



Research Paper

The Roles Of The Government, The Private Sector, And The Implementation Of Local Wisdom In The Effects Of Community Behavior On Resource Management Of Bahowo Coast In North Sulawesi

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ABSTRACT:-The potential of coastal and marine resources is abundant and so far it is still not able to raise the welfare of the community, especially the one living in the coastal area. The coastal community remain struggling with poverty, low education levels and poor quality of health and tend to be helpless facing a variety of problems. This research focuses on Coastal-Resource Management and Local Wisdom. The objects of this research are the coastal community around the Bahowo area, while the subjects (the actors) of this research consist if the government, the private sectors performing coastal-resource management. The analysis technique employed in this study was the Structural Equation Modeling (SEM) using the Sobel Test. Based on the above-mentioned research findings, the following can be concluded: (1) Community behavior, the roles of the government, and the roles of the private sector affect the implementation of local wisdom of the Bahowo coastal community, and (2) Community behavior, the roles of the government, and the roles of the private sector affect coastal resource management that is based on the implementation of the local wisdom of the Bahowo coastal community.

Keywords:- Coastal Community, Community Behaviour, Low Education Levels, Poverty, Poor Healths.

I. INTRODUCTION

Coastal resources are an area with a dynamic ecosystem that belongs to an area of transition between the land and the sea that is physiologically defined as the area between the coastline up towards the land that is still influenced by the tide, with the width which is determined by the flatness of the beach and the ocean floor, and formed by clay deposits making the sand is loose in nature and sometimes the materials consist of gravel [1]. The transition between the land and the sea, forming a diverse and very productive ecosystem, provides an economic value to humans.

The potential of coastal and marine resources is abundant and so far it is still not able to raise the welfare of the community, especially the one living in the coastal area. The coastal community remain struggling with poverty, low education levels and poor quality of health and tend to be helpless facing a variety of problems. Poverty and a low level of the understanding of environmental preservation justify the high dependence of the coastal community on marine resources and their ignorance to resource sustainability, so as to result in decreases in function, quality, and biodiversity. Even, [2] states that it is ironic that the coastal community whose livelihoods as small-scale or traditional fishermen belong to the community with the poorest social stratum. It can be seen from the physical conditions such as poor residential quality that looks like a slum, very simple houses with bamboo walls, dirt floors, and a limited number of home furnishings. In addition to those physical descriptions, the level of education that these fishermen and their families is also low [3]. Even if there are houses that show signs of affluence, for an example luxury houses equipped with a parabolic antenna, such houses are commonly owned by ship owners, investors or money lenders.

Efforts to build the fishing community for the purpose of improving the income and living standards of fishermen had been undertaken by the government in the 1970s when the government introduced the

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modernization of the fishery, with an assumption that the Indonesian fishermen could not reach the maximum level of social welfare because they remained using fishing equipment that was so traditional that the income earned from fishing activities was not sufficient for the minimum basic needs [4]. Still, this policy did not last long, with the issuance of the Presidential Decree No. 39 Year 1980, which says, among other things, **first**, elimination of the operations of trawlers, which are considered detrimental to traditional fishermen, because trawl nets (*jaring pukat harimau*) can even catch fish with a fish-seed size and fish which initially can be captured by traditional fishermen can also be caught by these nets, this is considered detrimental to traditional fishermen, **second**, the launching of the fisheries credit program for fishermen, realized in the forms of packages that consist of fishing equipment, i.e. boats, engines and nets [5], with these fishing equipment packages, in addition to having their own fishing equipment, fishermen are also expected to eliminate the risks of the nature, such as severe weather, hurricanes and other natural disturbances during their time fishing at sea.

Departing from the description of the background, it is interesting to study more in depth through a study entitled "A Local Wisdom-Based Coastal Resource Management Model" (A Case Study in the Bahowo Environment of Tongkaina Village in Bunaken District).

