

# Effort Allocation in Taxation Task: An Effort Experiment

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Abstract: As the AEC (Asean Economic Community) starts to be applied in the ASEAN region, there are changes in the domestic and global tax landscape. Domestic tax issues suddenly become global and addressed by many countries in the ASEAN. Particularly, Indonesia is challenged to be competitive and to improve the capacity of its tax administrative officers and employees because, during the AEC era, the ASEAN market will be looking for tax experts who are ready to work and apply their tax knowledge directly. We argue in this paper that the method of effort allocation in doing taxation clerical tasks can influence one's task performance. We perform an experiment that focuses on two questions. First, does effort allocation influence task performance in taxation? Second, how can we explain this influence? We conduct the experiment on accounting students as a surrogate for tax experts. We report a result that shows there are no significant differences between the subjects' performance under both effort allocation methods to do some taxation tasks. Overall, this result could contribute to many companies mainly for strategic or policy formulation in doing taxation clerical tasks. Some suggestions about avenues for future research are also presented.

## 1 INTRODUCTION

Globalization is not a new phenomenon. The "boundaries" between countries began to disappear. The business environment demands more disclosure of information as trading volume increases and this is largely performed by the taxpayer and multinational agencies. There are changes in the domestic and global tax landscape. Domestic tax issues suddenly become global and are addressed by many countries.

Moreover in the ASEAN community, by the end of 2015, AEC starts to be applied. This means five pillars, namely that the flow of goods, services, capital, investment and skilled labor will be freely moving around the ASEAN region. As a consequence, this will influence the taxation aspect among the ASEAN. Sulistyono (2014) states that withholding tax and double taxation issues between ASEAN countries should be considered carefully because of certain reasons.

For the Indonesian government, particularly the Directorate General of Tax and Fiscal Policy Agency (the tax authority in Indonesia), it is a challenge to harmonize the rules and the expansion of the avoidance of double taxation. AEC policy is

also of increasing attention to stakeholders, mainly in managing their corporate taxation policy appropriately according to state and international tax stipulations. The objective is to avoid the risk of bad reputation due to tax penalty. Governments also reform their tax policies. Some countries in the ASEAN community have started to have lower tax rates and more tax incentives. This is a form of tax competition, to improve the competitiveness of a country.

Meanwhile, Indonesia is challenged to increase its tax ratio. In order to do this, the capacity of tax administration should be improved. In fact, currently, tax experts who work in some government institutions are people who do not always understand accounting and tax law sufficiently. During the AEC era, the ASEAN market will be looking for tax experts who are ready to work and apply their tax knowledge directly. As international taxation regulations are dynamic, it will not be easy to obtain such a tax expert because such experts are currently scarce and there will even be a shortage in the labor market. This means organizations must spend more in having a tax expert in their human resources; moreover, a tax expert (tax accountant) is one of

eight professions that will compete more during the AEC era (Idris, 2016).

Evidence on tax performance from experimental research is still limited and has been criticized for low generalizability (Gangl et al., 2014). However, the experimental method allows deeper analysis of the causal relationship as the researcher could control variables being researched and picture the real process of taxation clerical tasks. This is one of the reasons why this research is important. Moreover, to our knowledge, taxation researches in Indonesia using an experimental design are still very rare.

The literature of the resource-based view (RBV) theory was addressed to account for this phenomenon. An organization was described as a set of resources, including its human resources, such as the tax experts. From the variety of activities and services of these resources, an organization was able to create uniqueness. A tax expert possesses specific tax skills, including managerial and entrepreneurial skills. Competition occurs due to differences in such ownership and resource profiles that exist within organizations. This profile will determine the organization's ability to achieve competitive advantage in running its business strategy (Brahma & Chakraborty, 2011).

This paper considers the response to a subject from an experiment designed to investigate the performance under various effort allocation policies. The subject consists of students who have taken a taxation course. This course is aimed to provide them with knowledge and competency in taxation clerical work (i.e. calculating, paying and reporting tax liable). This paper will report the result of the subject in different experimental treatments. The first setting investigates the effects on the corporate effort allocation method in which the subject must perform a taxation clerical task while the second setting introduces the self-effort allocation method. Section 2 presents theoretical considerations and hypotheses about the effect of the effort allocation method on taxation task performance. Section 3 introduces the design of the experiment, while the results are explained in section 4. This paper ends with some discussion and conclusions in section 5.

