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INNOVATION AND DEMOCRACY: THE CHALLENGE OF THE USE E-VOTING IN GENERAL ELECTION IN INDONESIA

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Abstract

As a democratic country, people are required to intervene in the administration of the government, one of which is in the form of political participation. Political participation is the activity of actively participating with political life by choosing state leaders both directly and indirectly and influencing government policies. These activities include actions such as voting in elections, attending general meetings, being the member of a political party or interest groups, making contact with government officials or parliamentary members, and so on.

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1. Introduction

Article 22E paragraph (2) of UUD NRI 1945 (the 1945 Constitution of the Republic of Indonesia) determines, "the election consists of the election of members of the People's Legislative Assembly (DPR), the Regional Representative Council (DPD), the Regional People's Representative Council (DPRD), and the election of the President and Vice President". However, at present the scope of elections is increasingly widespread which places regional head elections as part of elections which are then commonly referred to as regional head elections (PEMULIKADA).Since its independence, Indonesia has carried out 11 national elections nationally (pnri.go.id), namely General Elections 1955, 1971, 1977, 1982, 1987, 1992, 1997, 1999, 2004, 2009, and 2014. The implementation of the 11 elections is a valuable lesson for Indonesian democracy because the quality of elections is a reflection of the quality of a country's democracy. Elections as a medium for the conversion of people's sovereignty must be carried out as well as possible.After 11 elections were held, the implementation still left problems that ultimately led to a reduction in the quality of our democracy. According to the facts compiled by Bambang Widjojanto as cited by Ali Rokhman, the issues of elections are very diverse, in which in the end many parties bring them to justice which then become General Election Results Disputes (PHPU) (Ali, 2011).

The general elections in Indonesia are still carried out conventionally. Citizens who have the right to vote come to the polling station on the Election Day. They then vote or tick the ballot paper and then put it into the ballot box. The Indonesian voting process is still carried out with a conventional method using a ballot paper media. Likewise with the calculation method, it is still done conventionally by unfolding the ballot paper and counting one by one. (Kpu.go.id).The conventional collection and counting process has several weaknesses. The followings are some of the weaknesses of the conventional process, including:There are many mistakes in the voter registration process which surfaced almost in every election

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implementation, in 2014 for example. Bawaslu (the Election Supervisory Agency) found 4.17 million defective voters data (Tempo.co.2013). This problem has not been added to online KPU (General Elections Commission) services. DPS (Temporary Voter List) tracking via the official website at www.kpu.go.id shows that there are still problems, including: the name of the voter is found double, the discrepancy of the gender of the voter, and the incompatibility between the National Identity Number (NIK) on the electronic ID card and those listed in the DPS (Kompas, 2013)

During voting, a lot of voters were wrong to give a sign so that in the end many ballots were considered invalid. In addition, the process of tabulation of votes from the regions was slow. The main obstacle was the weak communication technology infrastructure. As a result, the announcement of the results of the general election took several weeks (viva.co.id, 2013). Furthermore, there was no copy of the ballot paper. Consequently, if there is damage to the ballot paper, the committee no longer has evidence. This also causes difficulty in recounting if there is distrust of the results of the vote counting. Furthermore, the budget needed to conduct the voting process is large. Based on the latest data from the KPU, the government agency in charge of carrying out the election, the elections in Indonesia today often cause conflicts. This was triggered by a distrust of the results of the vote counting. The other problem is the high amount of the budget to carry out the voting process.With the many problems mentioned above, especially in the implementation of elections in Indonesia, the idea emerged to implement the election by utilizing the development of information technology and communication (e-voting). This is also supported by the increasingly widespread communication network and cheaper communication costs.

E-voting at this time can be an alternative to replace the currently-used conventional election. Research on e-voting has been carried out for more than twenty years. The main problem faced in organizing general elections through the e-voting system is related to security factors. Until now, there is no complete solution in theory and practice to overcome the problems especially for the implementation and preparation in Indonesia. Therefore, this research aimed to find out what are the challenges and obstacles faced by the Indonesian government, especially the General Elections Commission (KPU) to face the general elections in 2019.

2. Literature review

E-Voting System Design

In addition to the analysis of the requirements of the e-voting system that has been done before, there are several aspects that must also be considered. This aspect greatly influences the implementation of e-voting. The followings are some aspects that affect an e-voting system. According to Robert Krimmer, there are 4 dimensions that support the implementation of the e-voting system (Krimmer , 2014).

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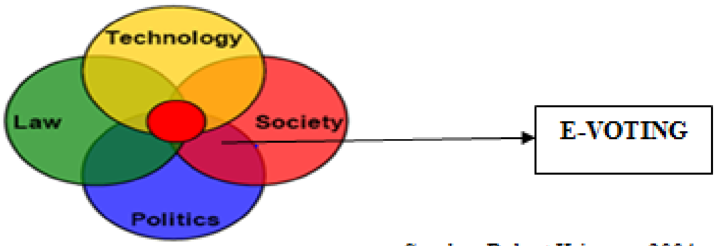
Diagram.1 Evoting



Sumber: Robert Krimmer 2004

Figure 1. E Voting (Robert, 2004)

From the diagram above, it is explained by Robert Krimmer that there must be 4 parts that support the implementation of e-voting, namely technology, society, law, and politics, each of which will be explained below: Technology., The technology aspect is the most prominent aspect of the e-voting system when compared to the manual voting system. In addition to providing many new opportunities related to lower costs, faster time, accuracy of the results of vote counting, and so forth, the use of technology also raises new threats especially related to the security of election results data. With the use of technology raises security gaps that are far greater than those of manual voting. Therefore, there is a lot of research on e-voting that focuses on the security aspect.Law., The law aspect is a factor that is very influential on the e-voting system. The e-voting system is used as an embodiment to uphold democracy in a country so that its application must be in accordance with the applicable law. The implementation of the e-voting system will not work well if there is no legal adjustment that applies to the e-voting system to be implemented.Social., Social aspect is often overlooked in the discussion of an e-voting system. In fact, a system specifically related to technology will run well if the system is in accordance with the existing social conditions of the community. For example, there is an e-voting system that fulfils almost all the requirements that are not accepted by the community because the system requires complicated usage procedures despite the quite-low level of public education. Therefore, the analysis of the more important requirements for the community is very necessary so that the e-voting system can be accepted and run well.Politics., The political aspect is where the "political context" considers the democratization of a country by measuring the level of institutional stability or state to accept e-voting. A stable democracy is needed for the introduction of E-Democracy applications such as E-Voting. Political stability is needed in a country to be able to implement an e-voting system that works well.

3. Research Method

This type of research was descriptive-qualitative research. Qualitative research is research that intends to understand the phenomenon of what is experienced by the research subjects such as behaviour, perception, motivation, action, etc. holistically and in a way of description in the form of words and language in a special natural context and by utilizing various natural methods (Lexy J. Moleong ,2005). Descriptive elements in this study are intended to describe precisely an individual, circumstances, symptoms, or certain groups, or to determine the frequency or spread of other symptoms in society (Koentjaraningrat , 1991). The qualitative method used is a case study approach to see a complete social environment about the phenomena raised in this study.

On the basis of the foregoing, in collecting the data, this study applied interviews to obtain the main data and documentation for the secondary data. The interview data collection technique was purposive interview to make it easier for the researcher to obtain information from sources that are considered able to provide information about the research. The documentation data collected were related to the electronic voting.

4. Findings and Discussion

The use of special technology in the democratic system is a challenge by state institutions such as the KPU. This is like the implementation of electronic voting in several regions since 2014 in Jembrana, Boyolali, and Musi Rawas regencies (cnnindonesia.com, 2014). Besides the three regencies, after 2018 some regions such as Sidoarjo, Gresik, and Bantaeng began to carry out voting through electronic voting. However, the implementation of electronic voting was still at the level of local voting, namely the PILKADES (Village Chief Election). The electronic voting is one of the strategies for the implementation of clean democracy considering that general elections always present problems.

The shortcomings in general elections often occur in Indonesia due to *human error* factors or implementation support systems that are not running well. Some of the problems that often arise in the general election include the large number of people who are not registered as permanent voters, the multiplication of the final voter list, and the slow data tabulation and vote counting because of weak communication technology infrastructure. The quality of general elections in Indonesia has experienced a significant increase compared to previous years. For example in 2014, the government began to apply technology to the electoral registration system to simplify and streamline the process. The list of Indonesian voters also changed from manually collected lists to computerized, centralized, data-based lists accessible for various parties. This does not rule out the possibility that in the future the process of electronic elections (*e-Voting*) will be a consideration for Indonesia to overcome violations in the general election.

Although there are many conveniences of e-voting, there are still many obstacles that must be overcome so that e-voting can run smoothly and produce a suitable product for the people's choice, and the results can be trusted by the whole community. These obstacles include [Gritzalis, 2002].The first is the difficulty of changing national election laws. The application of e-voting must be accompanied with the existence of a legal umbrella that regulates fully and clearly about the application of e-voting from the preparation stage to the endorsement of the results of the voting. If e-voting is to be implemented, the Election Law that has been in effect must be reviewed as stipulated in Law Number 32 of 2004 in Article 88 which says: "Voting for the election of regional heads and deputy regional heads is carried out by voting for one of the candidate pairs in the ballot." The second is the security and reliability of electronic voting. The safety and reliability of e-voting is the most strategic issue in implementing e-voting. Although e-voting offers speed in calculating and distributing the results of vote counting, the validity aspect of the data must be upheld because it is closely related to the validity of the results of the general election. The third is the equal access to internet voting for all socioeconomic groups. Not all voters have access to the internet if online e-voting is done because of the heterogeneity of the community and the existence of a digital divide. If e-voting is carried out through the DRE (Direct Recording Electronics) where voters must come to the polling station, the constraints of low literacy on the use of information technology are likely to hamper the implementation of e-voting. The fourth is the difficulty of training the election judges on a new system. Not only voters and organizers must be prepared for e-voting, witnesses and supervisors must also have IT literacy. Therefore, training must be held for witnesses and election supervisors so that if problems arise in the implementation of the election, they have the competence to solve them. The fifth is the political risk associated with trying a new voting system. The existence of political risks to the implementation of e-voting is closely related to the validity of the election results. If the election fails to do, then the risk is very large which affects the political instability of a country. The sixth is the need for security and election experts. The application of e-voting requires information technology security experts who simultaneously understand the electoral system. In reality, it is very difficult to recruit many personnels who are experts in information technology security and at the same time master the electoral system.

With the obstacles above, it is necessary to design e-voting in Indonesia. The preparations made by the KPU must be in accordance with the aspects or dimensions used by other countries to carry out e-voting. In this case, what the KPU carried out is to examine the results of comparative studies with the countries that have implemented e-voting from the process to the implementation.The review refers to the aspects obtained from comparative studies. Each country pays attention to the four dimensions of technology, politics, society, and law. The discussion of the dimensions of e-voting is reviewed by Robert Krimmer in depth in the journal of *Die Dimensionen der elektronischen Demokratie*, in: the Proceedings of IRIS 2004. The dimensions must be considered to make the design of e-voting work well from the process to its implementation. According to Robert Krimer, if a country will implement e-voting, it must pay attention to four dimensions of technology, law, society, and politics . In this case, the author used the dimensions to describe how the KPU prepared to carry out voting with e- voting. A country that will implement e-voting must pay attention to the four dimensions above if it will carry out voting using technological advancements. The above dimension images rely on not only the technology of a country but also the legal conditions on which it is based. People must accept the new system and political conditions in a country. To better understand the design of e-voting preparations in Indonesia, the researcher explained each chapter as follows:

- **Law Aspect**

Law is a foundation in every action that will be carried out. The use of e-voting in Indonesia is a major action in the implementation of general elections. This new thing that will be faced must have a clear legal basis according to the objectives. Quoting from the statement from Robert, the law dimension is the very-influential factor on the e-voting system. The e-voting system is used as an embodiment to uphold democracy in a country so that its application must be in accordance with the applicable law. The implementation of the e-voting system will not work well if there is no legal adjustment that applies to the e-voting system to be implemented (Krimmer).Departing from Robert's statement that the legal basis becomes very important from the implementation of e-voting, then Indonesia already has its foundation, namely the ITE Law, Constitutional Court Decision Number 147/PUU-VII/2009, and for the Indonesian post-conflict local election has a legal basis for the Law No. 1 of 2015. The ITE Law plays an important role related to the implementation of general elections based on e-voting system because in the ITE Law there are several important articles related to electronic systems, electronic evidence, electronic signatures, and electronic system providers because the election with this e-voting system uses electronic technology in the implementation. Article 5

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of the ITE Law can explain and answer that electronic information or documents can be used as the legal evidence with the following conditions:1. Electronic Information and/or Electronic Documents and/or their printed results are legal evidence.2). Electronic Information and/or Electronic Documents and/or their printed results as referred to in paragraph (1) are an extension of valid evidence in accordance with the Procedural Law applicable in Indonesia.3). Electronic Information and/or Electronic Documents are declared valid when using an Electronic System in accordance with the provisions stipulated in this Act.4). The provisions concerning Electronic Information and or Electronic Documents as referred to in paragraph (1) do not apply to: a). a letter according to the Law must be made in written form.b). a letter along with the documents which according to the Act must be made in the form of a notarial deed or the deed made by the the acting official.

Looking at the law above, it is strengthened by another law, namely the Constitutional Court Decision Number 147/PUU-VII /2009. It says in its judicial verdict that it grants the Petitioners' petition in part, stating that Article 88 of Law Number 32 of 2004 concerning Regional Government is constitutionally conditional on Article 28C paragraph (1) and paragraph (2) of the 1945 Constitution of the Republic of Indonesia. Thus, the word *voting* in Article 88 of Law Number 32 of 2004 concerning Regional Government also means using e-voting method with the following cumulative requirements:a. It does not violate the principle of *Luber Jurdil*;b). The region that applies the e-voting method is ready in terms of technology, financing, human resources, and software, the readiness of the community in the area concerned, as well as other necessary requirements.

The Constitutional Court Decision actually mentioned the legal basis of e-voting implicitly. The purpose of the Constitutional Court Decision is expected to be ways beyond voting and/or voting to be accommodated by the legislator.The latest foundation is the birth of law number 1 of 2015 which regulates election in 2015. Chapter 13 of Articles 85, 95, 98, 111 explains about the collection and counting of votes electronically. In this case, the intended voting can be carried out with e-voting as explained.Indonesia is ready to implement e-voting in terms of the legal aspects as stated by Robert. However, if it is brought to the national level, a legal basis must be prepared which really strengthens e-voting in its implementation. Why is that? Because the existing legal basis is still too broad to be a strong foundation for e-voting. Hence, the legal basis for implementing e-voting must be clear and detailed so that there is no problem with its implementation.

- **Technology Aspect**

Technology is a very important aspect in these four dimensions because the main factor of using e-voting is technology. According to Robert, the technology aspect is the most prominent aspect of the e-voting system when compared to the manual voting system (Krimmer). In addition to providing many new opportunities for example related to cheaper costs, faster time, accuracy of the results of counting the vote, and so on, the use of technology also raises new threats especially related to the security of election results data. With the use of technology raises security gaps that are far greater than those of manual voting. Therefore, a lot of research on e-voting focuses on the security aspect.

Talking about voting, the frequently-used technique is manual voting by using paper and through a very long process which requires a very high cost. The process of manual voting is very time consuming because it has to go through many stages in addition to the high cost. The author quoted from Allan Wall about the advantages of e-voting in the field of technology to

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address the problems of time and cost (Allan Wall, 2006). First, it is more efficient in time and cost. It is more inefficient because it requires paper in large quantities. After that, paper is generally discarded (not used in the next election). As a result, voting with ballot paper is not cost efficient. On the other hand, using an e-voting machine can be more efficient because it can be used many times with the same machine.Second, it is efficient in terms of time because it takes a longer process of counting votes when using paper or manual voting so that e-voting offers time efficiency. Most importantly, efficiency in terms of time occurs in the process of counting votes after the implementation of voting. E-voting offers users the results that come out of voting which can already be seen within 10 minutes and in the form of bar charts.

