

# Performance Analysis of Local Tax Organization Using Tax Potential Measurement, Tax Gap and Compliance Cost: Study on Regional Tax and User Charges Agency Jakarta, Indonesia

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## Abstract

*The purpose of this study is especially to be able to explain a more comprehensive performance measurement on local tax in the Jakarta regional tax and user charges service to increase local revenue. The focus of this research consists of four types of potential tax, namely MVT, Motorcycle License Tax (MVLT), hotel tax and restaurant tax. The research methodology used in this research simulation is system dynamics. The model using system dynamics refers to the qualitative-quantitative approach. The result of this research shows that the factors causing the up and down of local tax revenue are tax arrears and loss potential tax, the performance of tax organization (Regional Tax and User Charge Agency/BPRD) is still low. Through the analysis of the system dynamics scenario, it is found that the best performance measurement that should be conducted in the future organizational performance measurement alternative with a more significant concept using indicators of tax potential, tax gap, tax effectiveness, tax efficiency, tax effort, and tax performance index.*

**Keywords:** *Regional Tax and User Charge Agency, Tax Potential Measurement, Tax Gap and Compliance Cost.*

## 1. Introduction

Today bad highway traffic management in some big cities in Indonesia, especially Jakarta, Bandung, Semarang, Surabaya, Makassar and Medan has caused various problems such as traffic jams, air pollution, accident, and driver's fatigue on the road. These problems trigger the emerging idea to limit the number of passenger vehicles. This idea, of course, is predicted to decrease the amount of local government's tax revenue. Kompas daily newspaper has ever sequentially interviewed the officials of the Jakarta Provincial Government which finally concluded that the government has no way out to solve the problem of highway traffic jams except immediately realizing the limitation plan on passenger vehicle ownership and usage. This is supported by the research by the Institute of Transportation Study (Instra) stating that it is predicted that in the next five years jammed traffic on highways will happen in the capital city. The study by Instra also explains only 13.3% of total busway passengers move or come from private car users. The result of this research, of course, strengthens the tendency of some decision-makers to suppress the growth of passenger vehicles in Jakarta city in the future.

Behind all the problems, it cannot be denied that cities and regencies throughout Indonesia much rely on Motor Vehicle Tax (MVT), Motor Vehicle License Tax (MVLT), and Motor Vehicle Fuels Tax (MVFT) as their main source of original local government revenue (OLGR). In Jakarta Province, only in 2018, the three types of tax contribute 51.22% of the total local tax revenue. Logically, the idea to limit the number of passenger vehicles will surely decrease the local tax revenue in the future. It is not only due to the motorcycle limitation plan but also from the tax revenue from motorcycle Tax. In the last three years (2016-2018) revenue from MVLT has decreased due to no maximal number of owners who do the transfer of title of their vehicles. Corps local online newspaper on Saturday 21 September 2019 informs that in September 2019 almost two million units of motor vehicles in Jakarta are in arrears to pay taxes. This, of course, generates various questions about the organizational performance of the Jakarta Regional Tax and User Charges Agency (RTUC).

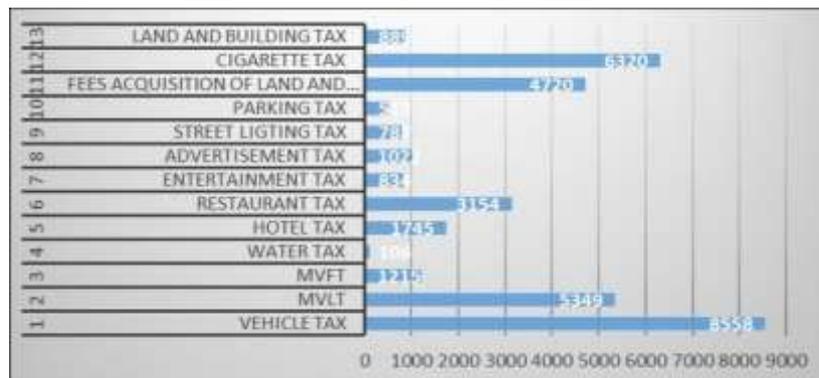


Figure 1. 13 Types of Local Taxes in Jakarta Capital  
Source: Jakarta Central Bureau of Statistics 2019.

The decreasing tax revenue in the last several years as shown in Figure 2 below illustrates the phenomenon and behavior which generates a question of what factors cause the volatility of local tax revenue.