II. THEORETICAL REVIEW

Local wisdom (*kearifan lokal*) is a term often used among scientists to refer to a system of values and norms that are established, adopted, understood and implemented by the local community based on their understanding and experience in interacting and interrelated with the environment [6]. This local wisdom is actually part of the ethics and morality that help people to answer the questions related to what morality to implement, how it should be conducted, especially in the field of environmental and natural-resource management. Ethics means "*adat istiadat*" (custom) or "*kebiasaan*" (habit), a good life, ways of having a good life, either in a person or groups of people. These good living habits are adopted and passed on from one generation to another generation [7]. These good living habits are then implemented in the form of rules, regulations and norms that are disseminated, known, understood and taught among the community. Therefore, ethics are understood as the teachings which contain rules on how people should live as a human and as ethics understood as the teachings that contain commands and prohibitions related to the good and bad sides of human behavior, i.e. the commands to be obeyed and the prohibitions to be avoided. Local wisdom does not only concern with the knowledge and understanding of the community on humans and the good relationships among them, but also with the knowledge, understanding and customs of humans, nature and the ways the relationships among the inhabitants of this ecological community should be built.

According [8], local wisdom refers to perspectives of life and science and a variety of life strategies in the forms of activities carried out by the local community in addressing various problems in meeting their needs in which the local wisdom basically can be viewed as the foundation for the formation of the national identity in the national level which is part of ethics and morality in helping people to answer the questions related to what morality to implement, how it should be conducted, especially in the field of environmental and natural-resource management.

Local wisdom in the management of coastal natural resources is essentially a process of controlling the actions of humans or communities around the coastal area in order that the utilization of those natural resources can be done wisely by taking environmental sustainability into account [9], while the term community empowerment refers to the word 'empowerment', that is an attempt to actualize the potential that is already owned by the community. This community-based management can be defined as a system of natural resource management in one place where the local communities living on that place are actively involved in the management of natural resources which that particular place owns.

For the community living in the coastal and marine area, coastal and marine resources do not only serve to satisfy economic needs and the daily needs of the community, but they are very familiar with the environment around them and know how to maintain viability in harmony and the continuity and stability of the coastal area along with its natural resources.

Empowerment of local wisdom and community involvement in the overall development process can raise awareness, motivation, sincerity and earnestness making them participates in taking full responsibility for the development. This community empowerment approach that centers on humans (*people-centered development*) then underlies insights of local resource management (*community-based management*), which are a mechanism for people-centered development planning that emphasizes on social learning technologies (social learning) and strategy formulation programs. The objectives are to increase the community's ability to actualize their selves.

Local wisdom should be accommodated as one of the legal institutions (*pranata hukum*) that can minimize conflicts among fishermen, because, so far, it is limited to the normative and unwritten power making it have the power to bind only its own community. In line with this, [10] states that community-based natural resource management that is rooted only in the strength of social capital has been shown to reduce the attitude of being selfish and free riders, which eventually tends to be more effective in leading to sustainable resource use.

III. HYPOTHESES

The following are the hypotheses to be examined in this research:

- H1: There are the Mediating Effects of the Roles of the Government on the Effects of the Community Behavior towards the Implementation of Local Wisdom.
- H2: There are the Mediating Effects of the Roles of the Private Sector on the Effects of the Community Behavior towards the Implementation of Local Wisdom.
- H3: There are the Mediating Effects of the Implementation of Local Wisdom on the Effects of the Community Behavior towards Coastal-Resource Management.
- H4: There are the Mediating Effects of the Implementation of Local Wisdom on the Effects of the Roles of the Government towards Coastal-Resource Management.
- H5: There are the Mediating Effects of the Implementation of Local Wisdom on the Effects of the Roles of the Private Sector towards Coastal-Resource Management.

IV. RESEARCH METHODS

4.1. DATA ANALYSIS

The analysis technique employed in this study was the *Structural Equation Modeling (SEM)* using the *Sobel Test*. In accordance with the research objectives, this research can be categorized as explanatory research, which is research that aims to find an explanation of the causal relationships or the influences of the relationships among variables through hypothesis testing [11]. The variables of this research consist of Community Behavior, the Role of the Government, the Role of the Private Sector, Implementation of Local Wisdom, and Coastal-Resource Management. The SEM analysis model was derived from the following conceptual framework

