July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

Factors That Affect Energy Subsidy Policies in Indonesia

Lely Indah Mindarti, Ferdy Novianto, Sumartono, Irwan Noor (Faculty of Administrative Science, University of Brawijaya, Malang, Indonesia)
[1]University of Brawijaya, Malang, Indonesia

*Correspondingauthorferdynovianto@student.ub.ac.id

Article Info
Volume 83
Page Number: 4580 - 4597
Publication Issue:
July-August 2020

Abstract:
The purpose of this study is to examine renewable energy policy variables about the influence of communication, resources, and dispositions on the influence of scenario moderation. The method used in sampling is proportional stratified random sampling from 770 MPEL and METI member populations in June-August 2017. The research tool used in the study is Partial Least Square (PLS). The findings in this study indicate that all relationships between variables have a value of $p \leq 0.05$ except the third moderation relationship and the fourth moderation. This study refers to several previous studies, including: Policy Theory (Edwards III, 1980), and is strengthened by the findings of Ratminto and Winarsih (2008), and Bloom & Menefee (2009), that communication, resources, and dispositions affect the success of policies energy subsidies. This study examines the moderating effects of renewable energy policy scenarios in the relationship between communication, resources, and disposition on the success of energy subsidy policies.

Keywords:*Implementation of the subsidy policy, energy policy scenarios, communication, resource*

Article History
Article Received: **25 April 2020**
Revised: **29 May 2020**
Accepted: **20 June 2020**
Publication: **10 August 2020**

1. INTRODUCTION

Indonesia applies the subsidy mechanism in order to suppress the retail price of oil fuel since 1967 [7]. In the 1980s, when the production of oil in Indonesia was higher than now, the oil fuel subsidy was more affordable, even though it was criticized because the energy subsidy disturbed the overall economic system. When the price of global oil increased in 2005, the government spent 24% of its expenditure on the subsidy and out of that percentage, 90 percent was spent on fuel products [42]. In order to reduce the expenditure, the government doubled the price of kerosene, gasoline, and diesel in the country within the course of six months in 2005. That increase in price was firstly conducted in March as much as 29 percent (for the fuel price), while the second time was on October as much as 114 percent [42].

The production of raw oil in Indonesia had decreased since 1998 along with the aging

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

oil wells. In 2004, Indonesia became the oil net importer and not long from that the government suspended its membership in the Organization of Petroleum Exporting Countries (OPEC) (EIA, 2011). In 2011, the organization of upstream oil and gas regulator, The Upstream Oil and Gas Regulatory Agency (BP Migas), estimated the stock of potential oil and proven that it would only last up to 12 years, while the natural gas would last up to 46 years ;BP Migas, 2014.

Throughout 2011 – 2017, as written in the Financial Note, the realization of the subsidy expenditure was quite fluctuated and nominally the expenditure of 2011 had a decline as much as Rp. 117,605 million from Rp. 295,359 million and Rp. 177,754 million in the APBNP of 2016. Yet, in the RAPBN of 2017, the subsidy expenditure allocation increased as much as Rp. 4,367 million into Rp. 182,121 million, previously was Rp. 177,754 in the 2016 expenditure or there was a 39.8% increase in the fuel oil subsidy and 3kg LPG Tube in RAPBNP of 2017 was estimated to reach Rp. 51,111.1 million, which means it had an increase of Rp. 18,780.5 million compared to the allocation in the APBN of 2017, which was Rp. 32,330.6 million. The increase was caused by the increase in the global raw oil price from USD45 per barrel to USD50 and the adjustment of Rupiah's exchange rate to the USD from Rp. 13,300 to Rp. 13,400. Apart from that, the increase of the oil fuel subsidy and 3kg LPG tubes were also caused by the postponed implementation of a more accurate 3kg LPG tube distribution policy.

The RAPBN of 2017 allocated the subsidy expenditure to Rp. 182,121.8 million. The allocation was planned to be transferred to the energy subsidy (fuel oil, BBN, 3kg LPG tube, and LGV as well as electricity) as much as Rp. 51,111.1 million. Meanwhile, as much as Rp. 79,012.9 million was planned to be transferred to the non-energy subsidy including: the food, manure, seeds, PSO, bank interest program, and tax subsidies.

The current energy subsidy policy is believed to be the best solution to fully support the prosperity of the people. But in reality this policy does not apply as yet. Some determinants related to energy subsidy policies can be implemented from internal conditions as described previously, as well as external conditions.

There is an indication of a deficit in the current transaction closely related to the deficit in Indonesia's APBN. The fuel oil and petroleum import subsidies hold an important role in explaining the two deficit phenomena. The empirical findings show a proof that supports the relations between the two deficits. The current transaction deficit is found to be the cause of the expenditure deficit. The role of the fuel oil subsidy in the APBN and petroleum within the import composition becomes more critical and strategic for Indonesia in decreasing the deficit rate, both in terms of external and internal trade of APBN. The import also increased especially the gas import of 109.5% in October 2012 with the same period compared to the previous year (January – October). Meanwhile, the raw petroleum import increased by 1.6% within the same period.

In the increase period of the current transaction deficit, budget deficit, and the growing oil fuel expenditure deficit, what increased instead was the income of the rich people by 20%. In 2009, the class of 20% rich people received 44.91% of the national income, which in 2011 increased to 48.42%. On the contrary, the class of 40% poor people still received 18.96% of the national income of 2009, yet in 2001 it decreased to 16.85%.

The use of oil fuel related to the oil fuel subsidy is closely related to the scenario of renewable policy in order to revise the policy that has been conducted. Referring to the energy demand, these days the demand had an exponential increase due to the significant global population growth. This is also pointed out by

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

Annan (worldenergy.org): "Energy is essential for development, yet two billion people currently go without, condemning them to remain in the poverty trap. We need to make clean energy supplies accessible and affordable. We need to increase the use of renewable energy sources and improve energy efficiency. And we must not flinch from addressing the issue of over-consumption – the fact that people in developed countries use far more energy per capita than those in the developing world." [1].

Previous researches explicitly and implicitly examined the energy subsidy policy around the world. Onyeizugbe and Onwuka,studied the influence of subsidy removal and job creation in Nigeria[23]. The findings show that there is no relationship between subsidy removal and job creation. Ogarenko and Hubacek examined the effects of energy subsidy that cause a detrimental effect on the economy and environment which also stimulate the ineffective resources allocation and excessive energy consumption [22]. The result of the total energy subsidy removal will increase the energy efficiency of around 2.5% and 3.6%. Gurung, *et al*. argued that the energy subsidy policy influences the massive fiscal savings, even though from the micro aspects, it will decrease the domestic real income of all income groups[14]. The better oil fuel subsidy will totally protect the low-income household and create clean, substantial fiscal savings.