The difference between manual voting and e-voting is very visible in its efficiency, namely the use of costs incurred by the government for less paper costs and not leaving waste at the end of voting because by using e-voting, the government can use the machine continuously in the next election. Furthermore, the government can present the results of voting quickly by using e-voting within 10 minutes which is known for several days using manual voting. The results can also be clearly displayed.

Speaking of the technological dimension, e-voting has another attractive offer besides its efficiency, namely accuracy. Regarding the accuracy, Wilis stated that the speed and accuracy of an election is the most important thing in modern democracy (Allan Wall, 2006). It is undeniable that during the general election, there is fraud committed by prospective candidates, success teams, and election organizers, thus causing the results of the election to be inaccurate. The game that is often done for electoral fraud is the inflating of candidates' ballots conducted by the election organizers. This occurs because the manual electoral system is easily used by those who are less responsible. Using e-voting can be more accurate as long as it is supported by the permanent voter list in the context of vote counting results compared to the manual one.The General Election Commission as the election organizer has a new innovation in the field of this technology, namely centralized voter data collection with the SIDALIH application. The dimension of technology that has accuracy benefit can run with the support of a good fixed centralized voter list as carried out by the KPU. According to the head of data and information management, the KPU's centralized election data has the SIDALIH application used for the 2014 legislative and presidential elections. This system can be used for sustainable elections.

Therefore, Indonesia already has an open e-voting gate, namely the existence of a centralized voter list so that it is ready for e-voting in the future. In addition, SIDALIH can be used on an ongoing basis such as an e-voting system that can be used continuously. Technology becomes one of the important aspects in carrying out the election. Moreover, Indonesia has a geographical form of an archipelago country so that the readiness in each region to accept the technology must be considered. Given the different readiness of technology acceptance in each region, it is important to pay attention to this technology dimension. Because of the different technology acceptance in Java and in Papua, KPU will collaborate with BPPT (Agency for the Assessment and Application of Technology) to prepare and conceptualize the kind of technology for e-voting in Indonesia, according to the head of data and information management.

The technology dimension is the thing that must be considered the most in the use of e-voting because with the e-voting machine, the vote collection in the e-voting system will run. Security that consists of accuracy, verification, and democracy must be included in the technology dimension so that the implementation of e-voting later does not violate voter rights

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or makes improper voting. Technology as the main dimension must be used properly because it is not like a double-edged knife that can help as well as stab. Therefore, Indonesia must prepare good technology to be used for the electoral system throughout Indonesia in the future.

- **Political Aspect**

Politics is very influential in the use of e-voting system in every country which implements it. Why is that? Because elections using technology are feared by politicians caused by the lack of trust of politicians in the e-voting system. In addition, the fear of politicians is when this system cannot maintain its accuracy. The author takes the example quoted from Ikhsan darmawan et al in their book about understanding e-voting which explains that the elections in India in 2004 and 2009 were boycotted by the politicians because of their fear. (Ikhsan Darmawan , 2014) It often happens in countries that carry out e-voting machines. However, these challenges are proven by e-voting by the running of voting through e-voting machines in India because they can convince their politicians.

Trust becomes a challenge but furthermore, that is about political stability in a country. The political aspect is where the "political context" considers the democratization of a country by measuring the level of institutional stability or state to accept e-voting. A stable democracy is needed for the introduction of E-Democracy applications such as E-Voting. Political stability is needed in a country to be able to carry out an e-voting system that runs well. Indonesia often experiences political instability, but this one does not become a very difficult challenge for the use of e-voting in the future because this instability can be suppressed by synergizing government and politics to convince politicians with a lot of communication. Therefore, it must be properly considered how politics in a country will implement an e-voting system. Indonesia as a country that is often politically unbalanced must be able to carry out political balancing and stability in order to implement e-voting.

- **Social Aspect**

Society is the highest power holder in democracy because in this case the leader is elected by the people and must be responsible for the people. General elections as a practice form of democracy often experience many frauds and mistakes that harm the voting rights of people. Manual electoral systems often ignore people's rights such as no names of voters and the inadequate polling stations for people with disabilities. Of course, this is what encourages a country to give birth to a voting system using technology to facilitate voters in voicing their voting rights. The e-voting system becomes the resolution offer for this problem, but it should be noted in the user must see the dimensions in it, one of which is the social aspect of the community.

The social aspect is often overlooked in the discussion of an e-voting system. In fact, a system specifically related to technology will run well if the system is in accordance with the existing social conditions of the community. Quoting Robert's statement, the social aspect is very important because this system is given to the people to channel their votes so that their readiness and ability to use e-voting must be thoroughly tested. As an archipelago country, Indonesia has to consider the readiness to use e-voting and give education as well as public testing about e-voting.Indonesian people have not yet 100% understood about electronics and technology. Therefore, to proclaim the system of e-voting, the government must prepare in advance about how to use, the legal basis, and the quality of e-voting. Why should quality be considered? Because peosple tend to be more confident with the electoral system using manual method when the quality of e-voting in the future is worse. On the contrary, people will prefer

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e-voting when the technology, legal basis, and so on are well prepared and it results in democratic voting.For example, there is an e-voting system that fulfils almost all the requirements that are not accepted by the people because the system requires complicated usage procedures even though the level of people's education is still quite low. Therefore, there is a need for socialization from the government to implement e-voting. One of e-voting dimensions is the people. Therefore, it must be really considered. The people as the highest power holder and e-voting users will have to know the mechanism, as well as the technical use of the tools and legal basis of e-voting. Moreover, Indonesia is an archipelago country with heterogeneous people. Therefore, the government and KPU must work together to conduct socialization.Therefore, the analysis of the mechanism and technique is more important for the people who will implement the e-voting system. In this case, it has one reason which is very necessary so that the e-voting system can be accepted and run well from the readiness of the community to accept the technology up to convincing the public that the e-voting system is very safe and the guaranteed accuracy in the general elections.

5. Conclusion

The initiative to implement e-voting in Indonesia is not just to apply ICT to the democratic process, but it is influenced by various factors in the organization in addition to technological factors and its implementation which is very complex because it involves changes in every element in government institutions (executive, judicial, and legislative) and the political parties themselves. The initiative of e-democracy implementation needs to be welcomed more openly and positively, also carried out wisely and carefully. The development in the field of digital media does provide opportunities for all aspects of life, but on the other hand it is necessary to examine various factors that influence and are influenced by the application of ICTs and the internet as electronic media in the democratic process in Indonesia.

The application of e-voting in Indonesia must go through a very in-depth study of various aspects. As required by the Constitutional Court, in applying e-voting, it must meet cumulative requirements, namely not violating the five principles of elections: *Luber Jurdil* and must be prepared in terms of technology, financing, human resources, software, and society. To better guarantee the success of the application of e-voting, the requirements of the Constitutional Court need to be supplemented by the principles that have been issued by international institutions for the implementation of e-voting which includes eligibility and authentication, uniqueness, accuracy, integrity, verifiability and auditability, reliable reliability and non-coercibility, flexibility, convenience, certifiability, transparency, and cost-effectiveness. Besides paying attention to these principles, it is also necessary to examine the failure and success of implementing e-voting from other countries, especially countries that have similar characteristics to Indonesia.

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TANICENGKEH.COM: MARKETING INNOVATION USING TECHNOLOGY TO EMPOWER INDONESIAN CLOVE FARMERS (STUDY CASE : BULELENG DISTRICT, BALI)

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Abstract

As an agricultural country, Indonesia has great opportunities in developing the export of agricultural products, particularly from the plantation subsector. One of the export commodities estate subsectors is clove. The contribution of cloves in Indonesia in the year 2016 contributed export value with volume amounting 8,477 tons with a value of US $24,060. Buleleng Regency is one of the regencies in Indonesia produce clove production of 4,907 tons in 2015. However, clove farmers in the Buleleng Regency are still experiencing problems on the distribution of marketing who farmers still sell cloves to the middleman. The purpose of this paper is to optimize the potential sale of clove technology-based platform that helps farmers to sell the clove through the website tanicengkeh.com. Tanicengkeh.com also has a function to provide technical-related information about planting, processing, to marketing which is good. This paper is a library research presented descriptively and supported by some literature relevant to the study of the problem. Data processing technique is conduct by descriptive analysis. Implementation of tanicengkeh.com in Buleleng Regency can be more optimal in managing the production and marketing of cloves, so it will increase income and reach better welfare to the clove farmers in Buleleng, Bali.

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1. Introduction

Indonesia is developing an agricultural country where agriculture as the object source of livelihood of the majority of the population. The role of the agricultural sector towards the national development can be seen from his contributions to the amount of absorption of labor. There is five categories business field where is agriculture sector ranks first in building a nationwide through its contribution to the amount of absorption of labor in Indonesia. Its contributions are as follows:

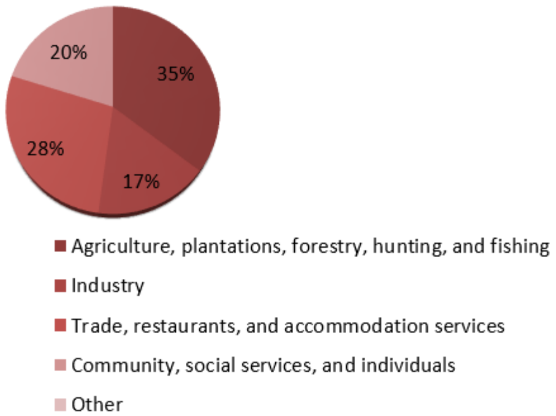

Figure 1. The amount of labor absorption the year 2017

Based on the figure 1 shows the role of agriculture, plantations, forestry, hunting, and fishing contribute toward the labors, from totally 121,022,423 labors, the agricultural sector absorb 35,923,886 labor or 35% of the total labor that exists in Indonesia and then on third rank trade, restaurants, accommodation services are 28,173,571 or 28% of the total labor that exists in Indonesia while the industrial sector was only able to absorb as much as 17% of the total number of labor while 20% or 19,434,145 is filled by various sectors of the field of business in Indonesia. [1] This absorption proves that the agricultural sector give important contribution for Indonesia, so the Government needs to pay the maximum attention for this sector with policies do not burden the subject in this sector. [2]

One of regency in Bali Province that has the potential agricultural producers is Buleleng regency. Buleleng is very potential for developing cloves commodity, it can be seen from the clove plantation's vast Bali has 15,668 ha, and about 49.48 percent or 7,754.82 were in Buleleng Regency. Buleleng Regency's clove production contributes amount 4,907 tons or about 80.35 percent of the total production on Bali amount of 5,871.30 tons. [3]

Beside from the number of potential are still found some problems faced by farmers in Buleleng Regency which is the bargaining power of producers very low and on the process of price determining form farmers controlled by intermediary merchants (the middleman) and bargaining power between producers and consumers almost vanish. These problems become clove farmers in Buleleng Regency indirectly suffered loss because of the differences in price from the middleman cheaper than the market price.

As a step to increase income and welfare of farmers living in Buleleng Regency can be done through technological innovation to give pieces of information such as planning, processing up to integrated marketing using the role of *tanicengkeh.com*. *Tanicengkeh.com* is a platform that has a purpose to sell farmer's clove to consumers with the best price and does not damage the farmers, on the other hand, *tanicengkeh.com* also provides experience and knowledge for clove farmers.

1.1 Problem Identification

Based on the background above, the problems of this research are as follows :

1. What are the problems faced by clove farmers in Buleleng Regency?
2. How the implementation of *tanicengkeh.com* website as a strategy to increase clove farmer's income in Buleleng Regency?

2. Theoretical Review

2.1 Marketing

The process by which companies create value for customers and build strong customer relationships in order to capture value from customers in return. [4] "Marketing is the process of identifying, creating and communicating the values, as well as maintaining relationships that satisfy the customer to maximize corporate profits". [5] Some definitions of marketing are expressed by some experts, it can be concluded that the marketing is a processor function of the social organization in the activities of the business which aims to distribute goods to satisfy consumer needs. They are two kinds of marketing, as follows :

1. Online Marketing

   Online marketing is a part of the e-commerce company, namely for communication, promotion, and selling goods and services over the internet. Online marketing is the application that runs the online booking process to help the companies. [6]

2. Direct marketing

   "Direct relationship with consumers individually is targeted carefully to grab the immediate response and achieve a lasting customer relationship". [7] In other words, direct selling is a direct communication with the individual customer who shot carefully both to obtain an immediate response or build a long customer relationship. In the direct marketing channels typically use channels directly to reach out and hand over the goods and services to customers without

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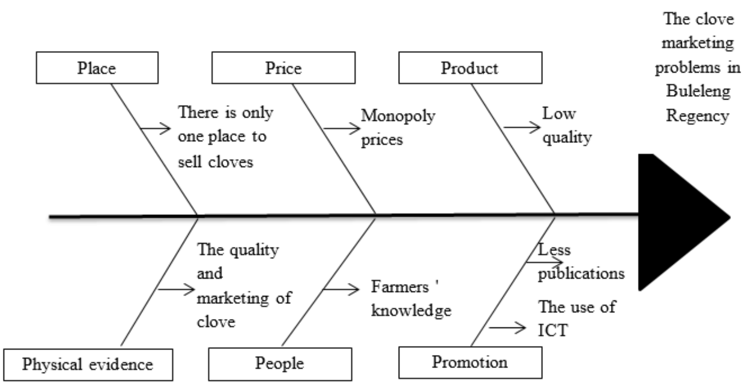
intermediary marketing. That channel includes direct mail, catalogs, telemarketing, interactive tv, internet sites, and others.

3. Research Method
Data Collection techniques using qualitative methods in the form of in-depth interviews, where the data comes from one of the farmers in Buleleng. Data processing was carried out by descriptive analysis and analysis of fishbone diagrams. Fishbone analysis diagrams are used at the problem identification stage to determine the cause of the emergence of the problem. The type of data used includes primary and secondary data. Primary data is obtained through observation and interview with the object of study. Secondary data obtained from various credible sources include printed books, journals, and articles, official local and international websites.

4. Result and Discussion

4.1 Problem of Clove Farmers Development in Buleleng Regency Use Fishbone Diagram
Preventing factors to develop the clove farmers in Buleleng Regency can be outlined as follows: 1) Product, still the difference quality clove which causes problems are complained by clove farmers. 2) Price, the price is set by the middleman for farmers have difference high quite against the selling price of the middleman to large merchants. 3) Place, clove farmers do not have a place to sell the results of cloves except in middleman, so the middleman has authority to determine the price of cloves. 4) Promotion, the absence of information is regarding the sale of clove in Buleleng Regency, so after the middleman buys cloves from farmers next middleman sell the cloves to the cigarettes factories and it happens monopoly price. 5) People, the farmers is lack of knowledge, so there are still many cases of a failed harvest. 6) Physical Evidence, the quality, and marketing of clove are still needed improvement in order to increase farmers income.



Source: Author's Analysis

Having outlined the various factors cause-related marketing barriers Buleleng Regency, the next step is to know the main factors (potentially) the most dominant of the various problems have been described. Focus group discussion be steps to knowing it. The results form the conclusion that the most dominant factor namely the promotion is still low, the lack of publication, and use of technology.

4.2 Implementation of Tanicengkeh.com as a means of Clove Farmers Marketing in Buleleng Regency

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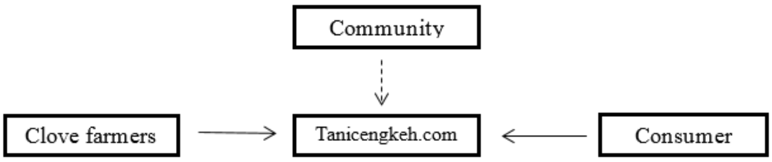

Figure 2. The Clove Marketing Schemes Through The Website *Tanicengkeh.com* Source: Author's Analysis

Based on figure 2 above, can be explained as follows: 1) farmers who have joined *tanicengkeh.com* reported sales of cloves to the website *tanicengkeh.com* and then managed by the community. 2) Consumers buy cloves belong to farmers who have been managed by the community through the website *tanicengkeh.com*.