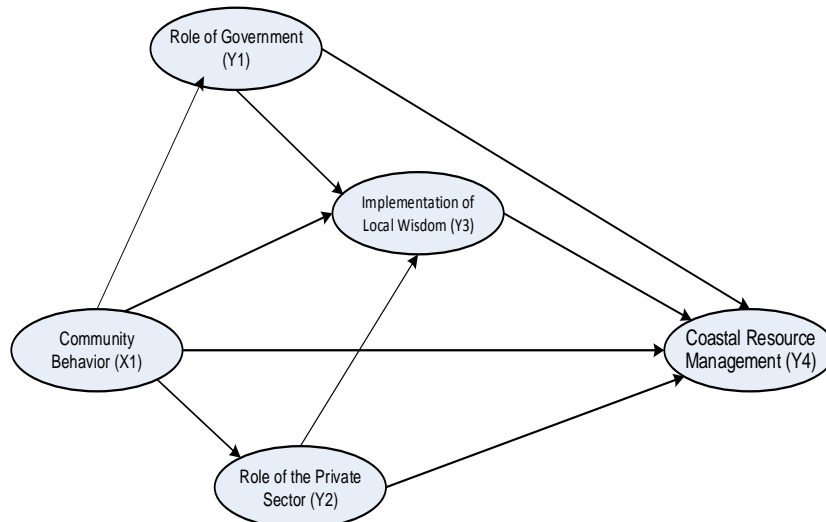


Fig.1: A Path Diagram for SEM (the Structural Model)

4.2. THE SCOPE OF THE RESEARCH

This research focuses on Coastal-Resource Management and Local Wisdom. The objects of this research are the coastal community around the Bahowo area, while the subjects (the actors) of this research consist of the government, the private sectors performing coastal-resource management.

4.3. SAMPLES

The samples in this research consist of part of the community living in the Bahowo area selected using representative sample-collection procedures. Research using representative samples provides results which can be generalized. The criteria for representative samples depends on two inter-related aspects, namely: *accuracy* and *precision*. Accuracy of the samples refers to the extent to which the statistics of the samples can accurately estimate population parameters, while precision of the samples refers to the extent to which the findings of the research are based on the samples that can accurately reflect the reality of their population.

V. THE RESULTS OF THE HYPOTHESES TESTING

5.1. THE RESULTS OF THE FIRST HYPOTHESIS TESTING

Hypothesis testing was done using the *T-statistics* for each path of direct effects in a partial manner. Complete analysis results can be found in the results of the SEM analysis. The following table presents the results of the first hypothesis testing.

The examination of the direct effect of the Community Behavior on the Roles of the Government generates the value of the standardized coefficient by 0.493, with a p-value by 0.004. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Community Behavior on the Roles of the Government. The positive coefficient indicates a unidirectional relationship. It means that the higher the value of the Community Behavior, the higher the value of the Roles of the Government.

The examination of the direct effect of the Roles of the Government on the Implementation of Local Wisdom generates the value of the standardized coefficient by 0.359, with a p-value by 0.004. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Roles of the Government on the Implementation of Local Wisdom. The positive coefficient indicates a positive relationship. It means that the higher the value of the Roles of the Government, the higher the value of the Implementation of Local Wisdom.

The examination of the mediating effects of the Roles of the Government (Y1) on the effects of the Community Behavior (X1) towards the Implementation of Local Wisdom (Y4) using an approach of *Sobel Test* generates an indirect path coefficient by 0.177 and a p-value by 0.040. Since the p-value is less than 0.05, it is indicated that there is a significant indirect effect between the Community Behavior (X1) and the Implementation of Local Wisdom (Y4) through the Roles of the Government (Y1). The positive coefficient indicates a positive relationship. It is indicated that the higher the value of the mediating effects of the Roles of the Government (Y1), the higher the value of the Implementation of Local Wisdom (Y4). Thus, it can be concluded that the Roles of the Government (Y1) is a variable that mediates the effects of the Community Behavior (X1) on the Implementation of Local Wisdom (Y4).

5.2. THE RESULTS OF THE SECOND HYPOTHESIS TESTING

Hypothesis testing was done using the *T-statistics* for each path of direct effects in a partial manner. Complete analysis results can be found in the results of the SEM analysis. The following table presents the results of the second hypothesis testing.