From those researchers, it is shown that the previous studies still examined the level of success of the energy subsidy policy, as well as its relationship to the energy subsidy scenario. The scenario is a tool to navigate someone's perception of the future environment that probably will happen. The policy scenario is a process of learning against organizations to give more attention of the future situation that might be different from the present day. There have not been many studies on the way the energy subsidy pattern is affected by some determinants, such as communication, resources, disposition, as well as the bureaucracy structure toward the implementation of oil fuel subsidy policy [8]. On the other side, the relationship of the new energy scenario as a mediation between communication, resources, disposition, as well as the bureaucracy structure in strengthening or weakening the implementation of oil fuel subsidy policy has not been much studied.

From the empirical phenomenon above, it can be linked to the theoretical phenomenon in the field of public policy implementation. From the perspective of public policy implementation theory, what has been done by the government tends to follow the "top-down" model in public policy implementation. In this perspective, the success of the policy implementation will be determined by a number of variables or factors and those variables are connected to each other. according to Mazmanian and Sabatier[19], there are three kinds of variables affecting the success of a policy implementation, which are: (1) the characteristics of the issues; (2) the characteristics of the policy; and (3) the contextual variables. Firstly, the characteristics of the issues which are currently being handled. Each issue faced by a policy has a different degree of freedom. There is an issue with an easy, medium, and difficult degree. The easier the issue is, the higher the possibility of the policy implementation success is. Secondly, the characteristics of the policy. To be successfully implemented, a policy is affected by its characteristics, including the clarity of the policy, theoretical support, resources allocation, institutional support, rules consistency, and commitment. Thirdly, the policy's contextual variables, which are factors outside the policy.

Those factors are similar to society's socioeconomic condition and public support. According to Grindle [13], the success of a policy implementation is influenced by two major variables, such as: the content of the policy and context of implementation. Firstly,

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

the content of the policy covers: (1) how far the interests of the target groups are contained in the policy content; (2) the type of benefit received by the target groups; (3) how far the changes aimed by the policy; (4) the accurate position of the program; (5) whether a policy clearly mention who implements it; (6) whether a program is supported by the adequate resources. Secondly, the policy context includes: (1) how far the power, interests, and strategies possessed by the actors involved in the policy implementation; (2) the characteristics of the current institution and regime; (3) the level of obedience and responsivity of the target groups.

The critical condition and situation of the global energy give a depiction that energy has a big influence toward all aspect of human lives, especially in this modern era. When the world experiences an energy scarcity, whether due to the commodity limitation or the increase of energy price, the other sectors, such as the economy, social, and politics will also be affected. The sustainability of modern civilization is really dependent on many energy resources. This is stated by Demirbas, "Energy affects all aspects of modern life. The demand for energy is increasing at an exponential rate due to the significant growth of the world population" [6]. In other words, energy has a close relationship with the other aspects of life. Therefore, this research examines deeper the global energy subsidy policy under the influence of two determinants, either internal or external, which affects the people's prosperity as one of the national development's goals.

In fact, Indonesia's condition is quite different from the West and it adopts a deeply rooted subsidy, then this research studies the mediation effect of the renewable energy policy scenario in its relations to the communication, resources, disposition, and bureaucracy structure affect the success of the energy subsidy policy. Considering there has not been a strong theory to study the mediation effect of those four factors toward the success of the energy subsidy policy. Therefore, as the carrier of Edwards III's Theory, this research examines the proposition whether the energy policy scenario mediates the effect of communication, resources, disposition, and bureaucracy structure affect the success of the energy subsidy policy.

This research uses 6 variables including the communication factor (X1), resources factor (X2), and disposition factor (X3), renewable energy policy scenario (M), and success of the subsidy policy implementation. It is distinguishable from the previous studies. It can be seen from the fact that the previous studies examined the effects of energy subsidy toward the people's prosperity. There have not been many study on the way the energy subsidy pattern is affected by some determinants, such as communication, resources, disposition, as well as the bureaucracy structure. Besides, the pattern of the renewable energy policy scenario in facilitating the energy subsidy policy has not been studied. Therefore, this research discusses the oil fuel (BBM) subsidy policy implementation toward the renewable energy policy implementation. What differs this study with the previous ones is X1 – Y states the influence of communication factor (X1) toward the success of the subsidy policy implementation (Y), X2 – Y states the influence of resources factor (X2) toward the success of the subsidy policy implementation (Y), X3 – Y states the influence of disposition factor (X3) toward the success of the subsidy policy implementation (Y), X5 – Y states the influence of renewable energy policy scenario (X5) toward the success of the subsidy policy implementation (Y). There has not been a research that studies the overall relationship at once and it becomes the originality of this research. Besides, the use of mediation effect on the renewable energy policy scenario under the influence of communication, resources, disposition, as well as the bureaucracy

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

structure toward the success of the energy subsidy policy is the novelty in this research.

2. THEORETICAL BACKGROUND

In this study, grand theory used is Theory of Public Policy, the middle range theory using implementation of public policies, applied theories using communication, resource, and policies scenario. Based on the theoretical background and the research aims to test the renewable energy policy scenario as a moderation of the implementation of fuel subsidy (in Indonesian *Bahan Bakar Minyak* or BBM) policy. The two concepts used in this study are public policy theories of public policy implementation and the concept of public policy scenarios. The first concept is the Implementation of Public Policy defined an activity or undertaken by the executor of the policy in the hope of obtaining an outcome in accordance with the goals or objectives of a policy itself [8]. In the concept of public policy, implementation describes the factors that influence the implementation of public policy such as communication, resources, and dispositionthat affect the implementation of public policy. Based on the concept, 5 research variables are communication factor, resource factor, disposition factor, organizational structure factor, and successful implementation of subsidy policy [10].

The second concept is Public Policy Scenario. Mowery & Rosenberg defines that efforts to improve the quality and success of the implementation of a policy require scenarios to design and anticipate future uncertainties [21]. In other words, the policy scenario is a learning process that challenges the organization to be able to pay attention to future situations that may be different from the current situation. This concept explains the relationship between policy implementation and public policy scenarios.

