The Influence of Telecommuting Systems, Self-Efficacy and the Quality of Management on Work Productivity and the Competitiveness of Organizational Perspectives in Multinational Companies in Jakarta, Indonesia

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Abstract - This study aimed to analyze the influence of telecommuting system, self-efficacy and the perspective of quality management on work productivity. It also examined the influence of telecommuting system, self-efficacy and quality management perspective on organizational competitiveness perspective, as well as to analyze the influence of labor productivity to organizational competitiveness perspective. The data was not merely collected by using questionnaires, but also field survey in various multinational companies that implemented telecommuting systems in Jakarta. The unit analysis of this study was the remote workers or commonly known as telecommuter of multinational companies in Jakarta, the Capital City of Indonesia. The number of sample surveyed was 193 employees. The data was then analyzed using SEM (Structural Equation Modeling). The study found that self-efficacy has no significant influence on work productivity and organizational competitiveness perspective. Whilst telecommuting system and the quality of management perspective have significant influenced on work productivity and organizational competitiveness perspective. Also, it was found that labor productivity has significant influenced on organizational competitiveness perspective. Therefore, those variables that have significant influenced on work productivity and organizational competitiveness perspective need to be given attention in improving the economic activities of the multinational companies in Jakarta.

Index Terms - Telecommuting systems, Self-Efficacy, Work Productivity, organizational competitiveness perspective and the quality of management perspective

I. INTRODUCTION

Competitiveness in this study has a different meaning and substance to the theory of competitive advantage pioneered by Porter (1990). Competitiveness here reflects to the organizational competitiveness that was formed from the working environment, workers’ design, innovation, technology management, quality management, and quality indicators (Constantine, 2003). To have the organizational competitiveness, Mersha (2000) argued the importance of high quality.

Chikan (2008), however, defined the competitiveness of the organization as the company's ability to achieve the dual objectives, that is, the needs of customers and profit sustainably. Whilst Feurer and Chaharbaghi (1994) considers that the competitiveness of the organization cannot be separated from customer values, the nature of competition and shareholder values. Pablos & Lytras, (2008) adds the value of knowledge of employees in the achievement of organizational competitiveness.
The concept of organizational competitiveness indeed cannot be separated from the concept of the perspective of the employees, managers, top management, shareholders and others. However, the new concept of the perspective of organizational competitiveness as a construct has been debated in the literature. These views on organizational competitiveness perspectives advanced in the literatures will be the foundation of this study.

Sengpoh (2015) in his study defined organizational competitiveness perspective based on the philosophy of Sun Tzu Art. He emphasized the efficiency and capability of line management as the importance factors to reach the competitiveness of the organization. Unlike Crucera & Moise (2014), they considered the aspects of marketing as the perspective in developing the competitiveness of the organization. Chen et. Al. (2007), however, suggests the importance of awareness, motivation and capability in building organizational competitiveness perspective.

Furthermore, Qiu (2008) in his study found that managers who have a high degree of orientation and the ability of entrepreneurs will bring the organization at an optimal level of competitiveness. Helms (1996) suggests quality and productivity as two important aspects of organizational competitiveness perspective, taking into account the involvement of all employees and to improve their job satisfaction levels consistently.

In addition, Harris & Twomey (2010) and Angeli and Jaiswal (2015) in their studies found mindset changes of the executives and shareholders were able to increase the competitiveness of the organization consistently. Whilst Gronhaug and Stone (2012) suggested the importance of the organizational learning and independence that focuses on the business climate will increase the competitiveness of the organization's perspective. Madueno et. al. (2015) observed from the aspect of the stakeholders in improving the competitiveness of the organization.

Apart from the above views, Silvi & Cuganesan (2006) emphasized the cost strategy and knowledge management as the most important part of the perspective of organizational competitiveness, while Lucas & Kirillova (2011) considers that the organizational flexibility will facilitate the achievement of high competitiveness high. Santhaparaj, et. al. (2006) found that the competitiveness of the organization has been associated with the quality improvement, cost reduction, skill development, increased productivity, and the flexibility of the organization's strategy.

While there have been many views and empirical studies on this subject, this study focused on the importance of labor productivity as the importance variable to reach the competitiveness of the organization. This is simply because labor productivity was able to gain profit of the organization sustainably. Hence, employees are a major component in achieving productivity (see, Helms, 1996). To have labor productivity, it was argued that a conducive environment is a must (Eaton, 2006). Note that literatures that suggested the importance of labor productivity in the organization have been abundant. See, for instance, Sum & Chorlian, 2014; Gaynard, 1997; Stainer, 1995; Savery, 1998; Wen and Lin, 1998; Yu & Park, 2006; Hong et.al., 1995 to name just a few.