The examination of the direct effect of the Community Behavior on the Roles of the Private Sector generates the value of the standardized coefficient by 0.335, with a p-value by 0.015. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Community Behavior on the Roles of the Private Sector. The positive coefficient indicates a unidirectional relationship. It means that the higher the value of the Community Behavior, the higher the value of the Roles of the Private Sector.

The examination of the direct effect of the Roles of the Private Sector on the Implementation of Local Wisdom generates the value of the standardized coefficient by 0.0293, with a p-value by 0.020. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Roles of the Private Sector on the Implementation of Local Wisdom. The positive coefficient indicates a positive relationship. It means that the higher the value of the Roles of the Private Sector, the higher the value of the Implementation of Local Wisdom.

The examination of the mediating effects of the Roles of the Private Sector (Y2) on the effects of the Community Behavior (X1) towards the Implementation of Local Wisdom (Y4) using an approach of *Sobel Test* generates an indirect path coefficient by 0.098 and a p-value by 0.091. Since the p-value is less than the alpha by 10% (0.10), it is indicated that there is a significant indirect effect between the Community Behavior (X1) and the Implementation of Local Wisdom (Y4) through the Roles of the Private Sector (Y2). The positive coefficient indicates a positive relationship. It is indicated that the higher the value of the mediating effects of the Roles of the Private Sector (Y2), the higher the value of the Implementation of Local Wisdom (Y4). Thus, it can be concluded that the Roles of the Private Sector (Y2) is a variable that mediates the effects of the Community Behavior (X1) on the Implementation of Local Wisdom (Y4).

5.3. THE RESULTS OF THE THIRD HYPOTHESIS TESTING

Hypothesis testing was done using the *T-statistics* for each path of direct effects in a partial manner. Complete analysis results can be found in the results of the SEM analysis. The following table presents the results of the third hypothesis testing.

The examination of the direct effect of the Community Behavior on the Implementation of Local Wisdom generates the value of the standardized coefficient by 0.291, with a p-value by 0.025. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Community Behavior on the Implementation of Local Wisdom. The positive coefficient indicates a positive relationship. It means that the higher the value of the Community Behavior, the higher the value of the Implementation of Local Wisdom.

The examination of the direct effect of the Implementation of Local Wisdom on the Coastal-Resource Management generates the value of the standardized coefficient by 0.0708, with a p-value by 0.047. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Implementation of Local Wisdom on the Coastal-Resource Management. The positive coefficient indicates a positive

relationship. It means that the higher the value of the Implementation of Local Wisdom, the higher the value of the Coastal-Resource Management.

The examination of the mediating effects of the Implementation of Local Wisdom (Y4) on the effects of the Community Behavior (X1) towards the Coastal-Resource Management (Y5) using an approach of *Sobel Test* generates an indirect path coefficient by 0.206 and a p-value by 0.045. Since the p-value is less than the alpha by 5% (0.05), it is indicated that there is a significant indirect effect between the Community Behavior (X1) and the Coastal-Resource Management (Y5) through the Implementation of Local Wisdom (Y4). It indicates that the higher the value of the mediating effects of the Implementation of Local Wisdom (Y4), the higher the value of the Coastal-Resource Management (Y5). Thus, it can be concluded that the Implementation of Local Wisdom (Y4) is a variable that mediates the effects of the Community Behavior (X1) on the Coastal-Resource Management (Y5).

5.4. THE RESULTS OF THE FOURTH HYPOTHESIS TESTING

Hypothesis testing was done using the *T-statistics* for each path of direct effects in a partial manner. Complete analysis results can be found in the results of the SEM analysis. The following table presents the results of the fourth hypothesis testing.

The examination of the direct effect of the Roles of the Government on the Implementation of Local Wisdom generates the value of the standardized coefficient by 0.359, with a p-value by 0.004. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Roles of the Government on the Implementation of Local Wisdom. The positive coefficient indicates a positive relationship. It means that the higher the value of the Roles of the Government, the higher the value of the Implementation of Local Wisdom.

The examination of the direct effect of the Implementation of Local Wisdom on the Coastal-Resource Management generates the value of the standardized coefficient by 0.708, with a p-value by 0.047. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Implementation of Local Wisdom on the Coastal-Resource Management. The positive coefficient indicates a positive relationship. It means that the higher the value of the Implementation of Local Wisdom, the higher the value of the Coastal-Resource Management.