## 2 LITERATURE REVIEW

The Resource Based-View theory was developed by Penrose in 1959. There are two basic assumptions in this theory, namely: 1) the resources and capabilities of an organization are distributed heterogeneously;

2) resources and capabilities cannot be mobilized easily. The resources and capabilities basically will be worth more to produce a competitive advantage. Factors that can make a resource have high value are their demand, scarcity and appropriability. These factors are important but not sufficient for organizations to gain a sustainable competitive advantage. Therefore, from a strategic perspective, RBV theory suggests that organizations should identify the resources and capabilities that are relevant to the exercise of the strategy by taking into account various factors that cause a resource, and organizational abilities have more value (Collis & Montgomery, 2005).

Prior researches have reported that effort allocation influences task performance. Ward (1992) argues that the fitness of effort allocation will create competitive advantages, thus helping an organization to retain its competitive position, i.e. the best performance. Bhargava et al. (2001) evaluated the equity manager's performance in the international market. When the manager allocates their effort using asset as the proxy, it increases their performance. This means effort allocation can positively influence performance.

On the other hand, Lee et al. (2015) explored how individuals with high and low intelligence allocate their cognitive resources when they are presented with various task difficulties. The result shows that the allocation strategy is influenced by the type and difficulty of the task. In the case of mathematical tasks (e.g. taxation calculation in this research), it found that all level of intelligent individuals had no significant differences in allocating their effort compared to the case of a visuo-spatial task.

Despite a large amount of research on the topic of effort allocation, few empirical studies on effort allocation have been conducted in the taxation field. The effort allocation in taxation is a particularly important topic of research, as mentioned earlier, as the effort of tax experts has become more valuable.

We hypothesize that the self-effort allocation method will improve a tax expert's performance better than will the corporate effort allocation method, and the null hypothesis is that the performance would be equal under both allocation methods. The explanation is as follows. The effort allocation method is one form of corporate strategy implemented on an individual level in an organization. Many studies have proven that strategy will influence performance. The self-effort allocation method is a strategy formulated by the tax expert him or herself, while the corporate effort

allocation method is formulated by a corporate entity. If someone is involved in formulating a strategy, he or she would have better understanding and be more motivated to execute it, and thus have a higher probability to achieve the objective, for example, to make best job performance.

### 3 METHODOLOGY

To test the hypotheses, an experiment was set up in 2017. The advantages of an experiment design are the possibility to create certain situations from experiment procedures, observe and then make an interpretation of the result (Nahartyo, 2012). The experiment was conducted in the Faculty of Economics & Business, and 40 subjects participated in it.

Subjects were students as a surrogate for tax clerks. They are undergraduate accounting students (Strata 1, bachelor degree) who possess taxation competency from the subject Taxations. According to Chang et al. (2002), competency or knowledge obtained from the academic environment will give more influence to task performance. Thus, students are also appropriate to be elected as the subjects in this experiment.

We conducted a between subject experiment to address the first question, which is to identify the effect of different effort allocation methods on individual performance in taxation tasks. Firstly, the subject will be presented with three rounds of taxation tasks. Some subjects were given specific times to finish tasking. We call this treatment the corporate allocation method. They should comply with the timing policy as the proxy of effort allocation. The other subjects can decide how much time they will consume to do the taxation tasks. We call this treatment the self-allocation method.

#### 3.1 Material and Instrument

Each subject in the experiment is playing role as a tax expert. Every tax expert is assigned to do three rounds of taxation clerical tasks. These consist of calculating tax liable, paying the amount of tax, and tax reporting to tax authority. This setting implements the fundamental elements of self-assessment of most tax collection systems in Indonesia. All tasks are given in paper-based case material. A hypothetical company profile named PT ABQ is presented. This company has three branches,

ABQ1, ABQ2, and ABQ3. Each branch has a certain amount of monthly sales revenue.

An experiment instrument is prepared for each subject, which provides some items to be chosen by the subject as their responses to the case material. The first task is calculating company tax liability. Some tax calculating steps are provided in the instrument. The subject must choose which step should be taken in order to derive tax liable. The second round is paying the tax. The subject must choose to which place the tax will be paid. Finally, the last task is reporting the tax to the chosen tax authority.

