

Analysis of Factors Affecting Willingness to Pay and Affordability to Pay to the Household Consumers (PDAM Tirta Riau Islands - Tanjungpinang)

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Abstract Regional Water Company is required to improve its performance so that the quality of water produced in accordance with customer expectations. In fact shows that customer satisfaction at PDAM Tirta Riau Islands as the object of this research has not been achieved, as shown by the presence of 3,000 of the 17,000 household customers in arrears group rates. This condition raises the question of what caused this to happen while most people were able to buy water privately owned at a price 20 times higher than the rate current taps. Their arrears taps rates is of course closely related to the willingness to pay and the affordability to pay household consumer groups, so it needs to be carried out research on the factors that influence it. The purpose of this study is to analyze and describe: factors affecting willingness to pay and affordability to pay household consumers in terms of factors (1) welfare, (2) education, (3) K-3, (4) social economy, (5) performance, and (6) tariffs applied by PDAM household consumers group. Data collection techniques used questionnaires addressed to household customers as many as 200 respondents in the sample. Analysis of the data used to test the hypothesis is Partial Least Square (PLS) using software Smart PLS. These results indicate that the influence willingness to pay directly and significant is the welfare factor, K-3, socio-economic, performance, price, and affordability to pay, while education factor did not significantly affect the willingness to pay in person. The study also showed that factors welfare, education, socio-economic and rates significant effect on the affordability to pay.

Keywords Willingness to pay, Affordability to pay, and consumer households

1. Introduction

Law Number 7 of 2004 on Water Resources of Article 5 mentioned that the state guarantees the right of every person to obtain water for minimum basic needs of daily life in order to meet a healthy, clean, and productive. In article 18 also stated that the central government delegate authority to local governments, and the local government subsequently formed a Local Company through legislation known as the PDAM (Regional Water Company). PDAM is a company that monopolizes the mass production of clean water, although some city like Jakarta and Batam, clean water produced by private companies / foreign investment, meaning that business in the provision of clean water can enter into a private company competitors taps that had been hogging. Therefore, PDAM is highly demanded to have to constantly improve the service that taps output in the form of clean water in accordance with the expectations of all consumers.

If the production of water taps meet customer expectations,

then it certainly will improve customer satisfaction. Conversely, if the company failed to deliver customer satisfaction, it is likely customers will also respond to, one with no water taps are willing to pay the bill so that in the end the company will lose money because a lot of customers who are in arrears to pay the bills. The main cause or the root of the problem is due to not achieving full cost recovery due to the still high class customer arrears households account for about 3,000 of the 17,000 customers. Meanwhile that there is a unique phenomenon where some customers were able to buy water from private parties at a price of Rp. 125.000, - / tank (or Rp. 25.000, - / m³) to cover the shortage of water taps are acceptable to the customer, even some are able to buy a gallon of water that cost much higher than the price of tap water is only Rp. 1.200, - / m³.

The arrearage of water bills payment, allegedly influenced by the WTP (willingness to pay) and the factor of ability to pay (affordability to pay) customers PDAM Tirta Riau class households. Some theories and the results of previous research discusses the factors that influence the willingness to pay (WTP) and ability to pay (ATP) customers, among others stated that; (1). Welfare rate potential factors affecting WTP, (2). Formal education is also a factor closely related to

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education WTP. The purpose of education was very broad because it involves improvements attitudes and behavior, (3). Factor K-3 (Quality, Quantity and Continuity) is believed to also influence WTP, (4). Socio-economic factors. Central Bureau of Statistics Indonesia (2012) explains that in order to see the level of household welfare one indicator is the condition of the house and owned facilities. (5). Rates factor, according to Mays, et al (1996) the establishment of a high water tariffs, resulting in only a few people are able to consume water because it does not have the ability to pay / buy water, otherwise the water rates that are too low will cause company earnings to be small or even suffered losses., (6). Performance Factor. According Tika (2006), that the company's performance is a function of the work / activities in companies that are affected by factors internal and external to the organization in achieving the goals set during a specific time period and (7). Affordability factor to pay (ATP). ATP is a person's ability to pay for services received based on income that is considered ideal.

The main problem is not achieving the taps full cost recovery caused by low rate so that the company suffered losses of Rp. 292.25, - / m³ water production and the amount of arrears mainly household customer group. This condition is exacerbated by the increasingly high of operating costs. With the uncollected arrears of this, the losses become increasingly bloated. The delay is due to the customer's bill by a factor of people's desire to pay (willingness to pay) is low and or because of the ability of customers to pay the prescribed rate (Affordability to pay) which does not exist or may be a combination of both. The fact that happened in the community stated otherwise condition in which some of them are even willing and able to buy water from private parties (tanker) with an average price is much higher at Rp. 25.000, - per m³ or about 20 times the PDAM rate this mainly occurs in the dry season or during a disturbance in the water distribution taps. This interesting phenomenon requires research to find out about the factors that affect the willingness to pay and the affordability to pay. Whether caused by water is an essential requirement / principal so that any public offering price of purchased fixed or a signal manifestation of cumulation of public disappointment with the service taps so customers do reaction with arrears to pay the fare or the presence of other factors are hidden and not revealed which need to be explored deeper. The problem is not the achievement of full cost recovery alone is not monopolized by PDAM Tirta Riau Islands but almost all the taps in Indonesia.