4.3 Implementation of the Tanicengkeh.com as a Means of Learning the Clove Farmers in Buleleng Regency in Using Synergy Pentahelix

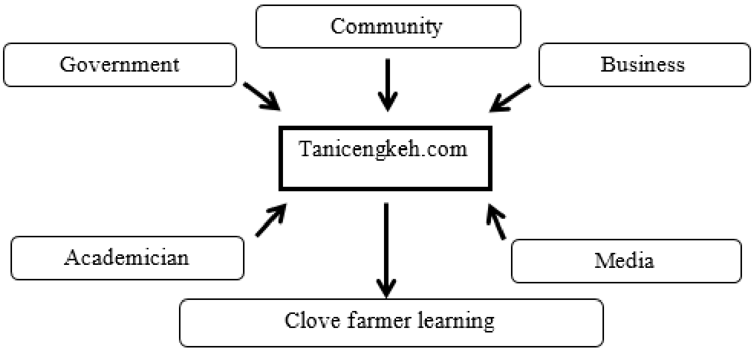

Figure 3 Learning Scheme for cloves farmers through the Website *tanicengkeh.com*
Source: Author's Analysis

Based on Figure 3 above, can be described as follows; 1) farmers who have joined the *tanicengkeh.com* can access the material which is according to the problems being experienced through the website *tanicengkeh.com*. In addition, there are spaces consulting for farmers who are still having problems from planting to the marketing process. In order to make the process run smoothly then needed synergy between stakeholders namely of Academician, Business, Government, Community, and Media or referred to as synergy pentahelix:

1. Academician, through the experience and the capacity of the scientific societies, is expected to collaborate in undertaking Research and Development of technology and marketing.
2. Business, partnering with clove farmers from other regions.
3. Government, include local governments and ministry-related acts; 1) Regulation Role, the form of marketing policy oversight, 2) Allocation Role, related distribution experts, technology, and infrastructure.
4. Community, act as a catalyst through the event organizers as well as the manager of the website *tanicengkeh.com*
5. Media, serve as middlemen to communicate towards the community about the existence of *tanicengkeh.com* as a platform to market their produce.

4.4 Tanicengkeh.com: Clove Farmers Welfare Development Platform in Buleleng Regency

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Tanicengkeh.com is a clove farmer welfare development platform in Buleleng Regency online. Creating and maintaining websites at once are carried out by the Community. Clove farmers can do marketing and get learning after fulfilling the requirements as follows; 1) Register by filling the form has been provided online on the website *tanicengkeh.com*. 2) Verify the data by uploading a photo and identification card

5. Conclusion

The concept of farmer development in the area of Buleleng Regency is built on the basis of potential local resources that have not been utilized to its full potential especially in the process of distribution of products and the quality of human resources is still low. The use of E-commerce in the form of *tanicengkeh.com* be important applied using empowerment technology. The first step is done by identifying the factors that impede the development farmers in the area of Buleleng Regency, so its measures can be determined. Next steps the stakeholder synergy (Academician, Business, Government, Community, and the Media) to optimize the various potential especially in improving the quality of human resources who will then produce a strategy. More than that, it can be used as a reference for the development of the region with the concept of empowerment technology in other Indonesia territory.

6. Recommendation

The advice in the writing of this website is the application of *tanicengkeh.com* in helping to market the clove and learning to give farmers necessary synergy between stakeholders. The Government need to endorse and help promote the website *tanicengkeh.com* in order to replace the middleman position in society. Community and the media need to do such an approach that the middleman does to communities faster get to know website *tanicengkeh.com*. Academician and business are required to provide learning to the clove farmers. With the synergy of the stakeholders then the website *tanicengkeh.com* can help increase the income of clove farmers and welfare increases.

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RONGSOKANKU.COM AS A SOLUTION TO REDUCE WASTE AND IMPROVE THE WELFARE OF SOCIETY

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Abstract

Garbage has become a thorny issue in various parts of the world, including Indonesia, Surabaya is one of the largest cities in Indonesia. Based on the data of the Central Bureau of Statistics (BPS) in 2016 the production of the most trash was on the island of Java, such as Surabaya. In the year 2015 production waste in Surabaya of 9,475.21 cubic meters and increased to 9,710.61 cubic meters in the year 2016. In addition, the plastic garbages are one of cannot be thrown away and already bad for the environment. The plastic usually ends up in the sea and polluting the sea. This causes health risks for animals and also affecting in our food chain and could end up in food that we consume. The purpose of this writing is to resolve the waste problem faced by Indonesia currently by transforming waste into items of value economically through the website rongsokanku.com. rongsokanku.com also be educational media for society to be able to manage their waste independently and marketing it online. The application of this website can be used as a solution to increasing awareness of the dangers of plastic waste and also can generate profit for society. This paper is based on library research presented in descriptive tabulation and supported by some of the literature relevant to the problems examined. Data processing technique and descriptive analysis. The application of rongsokanku.com website can be used as a solution to reduce waste and improve the welfare of society.

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1. Introduction

The environment is the unity spaces with all objects, resources, circumstances, and living creatures, including humans and behavior that affect human life and well-being of humanism and other living beings (KBBI). In the measurement of the level of health of a community environmental factors occupy the topmost percentage of 45 percent, 30 percent behavior factor, 20 percent of the waiter factor, health and genetic factors only by 5 percent (Hapsari, 2013). Waste becomes a clasic problem in Indonesia. According to law No. 18-year 2008 litter is the rest of the everyday activities of humans and/or natural processes that shaped solid. According to (Purwaningrum, 2016) composition of the largest garbage landfill in addition to 70 percent organic waste there is non-organic rubbish that is plastic waste amounted to 14 percent. The estimated amount of garbage continues to grow in Indonesia in 2019 by reaching 68 million tons of trash, and plastic waste is expected to reach 9.52 million tons. In addition, the classification of waste in General, the waste may be classified specifically. Surabaya for example, the amount of garbage is not proportional to the number of the available landfill. As a result, the garbage

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build up does not completely out at the corners of the city. The average rate of household garbage in the subdistrict of Sukolilo Surabaya is 0.38 kg/person in a day with the composition of the waste is dominated by the trash can be composted, plastic, and paper. The density of household garbage in the Sukolilo Sub (Surabaya) is 146.02 kg/m3 (Hapsari and Harimurti, 2017). Governments city of Surabaya formed a community Waste Bank for waste management efforts in the city. There is nine Waste Bank in Surabaya which has customer more than 500 people and reaches a turnover amounting to Rp72 million per month (Tanuwijaya, 2016). In addition, the city of Surabaya was already holding large programs are themed health and hygiene. Surabaya green and clean is one program that invites all citizens of Surabaya to participate in waste management and creating a livable environment (Kumalasari, 2015). With the various efforts to create a clean environment, Surabaya is not fully independent of the impact posed by the waste. These problems of pollution, health, and beauty (aesthetics).In addition to the environmental pollution of garbage also health badly. 53.33% of the living surroundings landfill suffered health problems during his stay in the landfill environment. Disorders that often felt was diarrhea, respiratory, and dizziness (Fidiawati and Sudarmaji, 2014). Waste is potentially giving effect to health is B3 garbage, hazardous materials and toxic. 3B is a waste such as batteries, lamps, electricity, electronics, packaging of pesticides, bleach clothing, floor cleaners, paints, and the rest of the drugs (Iswanto, 2016). Most of the garbage (94%) are managed by way of on-site (hoarded or burned on the yard) and the rest is dumped in rivers or the vacant lot (Setiadi, 2015).

The role of the Waste Bank and creative industries are made of garbage still has problems in marketing activities. The emergence of E-commerce makes the give solutions in waste management with effective and efficient. In addition, the sophistication of information technologies is accelerated in an attempt to waste management. Based on the above exposure than needed a concept of empowerment of the economy and the maintenance of the environment. It needs for renewal that is realized through a touch of heart culminate in creative and innovative action. There are the existence of Waste Bank and recycling, so it is a small gap that can be magnified through the action of the visionary. It looks objective and realistic, as it would complement the capabilities of the resource Waste Bank that can synergize with the idea of Rongsokanku.com.

The research problems: How can the mechanism the Waste Bank for waste management in Surabaya? Why urgent Rongsokanku.com applied for the Waste Bank in Surabaya city to enhance the well-being of the community?

2. Theoretical

2.1 Understanding of waste

Trash is all waste generated by human activity and animal-shaped solid sludge, liquid or gas that is discarded because it is unneeded or unwanted again. Although considered useless and undesirable, but sometimes these materials can still be utilized again and made raw materials (Padmi and Damanhuri, 2010). Based on the 1945 Constitution article 1 Garbage is the everyday activities of humans and/or natural processes that shaped solid (bphn.go.id).

2.2 Types of Waste

According to the (fadmi and Damanhuri, 2010), there are some activities that lead to the existence of a source of waste in the industrialized countries, this type of trash or deemed a kind of garbage, grouped by the source as the rubbish settlement. The type of garbage that caused, among others, food scraps, paper, cardboard, plastics, textiles, leather, wood, garden waste, glass, metal, second-hand household hazardous waste, and so on. Second litter from a commercial area that includes shops, restaurants, markets, offices, hotels, and more. The type of garbage that caused, among others, paper, cardboard, plastic, wood, food, glass, metal, toxic and hazardous waste, and so on. Therefore the garbage from institutions i.e. schools, hospitals, prisons, the seat of Government. The types of waste that posed the same as the type of the garbage in the commercial area. In addition to the trash of everyday activities

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by turns out development projects also produce waste that includes the creation of new construction, road repair, and others. The type of garbage that caused, among others, wood, steel, and concrete. In addition, Agricultural activities also generate this type of garbage, among others, the rest of the food is rotten and the rest of the farm.

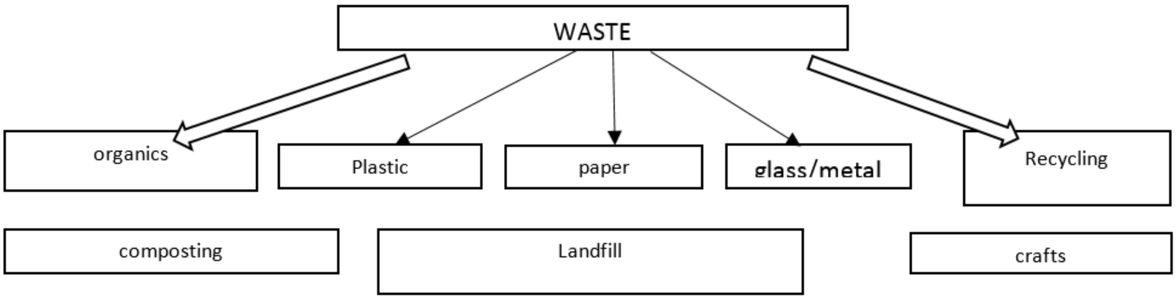

FIGURE 1. Scheme community empowerment in waste management

According to Rizal (2011) trash can be classified into several groups based on origin, namely;
1. Domestic Garbage, it comes from the neighborhoods or housing
2. Commercial Trash, it resulted from the environment trade activities such as shops, restaurants, restaurants, food stalls, markets, and supermarkets;
3. Industrial Waste, it is a by-product of this industrial activity strongly depends on the types of activities the industry itself;
4. Natural and other Junk, it can be either leaf, the rest of the natural disasters and so on.

2.3 Empowerment Garbage

Surabaya is the big city after Jakarta and Bandung which had problems with the handling of waste. The Mayor of Surabaya has already made a regulation which is quite ideal to tackle litter. Local regulations about waste management issued earlier, and it is less effective to tackle the problem of rubbish in Surabaya. Based on BPS data 384 city that raises the litter of 80,235.87 tons in a day, handling the garbage transported and dumped into the Landfills was of 4.2%, which burnt of 37.6%, which dumped into River 4.9% and no unhandled error of 53.3%. (Source: Department of hygiene and RTH Surabaya).

FIGURE 2. Volume of waste in Surabaya

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Empowering the community in tackling the problems of waste management are planned and structured is one of the common approaches to do in the area. This is in line with the observations Nurhidayah (2017) that there are 3 stages to execute the community empowerment in waste management. These three stages are (1) the establishment of the Executive Board; (2) the Division of performance and (3) technical community participation. From some of the ideas in the empowerment of the garbage in the city of Surabaya using the approach by relying on Bank system waste and landfill in its management.

3. Reasearch Methods

The research was conducted using a descriptive qualitative approach. Qualitative research is research that his findings could not be completed through the exchange of statistical procedures as well as ways of quantifying (the matter of) other (Leksono, 2013). This research is a descriptive analysis of this type of research, i.e. research that seeks to explain or describe events that occur on objects of research in the later described, analyzed, and presented in such a way, so being a systematic overview (Suharto, 2004). Types of data used in this research are secondary data. Secondary data is data that is already available and collected by other parties. Because the data used are secondary data, data collection techniques used in the search techniques through direct contact. According to kuncoro (2009), It is the search data through direct contact is the researchers use computer terminals and can search for the required data directly. The technique of sports data using qualitative descriptive patterns. Is a descriptive qualitative data processing to a behavior, phenomena, events, problems, or certain circumstances which became the object of investigation the results of his findings in the form of meaningful sentence blurb that describes a certain understanding (Leksono, 2013).

In this study, the method of data collection used a qualitative approach and through direct contact. The qualitative approach in the form of interviews and observations. For secondary data types, data collection techniques used are search techniques for data through direct contact. Data processing technique in this paper uses qualitative descriptive patterns. The pattern is a descriptive qualitative data processing to a behavior, phenomena, events, issues or circumstances, which became the object of investigation the results of his findings in the form of meaningful sentence blurb that describes a certain understanding.

4. Result and Discussion

4.1 An Overview Of Waste The City Of Surabaya

The city of Surabaya is a metropolitan city after the capital city of Jakarta, as well as the capital of East Java province. The city of Surabaya is famous as the largest city in Indonesia with a population of 2.9 million in the year 2016 (BPS Surabaya 2016). Therefore, it is relatively a lot of implications for the production of garbage in a year. Department of Hygiene of green open spaces (DHGOS) Surabaya city mentions that in 2016 the amount of garbage in Surabaya as much as 1,500 tons. Surabaya local Government already seeking in tackling the problem. One of the indicators that can describe a lot of garbage in the city of Surabaya is volume the amount of garbage over the years either inorganic or organic waste. Nowdays, the amount of organic waste is to reach 60% and 40% inorganic in Surabaya during the period 2014-2017 indicate trends fluctuating. According to data from the Department of Hygiene and health of the city of Surabaya, the amount of garbage was recorded in the city of Surabaya in the year 2014 reached 1,400 tons of garbage, while in 2015 rising to become 2000 tons, and in 2016 dropped back into 1,600 tons.

