also used a quantitative approach in which the data are in the form of numbers of extrapolated qualitative data. The quantitative approach was particularly selected to accommodate the research objective, which is to describe the effectiveness of e-procurement in the environment of Lamongan Regency Government, through the questionnaire responses obtained from the respondents. The research population consisted of 329 respondents who were selected from relevant parties involved in the implementation of e-procurement in Lamongan Regency. The criteria of selections include procurement expert certified employees who had been registered as partners in Electronic Procurement Service System (LPSE) of Lamongan Regency. Sixty samples were selected by using proportionate stratified random sampling technique because the population did not consist of homogenous elements but stratified that were constituted by employees who had procurement expert certificate and partners of Lamongan Regency. Considering the source, this research data could be classified into two categories namely primary and secondary data. The primary data were acquired through questionnaires while the secondary data were obtained through literature review. The data were analysed quantitatively to accommodate the research objectives, which is to describe the effectiveness of e-procurement in the procurement of goods/ services in the environment of Lamongan Regency. The quantitative data analysis was divided into three stages namely data processing, data organisation, and result discovery (Munir, 2013).

3.4. Explanatory Research Method with a Quantitative Approach

This research used an explanatory search method with a quantitative method by utilising a questionnaire for a survey. The research samples were the 45 operators of e-procurement system in the working area of regional Work Unit (SKPD) of Magetan Regency. Likert scale was used to measure the respondent's responses over five answer choices that have individual score levels. The data gathered from the respondents within the working area of the SKPD of Magetan Regency were analysed using a computer-based application, SPSS version 20. (Nugroho, 2015)

4. DISCUSSION

Drawing on the discussion in the previous sections, this research concludes that the majority of articles under scrutiny used a descriptive method with a qualitative approach. A descriptive method is considered accurate in analysing the effectiveness of e-procurement for fraud prevention in goods/ services procurement. Descriptive method is superior compared to the others as it provides a more detailed actual information regarding a phenomenon, identifies the problems and examines the condition and all applicable practices, makes a comparison or evaluates and identifies the actions other people take when solving identical problems and learns from their experience to formulating future plans or decision. Qualitative research is capable of describing a phenomenon deeply because it emphasises the dept of the data acquired by the researchers. The deeper and more detailed the data are, then the higher quality of the qualitative research will be.

5. CONCLUSION

In conformity with the discussion above, this research concludes that descriptive method is the most suitable method to analyse the effectiveness of e-procurement for fraud prevention in the government procurement of goods/ services. This method offers an advantage that it can provide a detailed actual information that describes a phenomenon, identify the problems or examine the condition and all applicable practices, make a comparison or evaluate and identify the actions taken by other people when facing similar problems, and learn from those experiences to formulate future plans and decisions. Through the article review, this research also concludes that e-procurement has a significant influence in preventing fraud during goods/ services procurement process. E-procurement can mitigate the risk of fraud during the process of procurement of goods/ services.

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Development of Financial Performance Measurement Based on the Concept of All Inclusive Income Before and During the Covid-19 Pandemic

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ABSTRACT

The concept of recognizing all inclusive income, which is used by IFRS and Indonesian SAK, is the basis for presenting other comprehensive income in the income statement. This change in format became the idea of developing a financial performance measurement. Testing the effect of attributable comprehensive income ROA and attributable ROA net income on future cash flows and net income, as a proxy for the ability to provide future returns, and applying them in measuring performance before and during the Covid-19 pandemic. ROA net income is better able to predict future investment returns. ROA comprehensive income has more relevance value, when only other items of comprehensive income that have the potential to be realized are included. In assessing performance, users are advised to keep using the ROA of the net income version, and when using the ROA of the comprehensive income version, it is advisable to include only OCI which will be reclassified. The financial performance of companies in many industrial sectors experienced a decline during the Covid 19 pandemic using two ROA measures. Development of ROA formulation by including other comprehensive income and profit attribution, so far ROA is only based on net income.

Keywords : financial performance, all inclusive income, Covid 19

1. INTRODUCTION

The Covid-19 pandemic that hit the world from December 2019 to the end of 2020 had a tremendous impact on various sectors of human civilization, including the economic sector. Based on data from the Central Covid Handling Acceleration Task Force as of October 8, 2020, the number of positive corona sufferers in Indonesia was 320,564 cases with 11,580 people who died. This number causes Indonesia to rank 21st in the world, after the United States is in 1st place, followed by India, Brazil and Russia, in the next rank (www.covid19.go.id). Covid-19 has had a significant impact on people's purchasing power for products in circulation, absorption of labor, and also the stretching of the capital market, not only in Indonesia but also throughout the world. Covid-19 caused a decrease in people's incomes, and ultimately had an impact on people's ability to invest their funds in financial instruments in the capital market, such as stocks or bonds.

The decline in public income will affect the potential sources of funding for companies listed on the Indonesia Stock Exchange. In addition, the decline in people's purchasing power for products produced by companies listed on the Indonesia Stock Exchange will have an impact on sales turnover, which in turn will affect their financial performance. This research is intended to empirically prove the impact of the Covid-19 pandemic on the financial performance and cash flow of publicly traded companies in Indonesia, so that it can become input for company management to create extraordinary strategies, and input for potential potential investors before investing their funds in instruments. capital market finance.

The company's financial performance is very important to pay attention to because it becomes a tool for assessing the long-term viability of the company, assessing the level of health, the basis for making investment decisions, management accountability and predicting the company's ability to meet expectations of future returns in the form of dividends, interest and pay debt, pay taxes, pay salaries and other obligations to company stakeholders. One of the most frequently used measures of financial performance is Return On Assets or ROA. This ratio measures how effective the assets owned by the entity are in generating profits, where assets are company assets obtained from the owner's capital (issuance of shares in the capital market) and / or from

debts to banks or other parties (including issuance of bonds). Profit itself is a form of management performance achievement in optimizing revenue and operating cost efficiency. Profit has a positive effect on the company's ability to obtain positive cash flow and provide investment returns to shareholders or company owners, so measuring the ability of assets to generate profits is an important thing to do.

Fundamental changes in the world of accounting globally are marked by one of them is the valuation of assets at fair value, from previously historical value. The valuation at fair value is considered to be superior to historical value because it represents more accurately the current condition and position of assets and liabilities, rather than historical values based on historical prices. The application of fair value gives rise to differences between assets that are valued at fair value and historical value, and these differences are recognized as "Other Comprehensive Income". Indonesian financial accounting standards (SAK) prior to 2012, which were more oriented towards US-GAAP, reported other comprehensive income on the balance sheet. However, since Indonesian SAK has followed international accounting standards, namely since SAK as of 1 June 2012 converging with IFRS 1 January 2009, other comprehensive income is reported in the income statement. Moving this reporting location, became the idea of developing the ROA formula from what has been used so far. ROA based on net surplus income and ROA based on gross surplus.

IFRS and Indonesian SAK hope that by applying the concept of all inclusive income, the value relevance of financial statements for users will increase, because it accommodates the influence of the company's external environment which causes changes in the fair value of the company's assets. The impact of the application of this concept is manifested in changes in the presentation form of the income statement. If previously it only contained net income, now it becomes net profit plus other comprehensive income, and the sum is called "Comprehensive Income". There is a lot of empirical evidence that shows that comprehensive income has more beneficial value for users of financial statements than comprehensive income, such as the findings of Saymeh (2019) in Jordan and Sajnog (2017) in Poland. However, it turns out that many empirical findings are contrary to this, the traditional income recognition principle which is manifested in the value of net income in the income statement, has a higher degree of relevance than comprehensive income, such as the results of research in Australia by Banks et al., (2018), in America by Rees and Shane (2012) and in Canada by Kanagaretnam et al., (2009).

This study develops research by Bumane et al., (2018) with the novelty of using comprehensive income and profit attribution in assessing financial performance, especially in the use of ROA formulations. Second, the novelty of the research model, namely testing the relationship between comprehensive income and operating cash flow. So far, many studies have only used net income in predicting future cash flows. This study tries to use comprehensive income, which includes elements of unrealized income. This study has two main contributions, namely adding to the academic literature in financial accounting and financial management, especially regarding performance appraisal with the concept of overall income which is more relevant in decision making. The second contribution becomes input for management and investors in assessing financial performance in a comprehensive manner and predicting cash flows amid the Covid-19 pandemic that is hitting the world.

2. LITERATURE REVIEW

2.1. The theoretical basis and formulation of hypotheses

2.1.1. The concept of revenue recognition

The world of global accounting has "two camps" of conflict regarding the concept of recognition of income reported in the income statement, namely the camp of net surplus income and gross surplus income. In the concept of net surplus income, only actual realized income can be reported in the income statement as net income. In the concept of gross surplus income, all elements of income, both realized and unrealized income, can be reported in the income statement, with the argument that something that causes changes in equity other than deposits or owner

contributions can be defined as income, and is reported in the income statement as “other comprehensive income”. This concept was later used by IFRS international standards, which in turn has also been used by Indonesia since the introduction of SAK as of 1 June 2012.

Significant changes in the presentation of the income statement after SAK as of June 1, 2012 that converged with IFRS as of January 1, 2009 were the additional presentation of other comprehensive income and the allocation of net income and comprehensive income to company owners. The complete new format of the income statement is net income as before, other comprehensive income, attribution of net income to owners of controlling and non-controlling companies, and attribution of comprehensive income to owners of controlling and non-controlling companies.

2.1.2 The company's financial performance and cash flow

Financial performance is the performance of management from a financial aspect as a form of accountability for the management rights mandated by the company owner to him. Financial performance is synonymous with profit achievement, because profit shows the ability of management to optimize main operational sales and control operating costs. A tool for measuring financial performance related to profitability aspects is Return on Assets (ROA). ROA is the ratio between the profit generated in one period and the assets owned by the company to make a profit. ROA describes the effectiveness of using assets in order to earn a profit. Large assets are not necessarily big profits. Good profitability is shown by the ability to generate profits, with large assets that should also be large profits, or with assets that are "not" too large, capable of generating large profits, and the ROA ratio that can be used to assess this performance.

Along with the development of the income element in the income statement, the ROA formulation can also be developed from what has been commonly used so far. Following the research of Bumane et al., (2018) the ROA formulation can be reduced to the ROA version of net income (ROA NI) and ROA of the comprehensive income version (ROA CI). In this study, the ROA formulation is further broken down according to the composition of share ownership, into:

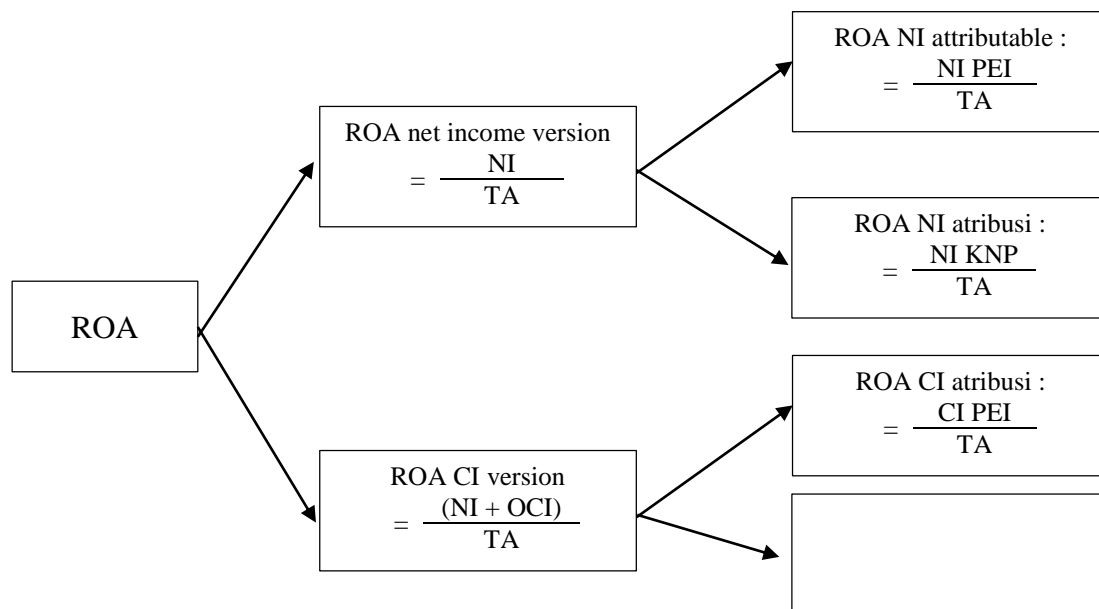


Figure 1
ROA Formulation Based on Two Versions of Profit and Owner's Attribution

Explanation: ROA = Return on asset; NI = net income; CI = comprehensive income; OCI = others comprehensive income; TA = total assets; PEI = pemilik entitas induk/ owners of the parent; NCI = kepentingan non pengendali/ non controlling interest.

By developing this ROA formulation, the measurement of financial performance becomes more

comprehensive and is expected to be more relevant to user needs in making decisions. The research of Marchini D'Este (2015) concluded that in the early years of IFRS adoption, comprehensive income reporting did not significantly affect the performance of Italian entities, it can be seen from the RoE value of net income with RoE of comprehensive income there is no significant difference. The period before the adoption of IFRS (2007 - 2008) and the period after the adoption (2009 - 2012) shows a significant difference, where the RoE of comprehensive income tends to be lower than the RoE of net income. Saymeh (2019) in his study concluded that the existence of other comprehensive income has an impact on measuring the financial performance of ROA and ROE.

The ability of a company to provide investment returns to investors or company owners is not sufficient only to be assessed by profit, because high profits do not necessarily mean that the availability of operating cash is also high, even though paying dividends is related to cash. This is because of the profit in which there are elements of accrual income and expenses, not only cash income and expenses. Therefore, it is necessary to conduct an in-depth study of the relationship between financial performance and cash availability, especially in the midst of the Covid-19 pandemic which has an impact on cash sales activities and the settlement of accounts receivable. Thus, this study builds the following hypothesis:

H1: There are differences in financial performance with the ROA version of the CI and ROA of the NI version before and during the Covid 19 pandemic.

H2: CI version of ROA can be used to predict future investment returns.

H3: ROA version CI with OCI which will be reclassified can be used to predict future investment returns.

H4: CI version of ROA can be used to predict future investment returns, involving only the profit attributable to the owners of the parent.

3. METHODS

3.1 Population and sample

The population in this study were all 674 companies listed on the Indonesia Stock Exchange in the 2019 and 2020 periods. This period will then be divided into 2, namely the period before the Covid pandemic with financial report data as of December 31, 2019, and the period during the COVID-19 pandemic with the 2nd quarterly financial report data or as of June 30, 2020. The sample was selected by purposive sampling method with company criteria has published financial statements for the second quarter of 2020, reported other comprehensive income in full and reported profit attributions to controlling and non-controlling owners, so that a sample of 490 companies was selected.

Tabel 1 Sample Selection Criteria

Information	amount
Companies listed on the IDX in 2019-2020	674
Less:	
Companies that present financial statements in \$ US	(44)
Companies that do not specify OCI items and reclassify them	(87)
Companies that do not specify NI and CI profit attributions	(10)
Companies that have not yet presented their 2nd quarter 2020 report	(43)
Sample	490 (73%)
Observe (490 x 2 years)	980

Sources : Galeri Investasi University of Merdeka Malang

3.2 Research Variable

This study examines the effect of net income and comprehensive income attributable to each type of company owner on operating cash flow. The research variables and their measurements are

described in table 2. H1 was proven using a paired t test, with a significance level of 5% for the 11 business sectors of the research sample companies. ROA (NI and CI versions) in the conditions before Covid compared to during Covid.

Panel A, dependent variable for future cash flows:

$$CFO_{t+1} = \beta_0 + \beta_1ROA(NI)_t + \beta_2ROA(CI)_t + \beta_3COVID + \beta_4IND + \varepsilon \dots \dots \dots Eq.1$$

$$CFO_{t+1} = \beta_0 + \beta_5ROA(NI)_t + \beta_6ROA(CI_OCIR)_t + \beta_7ROA(CI_OCITR)_t + \beta_8COVID + \beta_9IND + \varepsilon \dots \dots \dots Eq.2$$

$$CFO_{t+1} = \beta_0 + \beta_{10}ROA(NI_PEI)_t + \beta_{11}ROA(NI_KNP)_t + \beta_{12}ROA(CI_PEI)_t + \beta_{13}ROA(CI_KNP)_t + \beta_{14}COVID + \beta_{15}IND + \varepsilon \dots \dots \dots Eq.3$$

Panel B, dependent variable for future net income:

$$NI_{t+1} = \beta_0 + \beta_{16}ROA(NI)_t + \beta_{17}ROA(CI)_t + \beta_{18}COVID + \beta_{19}IND + \varepsilon \dots \dots \dots Eq.4$$

$$NI_{t+1} = \beta_0 + \beta_{20}ROA(NI)_t + \beta_{21}ROA(CI_OCIR)_t + \beta_{22}ROA(CI_OCITR)_t + \beta_{23}COVID + \beta_{24}IND + \varepsilon \dots \dots \dots Eq.5$$

$$NI_{t+1} = \beta_0 + \beta_{25}ROA(NI_PEI)_t + \beta_{26}ROA(NI_KNP)_t + \beta_{27}ROA(CI_PEI)_t + \beta_{28}ROA(CI_KNP)_t + \beta_{29}COVID + \beta_{30}IND + \varepsilon \dots \dots \dots Eq.6$$

Explanation : CFO_{t+1} = future cash flow t + 1; NI_{t+1} = future net income for period t + 1; β₀ = constant; β₁ - β₃₀ = coefficient; ROA (NI) = net income (NI) divided by total assets for period t; ROA (CI) = comprehensive income (CI) divided by total assets for period t. ROA (CI_OCIR) = comprehensive income with others comprehensive income (OCI) for the group to be reclassified, divided by total assets for period t ; ROA (CI_OCITR) = comprehensive income with OCI group that will not be reclassified, divided by total assets for period t; ROA (NI_PEI) = net income attributed to owners of the parent entity divided by total assets for period t ; ROA (NI_KNP) = net income attributed to non-controlling interests divided by total assets for period t ; ROA (CI_PEI) = comprehensive income attributed to owners of the parent entity divided by total assets for period t; ROA (CI_KNP) = comprehensive income attributions of non-controlling interests divided by total assets of period t; COVID = dummy variable: 1 = pandemic period, 0 = period before; IND = dummy variable: 1 = information technology and telecommunications, health, food and beverage, financial services and trade business fields, 0 = otherwise; ε = error.

H2 is accepted if the coefficient β₂ ROA (CI) in equation 1 and β₁₇ ROA (CI) equation 4 is significant (ρ ≤ 5%), H3 is accepted if the coefficient β₆ ROA (CI_OCIR) in equation 2 and β₂₁ ROA (CI_OCIR) equation 5 is significant (ρ ≤ 5%), and H4 is accepted if the coefficient β₁₀ ROA (NI_PEI) and β₁₂ ROA (CI_PEI) in equation 3 and β₂₅ ROA (NI_PEI) and β₂₇ ROA (CI_PEI) in equation 6 are significant (ρ ≤ 5%).

Table 2 Measurement of Research Variables

Concept	Variable	Definition	Measurement	Reference
Independent variable				
Financial performance based of net surplus revenue	Attribution of net income to controlling owners	The difference between realized revenue and expense is allocated to the majority shareholder controlling the company.	$= \frac{NI\ PEI}{Total\ assets}$	Bumane (2018) Quesada et al., (2018)
	Net income attributed to non-controlling owners	The difference in realized income and expenses allocated to minority	$= \frac{NI\ KNP}{Total\ assets}$	Bumane (2018) Quesada et al., (2018)

		shareholders who do not control the company.		
Gross surplus income based financial performance (all inclusive income)	Comprehensive income attributed to controlling owners	Unrealized gains or losses allocated to the majority shareholder controlling the company.	$= \frac{CI\ PEI}{Total\ assets}$	Bumane (2018) Quesada et al., (2018)
	Comprehensive income attributed to non-controlling owners.	Unrealized gains or losses allocated to minority shareholders who do not control the company.	$= \frac{CI\ KNP}{Total\ assets}$	Bumane (2018) Quesada et al., (2018)
The covid-19 pandemic	The covid-19 pandemic	The period of the Covid-19 pandemic that hit the world	Dummy variable: 1: period 2020, 0: before 2020.	
Type of industry	Type of industry	The research sample company business sector	Dummy variable: 1 : information technology and telecommunications, health, food and beverage, financial services and trade 0: otherwise.	
Dependent variable				
Predicted value	Prediction of operating cash flows	Cash inflows and outflows originating from cash sales, cash expenses, increase / decrease in current assets and short-term liabilities in period t + 1.	$= \frac{CFO\ (t + 1)}{Total\ assets\ (t + 1)}$	Gang et al., (2019) Cohen et al., (2002)
	Net profit prediction	The difference between realized income and realized expense in period t + 1.	$= \frac{NI\ (t + 1)}{Total\ assets\ (t + 1)}$	Banks et al., (2018)

4. RESULTS AND DISCUSSION

Table 3 below shows the number of sample companies based on business sectors. The largest number is in the financial services sector, followed by real estate, property, infrastructure, construction, and the least is the media and restaurant chain sector.