Of the many factors that influenced the employee’s productivity, Dutcher (2012) and Neufeld and Fang (2005) found that telecommuting as an important element in achieving the productivity of employees. This variable has not only given positive influence, but also has significant effect on the organizational competitiveness. Kugelmas, et. al. (1995) defines telecommuting as employees working at home using communications technology to work or any other place that is convenient for them”. Another term widely used to replace the term telecommuting such as: mobile worker s, telework, work at home, flexi place, remote office. Telecommuting can be used as an alternative to solve the problems of the big city and become a solution for companies to cope with the waste of time, cost, and energy employees to the workplace (Mills et. al., 2001).

Note that, there have also been many studies against the importance of telecommuting system as the productivity factor (see, for instance, Gibson et.al, 2002; Reinsch, 1999; and Harpaz, 2002). Harpaz (2002), for example, argued that the damages of applying the system to the individual telecommuters are feeling isolated in the association, the absence of separation between work and home, while the loss for the organization which is the emergence of training costs and loosening ties employees' commitment to the organization. Thus, various barriers are becoming an important issue for companies who seek to adopt telecommuting in his office.

Apart from telecommuting system, it was also argued that self-efficacy owned by workers has a high impact on the success in the form of performance and work productivity. This is in accordance with the views pointed out by Bandura (2006). He in fact suggested that self-efficacy is an extremely important factor in achieving success. This is because self-efficacy is a major mechanism, where the existence of a purpose or goal will affect the productivity and performance of a person, thereby a purpose established by the company will not be effective if employees do not accept and have a strong commitment to achieve that goal. Staff awareness of self-efficacy can motivate individuals to achieve organizational goals and improve performance (Valentin, 2013). Similarly, studies by Mayfield and Mayfield (2012) also found that self-efficacy has significant and positive effect on performance.

In addition to telecommuting systems and self-efficacy, the quality of management has also been argued to have a positive impact on the employee's productivity and competitiveness of the business organization perspective. The concept of quality management in general as the overall activity of the management functions of the organization in totality to determine the objectives and responsibilities and implement them through various tools (Gaspersz, 1997). This quality management should be differed with the concept of the total quality management (TQM). The quality of management is defined as the systematic and structured process to achieve the participation of all members of the organization in the planning, implementation, coordination and communication. Evolution of quality management is inseparable from the role of mid-level managers who reported that the importance of developing the quality of management in organizations (Mahler, 1995). This study, therefore, aimed to analyze the influence of telecommuting system, self-efficacy, and the perspective of quality management on work productivity and competitiveness of the organization's perspective taking multinational companies in Jakarta as a case.
II. LITERATURE REVIEW

1. The concept Telecommuting or Teleworking
   Mejia et. al. (2004) described telecommuting as a work plan that allows employees to work in a place other than the office usually in the home, small office, or on the road by using electronic technology such as telephone, fax, or email. According to Boone and Kurtz (2007) telecommuting becomes an attractive alternative for the employees in the office and also employers. By using this technology, employees may enjoy benefits, such as flexibility and avoid a work trip far from the office. Hence, companies further will benefit from increased productivity and minimize the costs associated with the office. Reasons why telecommuting become popular are as follows: (a) minimizing environmental pollution; (b) employees can minimize their frustration toward traffic congestion and minimize their expenses to go to the office / workplace; (c) minimize the costs of office; (d) the availability of a wide range of options and capabilities offered by electronic communications technology and the internet; and (e) Reducing traffic congestion.

2. Competence
   According to Woolfolk (2008), self-efficacy is the belief that one has the competency or effectiveness in a particular area. In line with this definition, according to Bandura (1997), self-efficacy is a person's belief about the ability to regulate and decide the specific actions needed to obtain certain results. In general self-efficacy is the assessment of a person against himself or level of confidence regarding its ability in a certain task to achieve a particular result (Woolfolk, 2008).
   Similarly, Self-efficacy according to Kreitner and Kinicki (2003) is a person's beliefs about his chances for successfully achieving certain tasks. Any person who has a high self-efficacy will have a better performance and productivity. This is because that person will have a strong motivation, a clear objective, stable emotions and the ability to provide top performance activity or behavior with success. This better performance and productivity will further make a high self-efficacy.