The examination of the mediating effects of the Implementation of Local Wisdom (Y4) on the effects of the Roles of the Government (Y1) towards the Coastal-Resource Management (Y5) using an approach of *Sobel Test* generates an indirect path coefficient by 0.254 and a p-value by 0.015. Since the p-value is less than the alpha by 5% (0.05), it is indicated that there is a significant indirect effect between the Roles of the Government (Y1) and the Coastal-Resource Management (Y5) through the Implementation of Local Wisdom (Y4). It indicates that the higher the value of the mediating effects of the Implementation of Local Wisdom (Y4), the higher the value of the Coastal-Resource Management (Y5). Thus, it can be concluded that the Implementation of Local Wisdom (Y4) is a variable that mediates the effects of the Roles of the Government (Y1) on the Coastal-Resource Management (Y5).

5.5. THE RESULTS OF THE FIFTH HYPOTHESIS TESTING

Hypothesis testing was done using the *T-statistics* for each path of direct effects in a partial manner. Complete analysis results can be found in the results of the SEM analysis. The following table presents the results of the fifth hypothesis testing.

The examination of the direct effect of the Roles of the Private Sector on the Implementation of Local Wisdom generates the value of the standardized coefficient by 0.259, with a p-value by 0.020. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Roles of the Private Sector on the Implementation of Local Wisdom. The positive coefficient indicates a positive relationship. It means that the higher the value of the Roles of the Private Sector, the higher the value of the Implementation of Local Wisdom.

The examination of the direct effect of the Implementation of Local Wisdom on the Coastal-Resource Management generates the value of the standardized coefficient by 0.708, with a p-value by 0.047. Since the p-value is less than 0.05, it can be concluded that there is a significant direct effect of the Implementation of Local Wisdom on the Coastal-Resource Management. The positive coefficient indicates a positive relationship. It means that the higher the value of the Implementation of Local Wisdom, the higher the value of the Coastal-Resource Management.

The examination of the mediating effects of the Implementation of Local Wisdom (Y4) on the effects of the Roles of the Private Sector (Y2) towards the Coastal-Resource Management (Y5) using an approach of *Sobel Test* generates an indirect path coefficient by 0.207 and a p-value by 0.039. Since the p-value is less than the alpha by 5% (0.05), it is indicated that there is a significant indirect effect between the Roles of the Private Sector (Y2) and the Coastal-Resource Management (Y5) through the Implementation of Local Wisdom (Y4). It indicates that the higher the value of the mediating effects of the Implementation of Local Wisdom (Y4), the

higher the value of the Coastal-Resource Management (Y5). Thus, it can be concluded that the Implementation of Local Wisdom (Y4) is a variable that mediates the effects of the Roles of the Private Sector (Y1) on the Coastal-Resource Management (Y5).

Community behavior, the roles of the government, and the roles of the private sector affect the implementation of local wisdom of the Bahowo coastal community. The higher the value of community behavior, the roles of the government and the roles of the private sector, the better the local wisdom of the coastal community. In Bahowo environment, the implementation of local wisdom is based more on the cultural roles than the institutional roles and the religious roles.

Community behavior, the roles of the government, and the roles of the private sector affect coastal resource management that is based on the implementation of the local wisdom of the Bahowo coastal community. The higher the value of the community behavior, the roles of the government and the roles of the private sector indicated by the high value of the local wisdom of the coastal community, the better the coastal resource management in the Bahowo area. The coastal resource management of the Bahowo community emphasizes on the aspect of the effectiveness in the management rather than the economic and rationality aspects.

The findings of this research formulate a local wisdom-based coastal resource management strategy using a structural approach, which is a macro approach that emphasizes on the structuring of socio-political systems and structures. This approach prioritizes the roles of the competent agencies or organizations that are established for the purposes of coastal-resource management. In this case, the roles of the community are crucial but they tend to be less robust since the structural aspects are usually more effective when done by those who have authority, at least in the early stages. In this study, it is revealed that the roles of both the government and the private sector are very supportive for the management of coastal resources. The structural approach also emphasizes on the non-structural approach in terms of community empowerment, given that community involvement also plays a role in local wisdom-based resource management. The non-structural approach (community empowerment) puts humans as subjects who have the freedom to take the initiative and to act on their own. This approach assumes that local communities with their own knowledge, skills and awareness can increase their roles in the management of natural resources around them.