Several previous studies have examined the relationship between communication, resources, disposition, and successful implementation of policy and policy scenarios. Palmer et al. has examined the effect of communication on the success of policy implementation[24]. Onyeizugbe&Onwuka,[23]; Supriyo [37]; and Comstock & Boedecker [5] have examined the effect of resources on the successful implementation of the policy. Susilo [38], Salle & Slemrod [31] have examined the effect of disposition on the success of policy implementation. Global Subsidies Initiative(GSI) [15]. On the other hand, Global Subsidies Initiative(GSI) [21]; Susilo [38], Ellis[9]; McKibbin, *et al.*[20]; Salle & Slemrod [31]; Takahashi & Asano [40]; Onyeizugbe&Onwuka,[23]; Clemens, *et al.*[4]; Supriyo [37], Ogarenko & Hubacek [22] has examined the effect of policy scenarios on the success of policy implementation.

Petroleum Fuel (BBM) is one of several commodities that are very influential on other commodities. Changes in fuel prices will, directly and indirectly, affect other commodity prices including basic commodities such as clothing, food, and shelter, even at the level of income and poverty. To protect the poor, the government needs to intervene on fuel prices by subsidizing.

With regards to the policy implementation model, the authors obtain a common thread that links between models with other models. As mentioned earlier that the main model used in this study is the Edwards III model, the authors propose the synthesis of Van Meter and VanHorn, Grindle, and Mazmanian and Sabatier's models based on Edwards III basic model. This research uses two concepts in public policy namely the concept of public policy implementation, and the concept of public policy scenario. In the concept of public policy, implementation describes the factors that influence the implementation of public policy

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

such as communication, resources, and disposition that affect the implementation of public policy. The second concept is the concept of public policy scenarios, in which the concept explains the relationship between policy implementation on public policy scenarios [16].

In an effort to improve the quality and success of policy implementation, scenarios are needed to design and anticipate future uncertainties [21]. The various techniques are basically an effort to determine arational decision (policy implementation). This explanation shows that the policy scenario is one of the techniques that can be utilized for policy development both to develop new strategies and to examine existing options, as quoted by Ringland [27] scenario planning traditionally used possible future outcomes (scenarios) to improve the quality of decision making (planning), and the emphasis has moved in recent years from building scenarios to successfully using them.

The use of scenario planning in strategic decision making is related to the reactions that arise to the high uncertainty and complexity of the circumstances of the implementation of a policy. The importance of the use of scenarios for the completion of policy implementation according to Ringland [27] is because scenarios are built on simple assumptions but related to the various determinants that lead to future changes. On the basis of that, the authors limit the factors/variables tested on the communication, resource variables, and disposition in the direction of successful implementation. Furthermore, the success of the implementation is related to the renewable energy policy scenario, as shown in Figure 1 below:

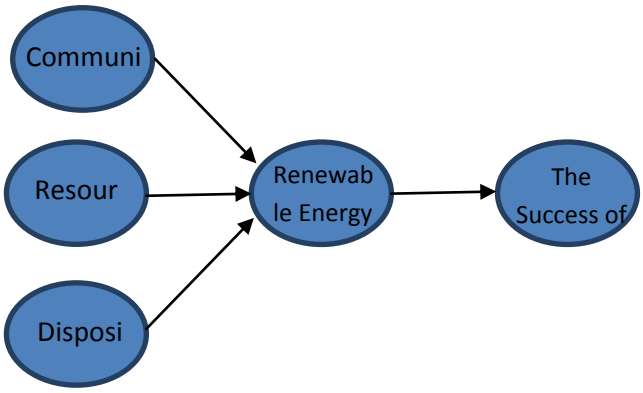

Figure 1. Concept Research Framework

3. MATERIAL AND METHOD

This research uses a quantitative approach. It applies a deductive thinking in formulating the hypothesis, a research approach that begins with a general phenomenon that is a discussion over a tangible phenomenon on its believed truth followed by the specific conclusion. It is chosen due to its coverage of many forms of phenomena possible to be studied broader because of the presence of many variables examined. This research also measures the cause-effect relationship between exogenous and endogenous variables. To collect the data, this research uses surveys.

This research is located in a number of major cities in Indonesia including Jakarta, Bandung, and Surabaya. The locations are deliberately chosen (based on certain objectives). The research object is the government policy. The population is all the people who are able to assess the energy policy especially the subsidy policy, they consisted of the Community Care for Energy and Environment (MPEL – *Masyarakat Peduli Energi dan Lingkungan*) as the representatives of the community and the Indonesian Renewable Energy Community (METI – *Masyarakat Energi Terbarukan Indonesia*). The current number of MPEL members is 540 and METI is 230 persons. Therefore, the population of this research includes 770 individuals [10].

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

The samples are part of the population that can be used to explain (generalize) the population. The sample-taking technique used is the Stratified Proportional Random Sampling, taking parts from the 770 members of MPEL and METI. This research uses the representative samples to generate a result that can be generalized. The criteria of representative sample depend on 2 (two) related aspects: accuracy and precision. This research uses slovin formulation and chooses 145 individuals as the research sample. The sample-taking technique used is the proportional random sampling, where the 145 individuals were divided into 102 respondents of MPEL (*Masyarakat Peduli Energi dan Lingkungan*) and 43 respondents of METI (*Masyarakat Energi Terbarukan Indonesia*).

The approach used in this research is quantitative with an analysis tool of Partial Least Square (PLS). It is used due to its 1) relationship between variables is structural (structural model/inner model) involving four exogenous variables (communication X1, resources X2, and disposition X3), one endogenous mediation variable (the renewable energy policy scenario), as well as the pure endogenous variable (the success of the subsidy policy implementation, Y), 2) the variable measurement which is directly unobservable, therefore, a measurement model is required (Fernandes and Solimun, 2017).

In this research, the measurement of the variables was done using a Likert scale with 5 (five) categories in the form of statements on each research instrument question item [33]. Likert scale was also applied to assess the respondents' attitude that can be plotted to get an idea about the perception of the respondents.

The data analysis used in this research is as depicted in Figure 1, Partial Least Square (PLS), because 1) the relationship between variables is structural (structural model/inner model) involving four exogenous variables (communication X1, resources X2, and disposition X3), one endogenous mediation variable (the renewable energy policy scenario), as well as the pure endogenous variable (the success of the subsidy policy implementation, Y), 2) the variable measurement which is directly unobservable, therefore, a measurement model (outer model) is required. The PLS analysis includes the inner/structural model, as well as the outer/measurement model [34].

4. RESULT AND DISCUSSION

The economic development implemented by all countries including the developing ones like Indonesia requires an energy supply, especially the final energy, such as fuel oil, gas, firewood and charcoal, and electricity. The more increase in economic development, the higher the energy demand would be. In attempts to achieve a high rate of prosperity, Indonesia still needs the continuously growing amount of energy. Measuring the current per capita, Indonesia is still considered as a minor consumer of energy. Yet, the energy utilization cannot be separated from its impact toward the environment. For the sake of the sustainable development, all aspect should be suppressed to the minimum through the efficiency improvement of energy utilization, energy savings, decrease and prevention of emissions/effluents, and rational and optimal utilization.