If the company makes a profit it will be used for improvements in the field of Technical, Management and Finance, if profit can only be obtained with a tariff adjustment, then the problem is whether to raise tariffs as a necessity, consumers will be willing and able to pay, would not occur otherwise precisely the greater the amount of arrears and the dwindling number of customers (unsubscribe). Therefore it is necessary to dig deeper causes of unwillingness of consumers to pay PDAM rates by

estimating the factors that might influence it. Based on the data of PDAM Tirta Riau in 2010 the largest group of customers is customer household reaching 13.120 from customers 17 095 or 76.75% of the total subscribers.

On the basis of these considerations, the household consumer group PDAM Tirta Riau chosen as the object of a more comprehensive study to determine the factors that influence the willingness to pay and the affordability to pay, especially for household customers groups. Therefore, the basic framework is based on theory and the results of previous studies can be synthesized that factors suspected to affect the willingness of people to pay and the affordability to pay is a factor (1) welfare, (2) education, (3) K-3, (4), socio-economic (5). performance (6) rates, and (7) ATP.

2. Research Methods

This study was conducted in the city of Tanjung Pinang and as a research location is on the Technical Implementation Unit Water at PDAM Tirta Riau Islands with the target communities as clean water customer households class. The study population was mostly customer PDAM Tirta Riau Islands, Tanjung Pinang. Population sampling in this study were all customers of PDAM Tirta Riau in Tanjungpinang while the target population is household customers. The sample in this study was determined using the accidental sampling, the sampling technique based coincidence that anyone who by chance met with the researchers can be used as a sample if that person is deemed suitable as a data source (Sugiono, 2001), while the sampling is based on the consideration that the number of population in this study is very difficult to know for sure that the number of population is not limited or not known so that the number of samples taken in this study tailored to the opinion of Hair et al., in Ferdinand, (2005) stated that the number of samples at least as much 5 to 10 of the number of indicators used in the study. In this study a sample of 200 respondents, while the number of indicators in the research study 19, so that the number of samples already qualified sufficiency ($5 \times \text{number of indicators} = 5 \times 19 = 95$ or smaller than 200).

This study uses analysis tools Partial Least Square (PLS). Selection of this method. Because it is powerful that analytical methods can be applied to all scales of the data does not require a lot of Assumptions and do not necessarily large sample size. There are two kinds of indicators in the PLS approach, the first indicator is an indicator reflective. Reflective Indicator is an indicator that is considered to be affected by latent constructs, or indicators that reflect / present the latent constructs. The second indicator is an indicator formative. Formative indicator is considered an indicator that affects the latent variables. Formative indicator observing the causes of latent variables.

Designing a Structural Model (Inner Model) in the study. Inner model is a structural model that links between latent variables which in this study can be seen in figure 1.

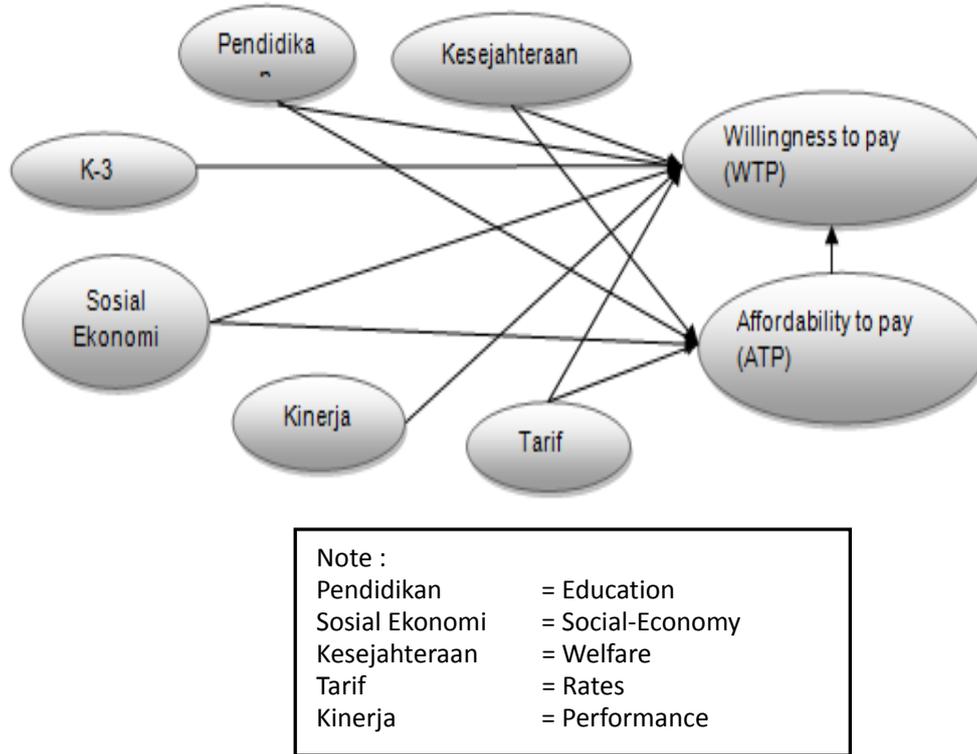


Figure 1. Inner Model

There is also the presence of inner models. Outer Model is a model that connects measurement indicators with which the latent variables in this study can be seen in figure 2.