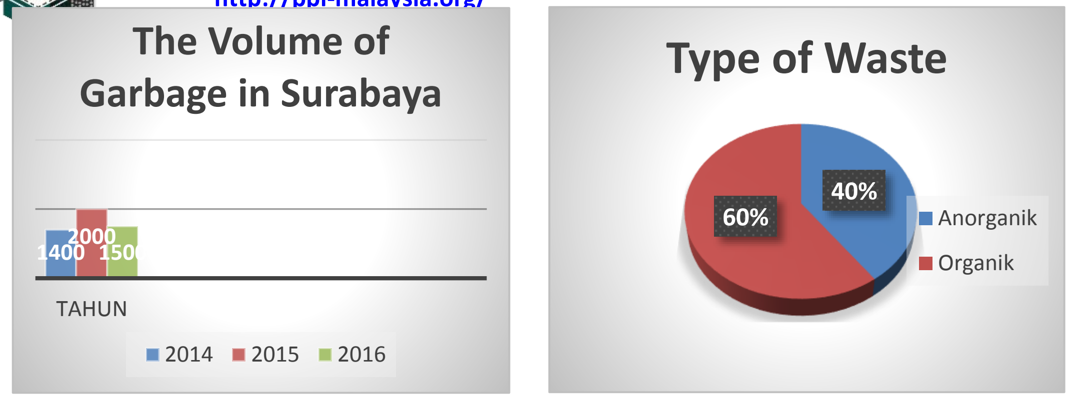

Figure 3. Volume of Garbage and Type of Waste (Source BPS Surabaya)

4.2 Waste management in Surabaya

The addition of the volume of garbage continues to grow every year. It making the government in Surabaya had to find a solution. In this case, the enforcement of the Bank's efforts in tackling the waste into the trash the city of Surabaya. In such situations, the Bank could be expected Trash the best solutions in waste management in the city. However, during the passage of the Bank Trash has not been fully resolved the problem. Because of the buildup of trash in the Waste Bank add to the problems in waste management efforts. In general the contributions of the Waste Bank did not effective yet role in waste management. The problem is in the city of Surabaya, there are only 3 places the end of the process (landfill) which is actively operates. However, during 3 years, the amount of garbage grew.

Routine activities done during this Waste Bank only place garbage collection from costomers. The remaining waste is not managed the Bank's Waste, so it will eventually be collected in the landfill. The role of the Waste Bank is getting obstruc cause difficulties to conduct waste management properly. In the end, the Waste Bank will not operate anymore, because of the litter build up that is not managed to cause problems. In addition, not only the Waste Bank but also approach 3R (Reduce, Reuse, and Recycle) have been also done by the Government. Recycling is the process of processing the returned goods are considered already has no economic value again through physical or chemical processes or both. Thus it obtained a product that can be used or traded. Recycling (recycle) waste can be differentiated into four ways namely primary recycling, the recycling of secondary, tertiary recycling and recycling quarter (Purwaningrum, 2016).

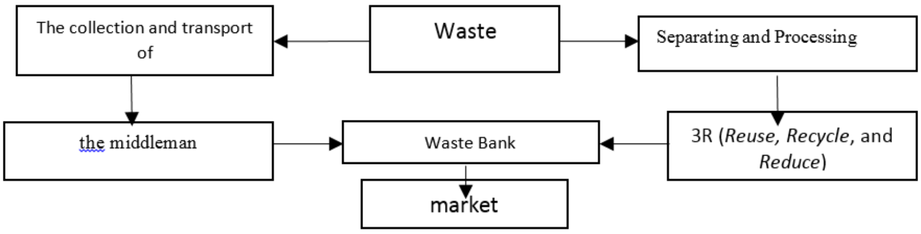

Figure 4. Scheme of waste management in Surabaya

4.3 The mechanism uses Rongsokanku.com In waste management city of Surabaya for the welfare of the community.

Rongsokanku.com is the online platform based e-marketing which is intended as a means of promotion and marketing of waste management either pre or post recycle. Rongsokanku.com acts as a community empowerment programs innovation of community the previously associated more done face-to-face and not sustainable. Rongsokanku.com used the smart method of trading that focused empowerment management trash in the societies, in this case, the offender Manager while users with e-based marketing through website platform that can connect sellers with buyers. The process of trading until the transaction is conducted online through those pages. Rongsokanku.com will team up with Waste Bank and creative industries to get the data Bank's Waste and recycling that perpetrators would be a target of empowerment, cooperation also in the form of training and marketing with Rongsokanku.com before entering directly into the world of Trading. The customer and the perpetrators of the recycling already received training. It was given access to the use of the Rongsokanku.com, and it is connected to the world of trading which will become a place of promotion and marketing. While customers and principals of recycling already recorded or wishing to obtain facilities Rongsokanku.com and then register online on the page that has been provided and was able to enjoy the service.

The training program will run from 1 month to each Member Rongsokanku.com. The explaination of the material and the training is done through the website by the respective Chairman of the community. Thus, it is not just the waste management are getting better, but also provide employment to improve the welfare of life supported the existence of real mutual interactions participates in waste reduction efforts in so can encourage an interest in entrepreneurship. Rongsokanku.com is referred to as trading smart innovations, namely the incorporation of learning systems and e-marketing enables giving facilities the two parties (the Waste Bank and creative industries) are equally striving in waste management in real terms and increased access to finance for customers and industry peers.

4.4 The registration process At Rongsokanku.com

At front page web Rongsokanku.com contains features the introduction of Rongsokanku.com, easy steps to recognize the work system Rongsokanku.com and info product sales. There is also a menu list for customers who are interested in following the program. as well as the menu entry to the system for those who already have a good Bank account as well as the perpetrators of the Recycling Bins. At this stage the Bank's Waste and recycling industries do list at Rongsokanku.com by filling the platform data has been provided on the page Rongsokanku.com. After that, they will receive the registration verification through the no cell phone that has been filled in. The next stage i.e. does log in by using the same name at the time of registration and the password has been entered before.

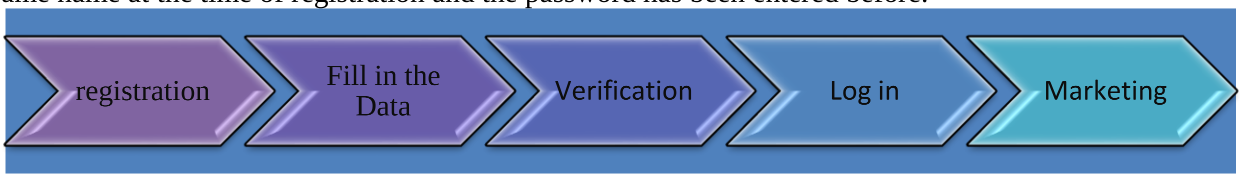

FIGURE 5. Process Source: Author's Illustrations

4.5 Rongsokanku.com Important Applied Bank Trash and Recycling Industry Manager city of Surabaya to enhance the welfare of society

To face of the industrial revolution 4.0, Surabaya has a great opportunity to be able to benefit from the implementation of Rongsokanku.com for improving the well-being of the community with an effective waste management methods with innovative ways. There is no great need to fund budgeted for managing garbage Surabaya which became a source of welfare society of Surabaya. Simply by mastering information and communication technology, then the Surabaya can address the problem of waste management with good and true. The Bank's Waste and recycling industries the majority do not have a background in higher education. Most of them only as primary and secondary school graduates first. Consequently, they are hard to follow the development of information technology to solve a variety of problems. Perhaps, could still use some help from their children or people who are more eloquent but will be much better when they know themselves for personal activities. So that it can increase the level of modernity the Bank's trash and recycling industries. Therefore, Rongsokanku.com is present to

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provide solutions in employee administration more sophisticated garbage in the midst of the development of the industrial revolution. This makes the program through Waste Bank and recycling industries Surabaya which have a level of understanding of the technology as well. In addition, it can increase societies welfare level and improve the environment healthier. When the customers and the creative business entrepreneurship of the recycling industry benefited economically and socially, then the existence of the waste can be managed and utilized, so that it can bring up a smarter regeneration in managing waste, and can eventually reduce the number of unemployment in Surabaya.

5. Conlusions and Suggestisons

5.1 Conlusions

Waste management method is still one of the obstacles faced by the Bank trash, recycling, industry offender nor the city government of Surabaya. Solutions to these problems, namely waste management innovations in Surabaya city accompanied by granting facilities access marketing recycled or waste recycling container with not capable to reach all elements of society online smart marketing-based like Rongsokanku.com. Rongsokanku.com expected to be a means of managing and marketing a sustainable waste and is able to provide the independence effort for all elements of society in the future.

5.2 Suggestisons

To support the improvement of waste management in the city of Surabaya, Governments also need to innovate along with the determination of the environmental maintenance regulations. Implementation of the innovation can be done hand in hand with innovations developed by Nations such as the existence of online innovation in the form of Rongsokanku.com. In addition, the most important thing i.e. awareness throughout the community about waste management elements well and wisely so that it was able to realize a good environment and improving their well-being.

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BIKO.ID : OPTIMIZING THE POTENTIAL OF COCOA BEANS TO INTEGRATED THE DIGITAL ECONOMY BASED AND COCOA INDUSTRY IN INDONESIA (CASE STUDY OF COCOA FARMERS IN LOMBOK)

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Abstract

Cocoa is a plantation commodity whose role is quite important for the national economy, especially as a provider of employment, sources of income and foreign exchange. In addition, cocoa contributes 9% to GDP. On the other hand, there are fundamental problems to date that have not been resolved, especially those faced by farmers, namely that there is still asymmetric information that makes farmers' income maximum productivity. Asymmetric information about the price of cocoa has resulted in a lack of farmers' income, in addition, there is still a lack of MSME players in managing cocoa beans because of lack of adequate capital (machinery, production costs) is a major problem in the development of the cocoa industry in Indonesia. The purpose of this research is to optimize the rapid development of technology to increase the income of farmers and business people in the cocoa industry through the optimization of the role of BIKO.id. Biko.id serves to facilitate farmers in marketing and to attract investors to invest in order to facilitate the financing of MSME processing from cocoa beans. Biko.id also functions to make it easier for MSME players to get raw materials (cocoa beans) to be processed into packaging forms (dry snacks, powder, etc.), especially for domestic farmers. This paper is a literature study that is presented descriptively and is supported by several kinds of literature that have a lot of relevance to the problem under study. In addition, it is combined with face-to-face relationship (In-depth Interview) data to study objects. Data processing techniques were carried out by descriptive analysis and Critical Factors Success (CFS) analysis. Of course, in the application, some support is needed from various parties, including investors, academics, practitioners, governments so that the implications can arise by sustainability. Through the optimization of SMES pplications or websites.

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1. Introduction

One of the most developed agricultural business sectors in Indonesia is Cocoa. Indonesia has an area of cacao plantations recorded at 1.4 million hectares with a production of approximately 500 thousand tons each year, placing Indonesia as the world's third largest producer country after Ivory Coast (Ivory Coast) and Ghana. Ivory Coast, with an area of 1.6 Ha and production of 1.3 million tons per year and Ghana of 900 thousand tons per year. So it is natural that Indonesia is said to be one of the main cocoa producing countries in the world. (Bappenas.2016). Cocoa Is one of the plantation commodities whose role is quite important for the national economy, especially as a provider of employment, income sources and foreign exchange. The proof is in 2015, the agricultural sector including cocoa contributes 9% to Gross Domestic Product (GDP). (PerkebunanNews.2015).The potential for cocoa development in Indonesia is very promising if managed properly starting from cultivation, post-harvest, processing industry, packaging to distribution and marketing processes. (Supristiwendi. 2017). the proof of its production during the period 1980-2016 (Estimated Figures), Indonesian cocoa production also fluctuated and

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tended to increase. In 1980 Indonesian cocoa production amounted to 10,284 tons than in 2015 amounted to 661,243 tons or an average increase of 13.99% annually. From the estimation results of the Directorate General of Plantation, 2016 cocoa production will increase by 15.00% compared to 2015. The highest production during the period 1980-2016 occurred in 2010 which amounted to 837,918 tons. In the 2012-2016 period or over the past five years, the average growth of cocoa production increased by 1.63% every year. However, the increase in cocoa production was not followed by an increase in the income of cocoa farmers. One of the farmers and cocoa work in the hamlet in Senara, North Lombok Regency which has the potential to work cocoa and the cocoa processing industry as well as cocoa village tours with Kampung Coklat Senara. the chocolate village as the main container for the economic drive of the senara community, precisely Senara Hamlet, Bentek Village, Gangga District, North Lombok, NTB. Kampung Coklat Senara has a lot of potential natural resources that are unique and suitable to be developed into nature such as cocoa, an area of 1 hectare of cocoa, waterfall tours, and good natural attractions developed, campsites, stalls that provide plantation produce cocoa which can be used to help produce cocoa and fermented cocoa beans.

However, there are still found some obstacles in the development of the chocolate village in order to increase the income of the people in the company, among others: Not yet optimal Availability of Support Chocolate village tourism attractions like 1) Lodging (Homestay) that has not been optimally optimized. Besides That, The Most Important Constraints Are 2) Not Considered by Structural Planning either in terms of Marketing of Tourism Villages and Plantation Products. Problems of Structural Planning in terms of Marketing Include: a) Promotion of Cocoa Beans that have not yet been processed and which are still traditional, that is, relying on promotion from mouth to mouth and maximally maximized natural tourism. While the constraints of the cocoa bean system where b) access to capital for farmers to process cocoa beans which are various products and to support tourism are still not optimal. c) there are still limited partnerships between cocoa industry entrepreneurs and cocoa plantation farmers. d) trading system of cocoa beans that are still long (dominated by middlemen). Of the problems above, the main problem faced by the chocolate village is the marketing of cocoa beans. If the marketing of cocoa beans is not successful, all efforts are in vain, in other words, the production costs are not met. This problem is often faced by farmers where the price of their agricultural products is very low and even rejected at the market (Daniel, 2002: 25). This is because Indonesia is still a price taker in the trade of world cocoa beans and the classic problems that have not been resolved to date are middlemen so that it makes it difficult to increase the income of farmers and cocoa entrepreneurs. Therefore, an alternative solution is needed especially in the current Industrial Revolution 4.0 era.

On the other hand, technological developments that are characterized by easier access to information are increasingly easy, encouraging people to be aware of technology. Even in the millennial era today, the internet and access to social media place themselves as basic needs must be fulfilled by every millennial generation. The data shows that with the population of Indonesia reaching 260 million, the penetration of internet users reached 126 percent or around 371 million. This means that the capacity of internet users is above the overall Indonesian population. 70 million of them are internet users in the form of social media, and 132 million of them are active internet users. (Indef.2017)As a first step to accelerate the development of the cocoa plantation sector in Senara hamlet, it can be done through the Biko.id website. Biko.id is an application website that provides easy marketing for cocoa bean farmers and brown SMEs because people in Senara hamlet are not aware of economic digitization. So that here the author as a young generation will provide assistance to farmers and Brown SMEs in the form of websites and mentoring of course. The development concept of Cocoa Plantation certainly requires a small budget. If we only rely on the local government of North Lombok Regency, NTB, which only

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relies on the budget and regional balance, certainly cannot afford to realize the development of the Chocolate Village.

2. **Identification of problems**

The formulation of the problem that will be concluded :

1. Why is there an urgency to facilitate website access and assistance to farmers?
2. General Description of the Cocoa Business Model (Biko.id) as an initial step for farmers and cocoa businessmen to face the 4.0 IndustrialRevolution?

3. Theoretical Commentary

3.1 Understanding Application

Before we discuss further the use of applications as a marketing medium for cocoa beans in increasing the income of farmers and cocoa business people in the village of chocolate senara it would be better to know what the application is. An application is a subclass of computer software that utilizes the ability of the computer directly to perform a task that the user wants. Besides computers, the application is also on a smartphone. Besides that, the application also often means a unit of software that is made to serve the needs of several activities (Berlianty Destiana Tania.2015)

3.2 Understanding Marketing

According to Kotler in Muttaqin (2011: 104) marketing is a social and managerial process where individuals and groups get their needs and desires by creating and offering products that are valuable to others. Modern marketing systems carried out by tourism and non-tourism companies are now utilizing the digital world.

3.3 Understanding Cocoa

Cocoa (Theobroma cacao L.) is one of the leading commodities of the plantation sub-sector. Cocoa commodities consistently act as a source of foreign exchange which contributes very important to the structure of the Indonesian economy (Arsyad et al., 2011). In terms of area, cocoa is the fourth largest for the plantation sub-sector after oil palm, coconut, and rubber. From an economic perspective, cocoa contributes the third largest foreign exchange after palm oil and rubber (Hasibuan et al., 2012).