Linearity Assumption Testing. In the analysis of PLS, there is an assumption that must be met before the analysis which is the assumption of linearity, which requires the linear relationship between variables. The study used the Curve Fit method which means the relationship between variables is linear when meeting one of the following possibilities: (1) the significant linear model (sig linear model <0.05), (2) the non-significant linear model and all non-significant models (sig linear model> 0.05, and in addition to linear models sig> 0.05). The test results showed that the linear model

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

value of <0.05 so that the model is said to be linear and satisfy the assumptions set.Uji kesesuaian model menggunakan nilai Q2 predictive relevance, dengan nilai Predictive sebesar 81.5% > 70%, mengindikasikan model mampu menjelaskan 81.5% dari keragaman data asal.

Analysis PLS. Testing inner model (structural model) essentially tests the hypothesis. Hypothesis testing is done by t test at each direct effect partially. The results of the PLS analysis as well as the results of hypothesis testing are summarized in the following figure. The model is presented as follows

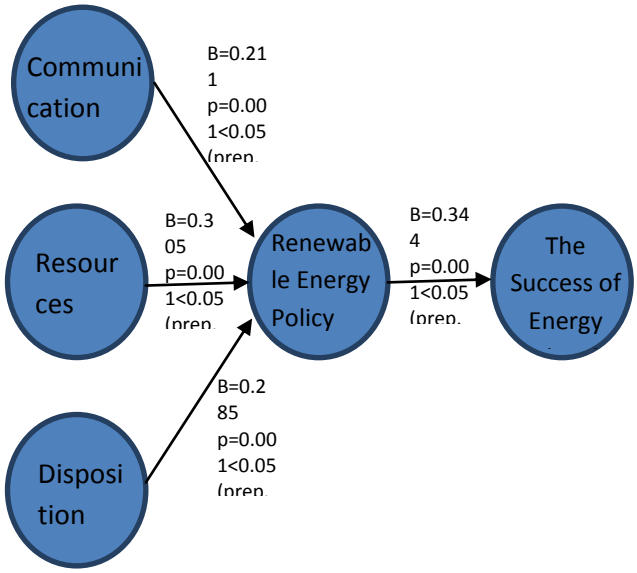

Figure 2. PLS Structural Model

The analysis result above shows that the communication, resources, disposition, and bureaucracy factors influence significantly and positively toward the renewable energy policy scenario and the renewable energy policy scenario influences significantly and positively toward the success of the energy subsidy policy. Therefore, it can be concluded that the renewable energy policy scenario is a mediator between communication, resources, disposition, and bureaucracy factors in determining the success of the energy subsidy policy.

Discussion

This research studies the mediation effect of the renewable energy policy scenario toward the relationship between the communication, resources, disposition, and bureaucracy factors in determining the success of the energy subsidy policy. Considering there has not been a strong theory to study the mediation effect of those four factors toward the success of the energy subsidy policy. Therefore, as the carrier of Edwards III's Theory, this research examines the proposition whether the energy policy scenario mediates the effect of communication, resources, disposition, and bureaucracy structure affect the success of the energy subsidy policy.

The model from the research above is an expansion of Edward III's theory by developing the mediation effect of the renewable energy policy scenario. This section discusses the research findings. Firstly, this research found that the Communication (X1) influences the Success of Subsidy Policy implementation (Y1) through the mediation of the renewable energy policy scenario. The high rate of communication, which is the message Transition to the appropriate person, the message Clarity, the message Consistency, the Ability of the message sender and receiver to comprehend the message, the Message Delivery System and Message Delivery Media, will affect in the high rate of Success in the Subsidy Policy implementation (Y1), which is reflected in the Effectivity, Efficiency, Responsivity, Responsibility, Accountability, and Transparency.

According to Robbins [29], the communication includes the "the transfer and the decoding of meanings". Keith Davis, as quoted by Mangkunegara [18], stated: *"communication is the transfer of information and understanding from one person to another person"*.

Edwin B. Flippo, as quoted by Mangkunegara [18], said: "Communication is the act of inducing others to interpret an idea in the manner intended by the speaker or writer".

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

According to Suwarto [39], communication is "a process of giving and receiving information up to the understanding of meaning". Usman [41] argued that communication is "a process of message delivery or reception from one individual to another either directly or indirectly, in written, oral, or even non-verbal language".

Based on the arguments of Robbins [29], Keith Davis as quoted by Mangkunegara [18], Suwarto (1999:165), and Usman [41], a communication can be defined as a process of transferring an information, idea, understanding from one individual to another through oral, written, or even non-verbal language so that the other person would interpret the message in accordance with the initial intention.

Edwards III [8]argues that the communication factors affecting the effectiveness of the policy implementation are:

> "First: Transmission. Policy decisions and implementation orders must be transmitted to the appropriate personnel before they can be followed. Naturally, these communications need to be accurate, and they must be accurately perceived by implementors.
>
> Second: Clarity. If policies are to be implemented properly, implementation directives must not only be received, but they must also be clear. If they are not, implementors will be confused about what they should do, and they will have the discretion to impose their own views on the implementation of policies.
>
> Third: Consistency. Contradictory decisions confuse and frustrate administrative staff and constrain their ability to implement policies effectively."

According to Sedarmayanti [32], the influencing factors of the communication flow are:

1) Definition of words, sentences, symbols, or code
2) The ability or will of the receiver to listen to what is communicated orally
3) Methods and tools for message delivery
4) The message listener/receiver's interests
5) The different perception based on personality, experience, and will/spirit.

According to Mangkunegara[18], there are factors influencing communication, such as:

a. Factors from the sender/communicator
   1) The sender's skills
   2) The sender's attitude
   3) The sender's knowledge
   4) The transfer media used by the sender
b. Factors from the receiver/receiver
   1) The receiver's skills
   2) The receiver's attitude
   3) The receiver's knowledge
   4) The transfer media used by the receiver

Based on the factors influencing communication argued by Edwards III [8], Sedarmayanti [32], dan Mangkunegara [18], the communication dimensions can be formulated as follows:

1) Message transmission to the appropriate person
2) Message clarity
3) Message consistency
4) The ability of the message sender and receiver in comprehending the message
5) The message delivery system
6) The message transfer media

This research aligns with the public policy implementation concept which explains the factors influencing the public policy implementation, such as communication, resources, disposition, and bureaucracy factors to the public policy implementation. According to Van Meter and Van Hom model, the four factors simultaneously affect the implementation performance. This research also strengthens the findings found by Palmer*et al.* (2002) who had studied the influence of communication toward the success of policy implementation.