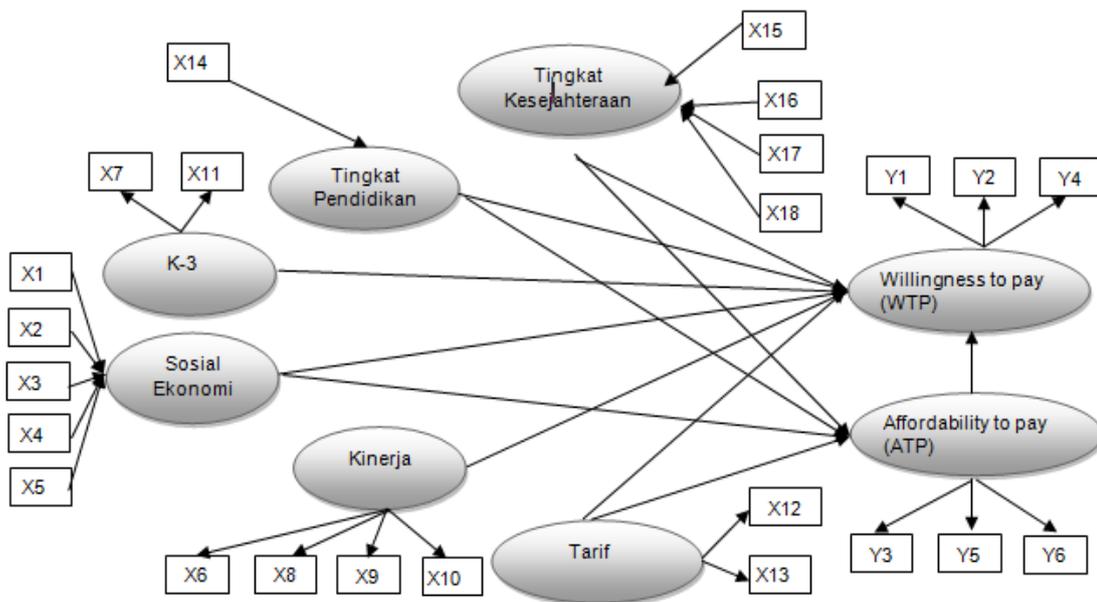


Figure 2. Outer Model

Measurement model or a model with indicators reflective outer evaluated and discriminant convergent validity of the indicators and composite reliability to block indicator. While the outer models with formative indicators are evaluated based on its substantive content by comparing the magnitude of relative weight and see the significance of the size of the weight (Solimun, 2007). Outer models often called the outer relations or measurement model that defined how each block indicator associated with latent variables.

(a) Outer Models with reflective indicators: In general, the validity of the test is to see if the item query that is used is able to measure what you want to measure. One item questions in a questionnaire used to measure a construct (variable) to be studied.

1. Convergent validity

The correlation between the score with a score reflective indicator latent variables. Indicators are considered reliable if it has a correlation value or loading of 0.5 to 0.6 since the early stages of development measurement scale and number indicator per construct ranged between 1-3 indicators

2. Discriminant validity

Discriminant validity is an indicator measuring the latent variables. Discriminant validity of measurement is done by comparing the value of the square root of average variance extracted (AVE root) of each construct the correlation between the constructs of the other constructs in the model. If the root value AVE of a construct is greater than the correlation value of other constructs in the model, it can be concluded that the construct has discriminant validity good

value and vice versa. Recommended AVE measurement value must be greater than 0.5.

3. Reliability Test

Reliability test is to see whether a series of questionnaires were used to measure a construct does not have a particular tendency.

Construct a reliability test can be measured by looking at the composite reliability of the block indicator that measures the construct. Acceptable limit values for composite reliability is above 0.70.

(b) Outer Model with formative indicators: Outer Model with formative indicators are evaluated based on its substantive content by comparing the magnitude of relative weight and see the significance of the size of the weight (Solimun, 2007).

Inner structural models or models evaluated by looking at the percentage of variance explained by looking at the value for the dependent latent constructs. To test the hypothesis in this study is done by looking at the magnitude of structural path coefficients and stability of the estimates was evaluated using t-test statistic obtained through bootstrapping procedure.

This research was conducted in the city of Tanjung Pinang and as a research location is on the Technical Implementation Unit Water at PDAM Tirta Riau Islands with the target communities as clean water customer households class. Location of the study can be seen in the map below.