3.4 Application as a marketing medium

According to Supardi (2009), The benefits and advantages of using e-commerce are media promotion in order to increase sales volume, both for online and conventional sales. In addition to these advantages, it turns out that the results of several studies show that the effectiveness of e-commerce use in boosting the increase in sales volume and promoting industrial products is quite high (Alexander, 2002; Supardi, 2009).

3.5 Industrial Revolution 4.0

The industrial revolution 4.0 is the fourth phase of the history of the industrial revolution that began in the 18th century. According to Prof. Schwab, the world has experienced four industrial

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revolutions. The industrial revolution 1.0 was marked by the invention of a steam engine to support production machinery, trains, and sailing ships. Various work tools that originally depended on human and animal power were then replaced by steam engine power. As a result, production can be multiplied and distributed to various regions more massively. However, this industrial revolution also has a negative impact in the form of mass unemployment.

4. Research method

Data collection techniques use two methods, qualitative and quantitative. The qualitative technique is the in-depth interview, where the data comes from the stacking, The Owner Kampung Coklat Senara, the surrounding teenagers or workers in the village of chocolate senara. While quantitative techniques come from online information media. Analysis of business success determinants (CSF) is used to structure the structure of information needs in the management hierarchy. Each manager has specific information needs, is influenced by the level and scale of responsibility, as well as the type and scale of organizational resources that he uses (Witarto, 2004). Key factors of success and inhibitors are the factors that most influence the ability of industry members to succeed in the market. These factors can be in the form of specific elements of the strategy that can be in the form of information resources, information technology system competencies, competition capabilities created by information technology systems that can make the company have a strong position in the market (Jogiyanto, 2005). As for how to calculate weight (weight) based on whether or not the component is important is based on input from the management level. Charging weights follows the following rules: 1 = not important, 2 = less important, 3 = rather important, 4 = important, and 5 = very important. While the method of calculating the rate (rating) based on the frequency of filling in the component is that there are many respondents who choose the "CSF" statement or answer the existence of the component. The filler rate follows the following rules: 1 = a little, 2 = moderate, and 3 = a lot. CSF sequence from the highest point to the lowest point.The type of data used includes primary and secondary data. Primary data was obtained through observation, interviews with study objects (community) and The Owner of Kampung Coklat Senara. Secondary data obtained from a variety of credible sources include printed books, journals, and articles, official local and foreign websites, which are then identified, analyzed, and interpreted so that they can be accounted for.

5. Results and discussion

5.1 Urgency to provide easy website access and assistance to farmers in the industrial revolution era 4.0

The availability of a system or proper internet access is not only always the responsibility of the government to intervene to overcome these problems. More than that armed with business creativity and innovation can be done in the era of the digital industry today. One of them is the digital cocoa industry. Moreover, we will enter the industrial revolution era 4.0 where all economic activities must involve internet technology, this is an opportunity to develop the business of farmers and SME actors digitally. The industrial revolution 4.0 opened wide opportunities for anyone to advance. Information technology that is easily accessible to all corners causes everyone to be connected to a social network. Information floods as predicted by Futurologist Alvin Toffler (1970) became a reality found in the current industrial revolution era. This abundant information provides great benefits for the development of science and the economy. One of them in the Senara Chocolate Village is administratively located in Bentek Village, Kayangan District, North Lombok Regency, NTB. Senara Chocolate Village has the potential to develop cocoa beans in today's digital era. A stringed chocolate village was established in March 2018 which can be said as a baby tour, however, in July 2018 it has attracted

160 local and foreign tourists with a total monthly net income of Rp. 5,000,000 and an income of Rp. 5,000,000 / month help the economy of the surrounding community, especially the youth who work in the village of chocolate senara. The natural condition of hilly and natural areas adds to the beauty of the chocolate village. In addition, the Senara Chocolate Village Region has other potentials such as:

1. Senara Chocolate Village

In the vicinity of the chocolate village, Senara has a view of cocoa trees that are no less interesting than other natural attractions in Indonesia. The melodious voice of birds and the natural atmosphere that is still natural. Usually, in the brown canyon area, it is a meeting place for both the government and the private sector while enjoying the chocolate powder processed by the local community.

2. Natural tourism

Around the village area, Senara also provides spots to take pictures with typography of hills that resemble paintings from a distance and added with a beachfront deck of Lombok which is the sweetener and the beautiful Waterfall under the village of Chocolate Senara.

3. **Rinjani Mountain**

Still from the administrative village of Chocolate Senara, From the Far it.we can enjoy the sights of Mount Rinjani. Usually, if you want to see beautiful scenery in the morning, where the view of Mount Rinjani will be decorated by Sunrise from the east

4. **Processed variety of ingredients from cocoa beans**

After visitors are tired of walking around to see the scenery of the chocolate village and its surroundings. Tourists can enjoy a variety of cooking menus made from cocoa beans, of course in the stalls of the brown village village owned by local residents. The dish feels even more enjoyable watching the views of Mount Rinjani and Lombok Beach from the top of the hill.

5.2 Success Factor Analysis and inhibitors of Senara Chocolate Village Using CSF

CSF or a determinant of success and inhibitor of a business is one of the activities of a company or MSME that has a strong influence on the ability of a company or MSME to achieve its objectives. MSMEs or companies usually have several CSFs.Based on the results of the analysis carried out with the CSF method shows that (1) the existence of an interactive Web can be a marketing development strategy. Score 15. (2) The use of information technology can help MSME management, a score of 12. this shows that the people of the village of chocolate senara especially the owner of the village of chocolate are aware of the importance of using technology as the best promotional media. However, there are still a number of obstacles in the development of the chocolate village tour. From the results; face to face relationship or interviews and observations to chocolate village owners and local residents there are still some obstacles including a) Product, still not optimal processing of cocoa beans and certain tour packages that can accommodate the desires of tourists. In addition, there is no serious attention from the local government to improve the area's natural tourism sector. b) Price, price problems that often occur asymmetric information, because cocoa farmers in the village of Senara still depend on brokers or middlemen so that fraud often occurs by the middlemen making a greater profit margin than the cocoa farmers. c) Place, There is no homestay facility, to support the existence of tourists who want to stay longer. Existing facilities are only a place to sit while enjoying the processed cocoa products manually in berugak like a shelter similar to the rice fields. d) People, the processing

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skills of cocoa beans and innovation to process cocoa beans are still very low. Besides that, the skills to manage the village tour of chocolate are still very low. Among them are foreign language skills. However, there is an innovation in the processed industry which is processed by cocoa beans that attract tourists to be used as souvenirs even if processed manually. e) Promotion, not yet formed marketing management parties that promote the Senara Chocolate Village on an ongoing basis. In addition, the use of technology is still limited, both because of the limited provider network coverage and information technology for promotional purposes. Moreover, communication skills in foreign languages are not owned at all. f) The process, Related services to tourists/visitors in order to be in accordance with the standard of chocolate village tourism service or Nature tourism, in general, requires SOP (Standard Operational Procedure). But in reality, there is still no standardization. This becomes very urgent, given that customer satisfaction for service determines tourists to visit again. But the focus of the research of the writer in this research is on promotion issues.

5.3 General Description of the Cocoa Business Model (Biko.id)

Based on the condition of the village of the chocolate village with various kinds of potential that can support the economy of the coastal community, an alternative solution is needed to make it easier for the community and the owner of the chocolate village of skill, capital and the most important thing in digital research. Besides that, the creation of website and marketing applications is intended to provide an understanding of the importance of the concept of digitalization in the industrial revolution era 4.0. thus, if the website and application of BIKO.ID is realized and maximized, it will be able to provide more information to the wider community, both local and foreign, about cocoa products in the village of chocolate senara. server or application creation and biko.id website. This server is in the form of a website that provides explanations related to the biko.id business and provides easy information to people who are interested in cocoa beans, processing results, and chocolate senara village natural attractions. Following is the explanation of the use of the BIKO.ID application. parties who want to order must download the BIKO application at http://app.appsgeyser.com/7707283/biko. hope that with the application can help the process of ease of farmers, Bussines Men of cocoa, and lovers of cocoa in the world, especially in Indonesia.

6. Conclusion

Utilization of the application website is intended to prepare farmers and actors in the face of the Industrial Revolution 4.0, where the application website is used as a marketing and ordering medium that is expected to help increase the income of farmers and cocoa businesses, especially in the chocolate village. In the mechanism, media marketing is realized in the form of information on what is the village of chocolate, string, products, tourist spots and lodging in the village of chocolate senara. With Biko.id being an alternative solution to intensify promotion by utilizing the application website and preparing farmers and businesses in the face of competition in the industrial revolution era 4.0.The suggestion that the author will give is the research problem above:Responding to the problems of farmers and cocoa businessmen above, it takes a cross-sector synergy that helps significantly implement Biko.id innovations, among others, the role of students, local governments, academics, the role of universities and the synergy across sectors The authors hope that the Biko.id application website can increase income and be accelerating the development of the chocolate village access so as to help improve the economy of the community in the village of chocolate senara, as well as preparing the public for the current industrial revolution 4.0. and the existence of biko.id helps strengthen partnerships between businesses and cocoa

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farmers. It is also hoped that with the existence of biko.id, businesses and cocoa farmers will get capital to develop their businesses.

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THE FUTURE UNIVERSITIES-SOCIETY COLLABORATION: A SOCIETAL KNOWLEDGE MANAGEMENT ALTERNATIVES

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Abstract

This paper considers the growing globalized knowledge economy by exploring a complex phenomenon of universities and society collaboration from the perspective societal knowledge management (SKM). There has been substantial research undertaken on the role of knowledge in economic and socio-political agenda. However, researchers have not treated the role of SKM in much detail. The design of this sequential exploratory research is based on an in-depth interview and Focus Group Discussion of four faculty members from four universities and six staffs from local governmental agencies in Pamekasan regency, Indonesia. We analyse the potential knowledge collaborations between universities-society by putting Sistem Inovasi Daerah (SIDa). The findings indicated that there was a positive relationship between universities-society collaboration in the knowledge economy context. The results indicate that SKM profound the ancillary benefit of collaborative engagement in the current landscape of societal workforce. In addition, there is a need to develop an acceptable framework that systematically empower collaborative knowledge management in universities. However, the discussion of SIDA in Pamekasan regency tends to focus on the bureaucratic level, which is unacceptable in academic context that remains at theoretical level. The findings represent a further step towards development of sustainable universities-society collaboration framework.

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1. INTRODUCTION

In the current shape of globalized knowledge economy, every nation has seen increased attention to the societal knowledge management (SKM) towards university-society collaboration. At the same time, as the modern society seek progress and success to deal with constant flux, there is widespread recognition of the importance of discussion on the aspect of knowledge management (KM) in current landscape of university as a social institution. On the subject of governance, it has been widely known that university is always been challenged by societal demands for better responsibilities (Brennan, 2012). Societal Knowledge Management in the context of globalized knowledge economy is multifaceted. Although the foundation of SKM is similar with private sector of KM, the principles of SKM is to support and advance societal intents and objectives (Wiig, 2007). In a world where the production and transmission of knowledge become easier through ICT development, it is important to see the growing globalized knowledge economy by exploring a complex phenomenon of universities-society collaboration from different perspective and theoretical background.

Given the complex phenomenon fostering the modern society, nations around the world has been struggling by the potential usage of knowledge in every sphere of lives (Lytras et al., 2009). In a response to this phenomenon, Sistem Inovasi Daerah (SIDa) has been initiated by Indonesia government to enhance a strategic development plan in social and economy at regional basis since 2012. This innovation framework, however, much vaguer to define in academic context. As has already been noted, societal demands will definitely change the role of university.

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Following the increasing discussion on university-society collaboration in the knowledge society is the complexity of determinants (Bolling and Erickson, 2016; Fiaz, 2013). The extent to which knowledge management plays a role in university-society collaboration is the adoption of governmental measurements (Bektaş & Tayaouva, 2013; Saleh and Omar, 2013; Nancy and Zach, 2014). Therefore, this paper aims to comprehensively examine the role of SKM in universities-society collaboration in globalized knowledge economy context.

2. METHOD

This design of this paper used sequential exploration with qualitative approach. Finding is based on in-depth interviews with four faculty members from 4 universities and 6 staffs from government agencies in Pamekasan regency, Indonesia. In the data, collection was done focus group discussion (FGD) to reinforce the findings of the existing data in the field in order to develop regional innovation systems in Pamekasan. These studies take a critical standpoint to question assumptions within the framework of the existing SIDA. It aims to explicitly analyze the potential of knowledge-based collaboration between university-society by putting SIDA development framework and the principles of social knowledge management.

3. RESULT AND DISCUSSION

A number of trends can be discerned in the recent discussion of university-society collaboration mainly focused on the importance of partnerships, which is leveraging the governance and management of knowledge with other organizations (Brennan, 2012; Jang, 2013). It is a tendency to believe that, in the globalized knowledge economy, university has its role in the validation and accreditation of knowledge. However, the question remain is, will the longevity of recognizable form of university successfully defining its society? Who is responsible to manage university-society collaboration?

There has been substantial research undertaken on the role of knowledge in the global economic and socio-political agenda. However, researchers have not treated the role of SKM in much detail (see e.g. Käpylä, 2012; Sampangi et al., 2012). A large part of research on knowledge management towards university-society collaboration lacks clarity regarding the construction of measurements (see e.g. Bolling and Erickson, 2016; Gardner et al., 2010). What can be agreed, however, is a positive relationship between universities-society collaboration in knowledge economy context. This is an unsurprising result.

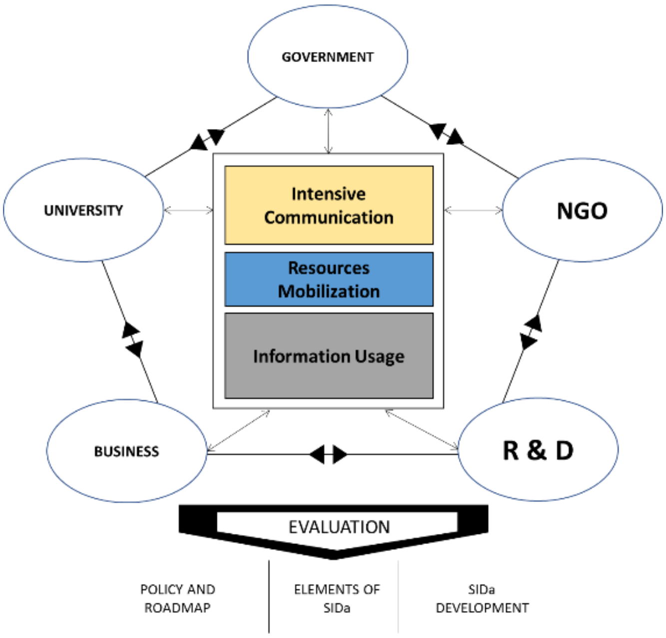

Figure 1. SIDa Collaborative Network

Our proposed model of collaboration extends that SIDa's elements by involving network as a tool of collaboration (Figure 1). Three core elements in SIDa profoundly see knowledge as object (KaO) as recallable mental objects that can be communicated on demand (i.e. books, documents, embedded software and hardware). The results of this study indicate that SKM profound the ancillary benefit of collaborative networking in the current landscape of societal workforce. However, focus needs to be shifted from mainly discussing university's role in the knowledge society. SIDa accommodates the networks as important aspect of university-society collaboration, which always been an issue in the previous research (see e.g. Bolling & Erickson, 2016; Jang, 2013). Based on the data analysis, we proposed two types of collaboration. First, substantive collaboration, this collaboration includes government role as supervisor and responsible actor in the collaboration for the innovations. Second, facilitative collaboration, it includes human resource, information technology, and fund policies in the continuation of the collaboration. What remain unclear is how to organize these types of collaboration. Therefore, there is a need to develop an acceptable framework that systematically empower collaborative knowledge management between university and society.