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

> "Perhaps the most dominant one is communication among the stakeholders. For instance, truly almost all the department support renewable implementation, yet, the PLN still considers the business and conventional energy, it is still compared with the EBT. It is not wrong either since there is a mission as a corporation, the profit must be maintained, especially the consultation with the Ministry of Finance, the subsidy issues, etc. So the communication between the policy-makers seems to be necessary. Secondly, about the policy. The policy has many overlaps between one policy and another (bureaucracy). For example, between the KLH and the ministry of energy, they do not have a coordination on the policy yet, especially about the specification of the oil fuel. For example, the ministry of energy wants us to get into Europe by 2025, while the KLH wants it by 2018. If it is 2018, then practically Pertamina will import a lot because we are not ready yet for this production. So the policy coordination is not well yet".
>
> (An interview with Heru Sriwidodo, Vice President of Pertamina of Investment Planning, 24 August 2017)

The result of the interview with the executives shows that communication is the main factor of public policy success. The form of communication expected is good communication among the stakeholders where the government acts as the executive, legislator, or the people. For example, renewable implementation in almost every institution. Yet, the obstacles are seen in PLN who still considers the business aspects and conventional energy so that good communication is required to improve the renewable energy policy implementation. The PLN currently focuses on the corporation's interests of profit and relations with other ministries (such as finance) regarding the subsidy. The policy overlaps with other institutions as well, such as the Ministry of Environment with Ministry of Energy and Human Resources, which has not aligned their coordination perception regarding the policy, especially the specification of oil fuel (BBM – *Bahan Bakar Minyak*). The Ministry of Energy and Human Resources wants to get into Europe by 2025, while the KLH wants it by 2018. If it is 2018, then automatically Pertamina will import a lot because it is not ready to be produced yet. So the policy coordination related to the communication factor is very accurate and must be improved.

In fact, the current communication is not going well and an improvement is a must. This is stated by the Director of EBT, Ministry of Energy and Human Resources, and Dana Kusdana: To date, we have invited the Police, Ministry of Finance, PLN, Pertamina, and all the sponsors including the private sectors, such as GAIKINDO, to have a meeting with the Ministry of Energy and Human Resources 4-5 times. We offered them to be directly involved in succeeding this program.

Secondly, this research found that the Resources (X2) influence the Success of Subsidy Policy implementation (Y1) through the mediation of the renewable energy policy scenario. The high rate of resources, which is reflected in the high number of staffs/personnel, Information, and Authority and Facilities, will affect the success rate of the Subsidy Policy implementation (Y1) proven by the Effectivity, Efficiency, Responsivity, Responsibility, Accountability, and Transparency.

In accordance with the policy implementation from Edwards III, there are four components of resources, which are staffs/human resources, information, authority, and facilities. The definition of resources according to the Oxford Advanced Learner's Dictionary is "1) a supply of something that a country, an

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

organization or an individual has and can use, especially to increase wealth, 2) a thing that gives help, support or comfort when needed, 3) the ability to find quick, clever and efficient ways of doing things".

In the field of public policy, Edwards III [8] mentioned the types of resources: Important resources include staff of the proper size and with the necessary expertise; relevant and adequate information on how to implement policies and on the compliance of others involved in implementation; the authority to ensure that policies are carried out as they are intended; and facilities (including buildings,equipment, land, and supplies) in which or with which to provide services.

Based on the definition from Oxford and Edwards III's argument [8], it is concluded that the resources are the provision to a country, organization, or individual in forms of staffs/labor force, information, authority, and facilities. Edwards III [8] explained the four factors of resources that influence the policy implementation: 1)*Staff*, 2) Information, 3)Authority, and 4) Facilities.

a. Staff/personnel

According to Edwards III, staffs could be the most important resources in implementing a policy. Mangkunegara [18] argued that human resources management is "a management and utilization of resources resided in each individual (employee)". Edwards pointed out two aspects that need to be noted in the human resources management:

1) The size/number of staffs

The inadequate number of staffs is an obstacle to the policy implementation. Because, parts of the policy typically involve activities in many fields, therefore, staffs in a big number are an important factor in implementing a policy.

2) The staffs' skill

Usually, the more technical a policy is, the more it needs the specialized staffs. The inadequacy of skilled staffs will hamper the policy implementation.

b. Information

According to Edwards [8], information is the second critical factor of resources in the implementation. Yet, according to Blumental Sherman, as quoted by Sedarmayanti [32], information is "data recorded, classified, organized, related or interpreted within context to convey meaning". McFaden *et al.*, as quoted by Kadir [17], defined information as the data processed in certain ways so that it improves the knowledge of someone who uses it. From the two definitions, it can be concluded that information is an owned data that can be processed and used to improve the knowledge.

Edwards [8] argued that the occurring issues due to the information resources in a policy implementation are :

1) Knowing what to do

The lack of knowledge on what to do to implement the policy causes the postponement of the obligations or requirements in the implementation. Edwards III gave an example in a policy that involved a new technology which requires the implementer to gather information on what to do beforehand.

2) Monitoring compliance

The information regarding the policy implementation is sometimes difficult to gather. Edwards III [8] put an example, the EPA (*Environment Protection Agency*) in the United States had difficulties in gathering the data on air pollution. Many inspectors of air pollution were merely checking upon the odor and color of the factory smokes in certain times due to the difficulty of constant surveillance.

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

c. Authority

The authority is an important aspect of a policy implementation. There are a couple of things that need to be noted as the effect of authority in a policy implementation:

1) Authority practices
Sometimes the implementer does not have an authority in a form of authority letter or they do but quite limited.

2) Funds withdrawal
A policy implementation is sometimes hampered by who has the authority to withdraw the compliance funds of an event. Sometimes the withdrawal is also constrained by the other more prioritized programs by the more authorized person.

3) Another party also has an authority
A policy implementation could be limited by another party that has an authority. When there is a deviate discretion, the parties that handle it sometimes hesitate to give a sanction.

d. Facilities

According to Edwards [8], the lacking of buildings, tools, supplies, or lands can get in the way of a policy implementation. The limit on the expenditure, the complicated auction system, and the public opposition also causes the fulfillment of facilities.

Based on Edwards III's opinion , the author decided that there are four dimensions that can be taken from the resources variables: 1)*Staff*, 2) Information, 3)Authority, and 4) Facilities.

