

# **OUTSOURCING TYPES, RELATIVE WAGES, AND THE DEMAND FOR SKILLED WORKERS: EVIDENCE FROM INDONESIA, JAPAN AND SINGAPORE MANUFACTURING INDUSTRIES**

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## **ABSTRACT**

*Objectives of this research are: to identify regulations about outsourcing, to identify and analyze factors determine the implementation of outsourcing in an industry, to identify and analyze outsourcing types, to analyze relative wages related to outsourcing implementation in an industry, to analyze demand for skilled workers. Data in this research involve primary and secondary data. Secondary data will use labor data in period 2005 – 2012. Primary data will be gotten through survey and FGD. Meanwhile, secondary data will be gotten from BPS dan Ministry of Labor and Transmigration of Indonesia. This research will use methods such as descriptive, factor analyze, analytical hierarchy process (AHP), and demand for skilled worker model.*

*Results show that government policies to conduct outsourcing in manufacturing industries refer to Act number 13/2003 about Labor, and Ministry Regulation number 19/2012 about Duty Transfer to Another Company. Companies have many reasons to use outsourcing scheme, are: government regulation, recruitment process, recruitment cost, types of outsourcing, wage and worker incentive, skilled worker and productive, human resource development plan, business efficiency. Companies have many reasons to use outsourcing scheme. Government regulation (KP) is an extreme importance factor to implement outsourcing policy. Recruitment process (PRK) occupies the next position in the outsourcing policy by the company. Wage level and worker incentive (TGIP), Skilled worker and productivity (PTP), Human resource development plan (KJK). Last priorities for consideration in outsourcing policy is a Business efficiency (EBU).*

*Keywords: outsourcing - worker - factor analyze - analytical hierarchy process.*

## 1. INTRODUCTION

Wiratraman (2007) has identified many effects of outsourcing in Indonesia. It's are the outsourcing is a neo-liberalisme product, minimize in job incentive guarantee, inconsistent in job relation, industry can recruit and layoff easily, legalized modern slavery, and conflict paradigm. Those are labor market flexibility implementation in Indonesia. Studies about outsourcing in other country are also done by Anderton and Brenton (1998), Kotabe and Mol (2004), Munch and Skaksen (2005), Kremic, Tukel and Rom (2006), Chongvilaivan, Hur and Riyanto (2009), Tjandraningsih, Herawati and Suhadmadi (2010).

Indonesia Government has legalized an Act number 13/2003 about Labor. This act has regulated a rule of work contract and outsourcing. The scheme of work contract and outsourcing can be explain as follow:

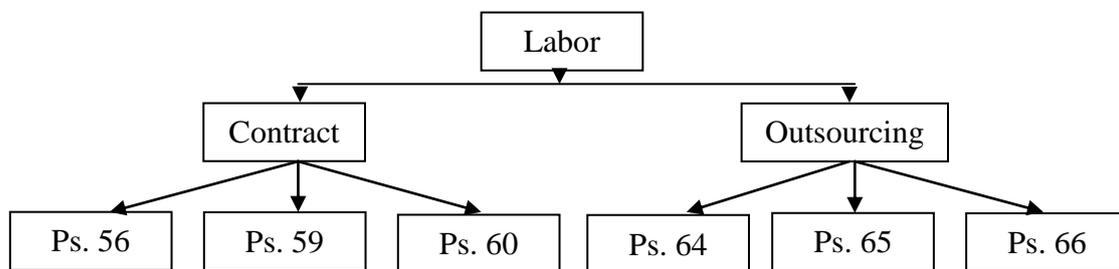


Figure 1.1. Contract and Outsourcing Based on Act No. 13/2003

The act about labor in Indonesia is a crucial point for this research. This research will focus on outsourcing phenomena and construct recommendations for government. In the doing of research, the Indonesian research team will collaborate with a foreign partner from International University of Japan. Indonesian research team and foreign partner have a competency to do this research. This refers to field of sciences of all researchers. The roadmap of research can be seen at Figure 4.1.

## 1. LITERATURE REVIEW AND HYPOTHESIS DEVELOPMENT

### A. Theoretical Review

#### A.1. Concept of Outsourcing

Linder (2004) has defined the “outsourcing” as “purchasing ongoing services from an outside company that a company currently provides, or most organizations normally provide, for themselves”. Kotabe and Mol (2004) have described the “outsourcing process” as “a range of actions within a clearly identifiable time-frame that lead to the transfer to outside suppliers of activities, possibly involving the transfer of assets including people, as well, that

were previously performed in-house or procured from other units within the corporate system”.