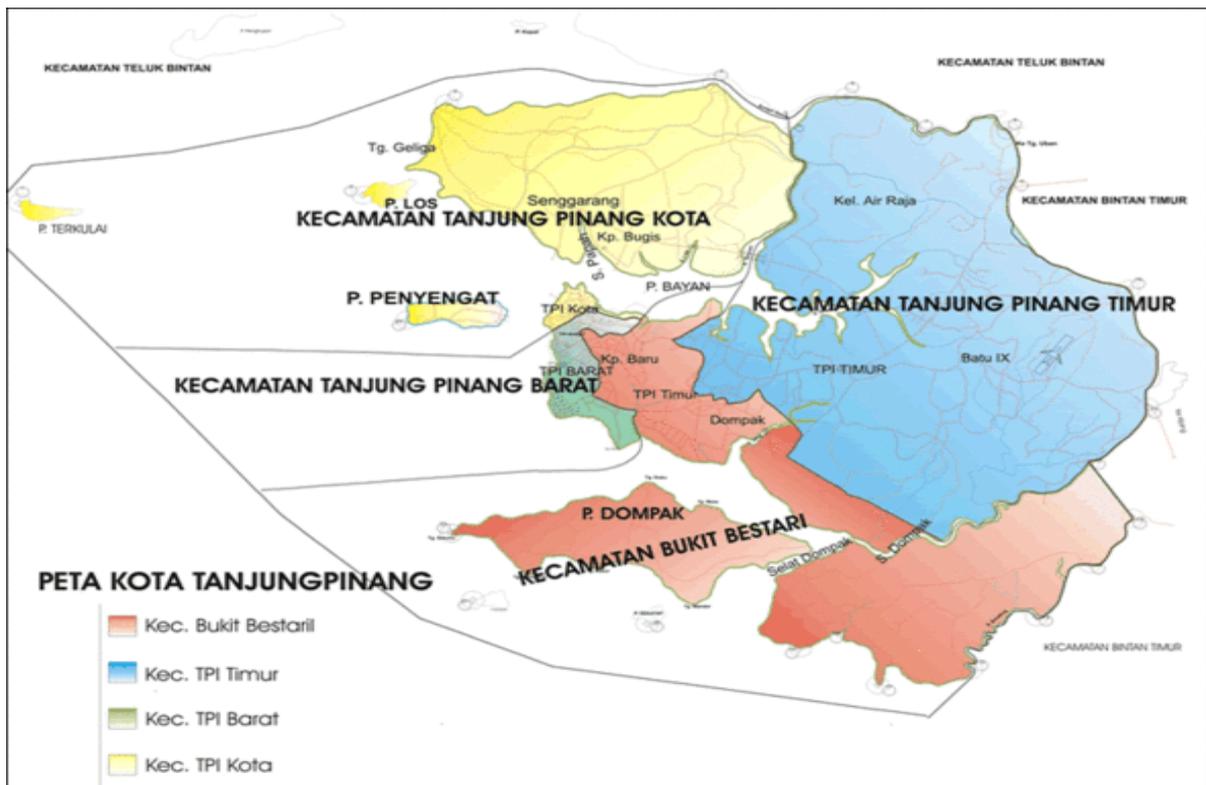


Figure 3. Research Location Map

3. Empirical Result

1. Data Analysis

Results of analysis using the PLS method, described by Figure 4 below.

Outer model testing conducted to determine the validity of the indicators of the latent variable. At variables arranged in a reflexive, the indicator is considered valid if it has a value

of outer loading > 0.7 and T-statistic values above 1.96. However, loading of 0.5 to 0.6 is considered sufficient for the initial phase of development scale (Solimun 2006). While on variables that formed formative, convergent validity testing is done by testing the outer weight. Jika T-statistic Obtained above 1.96, then formative convergent construct validity have been fulfilled (Jogiyanto and Abdillah, 2009).