Table 3 Details of the Business Field of the Research Sample Company

No.	Business fields	Number of companies
1.	Financial services	67
2.	Real estate, property, infrastructure, construction	58
3.	Mining and energy	42
4.	Information and communication technology	38
5.	Textiles, paper, garment, plastics, aluminum, steel	31
6.	Food and Drink	28
7.	Transportation and port services	28
8.	Hospitality and tourism	26
9.	Health services, pharmacy, medical devices	25
10.	Construction machinery and other heavy equipment	23
11.	Retail trade and others	21
12.	Automotive, equipment, shipping, electronics	21
13.	Cement, ceramics, porcelain and building materials	21
14.	Agriculture, fisheries, plantations, forestry	19
15.	Electronic equipment	16
16.	Dealer of cars, motorcycles, automotive equipment	14
17.	Media	10

18 .	Restaurant chain amount	2 490
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Sources : Processed data, 2020.

Table 4 shows that ROA from *net income* and ROA from *comprehensive income* have a positive mean value of 0.058 and 0.053, respectively, this means that during the study period many companies experienced positive returns, where income (profit) was greater than expense (loss). , however, when involving only the period during the pandemic, the mean ROA is negative. Cash flow t + 1 period is also positive 0.067, this means that cash inflows from operating activities are greater than cash out. The industrial variable has a positive mean of 0.37, meaning that the number of companies affected by Covid is more than those that are not, and the Covid variable also has a positive mean of 0.6 which means that the number of financial reports affected by Covid is more than those that are not.

Table 4 : Descriptive Statistics Results

Variable	Mean	Minium	Maximum	Std.Deviation
ROA (NI)	.058	-.0 24	.0 84	.0164
ROA (CI)	.053	-.022	.078	.0168
ROA (CI_OCIR)	.068	-.023	.076	.0166
ROA (CI_OCITR)	.041	-.029	.068	.0182
ROA (NI_PEI)	.064	-.026	.082	.0185
ROA (NI_KNP)	.021	-.021	.081	.0163
ROA (CI_PEI)	.057	-.027	.074	.0169
ROA (CI_KNP)	.038	-.023	.069	.0181
COVID	.060	0	1	.0492
IND	.037	0	1	.0485
CFO t+1	.067	-.026	.081	.0142
NI t+1	.076	-.028	.083	.0149

Sources : Processed data, 2020.

Table 5 the results of a nalisis korelasi indicate that ROA net income was positively correlated with cash flows t + 1 and the net profit t + 1. The higher the profit value, the higher the net profit for the coming period and the cash flow for the next period. Net income shows operating performance, the nature of net income which is relatively persistent between periods and includes cash income and cash expenses. Covid negatively correlates with cash flow t + 1 and net income t + 1. Covid caused a decrease in operating profit and cash flow in the following period.

Table 5 : Correlation Analysis Results

Panel A: Y = future cash flows.								
Variable	Correlation coefficient							
	ROA (NI)	ROA (CI)	ROA (CI_OCIR)	ROA (NI_PEI)	ROA (CI_PEI)	COVID	IND	CFO t+1
ROA (NI)	1							
ROA (CI)	.543 **	1						
ROA (CI_OCIR)	.037 *	.313 **	1					
ROA (NI_PEI)	.662 **	.618 **	.381 **	1				
ROA (CI_PEI)	.431 **	.724 **	.421 **	.738 **	1			
COVID	-.048 **	-.046 **	-.047 **	-.042 **	-.041 **	1		
IND	.097 **	.096 **	.094 **	.096 **	.091 **	.092 **	1	
CFO t+1	.613 **	.032 *	.511 **	.533 **	.488 **	-.045 *	.095 **	1

Panel B: Y = future net income.								
Variable	Correlation coefficient							
	ROA (NI)	ROA (CI)	ROA (CI_OCIR)	ROA (NI_PEI)	ROA (CI_PEI)	COVID	IND	NI t+1
ROA (NI)	1							
ROA (CI)	.543 **	1						
ROA (CI_OCIR)	.037 *	.313 **	1					
ROA (NI_PEI)	.662 **	.618 **	.381 **	1				

ROA (CI_PEI)	.431 **	.724 **	.421 **	.732 **	1		
COVID	-.048 **	-.046 **	-.042 **	-.047 **	-.043 **	1	
IND	.092 **	.091 **	.093 **	.094 **	.090 **	.093 **	1
NI _{t+1}	.618 **	.029 *	.499 **	.841 **	.703 **	.046 **	.095 **

** significant correlation at the 1% level, * significant correlation at the 5% level .

Sources : Processed data, 2020.

Table 6 The results of the paired t test show that there are differences in financial performance with the measurement of ROA version CI and ROA version of NI before and during the Covid 19 pandemic. industry experiences a negative mean ROA, such as hospitality, transportation, media, property and so on, while business fields such as information and communication technology, food and beverage, health services, pharmaceuticals, medical devices, financial services, retail trade and others experience positive performance in the future. pandemic. Information and communication technology products experienced significant positive performance in both the NI and CI versions of ROA, because during the pandemic, people needed internet quotas, telecommunication equipment used to work and study from home.

Table 6 : Test Results Paired t Test Financial Performance

Business fields	n (company)	Mean ROA version of NI		Mean ROA CI version	
		Before Covid-19	Moment Covid-19	Before Covid-19	Moment Covid-19
Positive performance groups:					
Information and communication technology	38	.058	.062 **	.057	.059 *
Food and Drink	28	.048	.049	.046	.047
Health services, pharmacy, medical devices	25	.047	.048	.041	.040
Financial services	67	.039	.041	.039	.040
Retail trade and others	21	.038	.042	.036	.037
	179 (37%)				
Negative performance group:					
Hospitality and tourism	26	.046	-.028 **	.043	-.026 **
Transportation and port services	28	.057	-.024 **	.052	-.025 **
Real estate, property, infrastructure, construction	58	.056	-.021 **	.056	-.038 **
Mining and energy	42	.043	.023 **	.042	.022 **
Textiles, paper, garment, plastics, aluminum	31	.052	-.026 **	.057	-.021 **
Construction machinery and other heavy equipment	23	.058	-.039 **	.069	-.027 **
Automotive, shipping, electronics	21	.051	.027 **	.065	.034 **
Cement, ceramics, porcelain and building materials	21	.063	.044 **	.064	.036 **
Agriculture, fisheries, plantations, forestry	19	.062	.026 **	.068	.049 **
Electronic and telecommunication equipment	16	.056	.041 **	.061	.027 **
Dealer of cars, motorcycles, automotive equipment	14	.054	-.022 **	.042	-.043 **
Media	10	.068	-.003 **	.044	-.029 **
Restaurant chain	2	.041	-.009 **	.043	-.043 **
N = 490 companies	311 (63%)				

** Sig (2-tailed) is significant at the 1% level, * significant at the 5% level.

Sources : Processed data, 2020.

Table 7 results of multiple linear regression analysis shows that the ROA coefficient (CI) in equation 1 is 0.031 and in equation 4 is 0.0326 significant at the 1% level, thus H2 is accepted, the CI version of ROA can be used to predict future investment returns. front. The ROA coefficient (CI_OCIR) in equation 2 is 0.547 and in equation 5 is 0.576 which is significant at the 1% level, thus H3 is accepted, the ROA version CI with OCI to be reclassified can be used to predict future investment returns. The coefficient of ROA (CI_PEI) in Equation 3 of 0, 518 and the equation 6 at 0, 716 significant at the 1% level, and thus the H4 is accepted, ROA version of CI can be used to predict yields on future investments, with only involve profit attributable to owners of the parent. Type of industry has a positive effect on NI and CFO for the t + 1 period, by classifying the types of industry into groups that perform positively and negatively during the pandemic (see table 6). many of its products were consumed during the Covid period, such as the ICT industry,

food and beverage and health.

Table 7 : Results of Multiple Linear Regression Analysis

Variabel	Panel A, Y = CFO _(t+1)			Panel B, Y = NI _(t+1)		
	Eq.1	Eq.2	Eq.3	Eq.4	Eq.5	Eq.6
Konstanta	.254*	.361*	.383*	.374*	.435*	.427*
ROA(NI)	.652**	.619**	-	.643**	.671**	-
ROA(CI)	.031*	-	-	.032*	-	-
ROA(CI_OCIR)	-	.547**	-	-	.576**	-
ROA(CI_OCITR)	-	.024*	-	-	.029*	-
ROA(NI_PEI)	-	-	.663**	-	-	.802**
ROA(NI_KNP)	-	-	.057*	-	-	.045*
ROA(CI_PEI)	-	-	.518**	-	-	.716**
ROA(CI_KNP)	-	-	.022*	-	-	.035*
COVID	-.043*	-.042*	-.045*	-.044*	-.047*	-.046*
IND	.098**	.097**	.093**	.097**	.096**	.095**
F-Statistic	4.688**	4.822**	4.819**	4.491**	5.034**	4.921**
Adjusted R ²	.618	.734	.625	.774	.782	.764

**pengaruh signifikan pada level 1%, *pengaruh signifikan pada level 5%.

Sources : Processed data, 2020.

5. CONCLUSION

There is a difference in financial performance with ROA CI version and ROA version NI before and during the Covid 19 pandemic. Financial performance in semester 1 2020 during the Covid 19 pandemic, both the NI version ROA and the CI version of the ROA experienced a decline. Business fields that experienced positive performance: information and communication technology, food and beverage industry, health (health services, pharmaceuticals and medical equipment industries), financial services and retail trade. This is because during the pandemic the market demand for products produced by this business sector has increased. At the time of PSBB and the new normal of educational activities, many offices and businesses shifted to an online system that required an internet connection and other IT products. Likewise food and beverage products. Business fields that experienced negative performance apart from the above sectors include: tourism (hotels, transportation), infrastructure, real estate, property, mining, plantations, chemical base and various industries. Since the Covid pandemic was announced by the government to enter Indonesia and the implementation of the work from home policy and restrictions on all activities outside the home from February to April 2020, the tourism, hospitality and transportation industry sectors have been practically affected and there has been a tremendous reduction in operational activities.

The CI version of ROA can be used to predict future investment returns. When aggregate CI is disaggregated to CI with OCI which will be reclassified and CI with OCI that will not be reclassified, the predictive power of the CI version of ROA on future cash flows and net income increases. In assessing ROA performance, it only involves NI and OCI which will be realized. NI includes cash income and expenses, and OCI which will be reclassified even though in period t it is still OCI, at t + k it will be realized and turned into NI and cash flow.

ROA version CI with OCI that will be reclassified can be used to predict future investment returns. The CI version of ROA can be used to predict future investment returns, involving only the profit attributable to the owners of the parent. The owners of the parent company have a large and dominating number of share ownership and are relatively stable between periods. Non-controlling interests with a small number of share ownership and relatively high volatility between periods, because this type of investor is short-term oriented and only focuses on pursuing gains in stock returns.

Finally, this study concludes that there are differences in financial performance before and during the Covid 19 pandemic with the CI version ROA (which is guided by the all-inclusive income concept recognition) and the NI version of ROA (the net surplus income concept). The CI version

of ROA can be used to predict future investment returns. By measuring ROA using CI returns, it is more representative of the actual conditions, because it involves the external environment facing the company. CI, which includes OCI, is the impact of macroeconomic fundamentals such as exchange rates, inflation, interest rates and the capital market climate which affect the fair value of assets and liabilities.

ROA version CI with OCI that will be reclassified can be used to predict future investment returns. CI has an advantage over NI because it involves adjusting the increase (decrease) in the value of assets and liabilities from historical value to fair value. The use of CI is considered more appropriate in pandemic conditions because it is more representative and comprehensive in assessing financial performance. By only involving OCI items that have the potential to be realized in the future, the predicted value of ROA on future investment returns is better because it does not involve unrealized items.

The CI version of ROA can be used to predict future investment returns, involving only the profit attributable to the owners of the parent. The Indonesian capital market, indeed, the majority of market players are investors with retail share trading volume, who pursue short-term investment returns in the form of gains, and are included in the category of non-controlling ownership. However, publicly traded companies in Indonesia are majority owned by the owners of the parent entity with a large and stable percentage of ownership between periods with an orientation of long-term investment returns in the form of dividends and control rights.

Investors are advised to use ROA comprehensive income measurements as an alternative to assessing financial performance before making investment decisions, because this version is more representative of the current conditions, especially in the midst of a pandemic. Suggestions for future research are that SAK is not only attributable to profit, but also to equity of balance sheet, thus apart from ROA, ROE formulations can also be developed, with returns from CI, NI, and attribution versions.

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Village Financial Management Strategy in Boking Sub District, Timor Central South District

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ABSTRACT

Good village financial management is financial management based on Permendagri No. 113 of 2014 which regulates the village financial management mechanism, the scope of village financial management includes planning, implementation, administration, reporting, and village financial accountability activities. This study aims to determine village financial management by conducting a study in the Leonmeni Village, Boking District, South Central Timor Regency, using qualitative research methods by analyzing data descriptively. Data collection is done through interviews, documentation or literature study and observation. The type of data in this research is qualitative and quantitative data with primary and secondary data sources. The results showed that the village financial management in Loenmeni Village was not yet effective. There are often delays in the preparation of Perdes on APBDes, delays in submitting accountability reports by the village treasurer every month, and delays in submitting reports on the realization of APBDes implementation by the Village Head to the Regent, as well as not transparent village financial management to the community. Therefore it is necessary to provide technical guidance and training to village officials so that the quality of human resources can be improved, and efforts and awareness of the village government are needed in terms of transparency in financial management.City.

Keywords : Strategy, Finance, Village

1. INTRODUCTION

Law Number 6 of 2014 concerning Villages has positioned the village as the spearhead of development and improvement of community welfare. Villages are given adequate authority and funding sources so that they can manage their potential in order to improve the standard of living and welfare of the community. In addition, villages also have the opportunity to develop the community's economy, through training and marketing of community crafts and the development of Village-Owned Enterprises (BUMDes). With the passing of this law , the village becomes a priority for development which begins with the third Nawacita , the government of President Joko Widodo and Vice President Jusuf Kalla, namely "Building Indonesia from the periphery by strengthening regions and villages". The Village Law provides new hope for the realization of an independent, prosperous and democratic village.

The success of a village development cannot be separated from the aspect of village financial management. Good village financial management is financial management in accordance with regulations made by the government, namely Permendagri Number 113 of 2014 concerning Village Financial Management. Based on Article 1 paragraph 6 Permendagri Number 113 of 2014, village financial management consists of planning, implementation, administration, reporting, and village financial accountability. Each component of village financial management must be based on the principles of transparency, accountability, participation, and be carried out in an orderly and disciplined budget. (V. Wiratna Sujarweni, 2015: 27).

East Nusa Tenggara is one of the provinces in Indonesia that also provides village funds. Reporting from Pos Kupang.com (18 January 2019) Head of the NTT Provincial Village Community Empowerment Service, Flory Mekeng said that in 2016, East Nusa Tenggara Province received village funds of IDR 1.84 trillion, while in 2017 it increased to IDR 2.36 trillion. In 2018 it increased to IDR 2.5 trillion and in 2019 IDR. 3.03 trillion. These funds are allocated for 3,344 villages spread across 20 districts in NTT. The region with the largest village funds is South Central Timor (TTS), which reaches Rp 287 billion, followed by Southwest Sumba with Rp 231

billion, East Manggarai and Ende Rp 198 billion more. However, the receipt of these large funds was not accompanied by management adequate finance and accountability by the village government. Many village officials have stumbled on corruption cases. Based on data from the Kupang District Court's Case Tracing Information System (SIPP) from January 2017-April 2019, as many as 24 village heads in East Nusa Tenggara (NTT) were proven guilty of Village Fund corruption. This resulted in the state losing up to IDR 5,062,706,514.66.

One of the districts in NTT that receives village funds is Timor Tengah Selatan District. This district consists of 31 districts and 266 villages. In 2018, TTS District received village funds of 233 billion, increasing to 287 billion in 2019. However, the amount of funds received was not accompanied by adequate financial management, especially in terms of accountability. This resulted in the distribution of village funds being hampered. Quoted from Pos Kupang - village funds for the 2019 fiscal year TTS Regency experienced delays in disbursement. Until mid-May, only 9 villages had a letter of recommendation for disbursement from the TTS Regency BPMD for the disbursement of village funds at the Regional Financial and Asset Management Agency. Meanwhile, for the other 257 villages, adjustments were still made between the RAB and the village financial planning. Based on the results of the TTS Regent's inspection, Egusem Piether Tahun, on Saturday, May 11, 2019, there is a mismatch between the unit price of the goods listed in the RAB and the real condition on the market (www.poskupang.com).

Leonmeni Village is one of the villages located in Boking District, South Central Timor Regency. This village consists of 4 (four) hamlets, namely Maubele Hamlet, Leonmeni Hamlet, Fofu Hamlet, and Puaono Hamlet. Leonmeni Village also receives an allocation of village funds and village funds as part of the transfer income from the local government of the TTS Regency and the Central Government. The following is the data for the allocation of village funds and village funds for 2016-2018 in Leonmeni Village:

Table 1. Village Fund Allocation in Leonmeni Village 2016-2018

NO	Fiscal year	Total Village Fund Allocation (IDR)
1.	2016	256,990,000
2.	2017	260,725,000
3.	2018	265,457,000

(Source: TTS Perbup No.1 Year 2016, No.11 Year 2018, About the Procedures for Distribution and Distribution of ADD)

Meanwhile, the allocation of village funds is the obligation of the district / city government to allocate a budget for the village taken from the Revenue Sharing Fund (DBH), the General Allocation Fund (DAU) which is part of the balance fund.

Table 2. Realization of Village Funds in Leonmeni Village 2016-2018

NO	Fiscal year	Village Fund (Rp)
1.	2016	604,779,000
2.	2017	771,533,000
3.	2018	1,067,930,000

(Source: Leonmeni Village Office 2019)

The village financial planning stage begins with the preparation of RPJMDes for a period of 6 years and RKPDes for a period of 1 year. Based on temporary observations and interviews with Leonmeni village officials, the Leonmeni village secretary was late in drafting and submitting a village regulation draft on APBDes to the village head so that the time for the APBDes draft agreement exceeded the time limit stipulated in the ministerial regulation. The delay in this determination resulted in the distribution of village funds from the regional general cash account to the village general cash account to be hampered because based on paragraph 2 of Article 17 PP. No. 60/2014 Village Regulation regarding APBDes is one of the distribution requirements

village funds. Articles 24-34 Permendagri No. 113 of 2014, the implementation of village finances is carried out through a village cash account accompanied by complete and valid evidence. Based on temporary observations and interviews with village officials in Leonmeni, SPP is often submitted before goods / services are received. This is not in accordance with paragraph 2 article 28 of the existing Minister of Home Affairs.

The administration stage is regulated in articles 35-36 Permendagri No. 113 of 2014. Based on paragraph 4 of article 35, the village financial accountability report is submitted monthly to the village head no later than the 10th of the following day. Based on articles 38-41 Permendagri No. 113 of 2014, the report on the realization of the APBDes implementation submitted to the regent / mayor is attached with the Village Property Asset report format as of December 31 of the fiscal year regarding and the format for the Government and Regional Government Program Reports that enter the village. Paragraph 1-2 Article 40 states that the report on the realization of accountability is communicated to the public in writing through a media that is easily accessible to the public. However, based on temporary observations and interviews with the people of Leonmeni Village, the village government did not inform the APBDes accountability realization report to the community so that the community did not know about village financial management that occurred in Leonmeni Village.

The low quality of village apparatus human resources is one of the factors causing the ineffective management of village finances in Leonmeni Village. Based on the description above, researchers are interested in conducting research regarding five important stages in village financial management based on Permendagri No.113 of 2014, namely the planning, implementation, administration, reporting, and accountability stages. The main purpose of this research is to explore various problems in village financial management and to see the suitability of village financial management in Leonmeni Village with the guidelines made by the government, namely Permendagri No. 113 of 2014.

2. LITERATURE REVIEW

Based on Law Number 6 of 2014 concerning Villages and Permendagri Number 113 of 2014 concerning Village Financial Management, villages are villages and villages. adat or what is referred to by another name, hereinafter referred to as village, is a legal community unit that has territorial boundaries which is authorized to regulate and administer government affairs, local community interests based on community initiative, rights of origin, and / or traditional rights recognized and respected in the system. government of the Republic of Indonesia.

Based on Permendagri No. 113 of 2014 concerning Village Financial Management, village financial management is all activities that include planning, implementation, administration, reporting, and village financial accountability, starting from January 1 to December 31. Village financial management includes planning (preparation) of the Village Income and Expenditure Budget (APBDesa). Village finances are managed based on good government practices. The principles of Village Financial Management as stipulated in Article 2 CHAPTER II Permendagri Number 113 of 2014 are transparent, accountable, participatory and carried out in an orderly manner and with budget discipline.

Village Financial Planning consists of the Village Medium Term Development Plan (RPJM Desa) for a period of 6 (six) years, the Village Annual Development Plan or what is known as the Village Government Work Plan (RKP Desa) for a period of 1 (one) year and the planning of the Income Budget. and Village Shopping (APBDes).



Figure 1.

(Source: Deputy of Regional Financial Implementation Supervision, 2015)

Village finance implementation is related to program implementation, namely activities managing and mobilizing human resources and funds to organize activities that have been formulated in the planning according to the specified time schedule. The village government coordinates and supervises the running of government, community and development activities. The community contributes energy, funds and participates in overseeing the implementation of activities (Didit Herlianto, 2017: 12). All village revenues and expenditures in the context of implementing village authority are carried out through the village treasury account. Especially for villages that do not yet have banking services in their area, the regency / city government shall stipulate the regulation. All village revenues and expenditures are supported by complete and valid evidence (V. Wiratna Sujarweni, 2015: 19).