3. Work productivity
   According to Riyanto (2006), the concept of productivity in this context is labor productivity, which is influenced by the availability of complementary factors of production such as tools and machinery. Productivity means the ability to produce something. While working means activities undertaken to do something to earn a living (Poerwadarminta, 2008). Labor productivity is the ability to produce a work that is more than the regular size that has been common.
   This definition implied that productivity basically covers mental attitude that always view that today should be better than yesterday and tomorrow should be better than today (Sinungan, 2005). However, technically productivity can be defined as the ratio of outputs) and inputs used in the production. Thus, labor productivity implies a comparison between the results achieved with the role of labor per unit time (Riyanto, 2006).

4. Competitiveness
   Peter and Olson (2005) define competition as an attempt to defeat the opponent or against external and internal standards in achieving goals. Further Pettigrew (1979) suggested that competition basically is the ability to adjust for changes that occur in the environment. Thus, by having competitive ability, the objectives and the goals determined will be achieved efficiently and effectively.

III. RESEARCH METHOD

Method to collect the primary data was by using questionnaire. This questionnaire was given to the sample survey of 193 employees in multinational companies in Jakarta. The unit of analysis of this study are individuals or employees who work in commuting or mobile workers. The unit of analysis in this study were workers or employees who work as telework in companies that employ far-distance workers. The questionnaire was sent by e-mail to the respondents surveyed. Having this primary data, the analysis of SEM (Structural Equation Modeling) will be applied to answer the research questions. Detail of the conceptual framework of this study are described at Figure 1.

Figure 1. The Conceptual Framework of the study
IV. RESULTS AND DISCUSSION

Based on the questionnaires obtained from the respondents, it was found that the social economic characteristics of the respondent survey in terms of gender, age, education, past, company work, and duration of action are as follows (Table 1).

Table 1. Characteristics of Respondents Surveyed

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>Frequency</th>
<th>Percent (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Gender</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Man</td>
<td>114</td>
<td>59.07</td>
</tr>
<tr>
<td>2.</td>
<td>Female</td>
<td>79</td>
<td>40.93</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>193</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Age (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>≤ 30</td>
<td>56</td>
<td>29.02</td>
</tr>
<tr>
<td>2.</td>
<td>≥ 31</td>
<td>137</td>
<td>70.98</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>193</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Last education</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>Diploma</td>
<td>19</td>
<td>9.84</td>
</tr>
<tr>
<td>2.</td>
<td>Bachelor</td>
<td>80</td>
<td>41.45</td>
</tr>
<tr>
<td>3.</td>
<td>Magister</td>
<td>94</td>
<td>48.70</td>
</tr>
<tr>
<td>4.</td>
<td>Doctor</td>
<td>0</td>
<td>0.0</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>193</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Company Working Place</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>PT. Jasa Teknology Informasi IBM</td>
<td>40</td>
<td>20.73</td>
</tr>
<tr>
<td>2.</td>
<td>PT. HP Indonesia</td>
<td>32</td>
<td>16.58</td>
</tr>
<tr>
<td>3.</td>
<td>PT. Microsoft Indonesia</td>
<td>56</td>
<td>29.02</td>
</tr>
<tr>
<td>4.</td>
<td>PT. ACER Indonesia</td>
<td>41</td>
<td>21.24</td>
</tr>
<tr>
<td>5.</td>
<td>PT. Lenovo Indonesia</td>
<td>24</td>
<td>12.44</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>193</td>
<td>100</td>
</tr>
<tr>
<td></td>
<td>Work Period (years)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>1.</td>
<td>≤ 5</td>
<td>91</td>
<td>47.15</td>
</tr>
<tr>
<td>2.</td>
<td>≥ 6</td>
<td>102</td>
<td>52.85</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>193</td>
<td>100</td>
</tr>
</tbody>
</table>

Source: calculated from the questionnaires.

From Table 1 it can be seen that respondents with male gender is more dominant than female. In terms of age group, the respondents generally has the age over 31 years. Whilst in term of educational attainment, the majority of employees under surveyed mainly has educational background of bachelor or sarjana and master degree. They generally have working experience of more than six (6) years.

Using SEM analysis, the study found as follows (Figure 2).

Figure 2. Measurement of the Model
However, the above results were further evaluated based on the goodness of fit indices. The results of this evaluation was give at Table 2.