4. CONCLUSION

The findings represent a further step towards development of sustainable universities-society collaboration through SIDa framework. This paper can be used as a base for conceptualizing further responsibility in collaborative knowledge management towards sustainable development at national level. However, the discussion of SIDA in Pamekasan regency tends to focus on the bureaucratic level, which is unacceptable in academic context that remains at theoretical level.

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EFFECT OF ECOLITERACY AND GENDER BASED ON CONTRIBUTION OF ENVIRONMENTAL CONSERVATION

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Abstract

Ecoliteracy is a knowledge and understanding of the environment accompanied by relevant behavior in accordance with the level of understanding possessed by a person. The purpose of this study was to determine the influence of ecoliteracy and gender on the contribution of environmental conservation of Biology Education students in Universitas Negeri Jakarta. The study used ex post facto method with 2 x 2 factorial design. The technique of data collection began with the test of ecoliteracy. The technique of data analysis used two-ways ANOVA. The results show that the contribution of students who have high ecoliteracy higher than the group of students who have low ecoliteracy. Thus, ecoliteracy positively influences the contribution of environmental conservation also there is difference in the contribution of environmental conservation to male and female, but there is no interaction between ecoliteracy and gender toward the contribution of environmental conservation.

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1. Introduction

Environmental concerns have come under scrutiny since the UN Conference on the Environment in Stockholm, Sweden, on 15 June 1972. After this conference, environmental concerns have begun to become the world's attention (Panteghini and Sandberg, 2015). In Indonesia, environmental problems are preceded by the implementation of Environmental Education in various educational institutions (Nomura, 2009). One of the first educational institutions to organize learning environment education is the Jakarta Institute of Teacher Training (IKIP) which is currently known as the Universitas Negeri Jakarta.

Universitas Negeri Jakarta (UNJ) is the forerunner of the organizer of Environmental Education in higher education level. The cultivation of the concept of environmental education in UNJ since 1991 is certainly based on the expectation that students have high sensitivity and concern for the surrounding environment, both the campus environment and the environment in which they live. The reality on the ground shows that until now the UNJ campus environment is still far from the word clean. Every day there are a number of garbage piles, not infrequently can be found students who throw the garbage is not in place. Even when it rains, some areas of the campus are inundated. The problem in this field shows that environmental education that has been given to students for years has not had any real impact. The purpose of environmental education is to make students think comprehensively. Environmental education also leads to a sense of care to the environment and the sense of responsibility for the environment in order to still be enjoyed by the next generation in a sustainable manner. In this case, the entire campus academic community has the same contribution to maintain the cleanliness and hygiene of the campus. Including the lecturers, students, employees, until the janitor, both men, and women. From another perspective, gender can be interpreted as the differences between men and women in terms of values and behavior in social life (Setiawan, Budiantara and Ratnasari, 2017). The differences between men and women in the biological aspect are always used to define rights, roles, and functions within society.

Ecoliteracy or knowledge of the environment of each gender can influence the way of view and the mindset in judging something. This viewpoint that can affect the mindset of a person, in this

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study of male and female students, on attitudes and behavior, one of which is the behavior contribution of environmental conservation. When a student in a campus environment already have attitudes and caring behavior towards the environment, then they will be easier to understand how to address the environmental problems that surround it. Ecoliteracy owned by students can be a benchmark achievement of environmental education courses in the environment of the Universitas Negeri Jakarta. It can also be a consideration of policy making on the importance of environmental education lecture held in each study program.

Environmental education can basically be implemented from a variety of levels, either through formal learning at school (Ramos *et al.*, 2015; Szczytko, Carrier and Stevenson, 2018), non-formal in the community (Kney, Citrin and Clark, 2016), or informally in the family (Stern, Powell and Hill, 2014). At the University level, the problem of environmental pollution is studied only on certain faculties and study program. In the Faculty of Mathematics and Natural Sciences, Universitas Negeri Jakarta, the Biology Education study program has a special subject on Environmental Education. Students can have different ways of thinking about environmental issues by studying the material so that it will affect their contribution of environmental conservation in the community.

The form contribution of environmental conservation shown by the students is basically the result of interaction between various factors namely internal factors and external factors. External factors consist of family, school, and community, while internal factors consist of personality, gender, and sensitivity of each individual to the surrounding issues (Desfandi and Maryani, 2017). In social life, gender is include of the role in the social construction of societies that are not determined by sex, therefore every male and female should have the same rights in social life. But the physical difference makes the society perceive that male have higher degrees in the social life of the community, so both male and female rights should be equal (Ford, 2015; Robinson and Richardson, 2015). There are various ways to view gender development. Some of them focus more on factors in male and female behavior, while others emphasize social or cognitive factors (Semela, 2017).

Based on this background, this study is aimed to find out:

1. The influence of ecoliteracy toward contribution on environmental conservation in Universitas Negeri Jakarta.
2. The influence of gender toward contribution on environmental conservation in Universitas Negeri Jakarta.
3. The interaction between ecoliteracy and gender toward contribution on environmental conservation in Universitas Negeri Jakarta.

So with the ecoliteracy, it can be seen whether there are differences in the contribution of environmental conservation between male and female and also between a student with high and low ecoliteracy at Universitas Negeri Jakarta. If within the students already have an attitude of environmental care and a good understanding of the environment then it is expected to give good results also to the contribution of environmental conservation. Therefore, deep research is needed related to the effect of ecoliteracy and gender on the contribution of environmental conservation.

2. Method

This study use quantitative research paradigm by ex post facto method with the 2x2 factorial design. The location of study is in Universitas Negeri Jakarta. Respondent/data source of this study are 100 students of biology education bachelor program in semester 4 and 6 who have taken environmental education courses in the 3rd semester. Data Collection is done through questionnaire and test. Instrument of ecoliteracy is developed based on core competence of ecoliteracy which is issued by The Center for Ecoliteracy (Panteghini and Sandberg, 2015). Instrument of contribution on environmental conservation is developed based on core competence of participation and contribution which is issued by Xing (Setiawan, Budiantara and Ratnasari,

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2017). Variables which are observed in this study are ecoliteracy (X1), gender (X2), and contribution on environmental conservation (Y). Research design such as Table 1.

Table 1. Research Design The Effect of Ecoliteration and Gender on the Contribution of Environmental Conservation.

Atribute Variable		**Gender (B)**	
		Male (B1)	Female (B2)
Ecoliteracy (A)	High (A1)	A_1B_1	A_2B_1
	Low (A2)	A_1B_2	A_2B_2
Interaction		(A X B)	

3. Results and Discussion

Hypotheses were tested using two-ways analysis of variance (ANOVA). The mechanism of test is done by comparing significance value of calculation result with significance value (probability) of 0.05. The decision taken use criteria "if calculation significance value is < 0.05; then H0 is rejected", and "if calculation significance value is > 0.05; then H0 is accepted." Hypothesis test is done by IBM SPSS 17 software. Based on the calculation with two-ways ANOVA obtained the result shown in Table 2.

Table 2. Tests of Between-Subjects Effects

Source	Type III Sum of Squares	df	Mean Square	F	Sig.
Corrected Model	1456.100[a]	3	485.367	5.254	.004
Intercept	190164.100	1	190164.100	2058.424	.000
Ecoliteracy	435.600	1	435.600	4.715	.037
Gender	1020.100	1	1020.100	11.042	.002
Ecoliteracy * Gender	.400	1	.400	.004	.948
Error	3325.800	36	92.383		
Total	194946.000	40			
Corrected Total	4781.900	39			

a. R Squared = ,305 (Adjusted R Squared = ,247)

3.1. Contribution on environmental conservation in students with high ecoliteracy and low ecoliteracy

The result of a calculation with two-ways ANOVA obtained that the significant number is lower than the alpha; 0.037 < 0.05. It means the null hypothesis (Ho) is rejected and H1 is accepted. So there is a different contribution of environmental conservation between students with high and low ecoliteracy. Students with high ecoliteracy scored higher than those with low ecoliteracy. An ecologically educated person means one has the ability to make the right decisions and take action to solve the environmental problem (Schimek, 2016). In making decisions and taking appropriate action to solve environmental problems certainly requires special skills. Ecological understanding or ecoliteracy is the ability of a person to read the environmental problems objectively with the head, heart, hand, and soul (Lees, 2017). This contemplative pedagogy can foster the ability to make the right decisions to contribute more to environmental conservation.

Someone with high ecoliteracy is already at the operational level regularly evaluating the impact and taking action aimed at maintaining or improving a healthy environment. Such people demonstrate a strong and sustained sense of investment and responsibility to prevent or restore environmental degradation both personally and collectively, and will likely act at multiple levels from local to global in doing so (Etmagusti, 2010). Habits characteristic of environmental literacy mind is ingrained. They are regularly involved in dealing with the world at large.

To realize sustainable natural resources and environment management, it is necessary to support the quality of human resources, which can lead to a change in the way of view of the environment with environmental ethics through internalization into production and consumption activities, and to instill environmental values and ethics in daily life includes social learning and formal education from early on (Lees, 2017). The contribution of students and the development of ecoliteracy must be supported by the awareness of within each individual, both in the form of daily experience and in the form of knowledge embedded and applied in everyday life (Saribas, Teksoz and Ertepinar, 2014).

A student with a high ecoliteracy results in high contribution on environmental conservation scores as well. Because in everyday life has applied ecoliteracy in every aspect of life. A person with high ecoliteracy can also contribute to their concern for the environment because of the contribution associated with self-belief. When someone is confident about his or her own environmental knowledge, he or she will act in accordance with the knowledge it has (Carrier, 2009). Therefore, the quality of environmental education and the quality human resources support is needed and should be improved, especially in every study program at Universitas Negeri Jakarta.

3.2. Contribution on environmental conservation in male and female students

The result of a calculation with two-ways ANOVA obtained that the significant number is lower than the alpha; 0.002 < 0.05. It means the null hypothesis (Ho) is rejected and H1 is accepted. So there is a different contribution of environmental conservation between male and female students. This finding accordance with the previous research; "Environmental Education articles in Schools: Learning Styles and Genders" which state that boys show greater scores in outdoor treatment groups than in traditional classrooms, boys also get greater scores on attitudes and behaviors than girls. This study suggests that there is a unique learning style of girls and boys and findings (Livesey and Intili, 1996; Johnson *et al.*, 2017; Reilly, Neumann and Andrews, 2017; Ycaza Herrera, Wang and Mather, 2018).

This happens because in this case the researchers differentiate learning styles outdoors and in traditional classrooms, so boys who tend to have higher kinesthetic performance have higher scores than girls. This is consistent with the article Gender Differences in Visual-Spatial Ability in 4-Year-Olds: Effects on Kinesthetic Acuity Task Performance (Poston and Bouvier, 2010). In this article mentioned that the performance of boys is significantly better than girls. According to Poston, gender shows differences that occur in men and women not from a biological point of view (sex) but in social life (Larsen, Randy J.; Buss, David M.; Wismeijer, Andreas; Song, John; van den Berg, 2017). Gender is defined as the rules or norms of behavior associated with gender in a social system of society, which is why gender is often identified with sex or sex, whereas both have different concepts (Wienanda *et al.*, 2017).

Comparisons between male and female show that female tend to reach higher levels of reasoning as well as more coherent reasoning skills. Formal institutions such as schools seem to play a very minimal role in developing students' reasoning (Isdaryanti *et al.*, 2018). Girls' achievements may be related to maturity or personal effort. While teachers as educators suggest that girls tend to focus more on lessons than boys (Widodo, Waldrip and Herawati, 2016).

3.3. The Effect of Interaction between Ecoliteration and Gender

The result of a calculation with two-ways ANOVA obtained that the significant number is higher than the alpha; 0.948 > 0.05. It means the null hypothesis (Ho) is accepted and H1 is rejected. So there is no interaction between ecoliteracy and gender to the contribution of environmental conservation. The ecoliteracy of community members depends on varying resources, wealth and gender status. Disadvantaged families will rely heavily on local resources for their livelihoods,

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which will have an impact on the contribution of environmental conservation. The role of gender affects both the level and content of individual ecoliteracy. Gender ideology has been measured using many different individual items. The ideology formed on each gender acts as a lens through which individuals perceive their social world. In addition, gender ideology influences one's decisions about education and work (Davis & Greenstein, 2009). There is no interaction between these two variables that both cannot simultaneously affect the contribution of environmental conservation. However, there is a clear relationship between ecoliteracy and environmental education but not significant. This relationship is absolute and is a system of causality (Nomura, 2009). The interaction between ecoliteracy and gender toward contribution of environmental conservation can be seen in Figure 1.

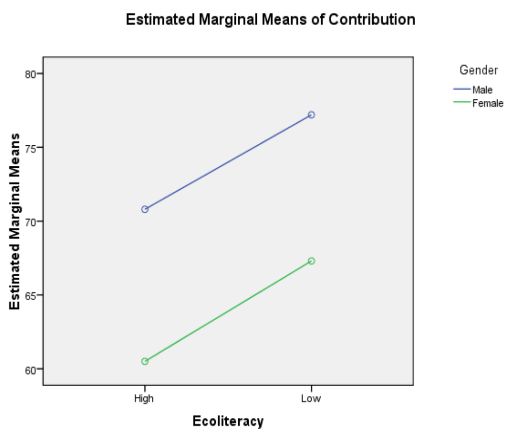

Figure 1. Profil Plots Interaction between Ecoliteracy and Gender to The Contribution of Environmental Conservation.

This relationship begins with a sense of concern due to the damages that arise in the environment, environmental problems will cause awareness of the importance of maintaining the environment. The effort begins with awareness through environmental education that shapes the caring character of the environment that will impact on one's contribution to environmental conservation. With the implementation of environmental protection and environmental protection efforts in ecological, economic, and sociological justice simultaneously so that the ultimate goal of a sustainable environment can be realized. So it can be concluded that ecoliteracy and gender effective to improve one's behavior in contributing to preserving the environment but cannot be together with gender in affecting the dependent variable that is the contribution of environmental conservation.

4. Conclusions

There is significant influence of ecoliteracy toward contribution on environmental conservation also there is significant influence of gender toward contribution on environmental conservation. But, there is not significant influence of ecoliteracy and gender toward contribution on environmental conservation. This shows that to achieve the maximal contribution on environmental conservation result, student need environmental education. But it does not matter within gender. There is no difference in contribution on environmental conservation between male and female. This can be accepted because gender not determine someone’s contribution. This findings indicate that the contribution on environmental conservation can be formed from the value of ecoliteracy.

5. Suggestions

Taking into account the benefits of environmental understanding to students in the course of environmental education, this course can be applied to other study programs so that it will bring a positive impact for the environment of the State University of Jakarta.

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READING ANXIETY AND READING COMPREHENSION OF INDONESIAN UNIVERSITY EFL STUDENTS

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Abstract

This study aimed to investigate the relationship between foreign language reading anxiety and the reading performance STAIN Pamekasan EFL learners. This study also aimed to compare the level of reading anxiety between male student and female students. The data were collected from the sixth semester students majoring English Teaching and Learning Program of Tarbiyah Department, STAIN Pamekasan, Indonesia. The data were collected using Foreign Language Reading Anxiety Scale (FLRAS) which focuses to measure the level of anxiety in reading skill.. The data were analyzed using SPSS version 16 and Pearson Product Moment correlation is used to determine the degree of reading anxiety and Independent T-test is used to measure the significant difference between reading anxiety of male and female students. The results revealed that students experienced high reading anxiety and there is positive low correlation between reading anxiety level and reading comprehension. However, no significance difference was found between the level of foreign language reading anxiety between male and female students.