#### 3.2 Procedure and Treatment

The experiment was conducted in 2017. This research analysis is based on data collected from subjects during that period. These subjects were invited to perform the experiment on a voluntary basis. Forty subjects were invited to a classroom. The experiment is begun by providing them with some briefing instructions. These instructions explained the treatment during the experiments.

The experiment procedures can be described as follows. The subjects were brought into a classroom, told that they are performing as tax experts in a company, and they are assigned a tax clerical task. Each subject was seated individually, and then a booklet of material and instrument was provided. The experimenter read the instructions before the experiment was begun and subjects were given an opportunity to ask questions to make sure they understood the process. By the end of the experiment, subjects had to fill in a paper form with a pencil concerning their identity and opinion about the experiment.

There are two treatments of effort allocation in the experiment: 1) corporate method; and 2) self-effort method. Under the corporate allocation method, the task effort is determined by the corporate entity, while the other method allows subjects to do self-planning in their task effort. For treatment of the corporate allocation method, subjects were assigned to do some taxation tasks under a certain time allocation to reflect their effort. They must do the task by filling the answer in the instrument provided. After they have completed the task, the experimenter will measure their task performances. For treatment of the self-allocation method, firstly each subject is asked to allocate time based on their judgments to complete the task, and then after they have completed the task, the

experimenter will measure their task performances. Each subject was asked to state which allocation method they preferred. Then, they must do the task according to each allocation method’s description.

#### 4 EXPERIMENT RESULTS

Data are drawn from 40 subjects (students). To verify that tax performance had been implemented as expected, a manipulation check is conducted by using a post-experiment interview. This method is the best way to ask for a self-performance report (Foschi, 2014). The result of the manipulation check is that no participants should be excluded from the data analysis because all participants know exactly what tax performance and tax clerical task must be done.

The data evaluation will be analyzed with a conventional statistical method, as the number for observation is only small. Since the hypothesis is to compare between different subjects’ tax performances, we use a t-test as the main statistical analysis method. However, for robustness in the result, we also perform ANOVA to reconfirm the result of the t-test.

Table 1: Descriptive statistics of tax performance.

| Effort Allocation | Corporate | Self   |
|-------------------|-----------|--------|
| N                 | 21        | 19     |
| Mean              | 3.6667    | 3.3684 |
| Std. Deviation    | 1.0165    | 1.2565 |
| Std. Error Mean   | 0.2218    | 0.2882 |

Table 1 summarizes the descriptive statistics of 40 subjects’ performance (total N = 40). The allocation method column presents both conditions in the experiment; means of each participant’s performance, standard deviation and standard error under both methods are also displayed in other columns. Twenty-one subjects preferred to do the task based on the corporate allocation method, while 19 subjects preferred the other method. As we can see in table 1, subjects under the corporate allocation

method have a higher performance mean (3.667 > 3.368). It seems the strategy of using the self-allocation method does not create positive motivation for the subject to accomplish the task. However, the means difference still must be tested statistically to confirm the statistical significance of the experiments conducted in 2017. This research analysis is based on data collected from subjects during that period. These subjects were invited to perform the experiment on a voluntary basis. Forty subjects were invited to a classroom. The experiment is begun by providing them with some briefing instructions. These instructions explained the treatment during the experiments.

An independent samples test is performed to compare both means. Data assumes equal variance because the result of the Levene test for equality of variance is not statistically significant (p = 0.158). Therefore, we use the result of the t-test on equal variance assumed. Table 2 reports the result of the t-test. The value of p is greater than 0.05. This means the effect is not significant at 5% level for tax performance in all task rounds. As the result of the t-test is not significant, we do not perform ANOVA.

Table 2: Result of t-test (Tax Performance).

| Description                               | Value   |
|---|---------|
| T   | 0.829   |
| Df  | 38      |
| Sig. (2-tailed), p value                  | 0.412   |
| Mean difference                           | 0.29825 |
| Std. Error difference                     | 0.35986 |
| 95% Confidence Interval of the Difference |         |
| Lower                                     | -0.4303 |
| Upper                                     | 1.02675 |

After the experiment, subjects had to fill in a paper form in pencil concerning their identity and opinion about the experiment. There are some questions to gauge their opinion about the tax

clerical task and distrust level of the tax authority in handling tax revenue. Interestingly, subjects in both allocation groups have different distrust levels (see table 3). In the table, the mean of subjects in the corporate allocation method is higher (2.5714 > 1.6842) and in table 4 we can see the mean difference is statistically significant ( $p < 0.05$ ).