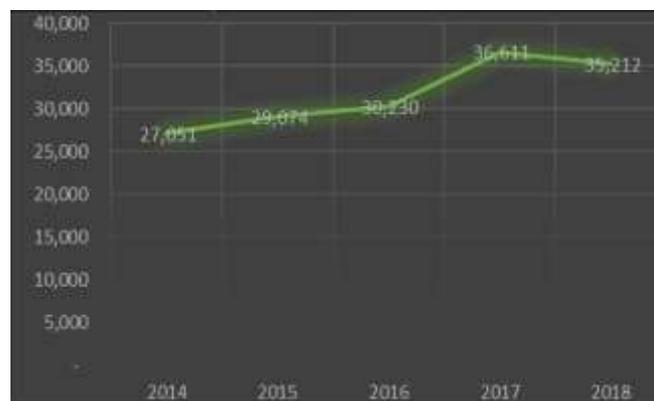


Figure 2. Total Jakarta Capital Local Tax Revenue (2014-2018 in Triliun)  
Source: Jakarta Central Bureau of Statistics, 2015-2019.

According to the concept of system dynamics, the trend of tax revenue which always increases and then decreases or increases again has a significant meaning and is called behavior or dynamics. The behavior appears from where or by whom (Warren, 2001:5-6 and). The system dynamics asks how much the value or how many the number it is in a point of the future. Warren explains that three questions must be answered: why the organizational performance, in this case, tax performance, happens like that (why), where or in which position an action should be taken so that the revenue can increase (were), and how to change it (how). The last question tends more to the policies to be made. Now, system dynamics has developed rapidly; Warren (2018) explain about systems Engineering is moving from a document-based discipline to model-based systems engineering.

In fact, it is not enough that tax performance measurement rely only on the financial aspect, that is only by increasing tax revenue, but it is much determined by the tax system, collection system, tax potential, tax effectiveness, tax effort and tax gap (Toder, 2019:6-12), incentives for tax officer (Rozeff, 2005:1) and tax efficiency explained in tax distortion cost (Sanford 1989:96). From the non-financial dimension, it is determined by taxpayer society (Prawiro, 1990:47 -48) and voluntary tax compliance (Ott, 1982:2). The success of collecting local tax is also much determined by tax intensification and extensification. To the tax institution, taxpayer society becomes the main focus in the tax services, in line with the opinion of Germany tax expert Habammer who explains that the current tax focus is on customer or customer focus (Habammer, 2005:14). Therefore, this research tries to identify the problems of the tax organization performance based on the issue above.

## 2. Research Questions

This research will find out about:

- What factors cause the volatility of the local tax revenue of Jakarta Province?
- What is the best comprehensive measurement tool for increasing the local tax revenue of Jakarta Province today?
- How should Jakarta Regional Tax and User Charges Agency (RTUC) conduct the organizational performance measurement nowadays?

### 3. Research Objective and Locus

The objective of this research is especially to explain a more comprehensive measurement of the local tax performance in Jakarta Regional Tax and User Charges Agency (RTUC) to increase the local revenue. The objector focus of this research comprises four types of potential tax, namely MVT, MVLT, Hotel Tax and Restaurant Tax.

### 4. Research Methodology

The research was conducted using a descriptive method base on 2 approaches, namely a qualitative and quantitative approach by analyzing primary data collected through field research and secondary data collected through library research. In the process of utilizing qualitative-quantitative approaches, these two approaches are used in an integrated way as needed. The necessary data in this research includes primary data obtained from direct observation to the research object and secondary data obtained from related agencies as well as literature study especially related to the research issues. Whereas the data collection is carried out by: a) documentation study and b) Guided Interview.

### 5. Theory

Nowadays organizational performance measurement does not rely on financial measures anymore. In this era, performance measurement by just relying on the financial ratio is no more suitable and relevant (Skinner 1992:28). Researches on the weakness of the performance measurement system by just relying on financial ratio have been done by many researchers. Kaplan (2001:11) and Cooper (2204:38) explain that the measurement on financial basis is not only irrelevant to be used today but also the system has been outdated, oriented to past performance report (lagging metrics), short-term need, inflexible, does not foster improvement and ambiguous on the cost aspect (cost distortion).

Different from the tax organization, the financial objective needs a separate description and approach. In the local tax organization, a financial approach is explained using the benefit received approach and revenue increase from retribution (user charges). This approach has been long raised by Hobbes (1588), Locke (1632), Grotius (1645) and Erik Lindahl (1960). Subsequently, this concept is developed for motor vehicle tax.