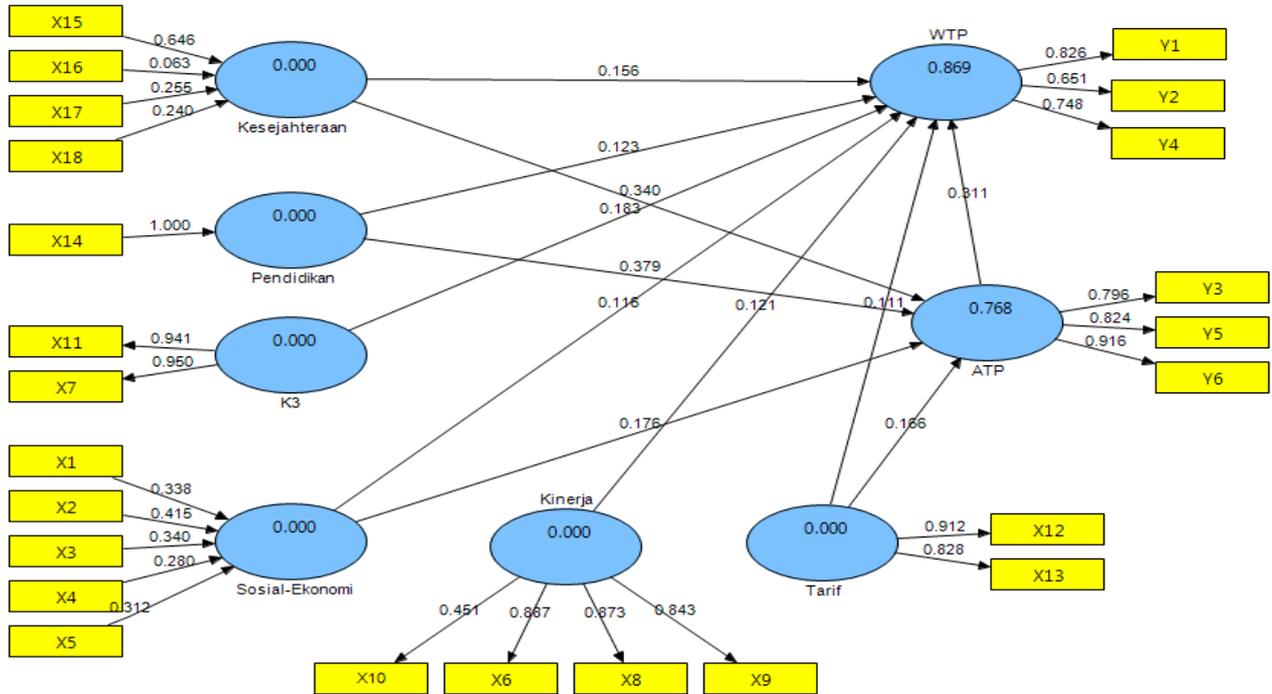


Figure 4. Testing Structural Model

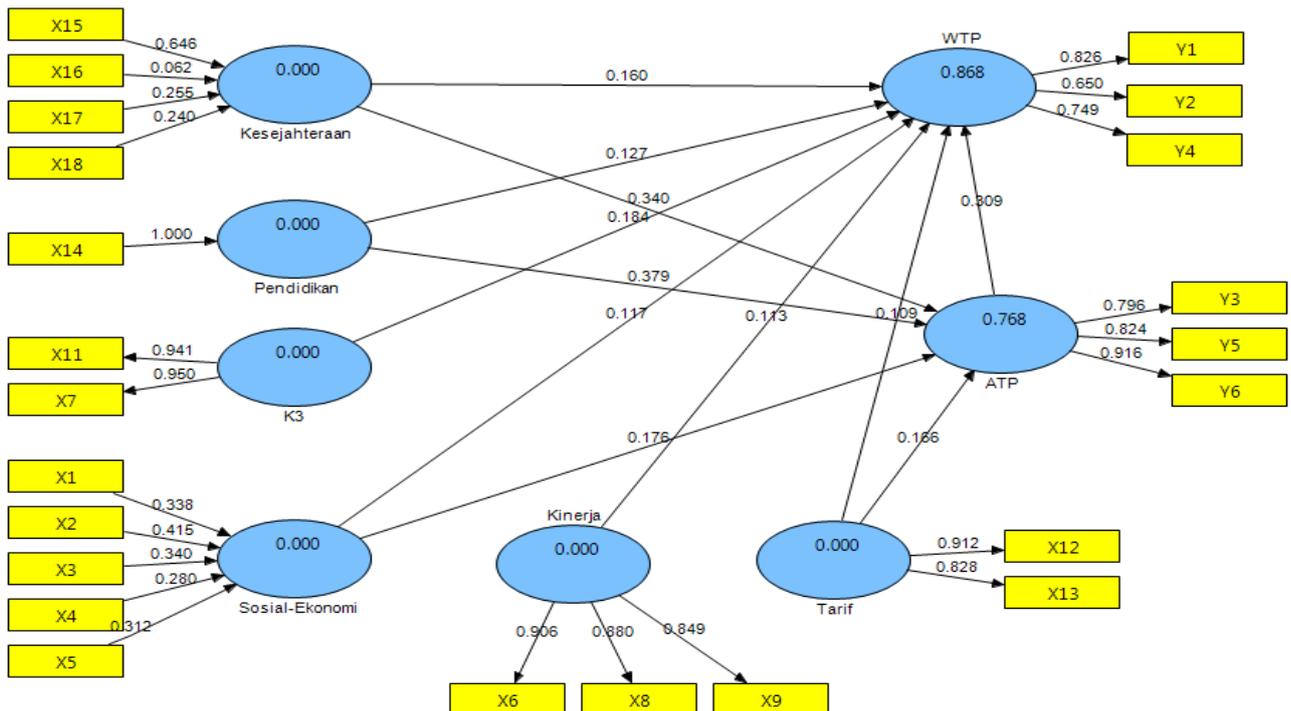


Figure 5. Testing Structural Models without Indicator X10

Correlation value of each indicator there are no less than 0.5 and a T-statistic no less than 1.96. So the structural model used in the test is an indicator of the structural model without X10. While the Education variable was not tested because it is manifest variables. Structural models along the path coefficient by eliminating X10 as Figure 5.

Having obtained a structural model with reliable indicators of the latent variables, indicators further tested with discriminant validity outer models. The test is performed to measure the extent to which indicators are able to explain the latent variables. Each indicator is expected to have a higher loading values for the variables measured than other variables (Ghozali, 2008). WTP is a constituent indicator variables Y1, Y2, and Y4. Then, the indicator constituent ATP is Y3, Y5 and Y6. Welfare constituent indicators are X15, X16, X17, and X18. K3 is a constituent indicators X6, X8, and X9. Indicators of Socio-Economic compiler compilers are X1, X2, X3, X4, and X5. K3 is a constituent indicators X7 and X11. Education is a constituent indicators X14. And an indicator constituent Rates are X12 and X13. From this test, indicated that the discriminant validity outer models are good.

a. Testing of Composite Outer Reliability Model

Internal consistency indicator testing outer structural model is done by calculating the composite reliability in each of the latent variables. Indicators are said to have good internal consistency reliability if the composite value at which the formation of latent variables is greater than 0.5 (Ghozali, 2008). Construct reliability testing performed on reflexive construct. In the formative construct reliability testing is not done because each indicator in a latent variable is assumed to be not correlated (Jogiyanto and Abdillah, 2009). The result of data analysis explains that the composite reliability value of each variable is greater than 0.5. So from this test it can be concluded that the indicators making up the latent variables have internal consistency good. For Variable Socio-Economic Welfare and testing is not done because it is formed by the formative indicators.