The research findings suggest that a coastal-resource management model that combine the elements of local communities, government and the private sector will avoid excessive dominant roles of one party in managing coastal resources. Through this model, local communities, the government and the private sector are actively involved, starting from the stages of planning, implementation, utilization and supervision. However, this model does not serve as a static structure, rather it is a dynamic process of local wisdom-based coastal resource management. Enforcement of local wisdom among the local community is affected by certain motives, which can encourage the community to enforce or impede the application of local wisdom in the management of coastal resources.

VI. CONCLUSIONS AND CLOSING

Based on the above-mentioned research findings, the following can be concluded: (1) Community behavior, the roles of the government, and the roles of the private sector affect the implementation of local wisdom of the Bahowo coastal community. The higher the value of community behavior, the roles of the government and the roles of the private sector, the better the local wisdom of the coastal community. In Bahowo environment, the implementation of local wisdom is based more on the cultural roles than the institutional roles and the religious roles, and (2) Community behavior, the roles of the government, and the roles of the private sector affect coastal resource management that is based on the implementation of the local wisdom of the Bahowo coastal community. The higher the value of the community behavior, the roles of the government and the roles of the private sector indicated by the high value of the local wisdom of the coastal community, the better the coastal resource management in the Bahowo area. The coastal resource management of the Bahowo community emphasizes on the aspect of the effectiveness in the management rather than the economic and rationality aspects.

The findings of this research provide recommendations that: (1) The Government may formulate more deeply policies on local wisdom-based coastal resource development, primarily the culture-based one, and empower the community in order to have good participation in managing the region so as to improve the welfare, and (2) further research can continue this research by examining local wisdom that support the management of resources in other areas, such as mountains and so on.

REFERENCE

- [1] Dahuri, R. *Pengelolaan sumberdaya pesisir dan lautan secara terpadu*(In Indonesian)(PT. Pramadya Paramita, Jakarta, 1996)
- [2] Kusnadi,*Diversifikasi pekerjaan di kalangan nelayan.*(In Indonesian),Prisma. No.7.Jakarta: LP3ES. 1997.
- [3] Haryono, Tri J. S. (2005). “Strategi Kelangsungan Hidup Nelayan: Studi tentang Diversifikasi Pekerjaan Keluarga Nelayan sebagai Salah Satu Strategi dalam Mempertahankan Kelangsungan Hidup” (In Indonesian)Jurnal Berkala Ilmiah Kependudukan. Vol. 7 No. 2/2005.
- [4] Kusnadi,*Jaminan sosial nelayan.*(In Indonesian)(LkiS, Yogyakarta, 2007)
- [5] Bagong Suyanto, *Perangkap kemiskinan problem dan strategi pengentasannya dalam pembangunan desa*(In Indonesian) (Aditya Media, Yogyakarta, 1996)
- [6] Tjahjono, et. al.,*Pola pelestarian keanekaragaman hayati berdasarkan kearifan lokal masyarakat sekitar kawasan tnks di provinsi bengkulu dalam prosiding hasil penelitian srg tnks*(In Indonesian)(Kehati Jakarta, 2000)
- [7] Keraf, A. Sonny,*Etika lingkungan*(In Indonesian)(Penerbit Buku Kompas, Jakarta, 2002)
- [8] Harsono,*Hukumagrariaindonesia,sejarah,isdanpelaksanaannya* (Jambatan, Jakarta, 1997)
- [9] Supriharyono,*Pelestarian dan pengelolaan sumber daya alam di wilayah pesisir tropis*(In Indonesian)(PT Gramedia Pustaka Utama, Jakarta, 2002)
- [10] Nasution, Zahri, *Sosial ekonomi masyarakat perikanan*(In Indonesian) (Penerbit Universitas Terbuka,Jakarta, 2007)
- [11] Umar, Husein, *Metode penelitian untuk skripsi dan tesis bisnis*(In Indonesian) (PT RajaGrafindo Persada, 2004)