Based on the Guidelines for Implementation of Village Financial Management Guidance and Consultation by the Deputy for Supervision of Regional Financial Implementation, Village finance implementation consists of: implementation of revenue revenue, implementation of expenditure, and implementation of financing. Village Financial Administration is a recording activity which is specifically carried out by the Village Treasurer. The Village Treasurer is required to record all existing transactions in the form of revenues and expenses. The Village Treasurer keeps a systematic and chronological record of the financial transactions that occur. Village financial administration carried out by the Village Treasurer is carried out in a simple way, namely in the form of bookkeeping. Village financial administration, consisting of: administration of village revenues, administration of village spending, administration of village financing, financial reports of village treasurers and administration by activity implementers. Based on Article 36 Permendagri No. 113 of 2014, village financial management documents, consisting of: general cash book, tax auxiliary cash book, and bank book.

According to Permendagri No.113 of 2014 and Ardi Hamzah (2015), in carrying out duties, obligations, authorities, and rights, village heads are required to: Submit a Report on the Realization of APBDesa Implementation to the regents / mayors in the form of: First semester reports in the form of APBDesa Realization Reports, at the latest July of the current year, Year-end semester report, no later than the end of January of the following year. Based on paragraph 3 of article 24 PP. No. 60 of 2014 chief villages are required to submit a report on the realization of the use of village funds before the distribution of the next stage of village funds. This report is one of the conditions for distributing village funds.

Based on Articles 38-43 Permendagri No.113 of 2014, the accountability report for the realization of APBDes implementation is informed to the public in writing and with information media (announcement boards, information radio, and other information media) which are easily accessible to the public. Based on CHAPTER VI Permendagri No. 113 of 2014, the guidance and supervision of village financial management consists of: The Provincial Government is obliged to guide and supervise the provision and distribution of Village Funds, Village Fund Allocation, and Regional Tax and Retribution Sharing Funds from Regencies / Cities to Villages. District / City Governments are required to guide and supervise the implementation of village financial management.

Supervision of village financial management is very important to assess whether program implementation is in accordance with the plan, whether funds are used properly, whether

activities are achieving results as planned, and formulating a common agenda for improvements in the following year. This supervision is carried out by the Village Consultative Body (BPD) and the village community, (Didit Herlianto, 2017: 17).

3. METHODS

This research was conducted in Leonmeni Village, Boking District, South Central Timor Regency. The object of research in this study is planning, implementation, administration, reporting, and village financial accountability. The types of data in this study are quantitative data and qualitative data. The quantitative data, namely financial planning document villages in 2016-2018, transaction documents in the implementation of rural financial years 2016-2018, document administration in 2016-2018, and financial accountability document villages in 2016-2018. Qualitative data, namely the results of interviews with village financial managers and village communities related to village financial management.

The data source in this study is the primary data source in the form of interviews with village financial managers and village communities related to village financial management as well as official documents of Leonmeni village financial management. 2016-2018, and secondary data sources, in the form of books, scientific journals, data from newspapers, bulletins and government regulations governing village financial management. Data collection techniques in this study were observation, interviews and literature study.

The data analysis technique used in this research is descriptive qualitative. Qualitative descriptive is a technique that provides an explanation, description, and description of the object under study. Data analysis activities in this study used the technique of Miles, Huberman and Saldana (2014) which consisted of data reduction, data presentation, and conclusion drawing.

4. RESULTS AND DISCUSSION

Based on the description of the research results above, in this section, the results of the research will be analyzed and described following the formulation and research objectives, namely as follows:

4.1. Village Financial Planning

Based on the research results, village financial planning in Leonmeni Village is generally in accordance with the provisions of Article 20-23 CHAPTER V Permendagri No. 113 of 2014. However, what is still a discrepancy is the time the RAPBDes is approved which exceeds the time period stipulated in Article 20 paragraph (4) Permendagri No. 113 of 2014, which is more than October. The agreement of the RAPBDes which exceeded the timeframe stipulated in the Permendagri was caused by the delay of the Leonmeni Village Secretary in preparing the RAPBDes. Based on interviews conducted by researchers with the Leonmeni Village Secretary, this delay was caused because the Leonmeni Village Secretary lacked adequate understanding and competence regarding village administration and finance. The late preparation of the RAPBDes has caused the delivery time to the village head to be late.

This delay in agreeing the RAPBDes may result in the distribution of village funds and village fund allocations being hampered because based on Article 17 of Government Regulation Number 60 of 2014 concerning Village Funds, the Village Regulation regarding APBDes is one of the conditions for distributing village funds. If The distribution of village funds is hampered, this will have implications for the implementation of activities in the village, because village funds and village fund allocations are one of the largest incomes owned by the village, in addition to revenue sharing from taxes and levies as well as financial assistance from districts / cities.

Leonmeni's draft Village Revenue and Expenditure Budget (RAPBDes) is attached with a Budget Plan (RAB). Based on the results of interviews with the head of Leonmeni Village and other village officials, the 2018 Leonmeni Village RAPBDes received an evaluation from the TTS Village Community Empowerment Agency (BPMD) in terms of spending plans in the field of community

empowerment, where the spending plan for community empowerment in Leonmeni Village was only in the form of socialization about BUMDES, activities to increase the capacity of community institutions and empowerment of posyandu. This is deemed less touching the life of the community and has a direct impact on increasing the income of the Leonmeni Village community.

This inappropriate expenditure planning is the result of the village government being less objective when it comes to financial planning. The village government is less sensitive and responsive to the needs of the village community. Based on the evaluation provided by BPMD, the Leonmeni village government made improvements to its spending plan by adding an activity plan in the form of providing assistance to furniture, weaving, and repair shops. In addition, the proposed RAB often receives evaluation, because the unit price of the goods listed in the RAB does not match the real price on the market. The real market price is sometimes higher than the unit price estimated in the Budget Plan. Based on interviews with Leonmeni Village officials, this difference in unit price was due to the Activity Implementation Team (TPK) not conducting a market survey first.

4.2. Village Finance Implementation

Based on the research results, the implementation of village finances in Leonmeni Village is generally in accordance with the provisions of Articles 24-34 Permendagri No. 113 of 2014. However, what is still a mismatch is the submission of a Payment Request Letter (SPP) by the Leonmeni Village Activity Implementation Team (TPK). before goods and or services are received. This is not in accordance with Article 28 paragraph (1) Permendagri No. 113 of 2014 which states that SPP can only be submitted if the goods / services have been received. Based on the results of interviews with the Leonmeni Village Activity Implementation Team (TPK), this happened because the Leonmeni Village TPK did not know the guidelines for applying for SPP, so they submitted SPP before the goods / services were received. Or it could be said that the factor of the low knowledge of the Leonmeni Village TPK regarding village regulations and finances was the background for this to happen. If SPP is submitted before the goods or services are received, it will result in ineffective implementation of village finances. Because physically the goods / services do not yet exist or have not been received but the letter has been submitted, this opens the door for budget manipulation.

Based on interviews conducted with the Leonmeni Village Activity Implementation Team, the TPK were often late in submitting activity reports. The delay in submitting this activity report was caused by the Leonmeni Village TPK lacking work discipline. In addition, the absence of strict sanctions from the village head is also the cause of the delay in submitting this report. If the activity report is not submitted on time, it will imply a delay in the preparation of the report on the realization of the APBDes implementation and the report on the use of village funds so that the submission of the report to the Regent exceeds the time period stipulated in Article 38 paragraph (1) Permendagri No. 113 of 2014 and will have an impact on delays in the distribution of village funds.

4.3. Village Financial Administration

Based on the research results, the village financial administration in Leonmeni Village has generally been in accordance with the provisions of articles 35-36. Permendagri No. 113 of 2014. However, what is still a discrepancy is that the treasurer of Leonmeni Village does not close books orderly at the end of every month. This is because the village treasurer lacks knowledge regarding village financial regulations, so he closes books according to his knowledge. In addition, the time for submitting the accountability report of the village treasurer often exceeds the time period stipulated in article 35 paragraph (4) Permendagri No. 113 of 2014, namely no later than the 10th of the following month. Based on interviews conducted with village treasurers and village heads, this Accountability Report is often delivered when compiling the APBDes realization report, namely in July. This is due to the lack of knowledge of village treasurers, especially in terms of regulations and administration, and not closing books at the end of every month.

4.4. Village Financial Reporting

Based on the research results, village financial reporting in Leonmeni Village is generally in

accordance with the provisions of Article 37 Permendagri No. 113 of 2014. However, what is still a mismatch is the submission time of the APBDes realization report which exceeds July of the current budget year and the accountability report of the APBDes realization which exceeds January of the following fiscal year. Based on the results of interviews with the head of Leonmeni Village, this delay was caused by the difficulty of the Leonmeni Village Treasurer in making an accountability report as well as the delay in the Activity Implementation Team (TPK) in submitting an activity accountability report to the village treasurer.

4.5. Village Financial Accountability

Based on the results of the research, the village financial accountability in Leonmeni Village is generally in accordance with the provisions of articles 38-40 Permendagri No. 113 of 2014. However, what is still a mismatch is the accountability report for the realization of the APBDes, the report on the wealth of the village, and the reports on government and regional government programs that enter the village are not informed to the Leonmeni village community either in writing or through media easily accessible to the community. This is not in accordance with Article 40 paragraph 1 (one) Permendagri No. 113 of 2014. Based on interviews with the Leonmeni Village officials, the Leonmeni Village Government did not inform the community about this because according to them the report on the realization of the APBDes was only internal consumption of the village government, not to be published. Besides, according to The village government Leonmeni things that need diinfomasikan to the public in the form of an invitation to attend musrembangdes, an invitation to the distribution of aid Raskin, an invitation to the implementation of rural development through community self-help that require power. This lack of transparency resulted in the low credibility of the community towards village financial management and the lack of community knowledge about village financial management in Leonmeni Village. In addition, it can lead to apathy and suspicion by the village community regarding village financial management.

5. CONCLUSION AND SUGGESTION

5.1. Conclusions

Based on the explanation previously presented, the following conclusions can be drawn: in general, village financial management in Leonmeni Village, Boking District, TTS Regency has been running effectively, although there are several things in each stage of management that have not been implemented properly. At the planning stage in general it is in accordance with Permendagri No. 113 of 2014, but what is still a mismatch is the time frame for the approval of the RAPBDes by the Leonmeni Village government which exceeds the time limit stipulated in Article 20 paragraph (4) Permendagri No. 113 of 2014. The determination of the RAPBDes to become APBDes is often late because the 2018 RAPBDes of Leonmeni Village in terms of community empowerment expenditure and the Budget Plan (RAB) received an evaluation from the District Community Development Agency. TTS.

At the implementation stage as a whole it is in accordance with Articles 24-34 CHAPTER V Permendagri No. 113 of 2014, except in Article 28 paragraph (3), namely the executor of Leonmeni Village activities submits a Payment Request Letter before the goods or services are received. At the administrative stage, in general, it is in accordance with Permendagri No. 113 of 2014, but what is still a mismatch is the delay of the village treasurer in submitting an accountability report that is not in accordance with Article 35 paragraph (3) and the village treasurer does not close the book at the end of every month, this is not in accordance with 35 paragraph (4).

At the reporting stage it is in accordance with Permedagri No. 113 of 2014, however, what has become a discrepancy is that there is still delay in submitting reports the accountability of the APBDes and reports on the use of village funds to the Regent / Mayor because the Leonmeni village government has difficulties in making accountability reports and there is a delay in the Activity Implementation Team (TPK) in submitting accountability reports to the village treasurer. The accountability stage is broadly in accordance with articles 38-40 Permendagri No. 113 of 2014. However, what is still a non-conformity is that the APBDes accountability report is

not informed to the people of Leonmeni Village.

5.2. Suggestions

Based on the above conclusions, the researchers provide the following suggestions: For the Ministry of Home Affairs to review and revise Permendagri No. 113 of 2014, by adding a regulation regarding sanctions if the provisions concerning village financial management are not implemented by village officials. So that it can provide a deterrent effect and minimize fraud in village financial management, because there is already a jurisdical basis that regulates sanctions. For the Leonmeni Village government to add a program to increase the quality and capacity of village apparatus human resources as one of the annual programs in the RAPBDes so that it can increase the competence and understanding of village officials in village financial management.

The Leonmeni Village Government needs to provide socialization and training regarding village financial regulations (Permendagri No.113 of 2014) to the Activity Implementation Team (TPK) before carrying out activities so that the TPK can know the existing regulations and serve as guidelines in carrying out their entrusted tasks. In addition, the Village Secretary must verify the Payment Request Letter and conduct a field inspection of the presence or absence of goods / services so as not to open up loopholes for budget manipulation. The Leonmeni Village Government should inform the accountability report on the realization of the APBDes and other reports to the community through information boards or through oral delivery in each hamlet, so as to increase public confidence in the performance of the Leonmeni Village officials.

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Slaughterhouse Incoming Strategy in Kupang City

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ABSTRACT

This research is about slaughterhouse incoming strategy in Kupang City. The problem to be examined in this research is How the level of effectiveness and contribution of slaughterhouses (RPH) levies on local revenue (PAD) in Kupang City ?. This study aims to determine how the level of effectiveness and contribution of the slaughterhouse levies to the local income of Kupang City. This research uses qualitative and quantitative approaches. The types of data used are primary and secondary data. The data collection techniques used were observation, interview, documentation and literature study techniques. The results of this study indicate that the level of effectiveness and contribution of slaughterhouse levies affects the local income of Kupang City, where the level of effectiveness is quite effective on the local income of Kupang City and the contribution rate of slaughterhouse levies in Kupang City is very good for the local income of Kupang City.

Keywords : Effectiveness, Contribution, Slaughterhouse Retribution, Regional Retribution and Local Own Income

1. INTRODUCTION

The implementation of Law Number 32 of 2004 concerning Regional Government and Law Number 33 of 2004 concerning Central and Regional Financial Balancing has led to fundamental changes regarding the regulation of central and regional relations, particularly in the field of government administration and in financial relations between the central and regional governments. regions, which is known as the era of regional autonomy. In the current era of regional autonomy, regions are given greater authority to regulate and manage their own households. The objectives, among others, are to bring government services closer to the community, make it easier for the public to monitor and control users of funds sourced from the Regional Budget (APBD), in addition to creating healthy competition between regions and encouraging innovation.

Collection of local taxes and levies is inseparable from their effectiveness and contribution to Regional Original Income (PAD). According to Mahmudi (2007: 87) effectiveness is related to the relationship between expected results and actual results achieved, and effectiveness is the relationship between output and objectives. The greater the output contribution to the achievement of goals, the more effective the organization, program or activity is. According to Mahmudi (2007: 87) effectiveness is related to the relationship between expected results and actual results achieved, and effectiveness is the relationship between output and objectives. The greater the output contribution to the achievement of goals, the more effective the organization, program or activity is.

According to Halim (2004: 163) a contribution is something that is given together with other parties for the purpose of certain or collective costs or losses. Contributions can be made in various fields, namely thought, leadership, professionalism. According to Siahaan (2010: 5) that local levies are payments from residents to the state because of certain services provided by the state for individual residents. According to Halim (2017: 101) Regional Original Income (PAD) is revenue obtained by the region which is collected based on regional regulations in accordance with statutory regulations. Sources of original regional income consist of local taxes, regional levies, proceeds from the management of separated regional assets, other legal PAD.

Based on the Regional Regulation of the City of Kupang Number 16 of 2011 concerning Charges for Slaughterhouses. Slaughterhouse levies, hereinafter referred to as levies, are regional levies imposed on business service users provided by the regional government, in this case the

Agricultural Service in the form of Slaughterhouses. Retribution for Slaughterhouses is also an object of regional income that contributes to the Original Regional Income of Kupang City.

And the following is the Target and Realization of the Levy for the Kupang Slaughterhouse:

Table 1. Retribution Target and Realization Slaughterhouse (RPH) Kupang City

Year	Target	Realization	Percentage
2014	Rp. 650,000,000	Rp. 523,106,000	80.47%
2015	Rp. 650,000,000	Rp.556,109,000	85.55%
2016	Rp. 650,000,000	Rp. 640,482,000	98.53%
2017	Rp. 650,000,000	Rp. 647,557,000	99.62%

Source: Office of the UPT Slaughterhouse (RPH) Kupang City

Based on Table 1 above, it can be explained that the target set by the Kupang City Agriculture Office for the Retribution for the Kupang Slaughterhouse (RPH) in 2014-2017 remains the same. The realization of the Animal Slaughter Levy for each year has increased. However, even though the realization has increased from year to year, there are important things that need to be considered, namely the realization data from year to year that do not meet the target set.

Table 2. Target and Realization of Local Own Revenue from Retribution for the Kupang City Slaughterhouse

Year	Target	Realization	Percentage%
2014	Rp. 650,000,000	Rp. 519,711,000	79.95%
2015	Rp. 650,000,000	Rp. 555,485,000	85.45%
2016	Rp. 650,000,000	Rp. 640,482,000	98.53%
2017	Rp. 650,000,000	Rp. 645,624,000	99.32%

Source: Regional Finance Agency of Kupang City

From Table 2 above, it can be explained that the Realization of Local Own Revenue from Slaughterhouse Retribution (RPH) has increased from 2014-2017. However, it should be noted that the increase in the Realization of Local Revenue in Kupang City from the Levy for Slaughterhouses in 2014-2017 does not meet the target given.

Based on the description on the background above, the formulation of the problem that will be examined by the researcher is how the level of effectiveness and contribution of slaughterhouse (RPH) levies on local revenue (PAD) in Kupang City is. The purpose of this study was to determine the level of effectiveness and contribution of slaughterhouses levies on local revenue (PAD) in Kupang City.

2. METHODS

This research is a research with qualitative and quantitative approaches. The data from this study were collected and then processed and analyzed then interpreted. The scope of this research is the Technical Implementation Unit (UPT) of the Slaughterhouse at the Agriculture Office of Kupang City. This research will focus on the level of effectiveness and contribution of slaughterhouses levies on local revenue (PAD) in Kupang City. And to determine the level of effectiveness and contribution, the authors use the ratio of effectiveness and contribution ratio.

2.1. Types and Sources of Data

According to Sugiyono (2015: 23) that quantitative data is data in the form of numbers, or quantitative data that is assessed (scoring). Which is the quantitative data in this research is the target data and the realization of slaughterhouse levies in the city of Kupang from 2014-2017 as well as the target data and the realization of the local revenue of the city of Kupang from the levies of slaughterhouses in 2014-2017.

According to Sugiyono (2015: 23) that qualitative data is data in the form of sentences, words or pictures. Which is qualitative data in this study is information in the form of the Kupang City

Regional Regulation on Slaughterhouse Retribution.

Primary data is data obtained directly from the research site, in this case the researcher obtains data and information directly from the UPT RPH Kupang City related to the Retribution for Slaughterhouses (RPH) and the Regional Finance Agency of Kupang City regarding the Original Regional Income of Kupang City.

Secondary data is data that is available in various forms. Secondary data is data obtained indirectly from the UPT RPH related to the Retribution for the Slaughterhouse (RPH) in Kupang City. In this study, secondary data is in the form of Regional Regulation No. 16 2011 concerning Charges for Slaughterhouses in Kupang City.

The data collection techniques used by the authors in this study are observation and interview. Observation is a way to collect research data by making direct observations of the object of research. The observations in this study were that researchers conducted direct observations at UPT RPH Kota Kupang. An interview is an activity carried out to obtain information directly by revealing questions to respondents. Interviews in this study were conducted by asking a number of questions to the Head of UPT RPH Kota Kupang regarding Retribution for the Kupang Slaughterhouse.

2.2. Data analysis technique

This research used Preliminary Analysis (Descriptive Statistics). This stage aims to describe the character of each study. At this stage, the data is collected, organized and presented in table form such as the table for Target and Realization of Levies for the Kupang Slaughterhouse and its percentage and tables of the Target and Realization of Local Real Revenue from the Levy for Slaughterhouse in Kupang City and its percentage. This research also used Advanced Analysis Techniques as follows: (a). Effectiveness Ratio to analyze how much the realization of revenue has succeeded in achieving the potential that should have been achieved in a certain period, (b). Contribution Ratio to analyze how contribution is given together with other parties for the purpose of certain or collective costs or losses.

3. RESULTS AND DISCUSSION

3.1. Analysis of the Effectiveness of Slaughterhouse Levies

And the following is the calculation of the effectiveness of the Kupang slaughterhouse levy.

1. Year 2014

$$\begin{aligned}\text{Efektivitas} &= \frac{\text{Realisasi Retribusi Rumah Potong Hewan}}{\text{Target Retribusi Rumah Potong Hewan}} \times 100\% \\ &= \frac{\text{Rp.523.106.000}}{\text{Rp.650.000.000}} \times 100\% \\ &= 80.47\%\end{aligned}$$

If seen in the percentage table of effectiveness criteria, it shows that the level of effectiveness of the realization of the slaughterhouse levy in 2014 against the target given is "less effective" with a percentage of 80.47% because it has not reached the target given by the government with achievements less than 100%.

2. 2015 year

$$\begin{aligned}\text{Efektivitas} &= \frac{\text{Realisasi Retribusi Rumah Potong Hewan}}{\text{Target Retribusi Rumah Potong Hewan}} \times 100\% \\ &= \frac{\text{Rp. 556.109.000}}{\text{Rp. 650.000.000}} \times 100\%\end{aligned}$$

$$= 85.55 \%$$

If seen in the table of the percentage of effectiveness criteria, it shows that the level of effectiveness of the realization of the slaughterhouse levy in 2015 against the target given is "less effective" with a percentage of 85.55% because it has not reached the target given by the government with achievements less than 100%.