Kremic, *et. al.* (2006) had studied many literatures about outsourcing. It's give guidance as follow:

- a. Cost saving. Industries can minimize cost about 9% and increase production capacity about 15%.
- b. Time saving. Industries use this factor as a main decision.
- c. Hidden cost. Industries use outsourcing to minimize a hidden cost.
- d. Core activity. Industries use outsourcing to get a core activity.
- e. Cash infusion. Outsourcing can drive the ability of cash for industry from selling assets.
- f. Talent availability. Outsourcing provides a skill worker for industry.
- g. Re-engineering. Industry has a chance to evaluate business process.
- h. Corporate culture. Industries can implement a corporate culture easily through outsourcing
- i. Greater flexibility. Outsourcing will give a flexibility both time and resource for industries.
- j. Accountability. Industries have a chance to implement an accountability process through outsourcing.

## **A.2. Empirical Studies of Outsourcing**

Chongvilaivan, Hur and Riyanto (2009) have investigated the outsourcing in US manufacturing industries. They have concluded that:

1. the downstream materials and service outsourcing have a positive impact on the wages of skilled workers relative to those of unskilled workers and the relative demand for skilled workers, while upstream materials outsourcing has the opposite impact.
2. the nature of the relationship between capital inputs and skilled workers depends on the types of capital input employed in the production process.

On the other hand, Anderton and Brenton (1998) have concluded that:

When assessing the impact of outsourcing the source of imports matters. For the UK, it seems that using aggregate imports to capture outsourcing may be misleading and that disaggregation of imports in order to identify low wage country sources of supply is necessary.

McKinsey and Company (2004) have found outsourcing implementation in many countries. They have figured out as follow:

About 7,300 executives worldwide on whether outsourcing low wage jobs to developing countries is beneficial to the global economy and found that 80 percent of them agreed that it was. This ratio was roughly the same for Europe, Asia and North America. When asked about whether outsourcing was good for their organization the agreement varied substantially by country: agreement with the statement was 97 percent for Indians, 86 percent for Chinese 70 percent for Europeans and 58 percent for Americans.

Hsieh and Woo (2000) have investigated outsourcing phenomena in Hong Kong and China. They have described as follow:

We find evidence of strong and persistent relative demand shifts favoring skilled workers in Hong Kong since the early 1980s, which is when outsourcing to China started to take off. In addition, we find that these relative demand shifts have been stronger in industries that have seen a greater degree of outsourcing to China. Finally, we find strong evidence that the returns to education and the relative wage of nonproduction workers have increased by more in the industries that have shifted a larger share of their production to China.

Munch and Skaksen (2005) have tested the theoretical model of outsourcing. They have found that:

1. Foreign outsourcing is likely to be biased towards activities intensive in unskilled labor, and in that case our model predicts that foreign outsourcing should benefit skilled labor, while it is ambiguous how wages of unskilled labor are affected.
2. With respect to domestic outsourcing, if it corresponds to a pure division of labor effect in the sense as there is no skill bias, we expect that more domestic outsourcing leads to higher wages for all workers. Domestic outsourcing should benefit unskilled workers more than foreign outsourcing, and it should benefit skilled workers less than foreign outsourcing.

### **3. RESEARCH METHODOLOGY**

#### **A. Scope of Research**

This research will be done into two years, 2014-2015. Research regions involve Indonesia, Singapore, and Japan. The focuses of research are outsourcing type, wages and skilled workers. This research is an international collaborative research. It means that Indonesian researcher will cooperate with international researcher. An international researcher who will collaborate is Prof. Takahiro Akita, Ph.D. He comes from International University of Japan (IUJ). This collaboration based on Memorandum of Understanding (MoU)

between Economics Faculty of UNS and IUJ. The MoU is attached. In this research Prof. Takahiro Akita will be supported by Yohanes Eko Riyanto, Ph.D. from NTU-Singapore.

## **B. Data, Sampling Method and Domestic-Foreign Activity**

This research will use two kinds of data, are: primary and secondary data. Primary data are gotten from survey. Survey method is purposive sampling through a questioner. Survey will be done to a hundred respondents. They are businessman of economic association/outsourcing industries in Indonesia. Respondents are businessman who staying in Sumatera (Medan), Java (Jakarta, West Java, Central Java, D.I. Yogyakarta, and East Java), Bali, Kalimantan (Samarinda), Sulawesi (Makasar). Survey is only done in the first year.