In the context of tax, this concept becomes the material for maximally developing the indicator of tax agency performance. As stated by Hui (2005:1) from Shenzhen Tax Office, the improved tax performance in China is more due to the activation of the effectiveness and efficiency concept. In Scandinavia, Maysnar (1991:1) develops tax technology which relies on tax administration activity by the tax authority and tax resistance activity by taxpayers. Some tax experts such as Bird dan Vaillancourt (1988:2), Anderson, Ernesto Rezk, Wallick and Musgrave (1986:211) state that before explaining the tax performance of an organization, the degree of fiscal decentralization should be seen first. The degree of fiscal decentralization is a measurement that can describe the dependence degree of local government on the central government. This degree of local ability is described in a comparison between original local government revenue (OLGR) and total local revenue.

- a. Local Taxing Power (Tax Assignment): According to Alm and Bahl (1999:23) and Junghun (2013:48), the important issue of authority to collect tax is concerning taxing power. The government also needs great authority to collect a fee in the form of tax (Sidik: 2002:9).
- b. Tax Effort: Tax effort is the local government's effort to increase tax revenue. According to Devas et.al. (2001:61) one of the benchmarks in the result (yield) related to the effort to increase tax revenue (tax effort) because the result is comparing between the amount of tax collected and the amount of GRDP (Stotsky and Mariam, 1997:1); and Dalamagas et.al (2019:48) explained that to optimize the tax system only two factors are needed: the country's productive capacity (GDP) and consumer preferences (consumption expenditure).

Researchers can ignore other variables because macroeconomic determinants (GDP, consumption) tend to capture the impact of all the remaining factors on tax income.

- 1) Tax Performance Index: Analysis of local tax effectiveness can also use analysis tools such as tax performance index (Sidik and Soewondo, 2001:75).
- 2) Tax Potential and Tax Gap: Tax potential is the ability to generate tax or the ability that is taxable in totality. In calculating tax, the tax gap must also be taken into account.
- 3) Tax Efficiency: In tax efficiency, Musgrave describes the cost of taxation on two things, namely minimizing tax operating cost and tax distortion cost. Tax operating cost is the cost incurred to conduct tax collection, whereas tax distortion cost is the cost incurred as a result of changes in the production process. Distortion cost is divided into three parts, namely a). Direct Money Cost; b).Time Cost; c).Psychology cost.

## 5. Results and Analysis

### 5.1. Description of Organizational Performance

Government Agency Performance Accountability Report (LAKIP) is a tool for measuring the performance of public organizations in Indonesia which is developed on system theory. The results of this research try to reveal some studies on organizational performance based on LAKIP, the description of local financial ability or the degree

of fiscal decentralization, studies on local tax performance (tax gap) and studies on the organizational performance of Jakarta Regional Revenue Service (leverage). From the aspect of financial performance during the 2017 fiscal year there was a decrease in revenue as many as -6.45%. This figure comes from the comparison between the revenue realization in 2017 and the target of 2017. Meanwhile, if the revenue realization in 2018 is compared to the target of 2018 the decrease is much bigger, reaching -26.36%. Using LAKIP measurement, that is comparing the realization of local revenue between the 2018 fiscal year and 2017 fiscal year, it is found that the organization's financial performance decreases by 4.16%.

The decrease in financial performance is more pronounced if compared to the position of financial performance during the 2015 fiscal year. The comparison between target and realization in 2015 indicates an increase of 4.85%, whereas the comparison between target and realization in 2005 indicates a higher increase of 8.24%. Meanwhile, using LAKIP measurement, financial performance is found much better, which is 16.61%. If the degree of fiscal decentralization during 2017-2018 indicates a bad position, then based on LAKIP during the 2017 fiscal year the local tax revenue decreases as many as -9.32%, whereas during 2018 the decrease is much higher, that is -13.82%.

The tentative conclusion that can be made is that the organizational performance of Jakarta Regional Tax and User Charges Agency (RTUC Agency) which is based on LAKIP still can not describe the real performance. This is because the parameter used is unable to describe the real condition and organizational performance. According to Bird and Vaillancourt (1988:2), this is considered unrealistic and unable to describe the real degree of tax efficiency. If seen from the concept of performance measurement proposed by Roger (1990:23), then the organization of RTUC Agency is in the quadrant of the well-regulated bureaucracy, but with a number of weaknesses, namely that the organization is not completely in this quadrant due to many weaknesses in the implementation of regulations at the lower level in tax collection.