3. 2016 year

$$\begin{aligned} \text{Efektivitas} &= \frac{\text{Realisasi Retriusi Rumah Potong Hewan}}{\text{Target Retribusi Rumah Potong Hewan}} \times 100\% \\ &= \frac{\text{Rp.640.482.000}}{\text{Rp.650.000.000}} \times 100\% \\ &= 98.53 \% \end{aligned}$$

If seen in the table of the percentage of effectiveness criteria shows that the level of effectiveness of the realization of slaughterhouse levies in 2016 against the target given is "Effective Enough" with a percentage of 98.53% because it has not reached the target given by the government with achievements less than 100%.

4. 2017 year

$$\begin{aligned} \text{Efektivitas} &= \frac{\text{Realisasi Retriusi Rumah Potong Hewan}}{\text{Target Retribusi Rumah Potong Hewan}} \times 100\% \\ &= \frac{\text{Rp. 647.557.000}}{\text{Rp. 650.000.000}} \times 100\% \\ &= 99.62 \% \end{aligned}$$

In 2017, the effectiveness level of the realization of the yearly slaughterhouse levy against the target given was "Effective Enough" with a percentage of 99.62%, because it had not yet reached the target given by the government with an achievement of less than 100%.

The results of the above calculations are based on the existing formula and will be explained in an integrated manner along with the effectiveness criteria each year starting from 2014-2017. And here is a table of the results of the calculation of the effectiveness of the slaughterhouse levy.

Table 3. Recapitulation of Effectiveness Calculations Retribution for Slaughterhouses

Year	Target	Realization	Effectiveness Level	Effectiveness Criteria
2014	Rp. 650,000,000	Rp. 523,106,000	80.47%	Less effective
2015	Rp. 650,000,000	Rp. 556,109,000	85.55%	Less effective
2016	Rp. 650,000,000	Rp. 640,482,000	98.53%	Effective enough
2017	Rp. 650,000,000	Rp. 647,557,000	99.62%	Effective enough
Average	Rp. 2,600,000,000	Rp. 2,367,308,000	91.05%	Effective enough

Source: Regional Financial Agency (by author)

Table 3 above shows that the effectiveness level of the slaughterhouse levy in 2014-2017 has increased, this can be seen in the percentage level of effectiveness from 2014-2017. In 2014-2015 the effectiveness level of the slaughterhouse levy received the criteria of being less effective with a percentage level of 80.47% in 2014 and 85.55% in 2015, while in 2016-2017 the effectiveness level of the slaughterhouse levy was considered quite effective. with a percentage rate of 98.53% in 2016 and 99.62% in 2017.

3.2. Contribution Analysis of Slaughterhouse Retribution

By looking at table 12 above, the researcher will calculate the level of contribution from the slaughterhouse levy to local revenue from 2014-2017. And here is the calculation:

1. Year 2014

$$\begin{aligned} \text{Kontribusi} &= \frac{\text{Realisasi Penerimaan Retriusi Rumah Potong Hewan}}{\text{Realisasi Penerimaan Pendapatan Asli Daerah}} \times 100\% \\ &= \frac{\text{Rp.523.106.000}}{\text{Rp.519.711.000}} \times 100\% \\ &= 100.65\% \end{aligned}$$

If we look at the percentage table for the Contribution criteria, it shows that the level of contribution from the slaughterhouse levy to the local income of Kupang City in 2014 was "very good" with a percentage level of 100.65%. With this percentage level, the contribution of the slaughterhouse levy has reached the highest standard criteria, namely > 50% in very good category in contributing.

2. 2015 year

$$\begin{aligned} \text{Kontribusi} &= \frac{\text{Realisasi Penerimaan Retriusi Rumah Potong Hewan}}{\text{Realisasi Penerimaan Pendapatan Asli Daerah}} \times 100\% \\ &= \frac{\text{Rp. 556.109.000}}{\text{Rp. 555.485.000}} \times 100\% \\ &= 100.11\% \end{aligned}$$

If seen in the percentage table of the Contribution criteria, it shows that the contribution rate of the slaughterhouse levy to the original regional income of Kupang city in 2015 was "very good" with a percentage level of 100.11%. With this percentage level, the contribution from the slaughterhouse levy has reached the highest standard criteria, namely > 50% in very good category in contributing to the local revenue of Kupang City.

3. 2016 year

$$\begin{aligned} \text{Kontribusi} &= \frac{\text{Realisasi Penerimaan Retriusi Rumah Potong Hewan}}{\text{Realisasi Penerimaan Pendapatan Asli Daerah}} \times 100\% \\ &= \frac{\text{Rp.640.482.000}}{\text{Rp.640,482,000}} \times 100\% \\ &= 100\% \end{aligned}$$

If we look at the percentage table of the Contribution criteria, it shows that the level of contribution from the slaughterhouse levy to the local income of Kupang City in 2016 was "very good" with a percentage level of 100%. With this percentage level, the contribution from the slaughterhouse levy has reached the highest standard criteria, namely > 50% in very good category in contributing to the local revenue of Kupang City.

4. 2017 year

$$\begin{aligned} \text{Kontribusi} &= \frac{\text{Realisasi Penerimaan Retriusi Rumah Potong Hewan}}{\text{Realisasi Penerimaan Pendapatan Asli Daerah}} \times 100\% \\ &= \frac{\text{Rp. 647.557.000}}{\text{Rp. 645,624,000}} \times 100\% \\ &= 100.29\% \end{aligned}$$

If we look at the percentage table for the Contribution criteria, it shows that the level of contribution from the slaughterhouse levy to the local income of Kupang City in 2017 is "very good" with a percentage level of 100.29%. With this percentage level, the contribution from the slaughterhouse levy has reached the highest standard criteria, namely > 50% in very good category in contributing to the local revenue of Kupang City.

The results of the calculation of the contribution of the slaughterhouse levy to local revenue can be seen in the table below:

Table 4. Contribution Calculation Recapitulation Slaughterhouse Retribution Animals to Local Original Income of Slaughterhouse Retribution

Year	Local Own Revenue from Slaughterhouse Retribution (Realization)	Retribution for Slaughterhouses (Realization)	Contribution Rate	Contribution Criteria
2014	Rp. 519,711,000	Rp. 523,106,000	100.65%	Very good
2015	Rp. 555,485,000	Rp. 556,109,000	100.11%	Very good
2016	Rp. 640,482,000	Rp. 640,482,000	100%	Very good
2017	Rp. 645,624,000	Rp. 647,557,000	100.29%	Very good
Average	Rp. 2,361,302,000	Rp. 2,367,254,000	100.25%	Very good

Source: Regional Financial Agency (by author)

In table 4 it can be explained that the contribution of the Slaughterhouse Retribution to the Original Regional Income of Kupang City is very good from 2014-2017. Where the highest contribution rate was in 2014 with a percentage level of 100.65% while the lowest contribution rate was in 2016 with a percentage of 100%.

The following is a recapitulation of the effectiveness and contribution of slaughterhouse levies to local revenue in Kupang City:

Table 14 Recapitulation of Effectiveness and Contribution of Slaughterhouse Retribution Animal Against Local Revenue in Kupang City

Year	Level of Effectiveness	Effectiveness Criteria	Contribution Rate	Contribution Criteria
2014	80.47%	Less effective	100.65%	Very good
2015	85.55%	Less effective	100.11%	Very good
2016	98.53%	Effective enough	100%	Very good
2017	99.62%	Effective enough	100.29%	Very good
Average	91.05%	Effective enough	100.25%	Very good

Source: Analysis

In table 14 above, it can be seen that the level of effectiveness of slaughterhouse levies has increased from 2014-2017 on average the effectiveness level is 91.05% with the criteria "effective enough" so that it can be seen that the levy for slaughterhouses is "quite effective" on the local income of Kupang City. Whereas at the percentage level of the contribution rate of slaughterhouse levies to local original income there was a fluctuation where the percentage of 100.65% in 2014 decreased by 100.11% in 2015, and in 2016 again decreased by 100% but in 2017 the percentage of contributions returned experienced an increase from 100% in 2016 to 100.29% with the criteria for a "very good" contribution.

4. CONCLUSIONS AND SUGGESTIONS

4.1. Conclusion

Based on the data analysis above and the discussion that has been explained, according to the research objectives it can be concluded that several things are:

1. The effectiveness of the revenue from animal slaughterhouses in Kupang City has increased from 2014-2017. In 2014, the effectiveness level of the slaughterhouse levy was equal

to 80.47% categorized as less effective. In 2015, the effectiveness level of the slaughterhouse levy was 85.55% in the less effective category. It is said to be less effective because the level of effectiveness has not reached the target given, namely reaching the percentage of 100%. In 2016, the effectiveness level was 98.53% which was categorized as quite effective, while in 2017 the effectiveness level of the slaughterhouse levy reached 99.62% with the category quite effective. It is said to be quite effective because the achievement of the level of effectiveness has not yet reached the 100% percentage. Meanwhile, the average level of effectiveness of the slaughterhouse levy is 91.05% with the criteria being quite effective.

2. The contribution of slaughterhouses retribution to the local income of Kota Kupang has changed from year to year. Where in 2014 the level of contribution of the slaughterhouse retribution to the original income of Kupang city was equal to 100.65% with very good criteria. In 2015 there was a decrease of 100.11% with very good criteria, but in 2016 there was a decrease in the percentage of contributions by 100%. And in 2017 the contribution of the slaughterhouse levy to the local income of Kupang City again increased by 100.29%. Meanwhile, the average contribution of the slaughterhouse levy to the regional income of Kupang City is 100.25% with very good criteria.
3. The results of this study indicate that the level of effectiveness and contribution of slaughterhouse levies has an influence on local income. This is due to the increased effectiveness and contribution of the slaughterhouse levies. Where in 2014-2017 the realization of effectiveness increased by an average of 91.05% with the criteria being quite effective, while the realization of the contribution of slaughterhouse levies also increased from 2014-2017 with an average of 100.25%. So the researchers concluded that the level of effectiveness of the slaughterhouse levy is "quite effective" on local revenue and the contribution rate of the slaughterhouse levy is very good for increasing the Regional Original Income of Kupang City.

4.2. Suggestion

Based on the conclusions of the research results, there are several things that the researcher would like to suggest to the Kupang City Government, especially the Kupang City Agriculture Office, to be able to overcome problems related to the retribution for slaughterhouses in Kupang City, including:

1. The results showed that the realization of levies has increased every year but the increase did not meet the targets given. Therefore, the authors advise the Kupang City government to provide targets that match the capabilities of the Slaughterhouse itself so that in the following years the realization of the Slaughterhouse retribution can reach the target given.
2. The acceptance of slaughterhouse retribution increases and has an impact on increasing the local income of Kupang City, so the researchers suggest to the Agriculture Office, especially UPT RPH Kupang City to conduct socialization and oblige the public to slaughter animals in slaughterhouses so that animal health checks can be carried out. consumed by the public. The Agriculture Office must also pay more attention to the levies for slaughterhouses in order to continue to provide good income for the regional income of Kupang City.
3. Currently, the Agriculture Office of Kupang City only has two slaughterhouses in Lasiana and Oeba. The existence of these two slaughterhouses cannot effectively serve the needs of people in need. For this reason, the researcher suggests the Kupang City Government to add more slaughterhouses to serve the community. Because the increase in slaughterhouses can increase the income from the levies for slaughterhouses.
4. In increasing the effectiveness of the slaughter house retribution income, the Kupang City government, especially the Kupang City Agriculture Office, through the UPT RPH must re-record the animals in the slaughterhouse to check animal health. And it is necessary to monitor slaughterhouses that are not inaugurated by the government so that slaughterhouses can be charged in order to increase the local revenue of Kupang City. In addition, the officers or levies must also work optimally so that the realization of the levy on slaughterhouses

continues to increase and reach the target given.

5. Levies are collected using a Regional Retribution Decree (SKRD) or other equivalent documents in the form of tickets, coupons, and subscription cards. In the event that certain levies are not paid on time or underpayment, then an administrative sanction is imposed in the form of interest of 2% (two percent) every month from payable levies that are not paid or underpaid and are billed using a Regional Levy Bill (STRD). Collection of Payable Levies as preceded by a warning letter. The procedure for collecting user fees is stipulated by a Regional Head Regulation.

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Juridicial Analysis of General Data Protection in Indonesia

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ABSTRACT

This article discusses the urgency and need for general data protections and regulations in Indonesia. Remembering how important the value of personal data that has access to the user's finance account. There are many cases about data stolen from user accounts in recent years in so many e-commerces as data holder dan general data processor. On the other hand, millions users don't have legal certainty about the accountability and protection of their rights since, to this date, there are no specific regulations controlling such things, only some unspecific and unclear articles scattered throughout many older regulations, such as "undang-undang ITE" (the regulation of electronical transaction) and many other government-made laws. This article uses the normative approach method to analyse the absence of these laws in Indonesia by referring not only to previous laws that this country already had but also regulations which were drafted and other country regulations. Using this method a legal plan about general data protection in Indonesia was found but the launch is always cancelled until this article written, even though in many developed countries such as European countries under the European Union already have the GDPR which stands for "General Data Protection Regulation". This program is quite successful in field application. In the **DISCUSSION** section, it is recommended that Indonesia examine its own general data protection regulation, "Rancangan Undang-Undang Perlindungan Data Pribadi" by referring to European Union GDPR and enact this regulation as soon as possible, as it is greatly needed to protect individuals privacy rights.

Keywords : personal data abuse, general data protection, GDPR

1. INTRODUCTION

Everyone has privacy or so called personal information that becomes a differentiator. This information becomes the basis for the formation of a person's character, builds one's main ideas, freedom, taste and interest toward things in life which in turn will create a basic consideration in making decisions. (sinta dewi, 2015)

Due to the importance of this personal data information, it should be protected since this includes the essence of an individual that is as important as identity(Allan Westin&Alan F. Westin,1967) . You can imagine if there is no privacy in this life, then every decision, what we like, we hate, any plans and things that we are going to do or are doing become public consumption. This can be sure to lead to chaos because there will be many people's rights to be violated. For example, if someone is interested in a type of music which society thinks is not good and disturbing. When there is no privacy, everyone will know and those who do not like it will deliver a protest. As President Jokowi said in a speech at Gontor "it has become a bad habit of society that we will definitely blaspheme directly and if it is conducted by many people it will turn into very bad bullying"(President jokowi speech at gontor,2016).

Another example, if the person decides to start working in similar music and creates an intellectual product of a musical work, in the absence of privacy, the output of that person's thoughts and intellectual property can be stolen by someone else before the work is publicized and obtain legal protection, this of course is a condition that morally causes the order of society to decline and has the potential to become chaos in the civilization of the noble culture of society(Kholis raishah,2014).

Nowadays, in the era of technology and the internet, everything is integrated in a network connected to an infinite world which is shared by many people from their mobile phones or their personal computers. Moreover, this unlimited network allows everyone to meet, speak, display their existence, show off their social status and perform selling and purchasing. In order to join this internet network, internet users must register in a service providers in order to carry out the above activities. So we as users must give and entrust our personal information that makes our character, determines our mindset, essential things in our personality to service providers on the internet that we do not know and we have never even met with an agreement. Handing over our

very important personal data to other parties who we do not know well is very prone to information or personal data misuse. It means the service provider has broken the agreement and is not responsible for the authority given as the personal data holder and processor. (Arief Barda Nawawi, 2006)

As occurred on Saturday 2/5/2020, it was revealed by the Indonesian people that there were data of 91,000,000 users of buying and selling application of Tokopedia that had been compromised and breached by irresponsible parties by hacking into the Tokopedia storage database and retrieving the information who then sold it on the internet or better known as dark web which is famous for many illegal transactions within. The more surprising fact was that the incident was not realized by Tokopedia, but appeared in the news conveyed by the Israel data breach monitoring and prevention service of "underthebreach", neither by Tokopedia nor the Indonesian government. (tirto.co.id, 2020)

Based on the description above, this paper aims to examine the current state of personal data protection within networks in Indonesia and the future of ideal legal reform of personal data protection within networks in Indonesia.

2. METHODS

The method used here was the normative juridical approach, which examined the existing legal literature but has an element of protection against personal data or similar, as well as stated in a bill that has not yet been legalized.

3. DISCUSSION

Currently, the condition of personal data protection in Indonesia is arguably weak, because until this article was written there had not been a specific law regulating this matter. Especially we may look at the most recent case that occurred in 2020 regarding the breach of buying and selling application namely tokopedia which caused the data breach of 91,000,000 users to be stolen and sold on the dark web (Wahyudi, Djafar & Asep, Komarudin, 2014).

Furthermore, it should be noted that a web or trading application stores one's personal data that is more vital than other services such as social media, because in the buying and selling application, the provider service stores financial data such as bank names, account numbers, credit card numbers, numbers and identities of electronic payment instruments such as e-money (electronic money), including sales and payment balances. Those are digital assets that can be used and disbursed into physical money at any time.

This personal data leakage becomes a threat to the user's property because at any time their property can be taken by other people who have information to access it without responsibility. In this case many parties are shocked and provide many judgments, criticisms and what actions to be taken. However, the problem is that we do not yet have a legal basis in dealing with the protection of personal data. So far the regulations dealing with problems on the internet like this have only been covered and administered by the ITE law. The various comments included IdeA (Indonesian E-commerce Association) who commented that Tokopedia service providers should be placed as a victim of hacking because there was no law that regulates the responsibility of data holders or processors (Luthan Salman, 2014).

The comment above has indicated that there is a regulatory vacuum regarding such incident, so that in such case we can only process if the offender of buying and selling service provider network breach is arrested. But what about buying and selling service providers such as Tokopedia that we have trusted to keep valuable information about ourselves even for material value in the form of money?

In contrary, BPKN (the national consumer protection agency) considered that Tokopedia service provider must be responsible and be sentenced as stipulated in article 100 of government regulation no 71 of 2019 concerning the Implementation of electronic systems and transactions

(PSTE).(Muladi dan Arief ,Barda Nawawi.2010) . This regulation stipulates administrative sanctions which can be in the form of written reprimand, administrative fines, temporary suspension, access termination, and/or exclusion from the list.

In addition, Kominfo (Ministry of Communications and Informatics) stated that this incident violated the elements of Law number 10 of 2008 concerning electronic information and transactions(Vardiansyah Dani,2008). There are several things that must be carried out by service providers such as Tokopedia in its capacity of electronic system administrator. One of the articles which protect personal data and personal rights is article 26 of Law number 11 of 2008 concerning information and electronic transactions(dpr.go.id,2008) which reads:

1. "unless stipulated otherwise by law, the use of any information through electronic media relating to a person's personal data must be made with the consent of the person concerned"
2. Any person whose rights as referred to in paragraph (1) are violated can file a lawsuit for losses incurred under this Law.

The consent described by the article not only refers to an agreement and willingness whether the personal data is used, but there is a need for awareness to give consent to the use and use of that personal data according to the purpose or interest provided at the time of data collection. In this same regulation, it is also found that there are other forms of protection stipulated in article 15 regarding preventive measures for the responsibilities of electronic system operator in providing electronic system(dpr.go.id,2008), which include:

1. Every Electronic System Operator must operate an Electronic System reliably and safely and be responsible for the proper operation of the Electronic System as it should be.
2. Electronic System Operator is responsible for its Electronic System Operation.
3. The provision as intended in paragraph (2) does not apply in the event that it can be proven that there is a force majeure, error, and/or negligence of the Electronic System user.

Referring to the explanation of article 15 of Law number 11 of 2008(dpr.go.id,2008), it is stipulated that "Reliable" means that the electronic system has the capabilities as expected by its users, then "Safe" means that the electronic system provided is physically and non-physically protected, while "operating properly" means that the electronic system has the capability in accordance with the specifications, "Responsible" means that there is a legal subject, meaning that there is a legal subject who is ready to be responsible for the continuity of the electronic system(Edward J. Malecki&Bruno Moriset,2009).

On the other hand, article 15 paragraph 2 of Government Regulation on Operation of Electronic Systems and Transactions states that if there is a system crash (chaos or damage in the system) and system failure (the system fails to process), the organizer must notify the users in writing(Muladi,1991).

Referring to every digital service provider who always provides a term of use, if there is data usage activity outside of the subject matter agreed between the two parties, then this can fulfill the element of article 26 of Law number 11 of 2008 and can be submitted on the basis of the losses arising from the action(Arief barda,2008).

Meanwhile, if the personal data information that has been submitted by the user to the personal data holder is forcibly accessed by a third party, it can be referred to article 30 of law number 11 of 2008 concerning information and electronic transactions regarding illegal access(dpr.go.id,2008) which reads:

1. Any person who knowingly and without right or unlawfully accesses computers and/or electronic system belonging to other people in any way.
2. Any person who knowingly and without right or unlawfully accesses computers and/or electronic system in any way for the purpose of obtaining Electronic Information and/or Electronic Documents.

3. Any person who knowingly and without right or unlawfully accesses computers and/or electronic system in any way by violating, breaching, bypassing, or breaking into the security system.

In many laws and articles that the writer have mentioned above, it has already been explained about the criminal consequences for irresponsible third parties who deliberately break into other parties' electronic system without right and without responsibility. The weakness is that there is no differentiation of who is the owner, processors and intruders and there is no consequence for data holders who are negligent in their duty to safeguard such valuable personal data, so that it may be disclosed to irresponsible people.

Meanwhile, according to Satjipto Rahardjo, one of the well-known law professors in Indonesia who formulated a theory of legal protection, legal protection is defined as providing protection to human rights that are harmed by others and that protection is given to the community so that they can enjoy all the rights provided by law (Raharjo Satjipto, 2000).

So, because our personal data on the internet is also part of who we are, it is deserved the same protection as human dignity, especially if this valuable information causes the owner to be harmed after willingly submitting to trusted parties who further neglect to protect it.