This research supports the previous research by Onyeizugbe&Onwuka[23]; Supriyo [37]; as well as Comstock & Boedecker [5] which had examined the influence of resources toward the policy implementation success, along with the concept of public policy implementation.

> "If Edward's theory is not about communication, then is it about resources? So, the allocation was inaccurate, it was supposed to be funded due to the increase in the conventional fuel oil price and be a research. Then, neither the human resources nor communication is well-organized, sir? Yes, the government perhaps is no longer able to subsidize the fossil and has no funds to carry out the other new renewable resources. Secondly, affordable energy everywhere is taxed because of its carbon emission. The carbon tax in Indonesia is not implemented, consequently, the coal is considered as the most affordable energy. The fact that it is destructive to nature, the ecosystem, and even sanitation or environmental health is ignored. While it is a carbon emission, it is also degrading the people's health. The damage is not calculated, therefore they never encountered carbon tax. In other countries, other than funds allocation, there is a carbon tax. Even though it uses affordable coal, it does pay much tax because the coal's overall cost is not cheap. It is supposed to be that way. Such policies do not exist in Indonesia. Moreover, the recent regulation makes the renewable energy cheaper than the fossil ones. A maximum of 85% of the existing fossil energy". "The government ran out of funds to subsidize the oil fuel when they are asked for more subsidy, there is none. Asked to live independently without the government's subsidy. Supposedly, the fossil energy is the one which should live independently. Back when there was a discourse of oil and gas funds or what where every purchase of oil fuel will be partly allocated to fund the renewable energy. That was opposed. No subsidy, taking from the market is prohibited, it is impossible to get supplementary."

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

(The result of an interview with Andianto Hidayat, Vice President Research and Development Pertamina, 29 August 2017)

The resources are very important to improve policy implementation success. The government may already unable to subsidize the fossil and ran out of funds to develop the other new renewable resources. The next part, the affordable energy related to tax, because the affordable energy emits carbon. The carbon tax in Indonesia is not implemented, consequently, the coal is considered as the most affordable energy. A problem happened in the destruction of nature, ecosystem, and even sanitation or environmental health that are impacted. While it is a carbon emission, it is also degrading the people's health. The damage is not calculated, therefore they never encountered carbon tax. In other countries, other than funds allocation, there is a carbon tax. Even though it uses affordable coal, it does pay much tax because the coal's overall cost is not cheap. It is supposed to be that way. Such policies do not exist in Indonesia. Moreover, the recent regulation makes the renewable energy cheaper than the fossil ones. A maximum of 85% of the existing fossil energy

Related to the government which no longer has funds to subsidize the oil fuel (BBM) so that now without it, which requires the renewable resources, the fossil energy is expected to be independent.

> "When our Human Resources become adequate, but we do not have the technology and research. Because all the technology and resource we do not have, eventually we have to buy it with a consequence of a high cost. A country that can jump into renewable energy must have a nuclear. The country must have a surplus and is already able to fulfill the basic needs beforehand".

(The result of an interview with Dadan Kusdiana, Director of EBT, Ministry of Energy and Human Resources, Doctor in the field of Renewable Resources, 8 September 2017)

Related to the resources, especially human resources, our Human Resources is already adequate, but we do not have the technology and research. Because all the technology and resource we do not have, eventually we have to buy it with a consequence of a high cost. A country that can jump into renewable energy must have a nuclear. The country must have a surplus and is already able to fulfill the basic needs beforehand.

Thirdly, this research found that the Disposition (X3) influences the Success of Subsidy Policy implementation (Y1) through the mediation of the renewable energy policy scenario. The high rate of disposition, which is reflected in the high rate of cognitive, affective, and initiative that will affect the success rate of the Subsidy Policy implementation (Y1) proven by the Effectivity, Efficiency, Responsivity, Responsibility, Accountability, and Transparency.

According to the Oxford Advanced Learner's Dictionary, a disposition is *"1) a person's natural qualities of mind and character, 2) a tendency, 3) the way something is placed or arranged".* From the definition, it can be concluded that disposition is almost similar to attitude.

Attitude, according to Robbins dan Judge [30], is "an evaluative statement – whether the positive or negative– toward an object or event. When I said, "I love my job," I was stating my thought about my job".

Robbins dan Judge [28] point out the three main components of attitude:

a. Cognitive component: the opinion segment or assurance of the attitude

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

b. Affective component: the emotional segment or feelings of the attitude.
c. Behavioral component: a will to behave in a certain way toward someone or something.

Edwards III [8] explained that there are a couple of factors influencing the policy implementation from the implementer's disposition: 1) the disposition effects, 2) the staffs in the bureaucracy, and 3) the incentives.

a. The disposition effects. Edwards III explained, there are many policies that fell into the zone of indifference because the personnel who were supposed to do the command had a different perspective/disagreement toward the policy being implemented. Consequently, there was a slippage between the policy and implementation. He mentioned that one of the problems causing ignorance is parochialism. It occurs because of individuals who worked and spent most part of their career in a governmental institution. Most of the time, individuals in such institutions attempt to sustain the status quo of the institution and opposes the applicable policy. The institutions' interests as the manifestation of parochialism are often being prioritized than the policy. Due to these different perspectives of each institution, the disposition affects the policy implementation in the institution.
b. The staffs in the bureaucracy. Edwards III showed that another problem occurs if the implementer staffs who supposed to implement the policy refuse to implement the policy in accordance with the initial command. Additionally, the position of the staffs apparently was rather irreplaceable. He gave a case example of this problem, the difficulty of personnel replacement due to the political agreement, or employment system in the government that is easier to promote than terminate.
c. Incentives. Replacing an implementer is a difficult task, therefore, Edwards provided an alternative to give an extra incentive to motivate the implementer in conducting their tasks.

Based on the Oxford's definition and Robbins dan Judge's categorization, along with Edwards III [8], the disposition can be defined as one's evaluative statement to the condition consisted of cognitive, affective, initiative, as well as the influence from the group perspective, the difficult personnel replacement, and incentives. According to Robbins and Judge [30] and Edwards III [8], it can be concluded that there are some implementer disposition dimension, including: 1) Cognitive component, 2) Affective component, 3) Initiative Component, 4) Group perspective, 5) Difficult personnel replacement, and 6) incentives.

Apart from being in accordance with the public policy implementation concept, the research findings also support the studies conducted by Susilo [38], Salle & Slemrod [31] that examined the influence of disposition toward the policy implementation success.