### 5.2. Degree of Fiscal Decentralization

According to Musgrave, to measure local fiscal performance the degree of fiscal decentralization between central and local governments can be used. This degree can explain among others; 1). The ratio of OLGR against total local revenue (Total of Local Revenue/TLR), 2). The ratio of Tax and Non-Tax Profit Sharing (BHPBP) against TLR, and 3). The ratio of donation (block grant) against TLR. The results of this research indicate that the ability of local finance for five fiscal years, both the ratios against TLR and Regional Budget have a small difference. The OLGR as the source of local revenue can be categorized as high with the average ratio per TLR 55% and average ratio per Regional Budget 49%. Whereas the revenue in the form of donation or aid from central government is only 6% for average per TLR and 5% for average per Regional Budget Revenue (APBD). This shows that the degree of local government dependence on the central government is low. The degree of fiscal decentralization of Jakarta Provincial Government can be seen in the following table:

Table 1. Degree of Fiscal Decentralization and Fiscal Position  
Jakarta Province 2017-2018

	Indicator	Result
Degree of Fiscal Decentralization	OLGR / TLR	0.55
	Tax and Non Tax profit Sharing/TLR Donation / TPD	0.38
		0.06
Effort / Fiscal Position (tax effort)*	The elasticity of OLGR against GRDP	1.06

Source: Data Processing, 2018

### 5.3. The Description of Tax Performance RTUC Agency

Through this research it is obtained the illustration of tax performance of RTUC Agency Jakarta province that can be described through (1) study on local taxing power, which is beneficial for seeing the extent of tax authority by comparing the tax revenue with the local GRDP; (2) study on tax effort by comparing the tax revenue with GRDP of no oil and gas; (3) study on Tax Performance Index (TPI) to describe the effectiveness of tax revenue by comparing the real tax revenue with the tax potential. In this case marginal revenue, marginal cost, cost of taxation which comprises tax operating cost and compliance cost are also analyzed. The bigger enforcement action the organization takes the more effective the tax collection if connected to the target (Westly 2006:3); (4) study on cost of collection, as part of tax efficiency, i.e. assuming the smaller collection fee incurred the higher tax revenue; in this case marginal cost will be compared with marginal revenue; (5) LAKIP of RTUC Agency in 2018, especially in the realization of Local Tax Revenue.

### 5.4. Local Taxing Power

A study on local taxing power is aimed at seeing the extent of tax authority by considering the comparison between tax revenue and the Regional Budget. In contrast with the opinion of Sidik about the taxing power of

Indonesia's regions where the regions only contribute less than 10% of their OLGR on average to Regional Budget, the taxing power of Jakarta Province reaches 51.35%.

### 5.5. Tax Effort

A study on the effort/fiscal position (tax effort) is the local government's effort to increase its local tax revenue. A study on tax effort can be conducted by comparing the tax revenue with the GRDP of non-oil and gas. According to Reksohadiprojo (2017:156) quoting the opinion of Musgrave, the effort/fiscal position can be calculated by finding the coefficient of elasticity of OLGR against GRDP, which is calculating the average growth of seven fiscal years (2015-2018). The result of the research shows the calculation of the elasticity of OLGR against the GRDP at Current Price, where the growth of GRDP at the current price affects the tax revenue. It means that if GRDP increases 1.0% then the tax revenue will increase by 1.06%. This figure shows that the amount of tax revenue is elastic against the GRDP at the current price.

### 5.6. Tax Effectiveness (Tax Performance Index)

A study on Tax Performance Index (TPI) is aimed at describing the effectiveness of tax revenue by comparing the real tax revenue with the tax potential. The higher the TPI indicates the more effective the tax collection. Tax Performance Index is also beneficial for measuring the relationship between the result of tax collection and the tax potential with the assumption that all taxpayers pay the tax payable.