Based on the findings that there are many cases of personal data breach among Indonesian internet users and there had been no action that reflects this specific form of protection, the writer declared it to be a weakness of our current ITE law.

Due to the importance of personal data on the internet, especially those with material value, such as contained on sale-buy websites, where our information contains banking data and access to personal financial account, it seems that some legal experts in Indonesia are aware of this. Through people's representatives as regulators the writer also found that the personal data protection bill (Atkinson, R.D & McKay, A.S., 2007) has actually enacted since 2017 but until now it has not been legalized. In my opinion some of the formulations contained therein are also lacking to protect the interests of internet users in Indonesia. Especially if we compare them with regulations in other countries as implemented in the EU called the GDPR (general data protection regulation) (GDPR-info.eu, 2016), our regulations in dealing with the interests of protecting personal data are very far behind.

The personal data protection bill has formulated new definitions that have not been formulated in the previous internet law which will create new definitions in determining the criminal element in the implementation of activities performed in the internet. The terms are stipulated in article 1 of the personal data protection bill (bphn.go.id, 2014) which reads as follows:

- Personal Data is any data about a person, both identified and/or identifiable individually or combined with other information, either directly or indirectly through electronic and/or non-electronic systems.
- Personal Data Controller is the party that determines the purposes and exercises control over the processing of Personal Data.
- Personal Data Processor is a party who processes Personal Data on behalf of the Personal Data Controller
- Personal Data Owner is an individual as a data subject who has Personal Data attached to him/her

The existence of these new definitions can map the elements and parties that must be listed in determining the manner of the application and criminal liability in legal acts involving personal data. In addition, CHAPTER III explains the rights of the owner of personal data which makes legal certainty for Indonesian internet users better, especially as clearly stated in Article 13 which reads:

Owner of Personal Data reserves the right to claim and receive compensation for violations of their

Personal Data in accordance with the provisions of laws and regulations.

Such formulation of articles is a kind of protection that does not exist in the previous law. If this bill is legalized and this article applies then incident such as personal data theft or breach that occurred on the tokopedia buying and selling service would provide opportunities for users to claim their rights to service providers because they had been negligent in implementing electronic services and revealed the privacy of users which also included financial information data (European Union Agency for Fundamental Rights and Council of Europe, 2014).

- This is reinforced in article 30 of this personal data protection bill which stipulates:
- The Personal Data Controller is obliged to prevent the Personal Data from being illegally accessed

Prevention as referred to in paragraph (1) is carried out by using a security system for Personal Data which it processes and/or processes Personal Data using a reliable, secure and responsible electronic system.

It is explained the obligations of personal data controllers who must protect personal data that is held reliably, safely and responsibly. It means that personal data controllers must ensure the maximum possible protection which will not be penetrated by parties who attempt data theft. In other words if there is a breach of the security system and the theft of the personal data of the users, then it must be due to the negligence of the personal data controller which builds an imperfect and easily penetrated system.

On the other hand, the weakness of this bill is that there is no criminal liability for the element of negligence for a personal data controller who fails to carry out his duty to protect the data in his possession. In my opinion, all of the stipulations have an element of deliberation and it is still not perfect.

On the other hand, the GDPR (general data protection regulation) applied in EU countries already has an article that regulates responsibility for this negligence which is stipulated in GDPR chapter 8 art 82 concerning **Right to compensation and liability** (GDPR-info.eu, 2016) which reads:

1. *Any person who has suffered material or non-material damage as a result of an infringement shall have the right to receive compensation from the controller or processor for the damage suffered.*
2. *Any controller involved in processing shall be liable for the damage caused by illegal processing which infringers did.*

It is solely explained in this article that the EU's general data protection regulation (GDPR) has provided convenience to users, that if there is a data breach or theft of personal data that causes internet service users to be harmed, the service provider/personal data holder must also be responsible for compensating losses suffered by customers, both material and immaterial losses.

4. CONCLUSIONS AND RECOMMENDATION

By knowing the importance of the value of personal data in society, especially in the current era of internet technology, it can be concluded that personal data as valuable as assets since personal data contains financial information and access to everyone's finances. However, in Indonesia there is no legal regulation that regulates this matter specifically. There are indeed several articles in the ITE law that concern the protection of personal data, but they focus less on defining personal data and discuss more about electronic transactions, even though electronic transactions is a very general topic regarding responsibility and protection in Internet. Meanwhile, what is needed is a law which regulates the protection of the public that submits valuable data to large corporations on the internet for processing along with all risk of data breach and bad things beyond their

control where every user is guaranteed for the safety of their data from various parties who may take advantage of the data.

Actually Indonesia has had a personal data protection bill since 2018 but until now it has not been legalized, even though the bill has regulated many important definitions that practically clarify parts of the legal subject in the context of personal data protection which is also separate from the ITE law. There are many formulations in this bill that will protect internet users from crimes against personal data, especially with the many cases of data breaches recently. In contrast, the EU countries already have clear, complete and up-to-date regulations on this matter, namely The GDPR (general data protection regulation). Since the personal data protection bill still have some shortcomings, it is appropriate to follow and adopt the GDPR, especially because the personal data protection bill does not mention the responsibility of data holders in case of negligence.

The recommendation is that with the increasing number of data breach cases, the Indonesian government must immediately discuss and legalize the personal data protection bill by considering and taking input from the example of the GDPR (general data protection regulation) that applies in the EU as the most recent and important personal data protection regulation in today's world.

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Sociological and Juridical Analysis on the Law-Making Process of the Omnibus Law of Job Creation Cluster

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ABSTRACT

The law-making process, especially for the Omnibus law, is a very new thing. People need time to understand the technicalities of this Law. However, the Articles of the Job Creation Law also contain anomalies that have resulted in demonstrations conducted in various cities in Indonesia. Based on the sociological and juridical aspects, the formation of this Law needs to be further analyzed, considering that the most significant driving factor for the Government to make this Law is to make it easier for entrepreneurs to invest in Indonesia which surely require a lot of labors, so that unemployment can be overcome.

Keywords : Omnibus Law, job creation law, sociological, and juridical

1 INTRODUCTION

Omnibus Law or known as Omnibus Legislation is considered a breakthrough in the concept of law in Indonesia. Omnibus will be a means of deregulation and debureaucratization, especially in dealing with existing regulations in Indonesia that seem overlap one another.

According to Glen S. Krutz, Omnibus Law is defined as the unification of various laws in one comprehensive law.(Glen S. Krutz:2001) Currently the Omnibus Law that has been ratified is the Job Creation Law, along with the emergence of various polemics and pros and cons in society.

The problem is, why is the government too hasty in enacting this Job Creation Law? Indeed, the current condition of the Indonesian economy is experiencing weakness and uncertainty. One of the drivers of this condition is the global economy which is also in the same condition. The government seeks to maintain the economy in Indonesia by maintaining people's purchasing power, encouraging the increase in government consumption and improving investment performance.

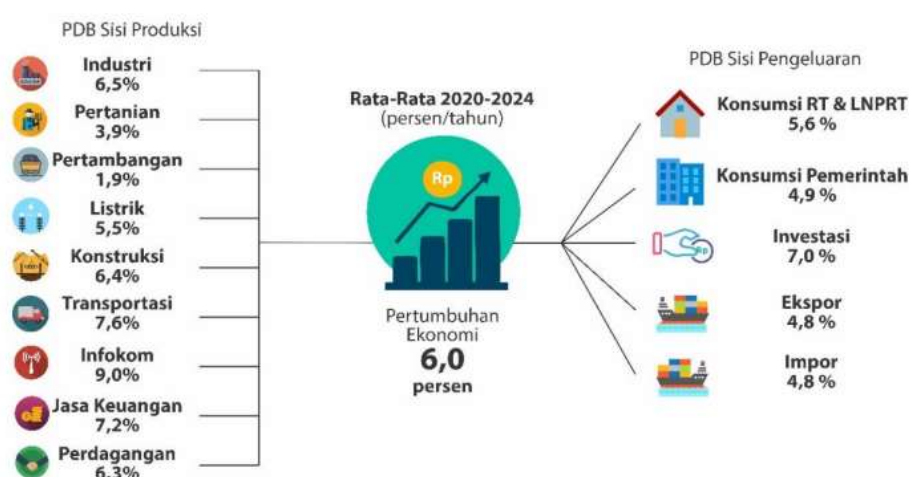


Figure 1.1 Average economic growth in the 2020-2024 RPJMN
Source: National Development Planning Agency, 2019

The Indonesian government is also trying to improve the Ease of Doing Business (EoDB), because Indonesia's EoDB is ranked in position 73 (World Bank Group, 2019), far below Singapore and Malaysia. Therefore, how is this Job Creation Law analyzed sociologically and juridically? On this basis, the author wrote an article entitled, "Sociological and Juridical Analysis on the Law-making Process of the Omnibus Law of Job Creation Cluster".

2. STUDY METHODS

The writer used a qualitative approach in order to obtain the data accurately and to be able to describe it clearly.

Qualitative study is a study that intends to understand the phenomena experienced by the subjects such as behavior, perception, motivation, action, and others holistically (comprehensive, inseparable(El-Junaid:2013)), and by means of description in the form of words and language, in a specific natural context and by making use of various natural methods.(Lexy. J. Moleong : 2010)

3. RESULTS AND DISCUSSION

3.1. History of Omnibus Law

Omnibus Law has been implemented in the US and Canada since the 1880s. In Southeast Asia, Vietnam and the Philippines have implemented the concept of a law known as Sapu Jagat. The Omnibus Law or the Sapu Jagat Law became a hot topic of conversation in Indonesia after the People's Representative Council and the President (Government) approved one of the Employment Cluster of Omnibus Law namely the Job Creation Law, to be enacted into law on Monday, 5th October 2020.

There are many definitions about the Omnibus Law. Literally, the word omnibus comes from the Latin *omnis* which means many. Generally this is associated with a literary work resulting from a combination of various genres, or the world of film that describes a film made from a collection of short films. Paulus Aluk Fajar in *Understanding the Ideas of the Omnibus Law* wrote, in Bryan A. Garner's *Black Law Dictionary Ninth Edition*, it is mentioned about omnibus: *relating to or dealing with numerous object or item at once; including many thing or having varius purposes*. Based on this definition, if it is contextualized with the law, it can be interpreted as the settlement of various arrangements of a certain policy contained in various laws into one Umbrella Law. From a legal standpoint, the word Omnibus is usually juxtaposed with the word law or bill which means a regulation made based on the compilation of several regulations with different substance and levels.

According to Audrey O "Brien, the Omnibus Law is a bill that includes more than one aspect combined into one law (Audrey O "Brien:2009). Meanwhile, according to Barbara Sinclair : 2012, the Omnibus Bill is a complex rule-making process and the resolution takes a long time because it contains a lot of material even though the subjects, issues and programs are not always related. The use of Omnibus Law has been carried out by many countries in the world, especially those that use the common law system tradition. In the world there are two legal systems, namely the common law system and the civil law system. Indonesia inherits the tradition of civil law system. The history of the omnibus can be seen in several countries that have implemented it, for example the US, Canada and UK.

The concept of the Omnibus Law has actually been quite long applied. In the United States (US), it was noted that the law was first discussed in 1840. In Canada, a background paper published by the Library of Parliament from the Canadian Parliament on the Omnibus bill: *Frequently Ask Questions*, Bedard (2012: 2), states that it is difficult to say when the omnibus bill was first filed in Parliament Canada. The House of Commons Procedure and Practice estimates the practice of the Omnibus Bill began in 1888, when a proposed bill was filed with the aim of seeking approval of two separate railroad agreements. However, a bill such as the Omnibus is also thought to have existed as early as 1868, namely the enactment of a Law to extend the duration of several post-

Canadian Confederation Laws. One of Canada's popular Omnibus Bill (which later became the Criminal Law Amendment Act, 1968-69 consisting of 126 pages and 120 clauses) was an amendment to the Criminal Code approved during the leadership of Pierre Eliot Trudeau (Minister of Justice in Lester Pearson's governance). This Act has changed several policies, namely the issue of homosexuality, prostitution, abortion, gambling, gun control, and drunk driving. The concept of omnibus law has also been tried by Southeast Asian countries. In Vietnam, an exploration of the use of the omnibus technique was carried out for the implementation of the WTO agreement. In the Philippines, the use of the Omnibus Law is more similar to what Indonesia wants to do. The Philippines has the Omnibus Investment Code of 1987 and Foreign Investments Act of 1991. Based on a policy paper prepared by Aquino, Correa, and Ani, on 16th July 1987, President Corazon C. Aquino signed Executive Order No. 26 which is known as The Omnibus Investments Code of 1987. This regulation is aimed at integrating, clarifying and harmonizing the laws and regulations on investment to encourage domestic and foreign investment in the country. This regulation includes provisions regarding the functions and duties of the Board of Investments; investment with incentives; incentives for multinational companies; and incentives for export processing companies. Does the Omnibus Bill or Omnibus Law work?

According to Dodek (2017: 1), during its decades of use, the Omnibus Law has developed into "undemocratic practice" in the law-making process of laws in Parliament. The short period of time often made parliament unable to discuss the Omnibus Law in depth. Furthermore, with the doctrine of separation of powers, it seems as if there is no separation between the executive and the legislature, because the legislature controlled by the coalition of governments will tend to support whatever the government proposes (<https://tirto.id/f5Du> : 2020).

President Joko Widodo in his inauguration speech at the People's Consultative Assembly of the Republic of Indonesia Plenary Session on 20th October 2019, conveyed 5 (five) things that will be carried on over the next five years. One of them is simplifying all forms of regulatory constraints. President Jokowi said (Hantoro in Parliamentary Review : 2020) "... The government will invite the People's Representative Council to issue two major laws. First is the Job Creation Law and the second is the MSMEs Empowerment Law".

According to the Ministry of Foreign Affairs, each of these laws would become an Omnibus Law, namely one Law that simultaneously revises several laws, even dozens of laws. Dozens of laws that prevented job creation would be immediately revised at once. Dozens of laws that hindered the development of MSMEs would also be immediately revised. The President's program was then followed up in the preparation of the 2020-2024 National Legislation Program (Prolegnas). At the People's Representative Council of the Republic of Indonesia Plenary Session on 17th December 2019, the Indonesian Parliament issued 248 (two hundred and forty-eight) Bills as the priority.

Meanwhile, People's Representative Council of the Republic of Indonesia provided information that of the list, there were 3 (three) bills referred to as the Omnibus Law, namely the Bill on Job Creation, the Bill on Tax Provisions and Facilities for Strengthening the Economy, and the Bill on the Development and Strengthening of the Financial Sector. Since then, Omnibus Law has become a new term that is often used, however, there is no common perception and clear description of what is meant by Omnibus Law.

The Minister of Agrarian Affairs and Spatial Planning/Head of the National Land Agency Sofyan Djalil once said about the concept of the omnibus law or also known as the omnibus bill. Sofyan said that countries with a common law system such as the United States commonly used the concept of Omnibus Law. The implementation of the Omnibus law concept in these laws and regulations refers more to the Anglo-Saxon Common Law tradition. Some countries, such as America, Canada, Ireland and Suriname, have used the omnibus law or omnibus bill approach. "For example in Ireland, in 2008, Ireland enacted a law on the nature that repealed approximately 3, 225 laws," said Jimmy. (merdeka : 2020)

3.2. Sociological Analysis

Shortly after the Omnibus law of the Job Creation Law was enacted, all levels of society, especially students and workers, held demonstrations at points that became the spotlight and ended in chaos (merdeka : 2020), such as the TransJakarta bus stop, HI Boulevard and Sarinah that were burned. Furthermore, the police shot tear gas against the rock rain of the demonstrators in Harmoni, the Police Post at Monas was burned, the TransJakarta Bus Stop at Senen was burned by the masses, chaos in front of the Grahadi Surabaya building, commotion at the Yogyakarta DPRD building, in front of the Sate building Bandung, in Makassar, in front of the Malang DPRD building and several other areas.

Not only that, academics have also intensified the rejection on the Job Creation Law through various electronic media platforms. For example, the UGM Constitutional Law Expert Dr. Zainal Arifin Mochtar on his Instagram platform, who aggressively created the hashtag #TolakOmnibuslaw. In addition, Prof. Susi Dwi Harijanti, S.H., LL.M., Ph.D, as a Professor of Constitutional Law at Padjadjaran University delivered the following statement in the Webinar:

ACADEMIC STATEMENT (Fahlevi, Fahdi : 2020)

Professors, Deans, Lecturers and Indonesian People, enactment of the Job Creation Law on 5th October midnight (midnight enactment) was shocking. Not only in the history of the State administration "political work" in the middle of the night is always close to irregularities, but midnight enactment of Job Creation Law has overturned the public's perspective on the view of People's Representative Council and Government performance in the law-making process. Usually the People's Representative Council and the Government are slow in law-making process. Even laws that are clearly needed by the people have even been postponed. Then, why was the Job Creation Law, which has so many problematic procedures and articles, to be ratified so quickly that it took up the rest of the honorable councilors and ministers. What a spirit to sacrifice the people. There were so many scientific studies that criticized the existence of the Job Creation Law but the legislators were unfazed. Then how is the real consideration of public participation which is actually required under Article 96 of Law no. 12 of 2011 in conjunction with Law no. 15 of 2019 concerning Law-Making Process. The problem was that they didn't want to facilitate the public role. Then for whom was the Job Creation Law intended if the people were not listened to. This Job Creation Law is so powerful that even the constitutional values regulated by the 1945 Constitution are also ignored. Article 18 paragraph (5) of the 1945 Constitution states that regional governance is carried out with the widest possible autonomy, except for the authority determined as the central authority. It turns out that the Job Creation Law draws everything to the center with hundreds of Government Regulations as the derivatives of this Omnibus Law. The role of local government is dwarfed. Jakarta is too strong. Even local revenue can be reduced because of President Jokowi's initiative law. The state has impoverished the region! Labor rights are taken over through Company Regulations. How can the relationship between workers and companies be fair if workers are required to comply with company rules established by their businessmen. Never mind human rights, environmental rights are neglected indeed. It is like eating sugarcane with its roots. All the sweetness of republic life is exploited by the maker of the Job Creation Law. Hatta: The Moral Responsibility of the Intelligentsia "...because everything is seen as easy with an adventurer's spirit of beating a sense of responsibility, anarchy in politics and economy as well as social life has emerged. The inevitable results are: corruption and demoralization." This is a warning to Pak Jokowi, members of the People's Representative Council and Mr. Airlangga Hartanto and the team because we are good citizens. Even if you don't listen to us, let the power of God Almighty punish those who do unjust. May we all be given guidance to do right for the nation and state. We hope that Pancasila will truly be practiced as a slogan of justification.

With love,

Signed by Professors, Deans, Lecturers and all Indonesian people.

The statement above is sufficient to provide an overview of the sociological aspects related to the impact of the enactment of the Omnibus Law on the Job Creation Law. Petitions via links shared on various platforms were also spread very quickly in various directions.

Basically, this Law was made with the aim of being in accordance with the preamble of "considering" the Job Creation Bill, which reads as follows (the Bill of the Republic of Indonesia on Job Creation : 2020)

- a. That in order to realize the goal of establishing the Indonesian State Government and realizing a prosperous, just and wealthy Indonesian society based on Pancasila and the 1945 Constitution of the Republic of Indonesia, the State needs to make various efforts to fulfill the rights of citizens to proper work and life based on humanity through job creation;
- b. That job creation is expected to be able to absorb Indonesian workers as widely as possible in the midst of increasingly competitive competition and the demands of economic globalization;
- c. That to support job creation, it is necessary to adjust various regulatory aspects related to the convenience, protection and empowerment of cooperatives and micro, small and medium enterprises, enhancing the investment ecosystem, and accelerating national strategic projects, including improving the protection and welfare of workers;
- d. That current regulations regarding the convenience, protection and empowerment of cooperatives and micro, small and medium enterprises, enhancement of the investment ecosystem, and acceleration of national strategic projects, including enhancement of the protection and welfare of workers scattered in various sector laws cannot fulfill the legal need to accelerate job creation so that there is a need of changes;
- e. That efforts to change regulations regarding the convenience, protection and empowerment of cooperatives and micro, small and medium enterprises, enhancement of the investment ecosystem, and acceleration of national strategic projects, including enhancement of the protection and welfare of workers are carried out through changes to sector laws have not supported the realization of synchronization in guaranteeing the acceleration of job creation, then a legal breakthrough is needed to comprehensively solve various problems in several laws into one law;

In essence, Omnibus Law is intended to improve the Indonesian economy by making it easier for investors to invest in Indonesia. But once made easier, it is not certain that these investors will have a good impact on the Indonesian people which is expected to absorb more labors. However, here we can see another impact as explained by Prof. Dr. Maria S.W. Sumardjono, SH, MCL, MPA in the Webinar as follows (PUSaKO FHUA : 2020):

*“What I want to convey to the public is that there is a crucial issue in the bill (UUCK), namely related to land banks, management rights and flats for foreign citizens. I consider these matters as objections because of several things: **First**, in terms of its substance, especially for land, it is obvious that the formulation is biased towards the interests of entrepreneurs and ignores agrarian performance. **Second**, the formulation has manipulative substance since:*

1. It does not refer to a law which is changed to be different from the other clusters.
2. The substance is a full copy-paste of the substance of the land bill which **DISCUSSION** was discontinued due to unresolved crucial issues. The point is to smuggle incomplete substances in the land bill and then move the more serious problem in the job creation bill;
3. The substance has the potential to crash into the constitution, crash the verdict of the constitutional court, crash the conception, legal construction, philosophy, objectives and principles of the original law, which are not referred to in substance of the Job Creation Bill. For example, right to cultivate over the management right, the term of land right over cultivation is indeed 90 years, it is replaced with a phrase, but those who understand national land law understand that the reversed phrase also has the

potential to be brought to the Constitutional Court.