Fourthly, this research found that the renewable energy policy scenario (X5) influences the Success of Subsidy Policy implementation (Y1). The high rate of renewable energy policy scenario reflected in the high rate of Rationality and Preparation, Integration and Professional awareness, Exploration and Experiment, Guidance to Changes and Facilities of New and Unique Ideas will affect the success rate of the Subsidy Policy implementation (Y1) proven by the Effectivity, Efficiency, Responsivity, Responsibility, Accountability, and Transparency.

This research aligns with the public policy scenario concept where the concept explains the relationship between policy implementation and public policy scenario. [21]. Additionally, it supports the studies done by Global Subsidies Initiative(GSI) [15]; Susilo[38], Ellis [9];

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

McKibbin, *et al.*[20]; Salle & Slemrod [31]; Takahashi & Asano [40]; Onyeizugbe&Onwuka[23]; Clemens, *et al.*[4]; Supriyo [37]; and Ogarenko & Hubacek [22];that examined the influence of policy scenario toward the policy implementation success.

The scenario in the renewable energy policy is presented in the following discussion: the concept of renewable energy policy scenario required for improving the success of renewable energy policy implementation.

> "So we can see the new renewable energy from the products or the raw materials. From the raw materials, there is new energy and new renewable energy. The new energy is the energy that has not existed yet, such as coal. Yet, not to be burned, and hydrogen, CBM, SIRGES. While the new renewable energy is from renewable resources, such as wind, water, sun, and bio. It is all renewable. Even the ocean is also renewable due to its sustainable existence. The definition is, if I'm not mistaken, written in the Act No. 30 of 2007. If it is seen by the final products, there are two groups, liquid and electric fuel products. Actually, there is also one in a form of gas, because there is also biogas. But eventually, it is electricity or becomes fuel. In producing electricity, countries other than Indonesia use the energy of wind, sun, and air. Followed by bio from boot chips, the ratings of biomass or biomass wastes compressed into small chips with a diameter of about 2 cm or 2.5 cm, like a capsule but a chip. It is dry, the moisture is below 25% and is already processed, that can be made into fuel. That is mostly exported while Korea, Japan, and Thailand import it instead because there, every power plant fueled by fossil fuels is taxed by the government so that they must be able to generate electricity from the renewable fuels. A minimum of 10% from the overall capacity. So if they have a coal-fueled power plant of 5mega, about 500watts of it must be generated from that fuel. Because they do not have the resources, they should import it from Indonesia".
>
> (The result of an interview with Andianto Hidayat, Vice President Research and Development Pertamina, 29 August 2017)

Actually, nowadays EBT has been isolated yet not thoroughly. This EBT project has not been developed like the conventional one, so the bank does not really understand it yet. Accordingly, they give a high-risk component, resulting in high bank interest. Yet this has been a common understanding, similar to OJK. Today OJK has started to enhance the green banking program, this program promotes the portfolio for investment loan for the developing green businesses.

5. RECCOMENDATIONS AND LIMITATION

The results of this study and the findings produced have not been able to provide a holistic explanation of the issues concerning renewable energy policy as the implementation of fuel subsidy policy. This is due to the inherent limitations of the researchers themselves and the obstacles that exist in the implementation of research, including: (1) Primary data of this study obtained through questionnaires, the choice of answers based on the perceptions of some members of the Community Care and Environmental Concern (MPEL) and Indonesian Renewable Energy Society (METI) sampled. Assessment based on this perception can experience social desirability bias, which is the bias that arises because the respondent gives an answer that he or she considers appropriate or good according to his own personal size, but does not necessarily reflect the variables studied

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

[2]. This makes it difficult for researchers to oversee the truth and honesty of members of the Concerned Environmental and Energy Community (MPEL) Community and the Indonesian Renewable Energy Society (METI) in their choice of answers in accordance with actual circumstances and reality, although the letter of introduction to the questionnaire has been submitted that the honesty of completing this questionnaire will not reveal the general identity of the customer. (2) Although the number of samples in this study meets SEM assumptions, the number of samples still needs to be enlarged so that the results can be used to generalize the renewable energy policy moderation model in its implementation on the fuel subsidy policy.

Based on the findings there are several suggestions for future research, to the company, the customer which are described as follows: (1) The Government of Indonesia needs to construct policy on Indonesia's Renewable Energy Sustainability in order to create future energy sovereignty situation by placing energy as a leading sector, (2) Secondly, the Government of Indonesia should develop the potential of renewable energy resources to create a mixed energy development. On the other hand, the development of renewable energy will reduce the impact of climate change due to global warming. (3) Thirdly, the Government of Indonesia should have a plan for the management and utilization of Indonesia's energy in the long run. This plan became a patent plan so that the change of government did not change the management plan and utilization of the energy sector.

REFERENCES

[1] Annan, K. A., (2002), *Toward a sustainable future*, Environment: Science and Policy for Sustainable Development, 44(7), 10-15.

[2] Arnold, H. J., & Feldman, D. C., (1981), *Social desirability response bias in self-report choice situations.* Academy of Management Journal, *24*(2), 377-385.

[3] Bloom, M.J, Menefee. and Mary, K., (2009), *Scenario Planning and Contingency Planning*, Public Productivity & Management Review, Vol. 17,No. 3, Changing Government: Pressures, Reality, Responses: Proceedings ofthe Sixth National Public Sector Productivity Conference pp. 223-230.,US : M.E. Sharpe, Inc.

[4] Clemens, B., Engelke, W., & Ecker, O., (2011), *Petroleum Subsidies in Yemen: Leveraging Reform for Development.*Policy Research Working Paper, 5577.

[5] Comstock, O. and Boedecker, E., (2011), *Energy and emissions in the building sector: a comparison of three policies and their combinations.*The Quarterly Journal of the IAEE's EnergyEconomics Education Foundation, 32(special issue).

[6] Demirbas, A., Sahin-Demirbas, A., & Hilal Demirbas, A., (2004), *Global energy sources, energy usage, and future developments*, Energy Sources, *26*(3), 191-204.

[7] Dillon, H. S.,v& Laan, T., (2008), *Biofuels, at what cost?: government support for ethanol and biodiesel in Indonesia*. International Institute for Sustainable Development.

[8] Edwards III, G.C., (1980),*Implementing Public Policy*, Congresional Quarterly Press, Washington DC.

[9] Ellis, J., (2010), *The Effects of Fossil-Fuel Subsidy Reform: A review of modelling and empirical studies. Untold billions: fossil-fuel subsidies, their impacts and the path to reform.* International Institute for Sustainable Development (IISD), Winnipeg.

[10] Fernandes, A.A.R, Budiantara, I.N, Otok, B.W., and Suhartono. (2015). "Spline

Estimator for Bi-Responses and Multi-Predictors Nonparametric Regression Model in Case of Longitudinal Data", *Journal of Mathematics and Statistics*, Vol 11, No 2, pp. 61-69.