Secondary data are gotten from BPS (Central Bureau of Statistics of Indonesia) and Kemenakertrans (Ministry of Labor and Transmigration of Indonesia). Its are number of labors, number of outsourcing industries, labor wages, input-output data, industrial classification data.

Primary and secondary data about outsourcing and worker are done in Indonesia. Indonesian researcher will also compare the research result from Indonesia case to Singapore and Japan case. For this purpose, foreign researchers support the availability of secondary data. Its involve outsourcing policies and number of manufacturing industries which use outsourcing scheme both in Japan and Singapore.

## **C. Operational Definition of Variables**

This research uses variables are:

1. Number of labor is total labor based on BPS report and Kemenakertrans RI. Labor will be classified into three types, are: labor based on economic activity, labor based on education level, labor based on scheme outsourcing.
2. Wage is a labor wage per month based on BPS report.
3. Capital is an input production in the form of investment.
4. Outsourcing is a type of outsourcing that was implemented in industry.
5. Output is an industry product/output based on BPS report.

## D. Research Roadmap and Model

### D.1. Research Roadmap

This research roadmap uses a diagram as follow (Figure 4.1.):

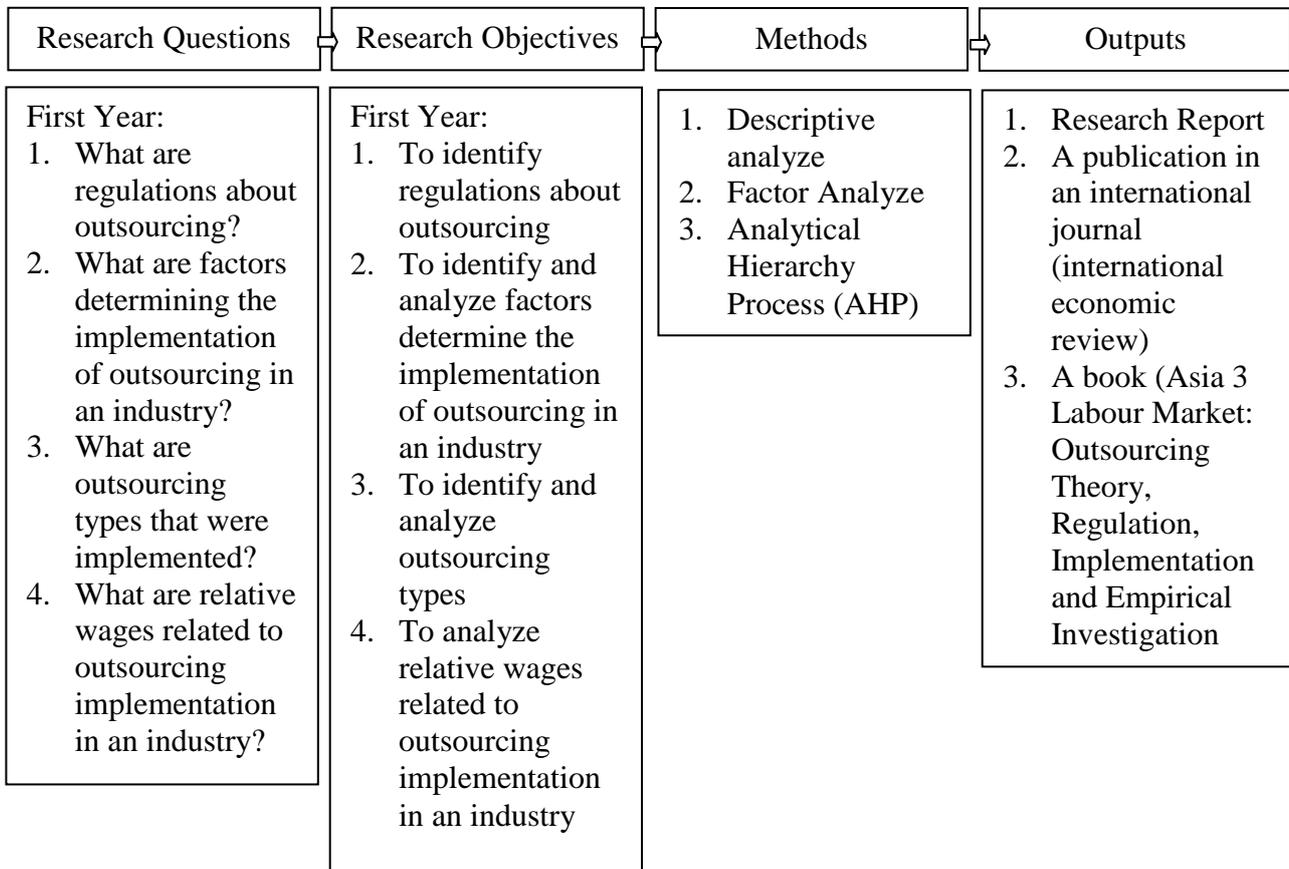


Figure 4.1. Research Roadmap, 2014

## D.2. Models/Methods

### D.2.1. Descriptive Analyze

This method is used to describe kinds of phenomena about outsourcing implementation in Indonesia, Singapore and Japan. The phenomena can be figured out in the form of table, graphic, and distribution of data. This is chosen to illustrate outsourcing data deeply.

### D.2.2. Factor Analyze

DeCoster (1998) describes the concept of factor analyze. It is a method to construct a response on research variables. There are two kinds of factor analyze; exploratory analyze (EFA) and confirmatory analyze (CFA). EFA focuses on general response on research variables. Meanwhile, CFA focuses on specific response on research variables.

### D.2.3. Analytical Hierarchy Process (AHP)

Permadi (1992) illustrates that AHP is a method to make a decision. This method focuses on expert perception. There are four axioms in AHP; reciprocal comparison, homogeneity, independence, and expectation. This method is also known as expert choice or priority factor.

## E. Research Activity

Research activities refer to Table 3.1 as follow:

Table 3.1. Research Activities in 2014

No.	Domestic Activities	Foreign Activities