Table 3: Descriptive statistics of Distrust Level.

| Effort Allocation | Corporate | Self    |
|-------------------|-----------|---------|
| N                 | 21        | 19      |
| Mean              | 2.5714    | 1.6842  |
| Std Deviation     | 1.32557   | 1.10818 |
| Std. Error Mean   | 0.28926   | 0.25423 |

Table 4: Result of t-test (Distrust Level).

| Description                               | Value   |
|---|---------|
| T   | 2.283   |
| Df  | 38      |
| Sig. (2-tailed), p value                  | 0.028   |
| Mean difference                           | 0.88722 |
| Std. Error difference                     | 0.38863 |
| 95% Confidence Interval of the Difference |         |
| Lower                                     | 0.10048 |
| Upper                                     | 1.67395 |

Table 4 reports the result of t-test for Distrust Level. The value of  $p$  is  $< 0.05$ . As the result of the t-test being significant, we also perform ANOVA for robustness. The ANOVA test result is presented in Table 5.

Table 5: ANOVA (Distrust Level).

| Description        | Corrected Model | Intercept |
|--------------------|-----------------|-----------|
| TIII Sum of Square | 7.852           | 180.652   |
| Df                 | 1               | 1         |
| Mean square        | 7.852           | 180.652   |
| F                  | 5.212           | 119.913   |
| Sig.               | 0.028           | 0         |

## 5 DISCUSSION AND CONCLUSION

The purpose of this experiment was to test the hypothesis that the corporate effort allocation method will improve individual performance in taxation tasks. In order to do so, this experiment utilized an effort allocation manipulation to demonstrate that the effort allocation method affects the performance of tax experts. To our knowledge, this is the first study to examine how effort allocation influences people in doing their taxation clerical tasks in Indonesia.

Based on preferences, some subjects in the experiment were asked to obey the corporate timing policy for completing all taxation tasks or were given the authority to arrange the time taken themselves. In this experiment, however, we cannot find evidence that effort allocation method affects taxation task performance. The effects we observed were not consistent with Cheng and Yang (2013), who found that the self-allocation method improved the task performance.

Despite a policy implemented by a company, apparently an effort allocation method does not influence performance in taxation clerical tasks. Hence, from the RBV point of view, it is not an appropriate tool for achieving competitive advantage (in taxation) because it has no abilities to create more value or performance to an organization (Collis & Montgomery, 2005). Therefore, this experiment is not consistent with Ward (1992) and Bhargava et al. (2001). As a tax expert is allowed by the corporation to decide his own effort allocation,



he will consider that the company trusts him well to do the task according to his way. However, taxation is not just a matter of trust from the employer, but also the level of trust to the tax authority. Meanwhile, the step of taxation clerical task has been regulated by the authority, so it cannot be modified against the stipulation.

In conclusion, our experiment result suggests that the effort allocation method could not provide any effect on taxation task performance. This experiment provides different evidence that tax experts do not regard effort allocation as an important method in doing their taxation tasks, suggesting that their work effort cannot influence their performance. According to the result of the debriefing discussion stage with subjects, most of them have the opinion that tax is a law, enforced by the tax authority. It is a forced obligation, which might bring tax sanctions or fines if one does not comply. Therefore, people tend to comply with the tax regulations, and would not make excuses to try and bargain.

The effort allocation in taxation tasks is apparently more associated with the level of trust in the tax authority, mainly on how the tax authority handles the tax revenue. In this experiment, subjects who preferred to do taxation clerical tasks under the corporate allocation method have more expectation that the government will more effectively manage the tax revenue.

A limitation of this study is that effort allocation is regarded as the main factor that affects each subject's performance. Thus, the finding of this experiment cannot fully reflect the real situation in the taxation division of a company. It is possible that a further experimental study will analyze the real taxation situation more deeply by adding other factors or treatments such as bookkeeping period (near the end of a month, or beginning of a month), resource heterogeneity, gender, tax knowledge, tax training, aspect of tax authority, etc.

In order to strengthen the generalizability level or external validity, this experiment can be replicated or even extended to other subjects. Findings on different opinions about tax from other subjects in doing taxation clerical tasks would be a potential and interesting topic for further analysis.

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