[11] Fernandes, A.A.R., Hutahayan, B., Solimun, Arisoesilaningsih, E., Yanti, I., Astuti, A.B., Nurjannah, & Amaliana, L, (2019), "Comparison of Curve Estimation of the Smoothing Spline Nonparametric Function Path Based on PLS and PWLS In Various Levels of Heteroscedasticity", *IOP Conference Series: Materials Science and Engineering*, Forthcoming Issue.

[12] Fernandes, A.A.R., Solimun. (2017). "The Mediation Effect of Strategic Orientation and Innovations on the Effect of Environmental Uncertainties on Performance of Business in the Indonesian Aviation Industri, *International Journal of Law and Management*, Vol 59 No 6, pp 11-20.

[13] Grindle, Merilee S., (1980), *Policy Content and Context in Implementation*. In Grindle, , ed., Politics and Policy Implementation in the Third World. Princeton, N.J.: Princeton University Press: 3–34.

[14] Gurung, A., Karki, R., Cho, J. S., Park, K. W., & Oh, S. E., (2013), *Roles of renewable energy technologies in improving the rural energy situation in Nepal: Gaps and opportunities*. Energy Policy, *62*, 1104-1109.

[15] GSI (Global Subsidies Initiative)., (2010), *Policy Brief, Defining Fossil-Fuel Subsidies for the G-20 : Which Approach is Best?*.

[16] Hutahayan, B., Solimun, Fernandes, A.A.R., Arisoesilaningsih, E., Yanti, I., Astuti, A.B., Nurjannah, & Amaliana, L, (2019), "Mixed Second Order Indicator Model: The First Order Using Principal Component Analysis and The Second Order Using Factor Analysis", *IOP Conference Series: Materials Science and Engineering*, Forthcoming Issue.

[17] Kadir, A., 2003, *Introduction to Information Systems*, Andi, Yogyakarta.

[18] Mangkunegara,A.A.A.P., (2001), *Human Resource Management in Company* (In Indonesian *Corporate Human Resource Management),* Remaja Rosdakarya, Bandung.

[19] Mazmanian, D. A., & Sabatier, P. A., (1983), *Implementation and public policy*. Scott Foresman.

[20] McKibbin, W. J., Morris, A. C., & Wilcoxen, P. J., (2010), *Subsidizing Energy Efficient Household Capital: How Does It Compare to a Carbon Tax?*. Brookings Institution, Climate and Energy Economics Project.

[21] Mowery, D., & Rosenberg, N., (1979), *The influence of market demand upon innovation: a critical review of some recent empirical studies.*Research policy, 8(2), 102-153.

[22] Ogarenko, I. and Hubacek, K., (2013), *Eliminating Indirect Energy Subsidies in Ukraine: Estimation of Environmental and Socioecomic Effect using Input-output Modeling*.

[23] Onyeizugbe, C. Z., & Onwuka, E. M., (2012), *Fuel subsidy removal as an imperative for enhancing business development in Nigeria*, VSRD International Journal of Business & Management Research, 2(9), 454-461.

[24] Palmer, K., Paul, A., Woerman, M., & Steinberg, D. C., (2011), *Federal policies for renewable electricity: Impacts and interactions.*Energy Policy, 39(7), 3975-3991.

[25] Palmer, K., Paul, A., & Woerman, M., (2012), *The Variability of Potential*

July-August 2020
ISSN: 0193-4120 Page No. 4580 - 4597

Revenue from a Tax on Carbon. Considering Carbon Tax, 12-03.

[26] Ratminto & Winarsih, A. S., (2010), *Service Management: Development of Conceptual Models, Application of Citizen's Charter and Minimum Service Standards*, Yogyakarta: Pustaka Pelajar.

[27] Ringland, G., (2002), *Scenario in Public Policy,* John Wiley and Sons, London.

[28] Robbins, S. P., (1990), *Organization Theory: Structures, Designs, And Applications, 3/e*. Pearson Education India.

[29] Robbins, S.P., (2008), *Organization Behaviour* (In Indonesian *Perilaku Organisasi),* Tenth Edition, Translator Benyamin Mola, Indonesian Language, PT Mancanan Jaya Cemerlang.

[30] Robbins, S.P. and Judge, T.A., (2009), *Organizational Behaviour, 13th ed*., Pearson Education,Upper Saddle River, NJ.

[31] Sallee, J. M., & Slemrod, J., (2010), *Car notches: strategic automaker responses to fuel economy policy* (No. w16604). National Bureau of Economic Research.

[32] Sedarmayanti., (2001), *Office Management An Introduction,* Mandar Maju, Bandung.

[33] Sekaran, U., (2006), Research Methodology for Business, Fourth Edition, Publisher Salemba Empat, Jakarta.

[34] Solimun, Fernandes, A.A.R., (2017), *Investigation the mediating variable: What Necessary? (Case Study in Management Research),* International Journal of Law and Management, Vol 59 No 6, pp 101-110.

[35] Subarsono, A.G., (2005), *Public Policy Analysis Concepts, Theory and Applications (In Indonesian Public Policy Analysis Concepts, Theories and Applications),*Pustaka Pelajar, Yogyakarta.

[36] Sugiyono., (2006), *Quantitative, Qualitative and R & D.Bandung Research Methods,* Alfabeta.

[37] Supriyo, D., (2012), *Fiscal Policy in India: Trends and Trajectory*. Working Papers id:4751, eSocialSciences.

[38] Susilo, A., (2010), *Improvement of Citizenship Education Learning Outcomes about Cultivating Values of Character through the Role Play Method in Class III Students of State Elementary School 04 Karangrejo, Kerjo District Karanganyar Regency Semester I Academic Year 2009/2010.* Essay. (Not published), Faculty of Teacher Training and Education UMS, Surakarta.

[39] Suwarto. FX., (1999), *Organizational Behaviour* (In Indonesian *Perilaku Keorganisasian*), First Edition, University of Atma Jaya, Yogyakarta.

[40] Takahashi, M. and Asano, H., (2011), *An Assessment Study of Energy Efficiency Policy Measures for Japanese Commercial Sector*. The Energy Journal, Special Issue. Strategies for Mitigating Climate Change Through Energy Efficiency: A Multi-Model Perspective".

[41] Usman, H, (2008),*Management, Theory, Practice and Research Education*(In Indonesian *Management, Theory, Practice and Educational Research*), Bumi Aksara, Jakarta.

[42] World Bank., (2007), *World development report 2008: Agriculture for development*. World Bank.