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1. Introduction

In teaching and learning of English as foreign language, it is important to master for language skills of reading, writing, listening, and speaking. Grabe and Stoller[1] argued that reading is considered as the most important language skills in second language acquisition since reading is central means learning new information and the primary means for independent learning. Regarding the importance of the reading skills, reading is taught as part of English subject since Junior High Scholl until university level in Indonesia. For university students, having good reading skill are necessary since most reputable journal as the good references for their courses are written in English as international language. Moreover, reading skill is also needed by junior and senior high school students since most of national examination questions are dealing with reading text. However, it was found that students' ability in reading was still low.[2]

The study about "Most Literate Nations In the World" conducted by Central Connecticut State University in 2016 placed Indonesia in 60th among 61 countries surveyed as the least interested in reading books.[3] A National Socio-Economic Survey by Indonesia's Central Statistics Agency showed the country's TV audience reached 91.5% in 2015 while newspaper readers sat at 13.1%, the lowest point since 1984.[4] It means that Indonesian prefer to watch/listen information than to read it. Besides, Indonesians low interest in reading is contrary to its interest in using internet in which the country is the sixth largest in the world in number of internet users.[5] In this digital, learners tend to can consume everything on the internet from music, movies and videos on Youtube as well as their social media. The students read a lot from their social media from Facebook debates or Whatsapp chats, but they never really important subjects/book. Therefore, it is not surprisingly if reading skill of Indonesian is still need encouragement.

There are many factors which influence the failure of students to perform their English Skill. Skekahan stated that there are different factors influencing test takers' performance, including personality types, intelligence motivation, attitude, age, gender, and anxiety.[6] Krashen also proposed motivation, self-confidence and anxiety as the affective factors failure in English

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Language Learning.[7] Among those factors, anxiety is considered as the crucial factors in Foreign Language Anixety.[8] Anxiety will provoke the feeling uneasiness which will interrupt the process of Second Language Acquisition.[8] Anxiety, moreover, can happen pervasively in both inside and outside the classroom, preventing language learners from achieving a high level of L2 acquisition and thus resulting in large individual differences in second/foreign language acquisition.[9]

For many years, many language educators and researchers concern on the issue of anxiety in Second Language Acquisition and Foreign Language Acquisition. Razak, Yassin, and Rizan[10] investigated the correlation of anxiety level and the academic achievement of 155 English Department students of Yemeni University. They also investigated the gender differences in the level of anxiety of those students. The study revealed that there is no significant correlation between the level of anxiety and the academic achievement of the students. The study also revealed that the anxiety level of female students is higher than male students but the difference between both genders are not significant. Gkonou[11] investigated the factors contributing to the creation and the increase of students' anxiety level in the class. The results of the research revealed anxiety can caused by input, language skills, the teacher, mistakes made in class, high reliance on marks, tests, and extrinsic motivation. In addition, both previous studies employ Foreign Language Classroom Anxiety Scale (FLCAS) which developed by Horwitz et al as the measurement instruments to measure the anxiety level.

Foreign language reading anxiety (FLRA) refers to the feelings of frustration and apprehension experiences by readers when they fail in comprehending a Second Language or Foreign language text.[12] In international context, several studies have been conducted on FLRA. Yet most of them address the relationship between reading anxiety and performance[6], reading anxiety and reading strategy[13], and reading anxiety and gender[8].

Reading anxiety plays an important role in teaching learning process. However, Foreign Language (FL) teacher seldom neglected it. In Indonesian context there are some research related to reading anxiety but the subject is in Junior high school[14] and Senior High School[15]. However, there had been relatively little research which had conducted related to reading anxiety of Indonesian EFL University students. Therefore, this study attempts to investigate the correlation between reading anxiety and reading proficiency and to examine FL reading anxiety across the gender

The purpose of this research is to give understanding about reading anxiety by assessing undergraduate students of The State Islamic Institute of Madura (STAIN Pamekasan). Thus, the research propose two research questions: 1) is there any correlation between students' reading anxiety level and their reading proficiency? 2) is there any difference in reading anxiety level among female and male students? To answer those questions, researcher will study undergraduate students of STAIN Pamekasan by using questionnaire to know students' reading anxiety level and to divide the students based on their gender and giving reading test to know students' reading proficiency.

2. Methodology

This research employs the quantitative approach with correlation research as the design. The research is to investigate the anxiety of Indonesian students toward reading comprehension in STAIN Pamekasan. The participant of this study are 124 students of 6th semester students who majoring English Teaching Learning program. The sixth semester students are chosen because they have been passed Reading I, Reading II. Reading III and Extensive Reading course in the previous semester. The distribution of the students based on gender can be seen on table 1

Table 1 : Gender

		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Female	82	66.1	66.1	66.1
	Male	42	33.9	33.9	100.0
	Total	124	100.0	100.0	

Foreign Language Reading Anxiety Scale (FLRAS) which proposed by Saito et al is utilized to measure the students reading anxiety.[16] It consists of 20 items in which five-point values in Likert Scale were used. It ranges from strongly agree, agree, neutral, disagree and strongly disagree. To measure students' reading comprehension, TOEFL reading section sample will be utilized. The reading test is taken randomly from TOEFL reading section prediction test. It consist of 3 passages with 30 multiple choice items. The correct answer will obtain 1 score and the wrong answer will get 0. Although the reading test items are taken from TOEFL reading section prediction test, The researcher still pilot the reading test since the reading test consist only 30 items and taken randomly from Longman TOEFL Book.[17]

To find out the relationship between reading anxiety and reading comprehension, the result of the FLRAS questionnaire and Reading comprehension test were computed using Pearson Product moment. This research will also divide the reading anxiety and reading comprehension across gender. Thus, the data were computed using independent t test. Those computations will use SPSS 16

Before distributed the reading test, the reading test items were piloted 30 university students excluded from the sixth semester students of STAIN Pamekasan. The reliability of the test is tested using KR 21. Rajab et al[18] proposed that o determine the high level of anxiety, the mean value is set ranging from 1.00 to 3.00 and low level of anxiety will be determined based on the mean value ranging from 3.01 to 5.00.

3. Results and Findings

The aim of the study was to investigate the correlation between reading anxiety level and reading comprehension of EFL Indonesian University students who majoring English Language Teaching Program. The study also compares the Reading Anxiety level and Reading Comprehension of male and female university students. The researchers hypothesize that Reading Anxiety level have correlation with Students' Reading comprehension (Ha) and reading anxiety level are different among male and female students. The hypothesis was tested at the 0.05 level of significance. The data were collected from Questionnaire and Reading Test and computed by using SPSS.

The findings of the study are organized based on the following sub-topics

3.1. Reading Anxiety Level

The statistical descriptive was used to analyze the levels of reading anxiety and measure the reading anxiety level of University students. The result of the calculation is represented on Table 2.

Table 2 Reading Anxiety Level

		Frequency	Percent	Valid Percent	**Cumulative** Percent
Valid	High	97	78.2	78.2	78.2
	Low	27	21.8	21.8	100.0
	Total	124	100.0	100.0	

Table 2 shows that 78.2 % percent of the total participants have high level of reading anxiety while another 21.8 % percent have low level of reading anxiety. The reading anxiety level of the participants is categorized as high since the average mean obtained is 2.60. The results of

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FLRAS indicate that the level of reading anxiety of English Language Teaching Program students of STAIN Pamekasan is high anxiety readers.

3.2. Reading Anxiety Level Based on Group

Table 3 Group Statistics Reading Anxiety Level of Female and Male Group

	Sex	N	Mean	Std. Deviation	Std. Error Mean
Level_Ranxiety	Male	42	2.6762	.50076	.07727
	Female	82	2.5646	.50231	.05547

When comparing the level of reading anxiety between male and female groups, it is found that the mean value for male group is 2.67 and the mean value for female group is 2.56. Both group have high level of reading anxiety since the average score is lower than 3.00. However, the average value of reading anxiety level signifies that female group has higher reading anxiety level than the average value of male group. Furthermore, to test the significance different of reading anxiety level of both groups, independents sample T-test is carried out. From table 4, it is revealed that significant value between two groups is 0.794 which is higher than the predetermined alpha value (0.05). This result indicates that there is no significant different reading anxiety level between male and female participants.

Table 4: Independent Samples Test for Reading Anxiety Level of Male and Male Group

		Levene's Test for Equality of Variances		t-test for Equality of Means						
		F	Sig.	t	df	Sig. (2-tailed)	Mean Difference	Std. Error Difference	95% Confidence Interval of the Difference	
									Lower	Upper
Level_Ranxiety	Equal variances assumed	.069	.794	1.172	122	.244	.11156	.09521	-.07693	.30004
	Equal variances not assumed			1.173	82.992	.244	.11156	.09512	-.07763	.30074

3.3. Reading Anxiety and Reading Performance

For the purpose of this study, respondents' reading performance is measured by giving reading comprehension test which utilize TOEFL reading section sample. Based on the result of the reading comprehension test, it is found that the minimum score obtained by the students is 6.7 and the maximum score obtained by the students is 83.

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Table 5 : Correlation between Level of Reading Anxiety and Score 0f Reading Test

		Score_RAnxiety	Score_RComprehension
Score_RAnxiety	Pearson Correlation	1	.211*
	Sig. (2-tailed)		.019
	N	124	124
Score_RComprehension	Pearson Correlation	.211*	1
	Sig. (2-tailed)	.019	
	N	124	124

*. Correlation is significant at the 0.05 level (2-tailed).

Pearson Product Moment was carried out to determine whether there is correlation between Reading Anxiety and Reading comprehension. As shown in table 5, the Pearson r Correlation between two variables is 0.211. Based on Sarwono[19], r value in range 0 – 0.25 is categorized very low. Therefore, the correlation between reading anxiety and reading comprehension of the participants of this present research is categorized very low. This result also reveals that Reading anxiety level has positive correlation to reading comprehension since the r value is positive. It means that the higher reading anxiety level of the participants will increase their reading comprehension. The significant (2-tailed) value of correlation is 0.019 which means that the correlation of both variables are significant since the significant (2-tailed) value is lower than 0.05. This indicates that students' reading anxiety level will have impact to their reading comprehension although the impact is very low. It means that students' reading comprehension will be higher if they experience anxiety.

4. Discussion

The result of FLRAS indicates that the level of reading anxiety of Students of English Teaching Learning Program of STAIN Pamekasan is high anxiety readers. The possible explanation to support this finding could be associated with participants' reading interest and the unfamiliar topic of reading text. In English Teaching and Learning program, students had been explored and exposed to the English reading materials. However, the exploration and the exposure just experience by the students in the course (teaching and learning process). The students only read the English text due to the course assignment. They have no willingness to read English text outside their English courses. This is line with the statement of ministry of education who stated that Indonesian' reading habit is still low because of a lack of passion.[20] The reading interest of students to read various topic outside English teaching learning reading materials is also so low that when they read the texts which unfamiliar for them, it will provokes students' anxiety. For that reason, they may feel highly anxious when they face unfamiliar topic of reading texts.

Furthermore, the present research also reveals that the female students have higher reading anxiety level than male students. However, the correlation of both gender are not significance. The findings is in line with the research conducted by Razak, Yassin, and Rizan[10] in Yemeni University Student which also revealed that gender has no effect to determine level of reading anxiety.

Based on the result of Pearson product moment correlations, it was found that students' reading anxiety is related to their reading performance's score. The result indicates that r correlation coefficient is 0.211 which means that there is positive low correlation between students' reading anxiety and reading performance. In addition, the level of probability significance (sig.2-tailed) was 0.019 (p= 0.019 < 0.05) which indicates that the positive correlation between reading anxiety and reading performance is significant. It means that the higher participants' reading anxiety level experience, the better they perform on reading comprehension test. It can be concluded that the reading anxiety influenced the reading

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performance of Students of English Teaching Learning Program of STAIN Pamekasan although the impact is low/weak. The plausible explanation to support this finding is that the participants of this present research are the students from sixth semester of English Teaching Learning Program of STAIN Pamekasan who have taken Reading I to Reading III and Extensive Reading in the previous semesters. On those courses, they have been trained and exposed to use various reading strategies. Furthermore, although the students experience reading anxiety, they can overcome the anxiety because the students have been equipped with adequate knowledge of reading strategies. So that the highly anxious readers still have adequate score of reading performance test.

Although, there is not much research on Foreign Language reading anxiety and Reading comprehension support this findings of the study. The researcher found that the result of this present study was in accordance with the research conducted by Joo & Damron[21] who investigates reading anxiety of USA college students of Korean as Foreign Language and reading performance on Korean reading text reported there was a medium positive correlation between students' reading anxiety and students' reading performance. The result of Joo and Damron' study indicates that the more reading anxiety students had, the better reading performance they had on the reading test. This findings seems contrast with theories put by the previous researchers which found that reading anxiety have negative correlation with reading performance.[22,23,6,8] Lastly, this study indicates that there is positive low correlation and influence reading anxiety and reading performance of students of English Teaching and Learning Program of STAIN Pamekasan.

This study limited the subject of the study only for sixth semester students of STAIN Pamekasan. Besides, the reading comprehension test used in this research is only 30 questions of TOEFL prediction sample which randomly took from Longman TOEFL book due to the time provided by the institution. In this study, the individual participants divided only by gender (female or male). Furthermore, further researchers are expected to explore the reading anxiety and different object of research such as the year of study, reading strategies, etc. The further researchers also can differentiate the subject based in the learning style or personality traits. The present research shows that reading anxiety could affect the learners in higher education even the learners majoring Englishh. Thus, teacher/lecturer should find strategies which can help decrease the students' reading anxiety.

5. Conclusion

Reading anxiety have major role on reading performance of students. Thus, the lecturer should encourage students to have good reading interest so that students are interested in reading various topic of text outside English teaching learning topic. Besides, in line with government' program to raise literacy culture of Indonesian students, lecturer can give special time for students to read a text outside the topic of E teaching and learning.

The major findings of this study are summarized as follows. First, the sixth semester students of English Teaching and Learning Program of IAIN Madura have high reading anxiety. Second, the female students experiences higher reading anxiety than that male students. However, the difference is not significant. The last, there is positive low correlation between reading anxiety and reading performance of students of English Teaching and Learning Program of IAIN Madura. The result indicated that the null hypothesis (Ho) is failed to be accepted and the alternative hypothesis (Ha) was accepted. It means that the higher participants' reading anxiety level, the better they perform on reading comprehension test.

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THE INFLUENCE OF EMOTIONAL INTELLIGENCE AND EMPLOYEE EMPOWERMENT ON ORGANIZATIONAL COMMITMENT THROUGH JOB SATISFACTION AT SOCIAL SERVICE SPECIAL REGION OF YOGYAKARTA

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Abstract

The research was purposed to find out whether there was any significant of emotional intelligence and employee empowerment to organizational commitment through job satisfaction on Social Service in Special Region of Yogyakarta. The participants of this research are the employees of Social Service in Special Region of Yogyakarta. Quantitative approach was used during data collection which 107 employees had been participated. This study was using SmartPLS 3.0 version to test the hypothesis.The results of this study found that there are significant positive effect of emotional intelligence on organizational commitment, significant positive effect of employee's empowerment on organizational commitment, significant positive effect of emotional intelligence on job satisfaction, and significant positive effect of organizational commitment on job satisfaction, also there is significant positive effect of job satisfaction on organizational commitment. In addition, this study found the direct influence of emotional intelligence on organizational commitment is greater than indirect influence of emotional intelligence on organizational commitment through job satisfaction, and the direct influence of employee empowerment on organizational commitment is greater than indirect influence of employee empowerment on organizational commitment through job satisfaction.

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1. INTRODUCTION

One important component in an organization is the human resources that are in it. Mathis & Jackson (2011), states that human resources are a special part of each organization, which means that the organization must be able to see the talent of an employee to improve employee performance and as an opportunity to create a greater competitive advantage of the organization. In addition, Bohlander & Snell (2001), states that human resources are integrated capabilities of the power of thought and physical power that each individual has built to be able to compete in the face of increasingly fierce competition.