b. Testing of Inner Structural Model

After the validity, reliability, and consistency of the indicators making up the latent variables (outer model) are met, the next step is to test the structural model Goodness of Fit. Testing of Goodness Fit models on the inner structural model using predictive value-relevance (Q2) (Jogiyanto and Abdillah, 2009). Testing done by calculating the R-square value in each lane. Results of data analysis obtained the value of the total diversity of the structural model of 0.969. This indicates that the structural model is able to explain the effect of variable Welfare, Education, Socio-Economic, K3, and Rates for variable WTP and ATP at 96.9%. The remaining 3.1% is explained by other factors that are not detected in this study.

c. Testing of Effects of Exogenous Variable Path in the Structural Model

Exogenous variables significantly influence the

endogenous variable if the T-statistic counting results of more than 1.96 or p-value <0.05. Results of the data analysis explains that there is a path no significant effect, namely the influence of education on WTP path. It can be seen from the T-Statistic <1.96 and p-value> 0.05. This shows that the education variable does not have a significant influence on the WTP.

ATP variables have a significant direct effect on the WTP with path coefficient of 0.309. A positive coefficient indicates that the ATP had a positive influence on WTP. K3 has a significant direct effect on the WTP with path coefficient of 0.184. A positive coefficient indicates that the K3 has a positive influence on WTP. Welfare has a significant direct effect on the WTP with path coefficient of 0.160. A positive coefficient indicates that welfare has a positive influence on WTP. Performance has a significant direct effect on the WTP with path coefficient of 0.113. A positive coefficient indicates that the performance has a positive influence on WTP. Social economy has a significant direct effect on the WTP with path coefficient of 0.117. A positive coefficient indicates that the social economy has a positive influence on WTP. Rates have a significant direct effect on the WTP with path coefficient of 0.109. A positive coefficient indicates that price has a positive influence on WTP.

Education has a significant direct effect on ATP with path coefficient of 0.379. A positive coefficient indicates that education has a positive influence on the ATP. Welfare has a significant direct effect on ATP with path coefficient of 0.340. A positive coefficient indicates that welfare has a positive influence on the ATP. Social economy has a significant direct effect on ATP with path coefficients of 0.176. A positive coefficient indicates that the social economy has a positive influence on the ATP. Rates have a significant direct effect on ATP with path coefficient of 0.166. A positive coefficient indicates that price has a positive influence on the ATP.

This study also explained that the total effect of all the variables of the WTP is positive and significant. Graphically, the ratio of the total effect of exogenous variables can be seen in the following figure:

d. Testing of Mediation Effect Variable ATP on WTP

If the independent variables no longer have an influence on the dependent variable after controlling for variables mediator, declared happens perfect or complete mediation. If the influence of the independent variable on the dependent variable is reduced, but still different from 0, after controlling for variables mediator, otherwise occur partial mediation (Jogiyanto and Abdillah, 2009).

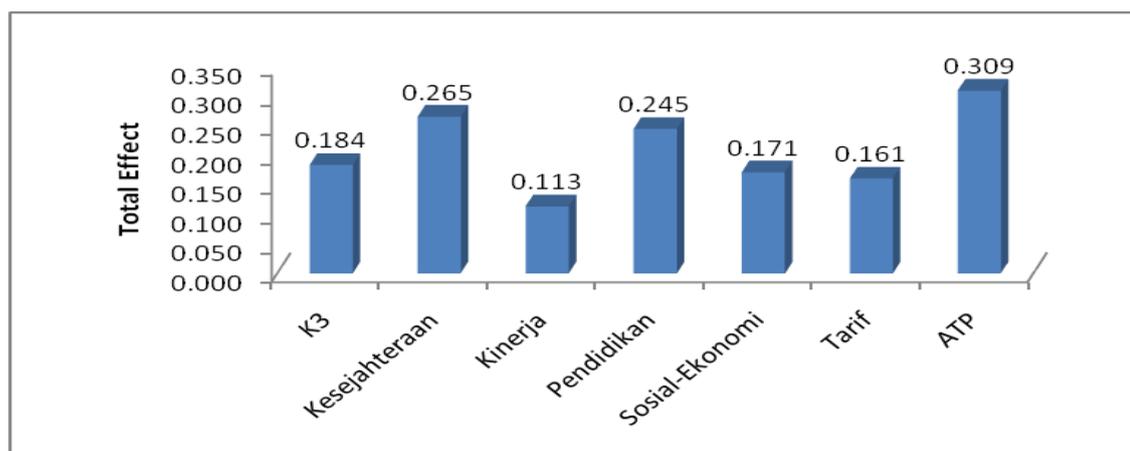
Prior to testing the effect of mediation, must be fulfilled the requirement that lines of direct influence both exogenous variables to variable track mediator and mediator variables direct influence on endogenous variables to be significant. If one of the non-significant, it is said to be not as a mediator variable (Solimun, 2012). Variables that have no direct influence on the WTP with through ATP as mediator

variables are variables Education, Social Economy, Welfare, and Rates. Thus, the path to the WTP exogenous variables that can be tested is four variables mediating the effect of the following variables mediating the effect of test results ATP:

At Step 1, the variable Education does not provide significant direct effect on the WTP. While other exogenous variables have a significant influence. In the second stage, variable all variables directly affect significantly to the ATP. From this test indicated that the variable Education does not have a significant influence on the WTP after controlling for variables ATP, so ATP variables mediating the effect is perfect or complete mediation. While on Socioeconomic variables, Welfare and Rates, these three variables remained significant give effect to the WTP after controlling for variables ATP, so ATP variables mediating effect on these three variables are partial mediation

2. Discussion of Interpersonal Variables

Seven factors that can be modeled and the effect on the WTP, ie welfare, education, K-3, socio-economic, performance, price, and ATP. While the factors that influence the ATP is welfare, education, socio-economic, and rates. With using PLS method, can be explained that out of the four factors tested its effect on ATP namely 1) welfare, 2) education, (3) socio-economic, and (4) rates, based on the analysis explained that these four factors have a positive influence and significance both to ATP. The better the welfare level, education, socio-economic and rates policy, then the upgrade (ATP) to pay the water bill. Then, out of the seven factors that are modeled influence on WTP, all variables, except the variable of education has a significance direct effect on WTP. Education level have indirect influence on WTP. The better the education level, the more improved the ability to pay and ultimately will increase the willingness of customers to pay the water bill.



Note :
 Pendidikan = Education
 Sosial Ekonomi = Social-Economy
 Kesejahteraan = Welfare
 Tarif = Rates
 Kinerja = Performance

Figure 6. Total Effect against Exogenous variables WTP

Table 1. Results of Testing Mediating Effects of ATP on WTP

The Step	Path Effect	Path Coefficient	T-Statistic	p-value	Information
Step 1	Education -> WTP	0.120	1.739	0.084	Not Significant
	Social Economy -> WTP	0.120	2.463	0.015	Significant
	Welfare -> WTP	0.153	2.285	0.023	Significant
	Rates -> WTP	0.105	2.041	0.043	Significant
	ATP -> WTP	0.327	3.156	0.002	Significant
Step 2	Education -> WTP	0.379	4.674	0.000	Significant
	Social Economy -> WTP	0.176	2.712	0.000	Significant
	Welfare -> WTP	0.340	4.622	0.000	Significant
	Rates -> WTP	0.166	2.204	0.000	Significant

a. The influence of Welfare on WTP and ATP

In this study Welfare indicator variable is employment (X15), income (X16), expenses (X17) and ownership of household goods (X18). Selection of this indicator are in accordance with the guidelines of the Central Bureau of Statistics Indonesia (2012) which states that in order to see the level of household welfare of a region there are several indicators that can be used as a measure, among other things: (1) The level of family income; (2) The composition of household expenditure by comparing the expenditure on food and non-food; (3) The education level of the family; (4) The level of family health, and; (5) housing conditions and facilities owned by the household.

The Indicator selection in this study are also in accordance with Law No. 11 of 2009, which states Social Welfare is the fulfillment of the condition of the material, spiritual, social and citizens in order to live a decent and able to develop themselves, so that they can perform their social function. Thus the selection of indicators on latent variable Welfare is appropriate.

Kolle (1974) in Bintarto (1989) also stated prosperity can be measured from several aspects of life, including: (1) By looking at the quality of life in terms of material, such as the quality of the home, food and so on; (2) By looking at the quality of life in terms of physical, such as health, natural environment, and so on; (3) By looking at the quality of life in terms of mental, such as educational facilities, cultural environment, and so on; (4) By looking at the quality of life of the spiritual aspects, such as the moral, ethical, harmony adjustment, and so on.

b. The influence of Education on WTP and ATP

These results indicate that the educational factor of the indirect effect on WTP, this is due to, among others, that: (1). Tanjungpinang city's location bordering the relatively more prosperous countries of Indonesia, Singapore and Malaysia, and (2). Location Tanjungpinang surrounded by regional Free Trade Zone (Batam, Bintan, Karimun) where the goods enter those area will be free tax.

c. The Influence of K-3 to the WTP

K-3 (Quality, Quantity and Continuity) influence on the WTP (willingness to pay). These finding suggests that efforts to improve K-3 products better illustrate the level of willingness to pay. Otherwise these findings also make sense that the improvement of K-3 have contributed to increased WTP (willingness to pay).

In this study the indicators that affect K-3 is the water quality parameters measured with odorless, tasteless and colorless (clear). Quantity and Continuity measured unmet customer needs in terms of volume. In this study, K-3 effect on WTP, WTP means hanging with K-3. In this study, WTP is based on the perception that people assess the level of service taps which are also seen on the water quality and continuity as well as pressure. Cronin, et al (1992) concerning the determination of the relationship between service quality, customer satisfaction and purchase intention.