1	Literature review	Literature Review
2	Questioner and sampling design	-
3	Survey	Survey
4	Draft and Final Report	Draft and Final Report
5	Publication in an international journal: international economic review	Publication in an international journal: international economic review
6	Draft book: ASIA 3 LABOUR MARKET: OUTSOURCING THEORY, REGULATION, IMPLEMENTATION AND EMPIRICAL INVESTIGATION	Draft book: ASIA 3 LABOUR MARKET: OUTSOURCING THEORY, REGULATION, IMPLEMENTATION AND EMPIRICAL INVESTIGATION

## **4. RESULT AND DISCUSSION**

### **Outsourcing Policies**

Outsourcing is a scheme which supports non-core company activity. This is a main idea in the concept of outsourcing. The company uses workers outsourcing for increasing productivity. But, this phenomenon needs to study deeply. On the other hand, government of Indonesia has regulated the outsourcing. The regulation has been conducted to adopt outsourcing phenomena in business activity and to protect worker.

In Indonesia the regulation which conducts outsourcing scheme is Act number 13/2003 about Labor. For implementing it the company can refer to the Ministry Regulation. It was explained by Ministry of Labor Regulation number 19/2012 about Partial Duty Transfer to Another Company.

In the context of outsourcing implementation, there are kinds of critics. Its come from researcher and worker. The content of critics refers to issues about:

1. Worker with outsourcing scheme needs equality treatment like worker without outsourcing such as level of wage and incentive.
2. Worker with outsourcing scheme needs to join in labor union.
3. Worker with outsourcing scheme needs a human resource development plan from the company.

Issues above must be study or review by government. It means the government can review all of regulation that has regulated outsourcing.

### **B. Factors to Implement Outsourcing**

Outsourcing scheme is one of company method to get a worker and transfer a partial non-core business activity. For this reason there are many factors that will affect outsourcing implementation in a company. Its are:

1. Government regulation,
2. Recruitment process,
3. Recruitment cost,
4. Types of outsourcing,
5. Wage and worker incentive,
6. Skilled worker and productive,
7. Human resource development plan,
8. Business efficiency.

The eight factors are reflecting company perception about outsourcing implementation in their company. The company explained that the worker with outsourcing scheme tends to do activity non-core business. But, it is not answer about human development plan for the worker.