Using the figure of tax potential which is calculated thoroughly we can measure the effectiveness of four types of tax collection (MVT, MVLT, Hotel Tax, and Restaurant Tax). This research finds the effectiveness of MVT is 80.14%, MVLT 58.71%, Hotel Tax 52.13% and Restaurant tax 73.33%, and the average of these four tax effectiveness figures is 66.08%. This average figure shows that the amount of tax revenue successfully collected by the RTUC Agency only reaches 66.08% of the total tax potential with the potential loss of 33.92%. Hotel Tax has the highest potential loss of around 47.87%, followed by MVLT 41.29%, Restaurant Tax 26.67% and Motor Vehicle Tax 19.86%. Tax realization against the potential MVT is almost maximal since according to the Jakarta Central Bureau of Statistics (BPS) data of the total existing vehicles around 18.1% are government service vehicles, diplomatic corp vehicles, lost vehicles, invalid vehicles, and from vehicle mutation. Potential loss happens to MVLT since the vehicle owners tend to slow down or not to carry out the process of title transfer on the vehicle they have bought, but they extend the vehicle ownership/validity by borrowing the old vehicle owner's identity card.

### 5.7. Tax Efficiency

Local tax efficiency is measured from the tax sharing used for covering the tax collection fee. In this research, basic data is obtained in the form of real costs incurred for tax collection. The costs are tax audit cost used for financing the vehicle re-registration, tax compliance cost, collection cost, cost for information and data processing, and cost for controlling tax collection. Based on the data obtained, in general, the allocation of total cost set for each type of tax must be sought below 7% of the tax collected. This figure is the maximum amount of the local tax collection cost. The cost allocation of 7% is only intended for reasonable and justifiable collection.

To illustrate the level of tax efficiency it can be calculated by comparing the marginal revenue and the marginal cost in the equation:  $MR (\text{Rev A2018} - \text{Rev A2015}) : MC (\text{Cost A2018} - \text{Cost A2015})$ . If MR is bigger than MC, then the result of tax revenue is considered as good. From the comparison we obtain the value of  $MR (6,834,572 - 4,412,615) : MC (418,276 - 314,178) = 2,421,957 > 104,098$ , or  $MR > MC$ . If calculated in percentage, the increase of marginal revenue is higher (54.89%) compared to marginal cost (33.13%). The result comparison shows higher marginal revenue and indicates a better level of efficiency.

However, from the analysis, it is found that tax operating cost for 2018 is 8.82%, in which there is a cost of collection as many as 5%. If compared with the cost of collection from developed countries like Ukraine and Russia which is around 2% (Bird and Wallace, 1996:12), the cost of collection as many as 5% is considered as high. This indicates that the organization of the RTUC Agency has not reached the appropriate efficiency. By calculating the tax operating cost it seems more that the organization has not done the efficiency measures it should have.

Furthermore, by referring to the result of research by Adinur (2008:86) concerning tax compliance cost it can be interpreted that the tax distortion costs are: a). Direct Money Cost 6.69%, b). Time Cost 12.05%; and c). Psychological Cost 11.11%. Thus, the total tax compliance cost which is a tax burden that actually must be incurred by the taxpayers is 37.96%. This figure is the total tax compliance cost plus tax operating cost of RTUC Agency. The high level of compliance costs can affect the height of a high-cost economy. It is also a disincentive for taxpayers' compliance in fulfilling their tax obligation as illustrated in the following figure.

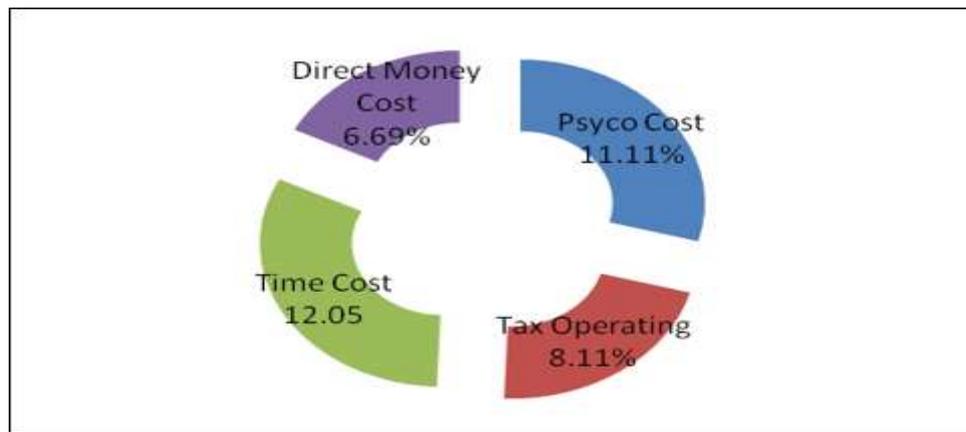


Figure 3. Cost of Taxation in Jakarta Province 2018  
 Source: Tax Distortion Cost adopted from Adinur (2008)