4. Furthermore, regarding the Land Bank, until now the legal basis, the legal construction, the institutional philosophy for the purpose are still unclear. In fact you can think that they indeed benefit certain groups. We can find it in the authorities, among others, to help facilitate business licensing or approval, then who needs business licensing, who needs ease of business licensing, then how to get it specifically for land acquisition activities that are added to the bill, among others, for economic zones, for tourism areas and others.
5. The statement on flats for foreign citizens clearly violates the Basic Agrarian Law and the flat law. The most important thing is that if it is already stipulated in the bill and not changed, how will it be implemented. There must be a government regulation or presidential regulation. Then the question is whether there is no reference law then there will be a pretext that it is a new norm while the old norm is still there and the new norm is "against the constitution, the original law, a promise that will not happen, moreover when it is submitted to the Constitutional Court. So in my opinion, this manipulative land substance will also experience difficulties in drafting the regulations for the implementation.

President Obama said, "A good compromise, a good piece of legislation, is like a good Sumatran, or a good piece of music. Everybody can recognize. They say .. hah ... It was it My sun ", which means: "Generally a good compromise, a good law is like a good sentence or also as good music, everyone will admit until they end up saying that this is the law we want, because this law works so well and this law can be accepted by good reason from all those who will be affected by it.

Likewise, the Omnibus Law on the Job Creation Law. After being enacted, it has led to massive rejection. It can be concluded that the community does not accept the Job Creation Law and the people have a constitutional right as the holder of sovereignty in this country to reject the Job Creation Law.

From proxy to trading off is something that is very avoided in the law-making process, so that the realization of a Democratic State can be in accordance with the Pancasila ideology.

3.3. Juridical Analysis

The final process of making laws and regulations is enactment and dissemination which requires directed, integrated, planned, effective and efficient and accountable handling. Enactment is the placement of laws and regulations in the State Gazette of the Republic of Indonesia, Supplement to the State Gazette of the Republic of Indonesia, the Official Gazette of the Republic of Indonesia, and Supplement to the Official Gazette of the Republic of Indonesia. The aim is that everyone can understand the laws and regulations, the government is obliged to disseminate the laws and regulations that have been enacted in the State Gazette of the Republic of Indonesia and the Official Gazette of the Republic of Indonesia. Through this dissemination it is expected that the public will know and understand the purposes contained in the laws and regulations, so that they can implement the provisions of certain laws and regulations.

Based on Presidential Regulation Number 87 of 2014 concerning Implementation Regulations of Law No.12 of 2011 concerning the Law-Making Process, the Minister of Law and Human Rights is authorized to enact in the State Gazette of the Republic of Indonesia, Supplement to the State Gazette of the Republic of Indonesia, the Official Gazette of the Republic of Indonesia, and Supplement to the Official Gazette of the Republic of Indonesia. The implementation of the enactment of laws and regulations is based on Regulation of the Minister of Law and Human Rights Number 16 of 2015 concerning Procedures for the Enactment of Legislation in the State Gazette of the Republic of Indonesia, Supplement to the State Gazette of the Republic of Indonesia, the Official Gazette of the Republic of Indonesia, and Supplement to the Official Gazette of the Republic

of Indonesia. It is carried out by the Director General of Legislation which the main duties and functions is carried out by the Directorate of Publication, Cooperation and Enactment of Legislations which oversees the Sub-directorate of the enactment of Laws and Regulations.

The enactment of laws and regulations in the State Gazette of the Republic of Indonesia includes:

1. Laws/Government Regulations in Lieu of Laws;
2. Government Regulations;
3. Presidential Regulation regarding:
 - (1) ratification of an agreement between the Republic of Indonesia and other countries or international bodies; and
 - (2) state of danger statement.
4. Other laws and regulations which according to the prevailing laws and regulations must be enacted in the State Gazette of the Republic of Indonesia.

In the case of laws and regulations accompanied with explanation, then the enactment is placed in the Supplement to the State Gazette of the Republic of Indonesia. The enactment of Laws and Regulations in the Official Gazette of the Republic of Indonesia includes regulations issued by:

1. The People's Consultative Assembly;
2. The People's Representative Council;
3. The Supreme Court;
4. The Constitutional Court; and
5. The Minister, Head of Agency, institution or commission at the same level as established by law or the government by order of law

In the case of laws and regulations accompanied with explanation, then enactment is placed in the Supplement to the Official Gazette of the Republic of Indonesia. The issuance of the State Gazette of the Republic of Indonesia, the Supplement to the State Gazette of the Republic of Indonesia, the Official Gazette of the Republic of Indonesia, and the Supplement to the Official Gazette of the Republic of Indonesia is made in the form of loose sheets and compilation.

Procedures for the Enactment of Laws and Regulations (Kemenkumham : 2020) :

1. Draft of Laws and Regulations to be enacted in the State Gazette of the Republic of Indonesia, Supplement to the State Gazette of the Republic of Indonesia, the Official Gazette of the Republic of Indonesia, and the Supplement to the Official Gazette of the Republic of Indonesia must be submitted to the Directorate General of Legislation accompanied by 3 (three) original texts and 1 (one) softcopy.
2. Submission is carried out by the authorized official of the agency concerned or the appointed officer accompanied by a letter of introduction for enactment.
3. The enactment is carried out by giving the number and year in the State Gazette of the Republic of Indonesia and the Official Gazette of the Republic of Indonesia, and giving the number on the Supplement to the State Gazette of the Republic of Indonesia and Supplement to the State Gazette of the Republic of Indonesia. Furthermore, the Director General of Legislation submits to the Minister of Law and Human Rights to be signed.
4. Draft of laws and regulations that have been signed by the Minister of Law and Human Rights is then submitted to the applicant agency, 2 (two) original texts and 1 (one) softcopy to the Directorate General of Legislation as archives.
5. Issuance of State Gazette of the Republic of Indonesia, Supplement to State Gazette of the Republic of Indonesia, Official Gazette of the Republic of Indonesia, Supplement to Official Gazette of the Republic of Indonesia in the form of loose sheets shall be performed within a period of no later than 14 (fourteen) days as of the date of enactment of laws and regulations.
6. Issuance of State Gazette of the Republic of Indonesia, Supplement to State Gazette of the Republic of Indonesia, Official Gazette of the Republic of Indonesia, Supplement to Official Gazette of the Republic of Indonesia in the form of compilation shall be made at the end of the year.

**PROSES PENGUNDANGAN DALAM LEMBARAN NEGARA REPUBLIK INDONESIA
DAN TAMBAHAN LEMBARAN NEGARA REPUBLIK INDONESIA**



Figure 2. Legislative Process (1)

**PROSES PENGUNDANGAN DALAM BERITA NEGARA REPUBLIK INDONESIA
DAN TAMBAHAN BERITA NEGARA REPUBLIK INDONESIA**



Figure 3. Legislative Process (2)

Dissemination of Laws and Regulations (Kemenkumham : 2020) :

1. Dissemination of laws and regulations can be done through print media, electronic media, and other means.
2. Dissemination of laws and regulations through printed media in the form of loose-leaf

sheets or compilation.

3. Dissemination of the State Gazette of the Republic of Indonesia in the form of a loose leaf by the Minister of Law and Human Rights is carried out by the Directorate General of Legislation to be submitted to the ministry/institution that initiates or stipulates these laws and regulations, and the people in need.
4. Dissemination of the State Gazette of the Republic of Indonesia in the form of a compilation by the Minister of Law and Human Rights is carried out by the Directorate General of Legislation to be submitted to State Institutions, Ministries/Non-Departmental Government Agencies, Regional Governments, Regional People's Representative Council, and other stakeholders.
5. Dissemination via electronic media is carried out through the website of the Department of Law and Human Rights and can be accessed through the website: www.djpp.depkmham.go.id, or others.
6. Dissemination by means of socialization can be done face-to-face or direct dialogue, in the form of workshop lectures/seminars, scientific meetings, press conferences, and other means

However, the explanation above is not in accordance with the processes that occurred in the field, especially the one that recently happened, namely the enactment of the Job Creation Law, which is considered procedurally defective and does not reflect democratic principles at all. Some of the things that are not suitable are as follows:

1. The enactment of the Omnibus Law on Job Creation on 5th October 2020 seemed to be in a hurry and did not follow legislative procedures and did not involve the public role. As stated by the Professor of UIN Syarif Hidayatullah Jakarta or UIN Jakarta, Azyumardi Azra in a video conference on Wednesday night (7/10/2020):
"Only the People's Representative Council and the government were involved, if one or two were invited, that's just a gimmick". (Hadijah Alaydrus : 2020)
2. There was no transparency in the law-making process of this Job Creation Law so that the public could not access this Law. There were members of the People's Representative Council who had not yet received the Job Creation Bill, as conveyed by Mulyanto in a virtual discussion entitled "The Work Creation Law, Grief Feelings of Workers on Thursday 8th October 2020 as follows,
" Then in the middle of the plenary session, the draft material (Job Creation Law) was not in the hands of the members. To this day it has not been sent and the members have not seen the item," (Haryanti Puspa Sari : 2020).

Syarif Hidayatullah added the following:

"I have been a member of the People's Representative Council of the Republic of Indonesia for three periods. This is the first time I had an unexpected experience. The People's Representative Council leader has passed a deviant bill which is also procedurally defective," (Zonapriangan.com : 2020)

"During the plenary session, no draft of the bill was distributed to the meeting participants who were present. This is very unnatural, considering that the Job Creation Law is a law that is highly highlighted and is strongly rejected by many circles of society."

1. The discussion did not involve the relevant Stakeholder, the members who attended and the people who approved the enactment of the Law seemed to be pre-selected.
2. Different drafts. The worst practice was that the drafts accepted by the People's Representative Council members who were present were not necessarily the same. Currently, the draft that was enacted cannot be accessed and there are still changes. In fact, when the law has been enacted it means that it has gone through long discussions. However, the making process of this law was different.

Below is a graph on the difference between the 905-page job creation bill that was enacted at the

People’s Reperesentative Council plenary session on 5th October 2020 and the 812-page text submitted to the president on 14th October 2020. The graph below showed that the changes in the draft of the Work Creation Bill were not only technical in nature as regulated in Law Number 12 of 2011 concerning the Law-Making Process and its amendments to Law Number 15 of 2019. Previously, several versions of the draft of the Work Creation Bill were circulating. The first version had 1,028 pages which could be downloaded on the People’s Reperesentative Council’s official website since March 2020. The second version had 905 pages which was approved at the plenary session, 5th October 2020. The third version had 1,052 pages that circulated after the protests on Work Creation Bill on 6th-8th October 2020. Then the fourth version, the final version had 1,035 pages which became 812 pages after arrangement and adjustment on the paper size. The following is a graph of the differences between the 905-page and 812-page Bills of Job Creation Law:

PASAL	NASKAH 905 HALAMAN	NASKAH 812 HALAMAN
Pasal 252 ayat 1 UU Administrasi Pemerintahan	Menggunakan frasa "Perda mengenai pajak daerah dan/atau retribusi daerah yang telah dicabut oleh Presiden"	Diganti jadi "Perda mengenai pajak daerah dan/atau retribusi daerah yang tidak mendapatkan nomor register"
Pasal 14 ayat 2 UU Perkebunan	Memuat 9 syarat penetapan batasan luas penggunaan lahan untuk usaha perkebunan.	Memuat 2 syarat penetapan batasan luas penggunaan lahan untuk usaha perkebunan.
Pasal 58 UU Perkebunan	Tidak ada ayat penjelasan.	Ditambah satu ayat penjelasan yang menggunakan kata "pekebun". Ini bisa bermasalah. Seharusnya menggunakan kata "Perusahaan Perkebunan".

PASAL	NASKAH 905 HALAMAN	NASKAH 812 HALAMAN
Setidaknya di 19 pasal.	Menggunakan frasa "dengan Peraturan Pemerintah"	Diganti jadi "dalam Peraturan Pemerintah"
Pasal 156 ayat 2 UU Ketenagakerjaan	Uang pesangon sebagaimana dimaksud pada ayat (1) diberikan paling banyak sesuai ketentuan sebagai berikut:	Frasa "paling banyak" dihapus.
Pasal 88A UU Ketenagakerjaan	Berisi 5 ayat.	Berisi 8 ayat.
Pasal 154A ayat 1 UU Ketenagakerjaan	Terdiri atas 14 huruf, dari (a) sampai (n).	Terdiri atas 15 huruf, dari (a) sampai (o), serta 9 tambahan anak huruf.
Pasal 1 angka 1 UU Lingkungan Hidup	Menggunakan frasa "pemerintah"	Diganti jadi "Pemerintah Pusat dan Pemerintah Daerah"

Figure 4. Differences between the 905-page and 812-page Bills of Omnibus Law of Job Creation Law
(Source : The MataNajwa Instagram Account : 2020)

4. CONCLUSION

Through the enactment of the Omnibus Law on Job Creation, various elements of society, from workers to academics (students, lecturers and professors) have appeared in various rejection actions on the streets or through webinars on various platforms. If the making of the Law is intended for the interests of the people and the people rejected it constitutionally, but the Law is still in effect, then in fact for whose interests was the Law made?

Based on juridical point of view, there were many violations that occurred when the Omnibus Law on Job Creation was enacted. Due to violation on the principles of transparency/openness as regulated in Article 5 of Law No.12 of 2011, as well as the principle of community participation as regulated in Article 96 of Law No.12 of 2011, then it can be concluded that this Job Creation Law is not yet eligible to be enacted, which needs to be improved both in terms of its procedures and substance.

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Political Movements of Equality in Action: A Philosophical Analysis of Jacques Ranciere's Thought According to Todd May in Its Relevance with Current Political Movements in Indonesia

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ABSTRACT

Todd May, as he summed up Rancière's thoughts on democracy, argues that what is meant by democracy is not about the form of a government or social order. Democracy is an act of political subjectivity that disrupts the social order by demos to verify equality. Demos political order always takes the form of disagreement (dissensus). The verification process of demos that disrupts the day-to-day political order (police) is what Todd May calls democratic politics. This article uses a philosophical approach to analyze several mass movements that have emerged in the face of politics in Indonesia. With this method it was found that several mass movements that occurred in Indonesia made the issue of equality their goal. In Ranciere's thought, this actually hides other agendas, for example a political agenda, a certain identity struggle agenda. The demos action presupposes equality and starts on equality with the result of emancipation. The so-called demos are people who in the social order are considered to have no part, are not taken into account, such as blacks, women, indigenous people, workers, the poor, people in general who are considered and treated unequally in the social order dominant. Their presence in the social order is not identified. According to Rancière, with the democratic demos movement those who were not previously identified could be identified again. The act of verifying equality by demos is an effort to find the existence of equality within the police. The emergence of demos transforms the social order into different forms, which accommodate their countless existence (demos, the wrong) in the police.

Keywords : political equality, political movement, Ranciere's thought

1. INTRODUCTION

In the last few years, the Indonesian nation is being faced with various kinds of political movements wherein the activists and followers said that their movement's background was driven on the basis of awareness of equality (we are equal to each other), on the basis of a moral drive to fight for the rights of citizens that were considered unfairly treated by political elites and rulers. In many political movements today, we as the academic community have a responsibility to analyze the emergence and development of various kinds of movements. It is a kind of intellectual accountability that must be carried out as soon as possible. According to Rancière¹, the struggle for equal rights between various political movements must be strived for now and not later. Jacques Rancière is a contemporary French philosopher born in Algeria (1940-present). In addition, he is also a professor emerita of philosophy from the University of Paris VIII. He was a student of Louis Althusser and wrote a book together with him: *Lire le Capital* (1965). He was experienced in research on the labor movement in France for 10 years. He was active in the student and labor actions in 1968 and opposed the campus intellectuals who did not support the action, including Althusser.

Furthermore, based on the perspective of freedom of expression as guaranteed by our Constitution and in the context of a democratic country, mass action is a common thing that is performed to suppress all forms of government behavior that are not in accordance with the will of the people. In the history of Indonesia as a nation, mass action has become a certain political tradition. All forms of national political dynamics and political transitions of government cannot be separated from the political influence of mass action. This means that mass action has a certain tradition or culture at each time. For example, the various movements during the period of the

national or pre-independence movement, led democracy, the new order, reforms and up to present post-reform, have their own characteristics and styles.

On the other hand, for example, the mass movement certainly leaves good and bad trails. One example of a good trail is that the mass movement in the "May 98 Action" which was able to overthrow Suharto's authoritarian tyrannical regime which had been in power for 32 years. However, the less good trail is that any movements that arise can cause material and moral damage and loss to the country itself. In addition, every movement is often ridden by certain kinds of political interests. Then a big narrative emerges that our democracy, as it idealizes freedom, including freedom of expression in public, is democracy that has gone too far.

In a country with a democratic system, mass movements in various forms to convey their aspirations reserve legitimacy rights because they are protected and guaranteed by the Indonesian Constitution, namely freedom of expression as regulated in the 1945 Constitution Article 5 paragraph (1), Article 20 paragraph (1), and Article 28. Thus, all movements with an orientation to express opinions in public are legal and guaranteed by the constitution. However, democratization in Indonesia, which is currently in progress, still quietly accommodates actors who have the potential to thwart the ideals of the nation. It is suspected that there are several parties who ride and take advantage of the legalization of freedom of expression in public as idealized by democracy.

In addition to the various mass movements in the history of the Indonesian nation, in 2017, almost all cities and regions in Indonesia saw various kinds of movements in the name of religion, certain identity, and political interests. We certainly still remember that during the 2017 DKI Jakarta Regional Election, various kinds of political movements emerged and were born, such as the 411, 212, GNPF MUI, and various kinds of political movements that also contributed to the political atmosphere of the Capital at that time. Then, in 2019, there was a big movement called "2019 Change the President" movement in a Presidential Election atmosphere. In current 2020, there is an emergence of a national movement which rejects the Criminal Code Bill and various groups acting on behalf a movement driven by a moral call to save Indonesia and call their movement as "KAMI" movement (Coalition for Action to Save Indonesia). What is no less important and became public attention is the national movement to reject the Omnibus Law of the Job Creation cluster.

Through studying and observing some of the political phenomena above, the question emerged is whether a political movement with an orientation to criticize the tyranny of the elite and ruler order to its citizens is a pure movement driven by moral calls in the name of the struggle for justice, equality and the welfare of the people. Or does it keep other agendas, such as the hidden agenda of the struggle for certain political ideologies, certain religious ideologies, or certain ideologies of market rulers. It is precisely on this premise that this paper was established. As a philosophical critical knife, the author used Ranciere's thoughts about the political movement of equality in action as understood by Todd May to criticize various kinds of current political movements in Indonesia and based on Ranciere's thoughts, this paper aims to examine and sort every political movement in the context of Indonesian politics. Thus, this paper will be divided into several parts, namely, political equality movement according to Ranciere, a study on the democratic movement and the relevance of Ranciere's thoughts in the context of political movements in Indonesia today. Todd Gifford May was born in 1955 in New York City, New York. He is a political philosopher who writes on the topics of anarchism, poststructuralism, and post-structuralist anarchism. Most recently he has published a book on existentialism and moral philosophy. Currently, he is Professor in the philosophy class at Clemson University.

2. DISCUSSION

In Ranciere's thoughts, the idea of equality is a thought that is difficult to understand. It is difficult because on the one hand, it wishes to avoid assimilation into any form of identity politics. That is, the equality movement idealized by Ranciere must depart from the awareness that we are equal not on behalf of or based on other motives, such as politics, certain identities (ethnicity, group, religion, or race). The basic evidence that we are all equal is equality of intelligence (Todd May,

2010). For Ranciere, equality of intelligence is a starting point and not a goal. It is different from the progress ideology which makes equality as the goal so that equality is never achieved. Ranciere's concept of equality is a unique one because he does not place equality as a goal. However, equality is placed by Ranciere as the starting point.

This article is a book report by Todd May entitled *Contemporary Political Movements and the Thought of Jacques Ranciere-Equality in Action*. Since this article is a book report then it is an analytical-descriptive paper. In this article, the author presented Ranciere's thoughts as written by Todd May. Then Todd May's analysis was used by the author to analyze various kinds of political movements in Indonesia today. In addition, the author also used the writings of others about Ranciere, both in the form of articles and books to clarify the main points of Ranciere's thoughts on the political equality movement in its relevance to the phenomenon of political movements in Indonesia today.

Ranciere's concept of equality is interesting to study and debate, especially in the context of the emergence of various political movements today on behalf of a movement in the name of concern for equal treatment. However, as captured in the practice of such movements, there was no idea of equality behind the struggle but a certain political ideology, group identities in the name of a certain race, religion and ethnicity. Ranciere's analysis as understood by Todd May, brings and encourages us all to a depth of thought to sort out these movements.

According to Ranciere, the concept of presupposition of equality indicates that equality is for anyone and for everyone. Equality is the ability to create meaningful life together between one individual and another. The equality that Ranciere is more likely to emphasize here is not one in which each individual must be exactly the same as another. For example, not everyone is equally capable of understanding physical theory or solving mathematical problems. In short, "Everyone can understand themselves and their own world and that is enough to create a meaningful coexistence (Todd May, 2010).