Organizational commitment is generally defined as the identification and involvement of someone who is relatively strong towards an organization. Organizational commitment has been widely associated with several variables of research by researchers, such as with professional commitment variables, organizational citizenship behavior (Bogler & Somech 2004), job satisfaction, perceived organizational justice (Karim & Rehman 2012), Teamwork, Employee Training (Hanaysha 2016) and occupational stress (Aghdasi Kiamanesh & Ebrahim 2011). Therefore, to increase the organizational commitment of employees, there are several factors that influence it such as emotional intelligence possessed by employees, employee empowerment provided by the organization, and employee job satisfaction on the work performed.

The first factor that influences organizational commitment is emotional intelligence. Goleman (in Armstrong & Taylor, 2014) defines emotional intelligence as the capacity to recognize one's own feelings and feelings towards others, to motivate yourself and process one's own emotions in relation to others. Furthermore Goleman (2003), revealed that emotional intelligence has the same efficacy as intellectual intelligence, and sometimes effective in intellectual intelligence, this is confirmed that intellectual intelligence only contributes 20% to

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one's success, while another 80% is determined by other factors, then it is undeniable that emotional intelligence is very important and able to influence employee organizational commitment

The second factor that influences organizational commitment is employee empowerment. Herzberg, et al (1959), stated that employee empowerment is an autonomy of work and enrichment focused on improving control and decision making in one's work. Meanwhile, Yulk in Supriyanto (2009) stated that employee empowerment is intrinsic motivation and self-efficacy of people who are influenced by leadership behavior, job characteristics, organizational structure, and their own needs and values.

The third factor that influences organizational commitment is job satisfaction. Armstrong and Taylor (2014), state that job satisfaction is a person's behavior and feelings towards the work they have. Thus employee productivity can be improved by making employees in the organization feel more satisfied, because it is empowered by the organization and the social needs of an employee feel fulfilled.

The purpose of this study was to determine the relationship between emotional intelligence and employee empowerment of organizational commitment and job satisfaction. This research is unique because it tries to analyze the four variables (emotional intelligence, employee empowerment, organizational commitment, job satisfaction) in one research model. This research is also unique because it incorporates employee empowerment variables into the research model. Because, employee empowerment is still rare in previous studies.

2. THEORY FOUNDATION AND DEVELOPMENT OF HYPOTHESES

Hypothesis Development

Relationship of Emotional Intelligence with Organizational Commitment

The results of this study are in accordance with previous studies of Shafiq and Rana (2016), who found that emotional intelligence has a positive and significant relationship influence on organizational commitment. Likewise with research conducted by Alavi et al., (2013), which states that there is a positive influence of emotional intelligence with organizational commitment

H1: emotional intelligence has a positive influence on organizational commitment

Relationship of Employee Empowerment with Organizational Commitment

The results of this study are in accordance with Hanaysha's previous studies (2016), which states that there is a positive influence made by empowering employees on organizational commitment. This result is similar to previous research conducted by Goundarzavand and Kheradmand (2013), which revealed a positive and significant influence between employee empowerment and organizational commitment.

H2: employee empowerment has a positive influence on organizational commitment

Relationship between Emotional Intelligence and Organizational Commitment Mediated by Job Satisfaction

Emotional intelligence is known to have a positive relationship to job satisfaction (Elias at al 2012, Seyal and Afzaal 2013, Badawy and Magdy 2015), and job satisfaction has a positive influence on organizational commitment (Auda 2016, Azeem and Akhtar 2014, Aghdasi, Gangai and Agrawal 2015).

H3: Job satisfaction will mediate the relationship between emotional intelligence and organizational commitment

Relationship of Employee Empowerment with Organizational Commitment Mediated by Job Satisfaction

Job satisfaction has been found to have a mediating effect (Gulleryuz et al 2008). In his research job satisfaction can mediate the relationship between employee empowerment,

emotional intelligence, and organizational commitment. In addition, research conducted by Goundarzavand and Kheradmand (2013), describes the existence of a positive relationship between employee empowerment and organizational commitment.
H4: Job satisfaction will mediate the relationship between employee empowerment and organizational commitment

Theoretical Basis
Emotional Intelligence
Goleman (1990), defines that emotional intelligence as the ability to recognize one's own feelings and feelings of others, in motivating yourself and managing emotions well to yourself and in relationships related to yourself. Meanwhile, according to Davies in Auda (2016), states the definition of emotional intelligence as a good ability in understanding emotions in yourself and reading the emotions of others. Mayer (1990), in Goleman (2007), reveals that there are two sides of emotional intelligence, namely the first is intelligence in understanding emotional and adding creativity, and the second is intuition in the logical mind.

Employee Empowerment
Snell and Bohlander (2013), reveal that empowerment is a process of giving strength to employees to be able to initiate change, thereby encouraging them to take responsibility for what they do. Employee empowerment is now a trend of managing human capital in organizations in the future (Mulyadi, 2007). Furthermore Herzberg, et al (1959), stated that employee empowerment is an autonomy of work and enrichment that is focused on improving control and decision making in one's work.
Organizational Commitment
According to Robbins (2008), organizational commitment is a situation where an employee will side with a particular organization and has a goal and desire to remain a member of the organization. Meanwhile, according to Porter et al., (1974), defining organizational commitment is the desire to remain dependent on the value of the organization, strive to follow these values, and the desire to always be part of the organization.
Job satisfaction
Gibson et al (2012), said that job satisfaction is an individual behavior related to his work, and job satisfaction is also a perception of work related to environmental factors such as supervisor's leadership style, procedures, regulations, relationship of a group, work conditions, and tunjungan. Meanwhile, Spector (2000), defines job satisfaction as an attitude that reflects how a person feels about his work as a whole or on various aspects of his work.

Operational Definition of Research Variables
Emotional Intelligence
According to Goleman (2003), there are several dimensions and indicators in emotional intelligence, namely: Self Awareness, Self regulation, Self Motivation, Empathy, Social skill.
Employee Empowerment
Indicators of employee empowerment measurement in this study refer to the parameters made by Khan (1997), namely: desire, trust, confident, credibility, accountability, communication.
Organizational Commitment
The indicator of organizational commitment measurement in this study refers to the parameters made by (Allen and Meyer, 1990), namely: affective commitment, continuen commitment, normative commitment.
Job satisfaction

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Job satisfaction indicators, including: promotion, supervision, co-workers, nature of work, conditions of work, operational conditions, communication, salary, contingency rewards, awards.

3. Research Sample

This research was conducted on employees of PNS in the social service of the Special Region of Yogyakarta. There were 125 questionnaires distributed with a return of 107 questionnaires.

Data Analysis Technique

1) Model Conceptualization

Model conceptualization is the first step in PLS - SEM analysis. At this stage researchers must develop and measure constructs.

2) Determine the Algorithm Analysis Method

In PLS-SEM using the SmartPLS 3.0 program, the algorithm analysis method provided is only PLS algorithm with three schema choices, namely, factorial, centroid, and path or structural weighting. The recommended PLS algorithm scheme is path or structural weighting.

3) Determine the Resampling Method

Generally, there are two resampling methods used by researchers in the SEM field to carry out the re-sampling process, namely the botstarpping and jacknifing methods. In this study, a botsrapping method is used, which is a method that uses all original samples to re-sample. This method is more often used in structural equation models.

4) Draw Path Diagrams

After conceptualizing the model, determining the method of algorithm analysis and resampling methods, the next step is to draw a path diagram of the model to be estimated. In drawing a path diagram.

5) Model Evaluation

After drawing a path diagram, the model is ready to be estimated and the overall results are evaluated. Model evaluation in PLS - SEM using the SmartPLS 3.0 program

5. DATA ANALYSIS RESULTS AND DISCUSSION

Measurement Model Measurement

Second Order Confirmatory Analysis

Second order confirmatory analysis is the theoretical relationship between latent variables or high order constructs with the construct dimension below them (Jogiyanto, 2011)

Table1. Path Coefficient Measurement of SCFA Significance

Konstruk	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
AC -> PMBDKY	0.189	0.190	0.023	8.287	0.000
COM -> PMBDKY	0.200	0.198	0.024	8.350	0.000
CON -> PMBDKY	0.263	0.259	0.027	9.571	0.000
CR -> PMBDKY	0.211	0.210	0.023	9.253	0.000
DE -> PMBDKY	0.250	0.252	0.036	7.003	0.000
EM -> KCEM	0.358	0.357	0.036	9.830	0.000
GA -> KPSKJ	0.104	0.103	0.021	5.069	0.000
IK -> KPSKJ	0.171	0.170	0.024	7.249	0.000
KA -> KMORG	0.503	0.503	0.043	11.729	0.000

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KKN -> KMORG	0.384	0.378	0.044	8.643	0.000
KN -> KMORG	0.345	0.343	0.027	12.892	0.000
KOM -> KPSKJ	0.224	0.222	0.027	8.282	0.000
KOP -> KPSKJ	0.067	0.069	0.017	3.967	0.000
PE -> KPSKJ	0.235	0.233	0.024	9.843	0.000
PR -> KPSKJ	0.063	0.060	0.033	1.908	0.000
RK -> KPSKJ	0.156	0.155	0.023	6.780	0.000
SA -> KCEM	0.222	0.221	0.035	6.276	0.000
SM -> KCEM	0.272	0.271	0.035	7.878	0.000
SP -> KPSKJ	0.146	0.148	0.023	6.472	0.000
SR -> KCEM	0.310	0.306	0.034	9.037	0.000
SS -> KCEM	0.187	0.185	0.030	6.291	0.000
SU -> KPSKJ	0.206	0.200	0.030	6.786	0.000
TR -> PMBDKY	0.192	0.193	0.021	8.968	0.000

Based on the results of the path coefficient contained in the table above shows that all items are significant to the construct with t-statistics> 1.96 and p-values <0.05. Thus it can be stated that the indicators EM, SA, SM, SR, SS are construct forming variables of Emotional Intelligence (KCEM), indicators AC, COM, CON, CR, DE, TR are manifest variables forming the construct of Employee Empowerment (PMBDKY), indicators GA, IK, KOM, KOP, PE, PR, RK, SP, SU are manifest variables forming the construct of Job Satisfaction (KPSKJ), then the indicator of train, KKN, KN is a manifest variable constructing the Organizational Commitment (KMORG).

Mediation Effect Testing
The first stage

The first step in testing the mediating effect is to examine the effect of exogenous variables on endogenous variables and must be significant in the t-statistic value> 1.96

Table 2. First Stage Testing Coefficient Path

Konstruk	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
KCEM -> KMORG	0.273	0.291	0.084	3.233
PMBDKY -> KMORG	0.425	0.444	0.096	4.431

Second Stage

At this stage, testing the significance of the exogenous variables on the mediating variable is carried out and must be significant in the t-statistic value> 1.96.

Table 3. Second Stage Testing Coefficient Path

Konstruk	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
KCEM -> KPSKJ	0.331	0.346	0.113	2.915
PMBDKY -> KPSKJ	0.310	0.349	0.101	3.074

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Third phase

At this stage, simultaneous testing of exogenous variables of training satisfaction, psychological empowerment and mediating work engagement variables towards endogenous turnover intention variables was conducted.

Table 4. Total Effect

Konstruk	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)
KCEM -> KMORG	0.260	0.275	0.089	2.909
KCEM -> KPSKJ	0.320	0.329	0.123	2.610
KPSKJ -> KMORG	0.227	0.227	0.100	2.261
PMBDKY -> KMORG	0.423	0.438	0.101	4.201
PMBDKY -> KPSKJ	0.301	0.323	0.115	2.623

To find out how far the variable job satisfaction can analyze the relationship between emotional intelligence and employee empowerment of organizational commitment can be seen in the table specific indirect effects. It can be seen from the table that the relationship of emotional intelligence to organizational commitment mediated by job satisfaction is still significant with a t-statistic value of 2.810 <1.96, this means that job satisfaction acts as a partial control. and indirect (Garson, 2016). Likewise, the relationship of employee empowerment to organizational commitment mediated by job satisfaction is still significant with a t-statistic of 2,376> 1.96, this also means that job satisfaction acts as a partial control in the relationship between employee empowerment and organizational commitment.

DISCUSSION

The Effect of Emotional Intelligence on Organizational Commitment

Exogenous constructs of emotional intelligence have a significant positive effect (O = 0.188) with the construct of organizational commitment. The t-statistic value in this construct relationship is 2014> 1.96, and the p-value is 0.044 <0.05. Therefore, the first hypothesis which states that emotional intelligence has a positive influence on organizational commitment is proven to be true.

Effect of Employee Empowerment on Organizational Commitment

Exogenous construction of employee empowerment has a significant positive effect (O = 0.355) with the construct of organizational commitment. The t-statistic value in this construct relationship is 3,086> 1.96, and the p-value is 0.002 <0.05. Therefore, the second hypothesis stating that employee empowerment has a positive influence on organizational commitment is proven to be true.

The Mediation Effect of Job Satisfaction in the Relationship between Emotional Intelligence and Organizational Commitment

From the results of the PLS analysis above, it was found that emotional intelligence has a significant positive influence (O = 0.260) on organizational commitment with a t-statistic value of 2.909> 1.96. Emotional intelligence has a significant positive effect on job satisfaction (O = 0.320) with a t-statistic value of 2.610> 1.96. Job satisfaction has a significant positive effect (O = 0.227) on organizational commitment with a t-statistical value of 2,261> 1.96. Therefore, the sixth hypothesis states that job satisfaction will mediate the relationship between emotional intelligence and organizational commitment proven to be true.

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The Mediation Effect of Job Satisfaction in the Relationship between Employee Empowerment and Organizational Commitment

From the results of the PLS analysis above, it was found that employee empowerment has a significant positive effect (O = 0.423) on organizational commitment with a t-statistic value of 4,201> 1.96. employee empowerment has a significant positive effect on job satisfaction (O = 0.301) with a t-statistic value of 2.623> 1.96. Job satisfaction has a significant positive effect (O = 0.227) on organizational commitment with a t-statistical value of 2,261> 1.96. Therefore, the seventh hypothesis which states that job satisfaction will mediate the relationship between employee empowerment and organizational commitment is proven to be true.

CONCLUSION

Based on the results of the analysis and discussion of the influence of emotional intelligence and employee empowerment on organizational commitment through job satisfaction in the Yogyakarta Special District Social Service, some conclusions can be given as follows:

1. There is a significant positive effect between emotional intelligence on organizational commitment as evidenced by the significance value of the t-statistic value in this relationship is 2014> 1.96, and the p-value of 0.044 <0.05.
2. There is a significant positive influence between employee empowerment on organizational commitment as evidenced by the significance value of the t-statistic value in this construct relationship is 3.086> 1.96, and the p value - value 0.002 <0.05.
3. There is an indirect influence of emotional intelligence on organizational commitment through job satisfaction as evidenced by the significance value of emotional intelligence on organizational commitment with a t-statistic value of 2.909> 1.96. Then, the significance value of emotional intelligence on job satisfaction with a t-statistic value of 2.610> 1.96. Meanwhile, the significance value of job satisfaction on organizational commitment with a t-statistic value of 2,261> 1.96. So based on the significance value of each path, it is stated that there is an indirect influence of emotional intelligence on organizational commitment through job satisfaction.
4. There is an indirect effect of employee empowerment on organizational commitment through job satisfaction as evidenced by the significance value of employee empowerment of organizational commitment with a t-statistic value of 4,201> 1.96. Then, the significance value of employee empowerment on job satisfaction with a t-statistic value of 2.623> 1.96. Meanwhile, the significance value of job satisfaction on organizational commitment with a t-statistic value of 2,261> 1.96. So based on the significance value of each path, it is stated that there is an indirect effect of employee empowerment on organizational commitment through job satisfaction.

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