In the figure above it is seen that the cost of taxation is very high. To overcome the high cost of taxation, the government needs to improve the tax administration by minimizing the regulations of collection cost (tax operating cost) and making easier the filling in Local Tax Report (SPTPD) so the taxpayers do not have to pay tax consultants to fill in the Local Tax Report. Tax administration improvement must also be done against the groups of taxpayers who utilize tax facilities, such as cars for state officials, parliament members, and individuals or groups playing around the center of power who get tax exemption or tax reduction. The amount of tax loss can not be counted well because of being hidden, shadowed or underground but it should be predictable to calculate it to become real tax potential (presumptive taxation). This group may be subject to tax in the framework of fairness. Bird and Wallace (2003:1) call such a concept with the term hard to tax.

In the framework of fairness, tax exemption should be able to be minimized by improving the local tax regulation and applying tax primarily on the cars owned by central and local government, police, armed forces, and big motorcycle. The hard to tax hotels can be observed at budget hotels and boarding houses, whereas the hard to a tax of restaurants can be observed at restaurants or food stalls and tent shops. This hard to tax will be analyzed later in the discussion of underfilling, underreporting and underpayment. All the forms of tax exemption must be reported as income, although they are finally returned to a certain party. However, the important thing is that the reported tax exemption can become part of accurate decision making in the future. The important reason for applying tax exemption like this is because it can be likened to the imposition of income tax on the purchase of office stationery done by the government.

Table 2. Performance of RTUC Agency Based on Tax Indicators 2015-2018

Indicator		Result (%)
Local Taxing Power	Contribution of PAD to Regional Budget Revenue (APBD)	51.35
Tax Effort	The elasticity of AD against GRDP (ADHB)	1.06
Tax Effectiveness/ Tax Performance Index	Comparison between Tax Revenue and Local Tax Potential	66.08
Tax Efficiency/ CostCollection	Operating cost	8.82
	Compliance cost:	
	- Direct Money Cost	6.69
	- Time Cost	12.05
	- Psychology Cost	11.11

Source: Data processing, 2018.

**6. Conclusion**

Overall the research finds several important things that can be formulated in a conclusion as follows:

- a. The performance measurement used by RTUC Agency so far is the LAKIP model whose implication in the field can not describe properly and in detail, the factors causing the performance of a service can run properly. As a result, the organization is not able to formulate the policies of tax potential, tax gap, detect potential loss, calculate compliance cost and reduce the cost of taxation.

- b. It is necessary to have an organizational performance measurement alternative in the future with a more significant concept by using indicators of tax potential, tax gap, tax effectiveness, tax efficiency (cost of collection and compliance cost), tax effort and tax performance index.

## 7. Research Implications

The theoretical and practical implications of this research are:

- a. Theoretical implication: To measure the organizational performance in the future it is expected that the organization does not use a comparison between target and tax realization, but uses a comparison between tax potential and tax realization. Data on tax potential can detail the factors causing the organizational performance following the plan. In the tax gap, in addition to its ability to describe the tax potentials that are known filing, underreporting and underpayment, this research adds another variable, i.e. invisible potential which is useful for explaining the potential tax which is hidden and has not been explored by the organization.
- b. Practical implication: From the tax gap analysis it is seen that the potential loss of hotel tax and restaurant tax is very high. Therefore, it is recommended that in the future the organization formulates a policy to explore the intended potential. To overcome the high cost of taxation, the government needs to formulate a policy on tax administration improvement by minimizing the regulations of collection cost (tax operating cost), making easier the filling in tax report (SPTPD), projecting the real tax potential (presumptive taxation) and minimizing the tax facilities. Tax administration improvement should also be done toward the taxpayer group and the groups playing around the center of power who obtain tax facilities. All the forms of tax exemption must be reported as income, although they are finally returned to a certain party. However, the reported tax exemption can become part of accurate decision making in the future. The important reason for applying tax exemption can be likened to the imposition of income tax on the purchase of office stationery done by the government.
- c. Reference for taxpayers; in the framework of tax efficiency, i.e. suppressing tax compliance primarily time cost and psychology cost of hotel tax and restaurant tax, taxpayers can develop a tax reporting system by utilizing electronic file (email) which is useful to suppress the costs of document photocopy, transportation, and document storage.

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