Thus, Ranciere's concept of equality takes place in action. Equality is not the ultimate goal of political action, because equality occurs in action. What is meant by 'action' is a disruption by *demos* (people who are marginalized in the social order, such as women, workers, LGBT people, the poor, scavengers, etc.) to verify (test) their equality. The disruption performed is a form of action which is called politics. They disrupt the social order by starting on the awareness that they are equal to other parts of the dominant social order. The disruption committed by *demos* to the existing dominant social order does not mean good or bad. Politics as a *demos* action which disrupt the dominant social order does not mean placing the social order as an oppressive system that exercises control over people's lives. Yet, it is an act of *demos* to strive for equality in a social order that has neglected their existence (*demos*).

In Ranciere's concept of thought, this term means people in general who in the dominant social order do not have a place, a part that has no part who are viewed as such because our sensory perception always sorted each person based on competence, ability, and their involvement in joint decision making. The correct political movement is a movement that originates from *demos* with a starting point of equality and does not make equality the goal of verifying such equality (Todd May, 2010).

In another way, talk about democracy, it means as Ranciere Said, "Democracy must be maintained, it must always be strived for, because there is no other choice (Todd May, 2010)." This sentence is a representation of Ranciere's deepest hope to continue to hope and defend democracy, since there is no other choice. Furthermore, Todd May, as he understands Ranciere's mind, uses the term democratic politics to clarify the term "politics" in order to differentiate it from the political term in general which Ranciere calls police. By mentioning democratic politics, the direction of thought and goals becomes clear and of course in accordance with Ranciere's concept of politics, namely politics carried out by the people, *demos*, a movement of the common people that previously did not exist, were not visible, part that had no part or were not taken into account in the dominant social order. Todd May, as he summed up Ranciere's thoughts, assumes that, "a political movement is an emphatic expression of equality (the rights of citizens) among those who

believe in it in a society (Todd May, 2010).”

Furthermore, according to Todd May, as he understands Ranciere, democratic politics is an action made by demos and not derived from gifts from other parties. Democracy is strived for, not given. Democracy exists not because we accept it but because we create it. Todd May adds from his own thought that "this idea must be understood in conjunction with the widely quoted statement that freedom is not given, it must be strived for (Todd May, 2010).”

Thus, one of the great strengths of Ranciere's political view is that the political equality movement originates from the demos, from the people, and not from the dominant social order. So, a democratic politics, although it often starts with dissensus, will certainly not end there. Todd May, as he understands the various political democratic movements today that emerge and are strived by Demos, emphasizes that:

“Democracy is one thing that is still possible if we look for it in the right place. Democracy will not be found among people who, with our consent, claim to be leaders. Democracy also does not exist in state institutions, although maybe in time they will present it. On the other hand, democracy exists within us, in the decisions we collectively take to disagree with the dominant social order which is often present only to maintain its existence. Democracy is our choice; democracy is born from our hands. We do not have to ask from a distance whether democracy still exists. That's the wrong question. We should ask instead — and it's a question that never stops to be asked — whether we are ready and willing to build it (Todd May, 2010).”

Ranciere, as discussed and summarized by Todd May, has invited and shown us the basic presupposition of democracy, namely equality. Equality occurs in political action. It is not the ultimate goal. Equality as a starting point acts against the dominant order which increasingly excludes those who have no part, those who are not taken into account. If we consider Ranciere's thoughts as discussed by Todd May, we can place his thoughts as a critical knife to criticize the political journey of our nation today.

Based on Ranciere's philosophical analysis as understood by Todd May above, if we link it with the context of our nation regarding the emergence of various kinds of movements, the demonstration movement of workers who demanded fair wages, movements in the name of religious ideology, certain political ideologies of identity, lower society movements that demanded recognition of their rights, Ranciere's thoughts can also be used as a knife of criticism to sort each of these movements. Did this movement emerge in the name of equality or in the name of the identity of certain groups? Therefore, calling Ranciere's thoughts relevant to the context of our nation's politics is a statement that can be philosophically justified.

In addition, if we look at the political phenomenon, we are currently very much influenced by the strengthening of certain ideologies, such as religious ideology and market ideology. Regarding this matter, the author believes that our politics have been controlled and driven by market fundamentalism. These fundamentalists sometimes positioned themselves as those who know best, as the most righteous and the most competent parties in public affairs or in managing life together. Religious fundamentalists felt that their practice of living their faith was the most righteous action so that others must follow them. Market fundamentalists felt that the market mechanism was the most powerful means to increase the welfare of society. On the other hand, behind this fundamentalist desire that seemed to promise emancipation, they only wanted to maintain and perpetuate their power.

Ranciere invites and reminds us of the ideals that have been stated in Pancasila that we have same and equal access to be active in the worlds of economy, politics, society, even in the religious field to do good things in accordance with the respective teachings of religion and beliefs. For Ranciere, "equality is the ability to create meaningful coexistence between one individual and another. Everyone can understand themselves and their own world and that is enough to create a meaningful coexistence (Todd May, 2010).”

3. CONCLUSION

After reading and more or less understanding and exploring Ranciere's ideas within the framework of sorting out every political movement today, then we may conclude that the political movement conceptualized by Ranciere is a political movement that must occur and originates from awareness of equality and does not make equality the ultimate goal. Equality occurs in the act of demos which verifies or tests its own equality. Based on starting point from Ranciere's philosophical analysis of the political equality movement in action, we can sort out and philosophically account for the emergence of various kinds of mass movements in Indonesia today. This is enough to be debated and strived for.

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The Effectiveness of Local Wisdom in Landslide Disaster Management

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ABSTRACT

Every community group, even when coping with landslides, has the skills and ways to cope with the environment for its survival. This understanding and approach is referred to as "wisdom to cope with local events" or is also simplified to "local wisdom." The coping mechanism is created and born of any case, experience, knowledge, understanding, and meaning of every event, phenomenon, hope and problem that arises around it. This system is passed down from generation to generation through the process of socialization and its application depends on the level of consistency of understanding and its effects in their lives. The purpose of this study was to explore and determine the effectiveness of social capital in the handling of landslides. The methodology used is qualitative descriptive. The findings showed that in coping with landslides, each area has distinct attitudes and trends, and it happens from generation to generation. Its implementation in each area depends on subjective and objective conditions..

Keywords : Effectiveness, Social Capital, Landslide Disaster, Management

1. INTRODUCTION

Whereas based on historical incidents in the DIBI data (BNPB, 2018) the Regency of Bogor District in 2008-2017 occurred 85 times of the disaster caused by landslides which caused suffering and losses of objects. The area that has a landslide threat in the Regency of Bogor is an area that has a high level of deforestation, deforested lands in protected forest areas, rainfall and high altitude, with a region that has a slope of more than 40%. More land movements in the District of Monograms occur in areas with the use of similar forest types and dense forests (Pramono et al., 2020a).

Land movements in Ponorogo Regency are more common in areas with the use of similar forest and dense forests. Rainwater condition is an important factor that can trigger soil movement, especially rainfall. Surface water that comes from rainfall, some will seep into the soil / rocks through soil pores or cracks that are found in the soil and some will flow above the soil surface. As soil mass weights increase, the shear strength of the soil will decrease. Such a situation if supported by other factors, such as the slope of a steep slope and / or the land use conditions that are not appropriate, then there will be soil movement (Pramono et al., 2020b).

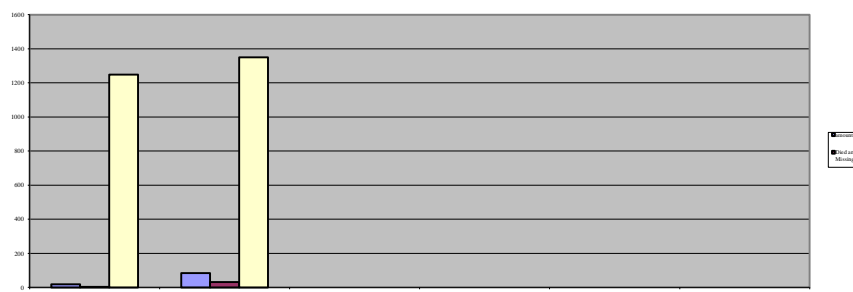


Figure 1: Natural Disaster Events in Ponorogo Regency (2008-2017 period)
Source: (DIBI-BNPB, 2018)

Based on the table, it was known that there were 5 types of disasters that had occurred in Ponorogo, with a total of 155 incidents. The most frequent landslides were 85 incidents, which caused 31 people to die / disappear, 24 people were injured, 1349 people were displaced, 218

heavy houses, 89 houses were damaged and 69 houses were damaged. Besides that, it also damaged 1 health facility, 2 worship facilities, and 1 education facility (Pramono, Muhamad Fajar, Setiawan bin Lahuri, 2017).

The impact of a disaster is not only material or casualties. However, it is complex, penetrating the collapse of the social system that has been built by society (Zamroni, 2013). Every community group has the knowledge and ways to deal with the environment for its survival, including in dealing with landslides. This knowledge and method is known as "wisdom to cope with the local events" or often shortened to "local wisdom". The coping mechanism is formed and born from experience, knowledge, understanding, and meaning of every event, phenomenon, hope and problem that occurs around it. This mechanism is passed on through the socialization process from generation to generation and its implementation depends on the level of quality of understanding and its implications in their lives (Maarif et al. 2012). The purpose of this study was to explore and determine the effectiveness of social capital in the handling of landslides.

2. LITERATURE REVIEW

Post-earthquake recovery (rehabilitation, reconstruction and reconciliation) is carried out with a special approach, namely the perspective of the victim or the community with wisdom in order to identify all problems and needs as a whole, including hopes for the process of restoring their lives. Community is a social group as a place to live together from people who give and help each other without strings attached or without expecting anything in return. The community has its own culture and knowledge system, which is carried out by each of its members as community local wisdom.(Hariadi, Gunawan, and Armawi 2019).

2.1. Understanding of local Wisdom

According to Yusutria, et al., Local wisdom is a good and wise local de-idea, full of wisdom, which is embedded and followed by all community members. Local wisdom is traditional knowledge that becomes a reference in behavior and has been practiced from generation to generation to meet the needs and challenges in the life of a community (Hariadi et al., 2019), (Ruslanjari, 2006). Local wisdom is a view of life and knowledge as well as various life strategies in the form of activities carried out by local people in responding to various problems in fulfilling their needs. Etymologically, local wisdom consists of two words, namely wisdom and local. Other names for local wisdom include local wisdom, local knowledge and local genius.

Quaritch Wales (Maria Matildis Banda, 2013) formulates local wisdom or local genius as "the sum of the cultural characteristic which the vast majority of a people have in common as a result of their experiences in early life". The main ideas contained in the definition are (1) cultural character, (2) cultural owner group, and (3) life experience born from cultural character.

According to Permana (Permana et al., 2011), local wisdom is a creative response to geographic-political, historical, and situational situations that are local in nature. Local wisdom can also be interpreted as a view of life and knowledge as well as various life strategies in the form of activities carried out by local communities in answering various problems in meeting their needs.

According to Sedyawati (Edy Sedyawati 2006) local wisdom is defined as wisdom in the traditional culture of ethnic groups. Wisdom in a broad sense is not only in the form of cultural norms and values, but also all elements of ideas, including those that have implications for technology, health care and aesthetics. With this understanding, what is included as the translation of local wisdom is the various patterns of action and the results of their material culture.

So based on the various understandings above that local wisdom is truth that has traditionally been established in an area. Local wisdom contains a high value of life and is worth exploring, developing, and preserving as an antithesis or socio-cultural change and modernization. Local wisdom, products of past cultures that are coherent are continuously used as a guide for life, even though they have local values, but the values contained therein are considered very universal.

Local wisdom is formed as a cultural advantage of the local community as well as geographical conditions in a broad sense.

2.2. Functions and Dimensions of Local Wisdom

Local wisdom is considered very valuable and has its own benefits in people's lives. The system was developed because of the need to live, maintain, and continue life in accordance with the situation, conditions, abilities and values that are lived in the community concerned. In other words, local wisdom then becomes part of their wise way of life to solve all life problems they face. Thanks to local wisdom they can carry on their lives, even develop sustainably. The functions of local wisdom towards the entry of outside culture are as follows: 1) As a filter and controller of external cultures. 2) Accommodating external cultural elements. 3) Integrating elements of external culture into indigenous cultures. 4) Give direction to cultural development (Rosidi, 2011).

According to Mitchell (Hariadi et al., 2020), local wisdom has six dimensions, namely: 1) The Dimension of Local Knowledge Every community has the ability to adapt to its environment. This is because the community already has local knowledge about nature. An example is knowledge of the climate in the region. 2) Dimension of Local Value. Every society has values (measures) and norms (rules) that are made by the community itself and can change according to the progress of the community. Local values differ from one community to another, so that the local values of one community may not necessarily be accepted by other communities. 3) Dimensions of Local Skills. Every society has a different way of meeting the needs of life. For example, by farming, livestock or industry.

4) Dimensions of Local Resources. Each community lives in an area that has different natural resources. They will process natural resources according to their needs and not exploit excessively. 5) Dimensions of Local Decision Making Mechanisms. Every society has a different system of government. the smallest system of government is called the tribe. The tribe will run the government in accordance with the values and norms that have been in effect for a long time. 6) Dimensions of Local Group Solidarity. Every society has group solidarity because humans cannot do everything by themselves. An example is mutual cooperation.

3. RESEARCH METHODS

The methodology used is qualitative descriptive. As for the meaning of the descriptive analytical method according to (Sugiyono, 2011) is a method that serves to describe or provide an overview of the object under study through data or samples that have been collected as they are without analyzing and making general conclusions. In other words, analytical descriptive research takes problems or focuses on problems as they are when the research is carried out, the results of the research are then processed and analyzed to draw conclusions.

4. RESULTS AND DISCUSSION

As mentioned above, the main capital for natural disaster management is in the community. Whereas the community is a social group as a place to live together from people who give and help one another without strings attached or without expecting anything in return. The community has its own culture and knowledge system, which is carried out by each of its members as community local wisdom. And it is known that in a village the social community and religious community are quite diverse. There is the Kejawen community, the santri and non-santri communities. Each community has a different epistemology in viewing and interpreting natural disasters that occur. The trust base of the local community has colored the meaning and belief of the eruption of Merapi. Even some residents around Merapi feel they can "communicate" inwardly with Merapi. Merapi is not an inanimate object, it is alive and very active (Zamroni, 2013).

4.1. Santri Community

Islam is a complex religion in which there are elements that regulate religious practices (ubudiyah) and the procedures for living life on this earth (amaliyah), including procedures for dealing with nature in a harmonious and non-destructive manner. In Islam, it is also explained about the problem of disasters, since the beginning of the Prophet Adam (AS) was revealed to the face of this earth. Disaster in Islam has several terms including: calamity, adzab, bala', slander, ba'sâ, sâ, you know. Some of these types of disasters are highly dependent on the typology of the affected community and of course have their own subjectivity (Zamroni, 2013).

The various categories of disasters according to their objectives can be classified into 3 (three) groups, namely: first, as a test (ibtilla') on the faith and patience of humans as creatures of Allah (QS. Al Baqarah [1]: 155). Second, as a warning (tadzkirah) so that humans always submit and obey Allah (QS. Yunus [10]: 44). Third, as punishment (uqubah) for what humans have done so that they realize and regret their mistakes then repent and ask for forgiveness from Allah SWT (QS. Al Baqarah [2]: 59) (Syadzili, 2017). The three forms of disasters are forms of personal intersubjectivity that are more appropriate as reflections and self-evaluations of various kinds of tests and trials experienced by a person. In addition to a number of concepts and terms of disaster already mentioned above. Islam also has a concept in disaster risk reduction (DRR) which is described in the form of a cycle. Each disaster mitigation stage in Islam has a normative basis which is taken from the Al-Qur'an as a source of Islamic law, as depicted in Figure 2:

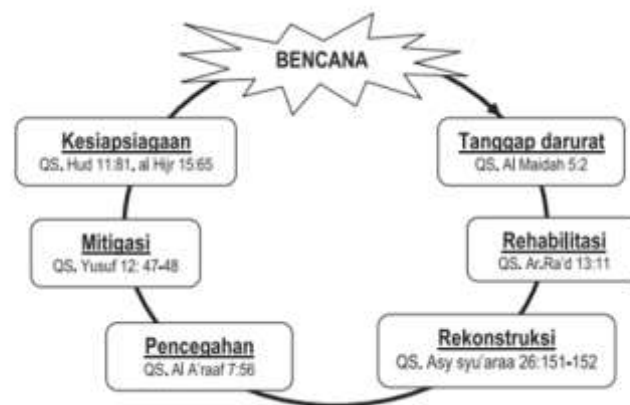


Figure 2: Disaster Management Cycle in Islamic Perspective
Source: (Syadzi, 2017)

Based on Figure 2, disaster risk reduction has the following objectives: (1) reducing threats, (2) reducing Vulnerability, (3) increasing capacity. Disaster prevention measures (pre-disaster) can be carried out: (1) preventive action, (2) mitigation action, and (3) preparedness action. Meanwhile, after a disaster occurs: (1) emergency response measures, (2) rehabilitation measures and (3) reconstruction measures. Each of the phases of disaster mitigation in Islam has its own basis which is drawn from the main source of Islamic law (the Qur'an). This is in accordance with the predicate of Islam which has been known as rahmatan lil alamîn (grace for all the contents of nature) (Syadzili, 2017).

4.2. *Kejawen* Community

Ruwatan is a tradition that has existed since ancient times before religion. Ruwatan is carried out by people who believe in it only. Because not all Javanese people practice and believe in this tradition. So this ruwatan is obligatory for people who believe that after doing ruwatan his life will be full of luck because the purpose of ruwatan is to eliminate bad luck in life. Javanese society is famous for its diverse and countless cultural traditions, both daily, monthly and yearly cultural traditions, all of which exist in Javanese cultural traditions without exception. It is very difficult to detect and explain in detail the number of cultural traditions that exist in Javanese society because there are various kinds of traditions that exist in Javanese society (Widyatwati et al., 1997).

In Javanese culture, ruwatan is a culture known as a traditionally sacred ceremony. Ruwatan means freeing oneself from the threat of harm. The mara of danger is always from Betara Kala's scrutiny, which in language can also mean time. Culturally, ruwatan is also interpreted as an effort that aims to delay the arrival of danger. Therefore, the implementation of ruwatan is usually manifested in an episode of the shadow puppet story which tells about the arrival of Batara Kala to collect his father's promise, who is none other than "The Almighty" Batara Guru. His father, the Batara Guru, once persuaded him not to swallow everything in the world with the aim of satisfying his worldly desires with the promise of giving him prey or bait, when the promised time arrives. The creature that controls the lust of the world is murko which means greed.

Ruwatan is a Javanese custom and culture from several years ago that is still adhered to today by those who believe in it. Ruwatan is a tradition that is closely related to the Murwakala story. The ceremony, which involves the wayang kulit performance (Murwakala story) is a form of Javanese traditional ceremony intended to fortify children or people whose existence in this world is less profitable. Here they are referred to as "sukerta", for example, such as an only child, a child born without a placenta, five children (Pandavas), uger-uger lawang (two sons all), a pair of flowers (two daughters all), gendhana-gendhini (two brothers and sisters), people bring down the cormorant, people break the stone of the oppressor, and so on (Widyatwati et al., 1997).

The historical sources and developments of the Murwakala and Ruwatan stories vary for each region in Java. You could say there are various versions. Likewise, some are carried out simply, or on a large scale, which can be done during the day or at night. The order of execution, equipment, offerings and incantations used was different, although the purpose of the ceremony remained the same, namely to free the person being treated from calamity.

5. CONCLUSION

People in Indonesia have a number of local wisdoms in dealing with disasters. In Islam, it is also explained about the problem of disasters, since the beginning of the Prophet Adam (AS) was revealed to the face of this earth. Mushibah includes all events that have a positive and negative impact. Although according to custom, disaster is always attached to events that have a negative impact. The various categories of disasters according to their objectives can be classified into 3 (three) groups, namely: first, as a test (ibtila') of human faith and patience. Second, as a warning (tadzkirah) so that humans always submit and obey Allah. Third, as punishment (uqubah) for what humans have done so that they realize and regret their mistakes then repent and ask forgiveness from Allah SWT. Meanwhile, the Javanese community still adhere to local wisdom which is a legacy from their ancestors. Performing a number of rituals, such as, ruwatan, so that no disaster occurs. The disaster for the Kejawan community was a reflection of the disharmony of the relationship between humans and nature.

Current problems are not being taken care of and explored seriously by academics. For this reason, it is necessary to conduct in-depth studies in order to enrich social science studies, especially those related to disaster management.

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Performance Expectancy, Effort Expectancy, Social Influence on Behavioral To Use Through Behavioral Intention in Using Mobile Banking in Malang

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ABSTRACT

Performance Expentancy, Effort Expentancy, Social Influence on Behavioral To Use Through Behavioral Intention in Using Mobile Banking in Malang Currently, information technology in all lines of business is very fast, as is the use of existing technology in the banking sector, namely by implementing digital banking services. Digital banking services by all banks are considered very highly in the world of banking in the world and Indonesia. Mobile Banking is also the right answer to the needs of people w ho will make transactions quickly. This is in accordance with the initial objective of implementing a secure Mobile Banking system aimed at providing smooth and easy banking by utilizing information technology. Research to examine the extent to which Performance Expectancy, Effort Expectancy, Social Influence, and Behavioral Intention affect Behavioral Usage. This research is an explanatory research, the location of this research is conducted in Malang, East Java. The population in this study were all people who transact using Mobile Banking with a sample size of 135 respondents. Data analysis techniques used descriptive statistical analysis, path analysis and hypothesis testing. From the results of the analysis and discussion, it is found that the results of Performance Expectancy, Effort Expectancy, Social Influence have a significant effect on Bahavioral Intention, furthermore, Performance Expectancy, Effort Expectancy, have a significant effect on Behavioral ToUsage while Social Influence has no significant effect on Behavioral ToUsage. The indirect effect is obtained from the results of Performance Expectancy, Effort Expectancy has a significant effect on Behavioral to Usage through Bahavioral Intention, except for the Social Influence variable.