They concluded that service quality is the forerunner of customer satisfaction and customer loyalty will be a positive influence on purchase intention. From previous research, in general K-3 has an influence on WTP.

d. The Influence of Socio-Economic on WTP and ATP

Socio-economic effect on the WTP and ATP. These finding shows that the higher a person's social status, the higher the ability and willingness to pay. Otherwise these findings give meaning to that person's socio-economic status has a significant contribution in enhancing the ability and willingness to pay. The level of satisfaction and well-being are two mutually related. The level of satisfaction refers to the state of an individual or group, while the level of welfare refers to the state of the community or society at large. Welfare is the condition of an aggregate of satisfaction individuals. In this study the socio-economic indicator variable is the status of the family (X1), Gender (X2), category structure of the house (X3), home ownership (X4), and the main water source (X5). In understanding the reality of the level of well-being, basically, there are several factors that cause the gap between the level of welfare of others: (1) socio-economic households or communities, (2) the structure of sectoral economic activity that is the basis of production activities of households or communities, (3) regional potential (natural resources, environment and infrastructure) that influence the development of the structure of production, and (4) the institutional conditions that form a network of production and marketing on a local, regional and global (Taslim, 2004).

e. The influence of product performance to the WTP

The performance effect on the WTP (willingness to pay). These finding shows that performance improvement efforts toward better describe the level of willingness to pay. The indicators used in measuring performance is the level of satisfaction with the quality of service (X6), to the smell, color and taste (X8), satisfaction with the quantity/continuity (X9), and the tendency of water consumption if the quantity/continuity be improved (X10). If associated with previous research done on performance by Mega Metalia in Metro City Lampung Province, the factors supposed to influence the value of willingness or a willingness to pay household customers UPT PAM Metro City, among others based payment system (performance).

f. The Influence of Rates on WTP and ATP

Rates factors affect the WTP and ATP. These findings indicate that in enacting the policy rates directly influence the WTP and ATP. One of the most important variables in the demand for clean water is rates. In connection with the price / tariff, up to date in Indonesia the price of water is set (regulated) based on the viewpoint of the manufacturer alone that is taps and local government. Price or water rates are set is considered by some people is not in accordance with what they receive, and assume that water is a public good that should be subsidized for the purposes of justice and social. This resulted in the adoption of clean water price

discrimination based group of consumers with discriminating progressive system. In the empirical research related to the demand for clean water, if variable rates or rates set by PDAM (as monopolists) is used in the estimation of the model, the consequences are violating one of the basic theory of demand assumption is that the price used is the market price. Therefore, to meet the assumptions of the theory of the request, the variable price or rates can be proxied by the concept of willingness to pay (WTP).

g. The influence of ATP on WTP

Paying Ability (Affordability to pay) to have a significant direct effect on the WTP (willingness to pay). The results showed higher ability to pay (ATP), the higher willingness to pay (WTP). This means also that the ability to pay (ATP) is an important factor influencing factor of the willingness to pay (WTP). Willingness to pay is consumer perceptions of the water rates. Affordability to pay tend to be associated with the ability to pay at the current rates and the ability to pay at the rate of higher. This also means that the ability to pay (Affordability to pay) is an important factor that influences the WTP (willingness to pay). According to the Field (2001), assessment of a person on a good or service is equal to how much they want to pay for goods and services. The level of well-being affects the willingness to pay and the ability to pay (Affordability to pay), the prosperous someone more capable person to pay for various goods and services. Willingness to pay (WTP) also depends on the level of knowledge and experience.

4. Conclusions

This study describes the effect of welfare, education, K-3, socio-economic, and rates that affect the willingness to pay (WTP) and affordability to pay (ATP), then can be given suggestions of this study as follows:

1. Management companies need to make improvements PDAM Tirta Riau services to consumers in the sense of doing the increase mainly to the quality, quantity and continuity of running water in the consumer household on whole.
2. Although K-3 water taps is currently perceived by the consumer households are still less than expected, but the current price of Rp. 1.200, - / m³ for household consumer groups are still allowed to be raised again in order to achieve full cost taps records recovery with make improvements to the K-3 (quality, quantity and continuity) of water.
3. To achieve the Full Cost Recovery which forced the company to subsidize Rp. 292.25/ m³ water production, can also be achieved by not doing the current water rates adjustment but by pressing the digit percentage rate of water loss. Cause of water loss include: water meter inaccurate and/or no parent meters, leakage of pipelines, theft/ illegal connection, meter read errors/human error, and the contractor does not meet the technical specifications. The rate of water loss last recorded (2009) amounted to 53.59% from year to year shows that the percentage will continue to rise.
4. The policy of progressive rates on PDAM Tirta Riau Islands Tanjungpinang for this by classifying the level of consumption in the four user group level, which is between (0-10) m³, (11-20) m³, (21-30) m³ and >30 m³. Discriminatory tariff policy on Tanjungpinang PDAM Tirta Riau Islands by applying the highest rates in specific activities (port), and then successively on industrial activities, commercial, government, households and social. Water tariff policy in PDAM Tirta Riau Islands is also common practice in other taps in Indonesia.
5. The problem of customer arrears for 3000 of 13.120 consumer willingness to pay more due to the low (WTP), not because of the absence of the affordability to pay (ATP). Consumers are disappointed with K-3 and the performance of companies in general so stoked to pay delinquent water bills.
6. Management also still has room to raise rates even higher to Rp. 2.175,26/m³ (according to WTP) on the condition that K-3 enhanced; water quality is better, still flowing with sufficient volume and no rotation/water rationing. These findings also indicate that the subsidy is still needed by PDAM Tirta Riau Islands. Government equity participation can be allocated to improve the management issues, technical issues and financial problems are low. If government participation is used to reduce the number of water loss program, then the company's financial income would increase even more.

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