Table 5.1. Response to Government Regulation (%)

No.	Statement	1	2	3	4	5
1	The government has established a system of outsourcing / contract	4	6	28	56	6
2	My company operates a policy of outsourcing	2	2	24	62	10
3	Outsourcing policies need to be maintained to encourage employment	2	10	26	56	6
4	Outsourcing policies need to be maintained to encourage business development	2	4	30	60	4
5	Outsourcing policies must be guarantee harus worker right transparancy and fairly.	0	4	10	66	20

Source: Primery Data

Table 5.1 shows response outsourcing companies to government regulation. We can see from tha table that about 56 percent company agree the government has established a system of outsourcing / contract. 62 percent company operates a policy of outsourcing. 56 percent respondent sgree with outsourcing policies need to be maintained to encourage employment. Table 5.1 also shows that about 60 percent company agree with outsourcing policies need to be maintained to encourage business development. There are about 66 percent respondent agree with outsourcing policy that must guarantee worker right transparancy and fairly.

Table 5.2. Response to Recruitment Process (%)

No.	Statement	1	2	3	4	5
1	Outsourcing can help company in the recruitment process	0	10	20	58	12
2	Outsourcing can help company in make a contract easily	0	8	24	58	10

Source: Primery Data

Table 5.2 describe response of outsourcing company to recruitment process. Abot 58 percent companies agreethat outsourcing can help company in the recruitment process.

Also, there are 58 percent companies agree that outsourcing can help company in make a contract easily.

Table 5.3. Response to Recruitment and Training Cost (%)

No.	Statement	1	2	3	4	5
1	Outsourcing system can support low cost of labor recruitment	2	20	12	58	8
2	Outsourcing system can support low cost of training budget especially fo new workers	2	18	10	58	12
3	Outsourcing can help to remove cost of training in the long run	2	22	22	48	6

Source: Primery Data

From Table 5.3 we know that most of respondent agree with the following statement: Outsourcing system can support low cost of labor recruitment, Outsourcing system can support low cost of training budget especially fo new workers, Outsourcing can help to remove cost of training in the long run

Table 5.4. Response to Types of Outsourcing (%)

No.	Statement	1	2	3	4	5
1	Type of outsourcing appropriates with government regulation	0	6	38	52	4
2	Type of Outsourcing appropriates with worker skill	0	8	26	60	6
3	Type of Outsourcing applies only to the parts of business operation	2	2	22	72	2
4	Type of Outsourcing is not be the main policy in business operation	0	2	26	66	6

Source: Primery Data

Table 5.4 shows that most of respondent agree if type of outsourcing appropriates with government regulation and worker skill. Also, they are agree to appllies only to the parts of business operation and not to be the main policy in business operation.

Table 5.5. Response to Wage Level and Worker Incentive (%)

No.	Statement	1	2	3	4	5
1	Wage level and type of outsourcing appropriate with government regulation	2	12	34	44	8
2	Wage level and type of outsourcing consider a fairness aspect for workers	2	20	30	44	4
3	Workers in outsourcing scheme get incentive based	0	12	24	62	2

	on government regulation					
4	Wage level and worker incentive are decided through a contract between worker and company as a supplier of outsourcing	0	8	28	54	10

Source: Primary Data

Due to wage level, about 44 percent companies agree that wage level and type of outsourcing appropriate with government regulation and consider a fairness aspect for workers. Companies determine worker incentive agree that workers in outsourcing scheme get incentive based on government regulation wage level and worker incentive are decided through a contract between worker and company as a supplier of outsourcing (see Table 5.5).

And

Table 5.6. Response to Skilled Worker and Productivity (%)

No.	Statement	1	2	3	4	5
1	Type of outsourcing provides skilled workers	0	8	32	56	4
2	Type of outsourcing provides workers with high productivity	2	14	20	62	2
3	Worker in outsourcing scheme tends to be more skilled and productive	2	20	42	36	0

Source: Primary Data

According to response to skilled worker and productivity, More than fifty percent of companies agree with type of outsourcing provides skilled workers with high productivity. Furthermore, they agree that worker in outsourcing scheme tends to be more skilled and productive (see Table 5.6).

Table 5.7. Response to Human Resource Development Plan (%)

No.	Statement	1	2	3	4	5
1	HRDP is applied to outsourcing worker who appropriates with company qualifications	2	20	44	32	2
2	HRDP is undifferentiated between outsourcing worker and other	4	32	36	26	2
3	HRDP is one of working career certainty for workers	4	22	46	28	0

Source: Primary Data

Referred to Table 5.7, most of companies not sure that they have been applying Human Resource Development Plan (HRDP) to outsourcing worker who appropriates with

company qualifications, HRDP is undifferentiated between outsourcing worker and other, and HRDP is one of working career certainty for workers (about 44, 36, and 46 percent respectively).