Keywords : Performance Expectancy, Effort Expectancy, Social Influence

1. INTRODUCTION

In today's era, the development of information technology is so fast, especially in the banking sector, namely the growth of digital banking services (Digital Banking). The development of digital banking is considered appropriate in the banking world in Indonesia, for example by implementing Bank Anywhere, so that with this solution customers can make various transactions with banks anytime and anywhere without the need to come to the Bank. Mobile Banking is the right answer for these needs. Mobile Banking is a banking service that aims to provide smooth and easy banking by utilizing information technology. According to I Mulya E Siregar (2017), Indonesians are now ready to switch to digital banking services. With this service, it can be an added value from the Bank to its users. With the various conveniences obtained through banking services, it is hoped that customers can get satisfaction when using various kinds of products and services provided by the Bank (Widyastuti, 2008). According to the e-Marketer Market Research Institute (2018), currently Indonesia is listed as the population with the largest number of internet users in the world and is ranked 6th, and it is predicted that the number of users will increase to reach 112 million people with 100 million active smartphones. people according to a survey conducted by the Digital E-Marketer Research Institute (Indah, 2015).

2. METHODS

2.1. Research methods

This research focuses on the study of management information systems, especially those related to Performance Expectancy, Effort Expectancy, and Social Influence, as well as Behavioral

Intention and Behavioral Usage. This research is an explanatory research, the location of this research is conducted in Malang, East Java. The population in this study are all places where all people / communities have ever used Car Banking using those in the city of Malang. As for the research sample because the population is unknown, the researcher uses Prawira's opinion (2010: 46) to recommend that the minimum sample size is 5-10 times the number of question items in the questionnaire. As for the number of question items in this study were 15, so the sample size of this study was $9 \times 15 = 135$. Data analysis techniques used descriptive statistical analysis, path analysis and hypothesis testing.

2.2. Research Concept Framework



Figure 1 : Research Conceptual Framework
Source: Various articles, compiled (2020)

3. RESULTS AND DISCUSSION

Hypothesis testing

Table 1: Calculation of direct, indirect and total effects

Hypothesis	Direct Influence	Prob	Indirect Effect	Total Effect	Information
X1 → Z	0,199	0,000			Significant
X2 → Z	0,700	0,000			Significant
X3 → Z	0,157	0,000			Significant
X1 → Y	0,631	0,000			Significant
X2 → Y	-0,298	0,012			Significant
X3 → Y	-0,092	0,164			Not Significant
Z → Y	0,561	0,000			Significant
X1 → Z → Y			0,112	0,743	Not Significant
X2 → Z → Y			0,393	0,095	Significant
X3 → Z → Y			0,088	-0,004	Significant

Source: Primary data, processed (2020)

Based on the results of hypothesis testing in Table 4, it is known that the coefficient of Performance Expectancy, Effort Expectancy, and Social Influence has an effect on Behavioral Intention. Social Influence variable does not directly affect Behavioral to Use, but if you look at the indirect influence, the relationship between Social Influence and Behavioral to Use through Behavioral Intention, the results are significant, meaning that the Behavioral intention variable can mediate the relationship of these variables.

4. DISCUSSION

4.1. Effect of Performance Expectancy on Behavioral Intention

Hypothesis the first one said that it was suspected that Performance Expectancy had an effect on Behavioral Intention, which was statistically tested. The results of this study support the research conducted by (Hariyanti et al., 2020b) which research resulted in performance expectancy having a positive and significant effect on behavioral intention of mobile banking users. This concurs with research conducted by (Handayani & Sudiana, 2017) there is a positive effect of the variable Performance Expectancy on the Behavioral Intention variable in users of the academic system at STTNAS Yogyakarta.

4.2. Effect of Effort Expectancy on Behavioral Intention

The second hypothesis which says that there is an influence between Effort Expectancy on Behavioral Intention that can be accepted or tested statistically. This article is in line with the research conducted by (Hariyanti et al., 2020a) Where the results in this study found that effort expectancy has a positive and significant effect on behavioral intention of Bank Jatim Surabaya Mobile Banking users.

4.3. The Influence of Social Influence on Behavioral Intention

The third hypothesis which says it is suspected that Social Influence has an effect on Behavioral Intention can be accepted or tested statistically. This article is not in line with the research conducted by (Taiwo & Downe, 2013) (Amelia, Rizka ; Hidayatullah, 2020) where the social influence variable has a positive effect on the behavioral intention of using information technology.

4.4. Effect of Performance Expectancy on Behavioral to Use

The fourth hypothesis which says it is suspected that Performance Expectancy has an effect on Behavioral to Use is statistically tested. The results of this study support the research conducted by (Valone, 2007) which research produces performance expectancy has a positive and significant effect on Behavioral to Use in public information. This concurs with research conducted by (Suparyati, 2019) There is a positive effect of Variavel Performance Expectancy on the Behavioral Intention variable on users of E KTP users.

4.5. Effect of Effort Expectancy on Behavioral to Use

The fifth hypothesis which says that there is an influence between Effort Expectancy on Behavioral to Use can be accepted or tested statistically. This article is in line with the research conducted by (Narayana, 2019) Where the results in this study found that effort expectancy has a positive and significant effect on Behavioral to Use in e learning users (STIKOM Bali case study).

4.6. The influence of Social Influence on Behavioral to Use

The sixth hypothesis which states that it is suspected that Social Influence has an effect on Behavioral to Use can be accepted or tested statistically. This article is not in line with the research conducted by (Rachmawati et al., 2020) dimana variabel *social influence* berpengaruh positif terhadap *Behavioral to Use* dari penggunaan Mobile Banking yang ada di Kota Malang.

4.7. The Influence of Behavioral Intention on Behavioral Usage

The seventh hypothesis which says there is an influence between Behavioral Intention on Behavioral Usage cannot be accepted or is not statistically tested. Theory of Reasoned Action (TRA) states that an individual's intention not to do or perform a behavior is a direct determinant of an action or behavior. Individuals will carry out a behavior if they have a behavioral intention to do so (Rossmann, 2011).

4.8. Effect of Performance Expectancy on Behavioral to Use through Behavioral Intention

The Hypothesis Nine cannot be accepted or tested statistically. This research is not in line with the research conducted by (Fauzi et al., 2018) where the results of this study also show that through Behavioral Intention, Performance Expectancy, Facilitating Conditions and Effort Expectancy have a significant indirect effect on Use Behavior.

4.9. Effect of Effort Expectancy on Behavioral to Use through Behavioral Intention

The Hypothesis Nine can be accepted or tested statistically. The influence of the moderator variable is significant because online mobile banking is very helpful in terms of costs, time and energy in transactions. This research is in line with the research conducted by (Fauzi et al., 2018) where the results of this study also show that through Behavioral Intention, Performance Expectancy, Facilitating Conditions and Effort Expectancy have a significant indirect effect on Use Behavior..

4.10. The influence of Social Influence on Behavioral to Use through Behavioral Intention

The tenth hypothesis can be accepted or tested statistically. This research is in line with research conducted by (Owusu Kwateng et al., 2019) where the results of this study also show that through Behavioral Intention, Social Influence has a significant indirect effect on the Use Behavior of mobile banking users in Ghana.

5. CONCLUSION

From the results of the analysis and discussion, it is found that the results of Performance Expectancy, Effort Expectancy, Social Influence have a significant effect on Behavioral Intention, furthermore, Performance Expectancy, Effort Expectancy, have a significant effect on Behavioral ToUsage while Social Influence has no significant effect on Behavioral ToUsage. The indirect effect is obtained from the results of Performance Expectancy, Effort Expectancy has a significant effect on Behavioral to Usage through Behavioral Intention, except for the Social Influence variable.

This study examines only the influence of variables that affect behavioral intention and behavior in using (Behavioral Usage), but has not linked it to usage results. Sometimes it is assumed that use will produce positive results. This assumption needs further investigation. In addition, to determine the use behavior, it should also be related to the existing competitive advantage (Hidayatullah et al., 2019) because almost all banks use the Mobile banking application, however, the quality of the system and the quality of information from mobile banking must also be considered (Shodiq et al., 2018)(Rakhmadian et al., 2017), as well as paying attention to the behavior of the system users themselves where currently the millennial age is very dominant so that m banking must also adjust to the tastes of that age (Hidayatullah et al., 2018). In addition, it is necessary to pay attention to the quality of existing social media (Shodiq et al., 2018).

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Human Security, a Social Being that Bound by Community

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ABSTRACT

This discusses the application of human security concept in national security policy in Indonesia. Societal change towards democratization after reform and the on going security sector reform process in Indonesia has impacted on the changing security paradigm –from highly state-centered security into the paradigms that are more concern to non-traditional issues such as human security (people-centered security)). Regardless of the pros and cons as well as the breadth of the meaning of the human security concept, the concept of human security is viewed in this paper as a point of view (perspective) or the government guidelines for setting national security policy. This paper argues that Indonesia has put the idea of human security in its national security policy, but its implementation has not been so good. Individuals or human beings or citizens in the concept of human security in Indonesia are defined as social beings who are bound with their community..

Keywords : security, human security , National Security Act Dr.Aft, National Security Policy

1. INTRODUCTION

Whoever we are part of the world community, today is faced with a very dangerous threat to human security (human security). The threat comes from Corona Virus Disease 2019 or more familiarly known as Covid-19. The World Health Organization under the United Nations or better known as the World Health Organization (WHO) has designated Covid -19 as a global pandemic. This means that the Corona Virus Emergency is currently facing the world. Even the Director General of the World Health Organization (WHO), Tedros Adhanom Ghebreyesus, called Covid-19 more dangerous than a terrorist attack. This is because the spread of Covid-19 cases globally continues to increase both in terms of numbers and casualties.

In a relatively short time, Covid-19 has spread to more than 200 countries in the world, including Indonesia. Covid total infection rate of 19 to 1 , 6 million. This certainly makes Covid-19 a very real security threat to humankind on earth. This condition shows us all that this pandemic is a serious threat to the survival and security of human life. Covid-19 has not stopped and it cannot be stopped. The implications are endless, penetrating the walls of the state and citizens and creating complex emergencies everywhere.

Many were unthinkable before Covid-19 broke out, because this global pandemic is not really new. This is because the world has faced various pandemics, epidemics and outbreaks, such as swine flu, bird flu, SARS or an outbreak of acute respiratory syndrome, Ebola, and others with varying numbers of victims. Epidemiologist from Texas A&M University, Rebecca Fischer said, the term pandemic is often confused with other important terms such as epidemic and plague.

In simple terms, the difference between the three is a matter of scale. The sequence is plague, epidemic, and pandemic. Outbreak is an increase in disease cases that can be seen clearly in a certain place, population and period. The spread of the disease is still small, below the normal amount that can be anticipated. If the increase in cases of the disease occurs in a geographic area larger than a village or city , the outbreak becomes epidemic. Furthermore, if the epidemic becomes an international event, it can be called a pandemic.

A pandemic is determined if it meets three conditions, first the emergence of new diseases in the population, secondly infecting humans and thirdly having a fatal impact. Being late in anticipating the Covid-19 Pandemic will have a very fatal impact on human security on earth

Long before the Covid-19 pandemic broke out, an expert on International Politics, Barry Buzan in his 1980 work *People, States and Fear*, has awakened the hearts and awareness of mankind, that there are major threats in the world besides threats that have a military dimension (traditional). The type of threat that Barry Buzan introduces is non-traditional security. These non-traditional security issues are widely spread in various different areas such as threats to

environmental security, food security, economic security, energy security, human security, maritime security, and so on. All of these issues are considered to have a serious impact on human security (human security). Human security will have an impact on national security (national security), regional security (regional security), and international or global security (international security). As is currently happening. The Covid-19 pandemic has made contemporary global security interactions more complex and highly varied.

The Covid-19 attack is not a military invasion like World War II or the Gulf War, but a pandemic. A threat that is equal to or far more formidable than the threat of World War, because no country in the world is free from the threat of the Covid-19 pandemic. This is because the Covid-19 pandemic threatens 4 dimensions of security at once, namely: (1) human security, (2) national security of a country (national security), (3) regional security, and (4) international or global security (international security).

2. COVID-19 AND A SECURITY THREAT TO HUMANS

Roland Paris (2001), a thinker of Human Security Studies, has the view that human security is more than just military power and losing in war (traditional security). Therefore, the United Nations Development Program (UNDP) divides the concept of human security into seven dimensions, namely Economic Security, Food Security, Health Security, Environmental Security, Personal Security, Community Security and Political Security. Of the seven dimensions of human security division above, the question is which side is Covid-19 actually in threatening humans?

Currently, Covid-19 is a serious threat to the human population on earth because even though it has a health security dimension, it has an impact on other security dimensions. For example, although China has seen a decrease in the number of new infections and an increase in the cure rate, other countries in the world are quite the opposite. The Covid-19 pandemic has become an issue of health threats across national borders and has transformed into a common enemy that must be fought. The way to fight it is different, unlike fighting the provocation of the China coast guard and its fishing boats in Natuna.

As explained above, in security studies, Covid-19 can be included as a non-traditional security threat, or more specifically a threat to human security (human security). In the context of security studies, Covid-19 requires the participation of various national and cross-country actors, countries and state actors in efforts to resolve it. In that category, the state needs to cooperate with various non-state actors (both civilian and military) to ensure national vigilance. Or even Indonesia also needs to cooperate with the countries of others, including ASEAN.

ASEAN member countries also need to be invited to work together in the exchange of information regarding the development of the spread of the virus in their respective countries, national policies in prevention and rapid response mechanisms if there are indications of being exposed to the Corona virus. If possible, ASEAN needs to build a regional cooperation framework on health threats, including Covid-19, at the regional level. In that context, the handling of the Corona virus is no longer the only concern of various countries separately within the territorial boundaries of their respective countries. Working together between countries is needed to respond quickly to health threats of cross-borders.

Working together between domestic actors and inter-country is very urgent because the object of attack is a man or a citizen. The health threat is felt directly by the community, especially those who have mobility between countries. Given that the spread of Covid-19 depends on human-to-human contact, preventive efforts to reduce direct contact with individuals are indicated to be one of the urgent policies of a country.

Covid-19 is an infectious disease which is scientifically included in the realm of human security policy issues, so an approach is needed in its handling, namely the human security policy approach. Infectious Disease is an infectious disease caused by pathogenic microorganisms, such as bacteria, viruses, parasites or fungi; disease can spread, directly or indirectly, from one person

to another (Nani Harlinda Nurdin, 2020). Therefore, there are at least two ways to anticipate it, first through the role of the state or government, and the second through the role of the individual human being.

In the first approach what needs to be done is, First by using the 3 T concept, namely to prevent (increase awareness by strengthening prevention), to detect (detect), and to respond (to act). Second, the handling of Covid-19 is no longer the only concern of various countries separately within the borders of their respective territories, but cooperation between countries is needed to respond quickly to threats to human security (human security) across borders. And third, cooperation between domestic and inter-state actors must be carried out because Covid-19, the object of attack is a human being or a citizen. The health threat is felt directly by the community, especially those who have mobility between countries. Given that the spread of Covid-19 depends on human-to-human contact, preventive efforts to reduce direct contact with individuals are indicated to be one of the urgent policies of a country.

In the second approach, because Covid-19 is transmitted through people who have been infected with the corona virus and this disease can easily spread, obeying government regulations is an unavoidable choice. Because this government regulation is in line with the recommendations issued by the World Health Organization (WHO), namely: (1) wash your hands as often as possible with hand washing soap, (2) apply social distancing / physical distancing, (3) Avoid touching your eyes, nose and mouth, (4) do sneeze correct rules, and (5) if you have a fever, cough, and difficulty breathing, immediately get treatment to hospital.

There are seven components of human security (human security) according to UNDP (2004), the fulfillment of which is the responsibility of the government of each country. The seven components are; Economic security (economic security), food security (food security), health security (health security), an Environmental life (environment security), personal security (personal security), the security community (community security), and political security (political security). The seven components above can be simplified into two main components, namely freedom from fear (free from fear) and freedom from want (free from the inability to have).

Apart from the pros and cons as well as the broad meaning of the concept of human security (human security), the writer places the concept of human security as a point of view (perspective) or a government guide in determining its national security policy. Indonesia is an interesting illustration to observe, particularly on how the Indonesian government views the concept of human security amid changes in society towards democratization after the reformation era.

The problem is that some people think that the concept of human security which is currently developing globally is nothing more than an affirmation of the government's obligation to guarantee and protect the security of its citizens as part of the constitutional mandate. If this is the case, then there is no need to integrate it in different forms of regulations or policies. In other words, this group considers that human security is not part of security and its existence is merely a social dynamic, separate from the security area.

Draft Law on National Security (National Security Bill) as an example the case to assess whether the policy has been to accommodate the notion of human security. This writer argues that Indonesia has included the idea of human security in its national security policy, but the implementation has not been very good. Individuals or humans or citizens in the concept of human security in Indonesia are defined as social beings with the community and different from the meaning of the individual in the liberal tradition. Economy and politics are Indonesia's main agenda in realizing human protection and security in Indonesia. However, there are still overlapping policies and regulations that are not in accordance with practice in the field.

3. HUMAN SECURITY IN SECURITY STUDIES

Human security does appear more clearly in the UNDP Report on the Human Development Report of the United Nations Development Program in 1994. In that report UNDP stated, "the concept of security must change-from an exclusive stress on national security to a much greater stress on

people security, from security through armaments to security through human development, from territorial to food, employment and environmental security".

The issue of human security is considered important in contemporary security studies because more humanitarian problems have surfaced at this time. These problems range from refugees due to conflict and physical violence, the sale of children and women, food problems, terrorism, illegal arms trafficking, human rights violations, and so on. The United Nations (UN) emphasizes changing the concept and focus of security from one's security emphasizing state security to public security, from security through military force to security through community development, from regional security to human security related to security, food, employment and the environment (IDSPS, 2008).

For this reason, Anne Hammerstad (2000, p.395) explained that, "Security is about attaining the social, political, environmental and economic conditions conducive to a life in freedom and dignity for the individual." Furthermore, Lincoln Chen (1995, p.139) argues that human security is the last port where all concerns regarding security lead to. Therefore Chen said that forms of security such as military security are not the main goal but only a means to achieve an essential goal, namely human security.

UNDP (1994) details seven components of human security that must receive attention, namely, 1) economic security (free from poverty and guaranteed fulfillment of life's needs), 2) food security (easy access to food needs), 3) health security (ease of getting services health and protection from disease), 4) environmental security (protection from air pollution and environmental pollution, as well as access to water and clean air), 5) personal security (safety from physical threats caused by war, domestic violence, criminality, use of illegal drugs, and even traffic accidents), 6) community security (preservation of cultural identity and cultural traditions), and 7) political security (protection of human rights and freedom from political pressure).

The National Security Bill is expected to translate the mandate of the 1945 Constitution in the Preamble and Chapter XII concerning State Defense and State Security. The 1945 Constitution (UUD) is a constitutional basis that describes the objectives of the state that stand on the management of national security and national prosperity which are interdependent (Naskah Akademik, Kemhan; 2011). This is stated in the fourth paragraph which reads:

"Then rather than that, to form an Indonesian State Government that protects the entire Indonesian nation and all the blood of Indonesia and to promote general prosperity, educate the nation's life, and participate in implementing world order based on independence, eternal peace and social justice, ...".

The presence of the Draft Law on National Security whose orientation will be passed into law on In 2011, it is not only in the interests of defending the country's sovereignty, but more than that, it also integrates the idea of human security that guarantees and protects the security of citizens.

The author needs to underline the word "as a social being" above, because the essence of human security or human security in the Indonesian perspective is to place individuals as social beings. Individuals as social beings according to the National Resilience Council (2010, p.52) are the concept of human security based on communitarianism. The definition is that communitarianism views humans as an inseparable part of their community. There is a reciprocal relationship between humans and people

4. CLOSING

Protection and guarantees of the rights and security of citizens are currently the benchmark for assessing a country by the international community. The ability to produce and manage citizen security and increase the capacity of security actors to provide national security as political goods for citizens in Indonesia will greatly determine Indonesia's position in global relations. If Indonesia is able to manifest the concept of human security in state governance, it will be an immeasurable contribution to create an Indonesian state that is stronger and to be taken into

account in the international community.

Indonesia does have many reasons for implementing human security so that it is guaranteed to the people. Poverty, underdevelopment, ignorance, environmental destruction, domestic violence, threats death , terrorism, armed conflict are the nation's diseases that have hit for a long time. Given that human security has a very broad meaning, then it can mean nothing. Even institutions that work to protect human security will not be able to realize all aspects of humanity. To avoid this, human security demands interdependent and related concrete actions from a variety of initiatives to be realized or implemented.

Based on the Draft Law on National Security (RUU Kamnas), the handling of human security is borne by the relevant ministries in collaboration with the TNI and other institutions as a supporting element. In this case, military professionalism needs serious attention which could become an obstacle to the implementation of human security. In discussions about human security, they tend to marginalize military issues and view the military as the main obstacle to the human security advocacy process at the national level. This opinion emerged based on the fact that the military often took actions that endangered the safety of individual civilians, especially through their repressive actions in areas that had been considered economically strategic.

In the end the debate about whether or not the application of human security will depend very much on the socio-political context of an entity or state. And, more importantly, it relates to the nature of social and political relations between the state and its people.

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