Table 5.8. Response to Business Efficiency (%)

No.	Statement	1	2	3	4	5
1	Worker in outsourcing scheme contributes to decrease cost of business operation	0	6	22	68	4
2	Business efficiency can achieve through outsourcing implementation	2	8	20	66	4
3	Business efficiency and outsourcing scheme are policy in the long run for business operation	4	16	28	52	0

Source: Primary Data

Due to company response to business efficiency, they agree that worker in outsourcing scheme contributes to decrease cost of business operation (68%), business efficiency can achieve through outsourcing implementation (66%), and business efficiency and outsourcing scheme are policy in the long run for business operation (52%) (see Table 5.8)

### C. Factors to Implement of Outsourcing Workers in Indonesia

Outsourcing scheme is one of company method to get a worker and transfer a partial non-core business activity. For this reason there are many factors that will affect outsourcing implementation in a company. They are:

1. Government regulation (KP),
2. Recruitment process (PRK),
3. Recruitment and training cost (BPP),
4. Types of outsourcing (JPO),
5. Wage level and worker incentive (TGIP),
6. Skilled worker and productivity (PTP),
7. Human resource development plan (KJK),
8. Business efficiency (EBU).

The eight factors are reflecting company perception about outsourcing implementation in their company. The company explained that the worker with

outsourcing scheme tends to do activity non-core business. But, it is not answer about human development plan for the worker.

#### D. Priority Factors to Implement of Outsourcing Workers in Indonesia

Tabel 5.9. Weighted Rating in AHP Process

Weighted Rating		Lambda (max)	
Row 1 (KP)	0.5441	Row 1 (KP)	8.5297
Row 2 (PRK)	0.7767	Row 2 (PRK)	8.5297
Row 3 (BPP)	0.9206	Row 3 (BPP)	8.5297
Row 4 (JPO)	1.3768	Row 4 (JPO)	8.5297
Row 5 (TGIP)	1.1188	Row 5 (TGIP)	8.5297
Row 6 (PTP)	0.8943	Row 6 (PTP)	8.5297
Row 7 (KJK)	1.4251	Row 7 (KJK)	8.5297
Row 8 (EBU)	1.4732	Row 8 (EBU)	8.5297
		Average	8.5297

Source: Primery Data (processed)

Tabel 5.10. Factors Rating

Factors	Normalized Eigenvecor	Priorities
Government regulation (KP)	0.0638	8
Recruitment process (PRK)	0.0911	7
Recruitment and training cost (BPP)	0.1079	5
Types of outsourcing (JPO)	0.1614	3
Wage level and worker incentive (TGIP)	0.1312	4
Skilled worker and productivity (PTP)	0.1048	6
Human resource development plan (KJK)	0.1671	2
Business efficiency (EBU)	0.1727	1

Source: Primery Data (processed)

Note: Consistency Index (0.0757) and Consistency Ratio (0.0538)

Table 5.10 show factors rating for company to determine decision abot outsourcing policy. The table shows hat government regulation (KP) is an extreme importance factor to implement outsourcing policy. Recruitment process (PRK) occupies the next position in the outsourcing policy by the company. Wage level and worker incentive (TGIP), Skilled worker and productivity (PTP), Human resource development plan (KJK). Last priorities for consideration in outsourcing policy is a Business efficiency (EBU)

## **5. CONCLUSION**

Conclusions from this research involve:

1. Government policies to conduct outsourcing in manufacturing industries refer to Act number 13/2003 about Labor, and Ministry Regulation number 19/2012 about Duty Transfer to Another Company.
2. Companies have many reasons to use outsourcing scheme. Government regulation (KP) is an extreme importance factor to implement outsourcing policy. Recruitment process (PRK) occupies the next position in the outsourcing policy by the company. Wage level and worker incentive (TGIP), Skilled worker and productivity (PTP), Human resource development plan (KJK). Last priorities for consideration in outsourcing policy is a Business efficiency (EBU).

Research recommendations refer to research conclusions, are:

1. Government is expected to review outsourcing regulation to protect outsourcing workers in the context of wage level and incentive.
2. Company which uses outsourcing workers is expected to consider not only reasons to use outsourcing scheme but also workers welfare.

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