Table 2: Evaluation Criteria of the Overall Model

<table>
<thead>
<tr>
<th>Goodness of fit index</th>
<th>Cut-off Value</th>
<th>results Model</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$ - Chi-square</td>
<td>117.632</td>
<td>393.877</td>
<td>Not good</td>
</tr>
<tr>
<td>Probability</td>
<td>0.05</td>
<td>0.000</td>
<td>Not good</td>
</tr>
<tr>
<td>CMIN / DF</td>
<td>2.00</td>
<td>4.190</td>
<td>Not good</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.08</td>
<td>0.129</td>
<td>Not good</td>
</tr>
<tr>
<td>GFI</td>
<td>0.90</td>
<td>0.823</td>
<td>Not good</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.90</td>
<td>0.744</td>
<td>Not good</td>
</tr>
<tr>
<td>TLI</td>
<td>0.92</td>
<td>.783</td>
<td>Not good</td>
</tr>
<tr>
<td>CFI</td>
<td>0.92</td>
<td>.830</td>
<td>Not good</td>
</tr>
</tbody>
</table>

From the above table, it can be seen that all the criteria of goodness of fit indices do not meet the criteria, so that this model is not fit to be used. Manual modification indices based on AMOS program, then was used to modify to improve the model. Note that modification of the model precedence only on the correlation between items or error and does not modify the effect of the path. Structural model test results after following the instructions modification indices then obtained as follows (Figure 3).

Figure 3: Modified Measurement Model Research
The results of the model test after modifications are presented in the Figure 3. Detail findings of the analysis are shown at Table 3.

Table 3: Evaluation Criteria Overall Model

<table>
<thead>
<tr>
<th>Goodness of fit index</th>
<th>Cut-off Value</th>
<th>results Model</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>$\chi^2$ - Chi-square</td>
<td>105.267</td>
<td>184.881</td>
<td>Not good</td>
</tr>
<tr>
<td>Probability</td>
<td>0.05</td>
<td>0.000</td>
<td>Not good</td>
</tr>
<tr>
<td>CMIN / DF</td>
<td>2.00</td>
<td>2.227</td>
<td>Good</td>
</tr>
<tr>
<td>RMSEA</td>
<td>0.08</td>
<td>.080</td>
<td>Good</td>
</tr>
<tr>
<td>GFI</td>
<td>0.90</td>
<td>0.904</td>
<td>Good</td>
</tr>
<tr>
<td>AGFI</td>
<td>0.90</td>
<td>.842</td>
<td>marginal</td>
</tr>
<tr>
<td>TLI</td>
<td>0.92</td>
<td>.917</td>
<td>Good</td>
</tr>
<tr>
<td>CFI</td>
<td>0.92</td>
<td>.942</td>
<td>Good</td>
</tr>
</tbody>
</table>

Source: estimated from the data collected.

Table 3 above shows that the majority of the criteria for goodness of fit indices have met the criteria so that the model is fit for use. The above table also describes the influence and contributions of between latent variables telecommuting system, self-efficacy, work productivity and competitiveness of the organization with the perspective of the value of GFI ($R^2$) of 0.904, or 90.4%. This means that the diversity of data that can be explained by the structural model, or in other words, the information contained in the data of 90.4% can be explained by the model, while the rest is explained by other latent variables. From the evaluation of the model...
presented suggests that the evaluation models to construct a whole has produced above critical value so that it can be argued that the model can be accepted or according to the data (Table 4).

<table>
<thead>
<tr>
<th>Variable</th>
<th>Variable</th>
<th>Loading Factor</th>
<th>critical Ratio</th>
<th>Sig. level ≤ 0.050</th>
<th>Information</th>
</tr>
</thead>
<tbody>
<tr>
<td>Telecommuting system</td>
<td>Work productivity</td>
<td>0.163</td>
<td>2.110</td>
<td>0.035</td>
<td>Significant</td>
</tr>
<tr>
<td>Perspective of Quality Management</td>
<td>Work productivity</td>
<td>0.258</td>
<td>2.068</td>
<td>0.039</td>
<td>Significant</td>
</tr>
<tr>
<td>self Efficacy</td>
<td>Work productivity</td>
<td>0.121</td>
<td>1.028</td>
<td>0.304</td>
<td>Not significant</td>
</tr>
<tr>
<td>Telecommuting system</td>
<td>Competitiveness</td>
<td>0.212</td>
<td>2.724</td>
<td>0.006</td>
<td>Significant</td>
</tr>
<tr>
<td>Management</td>
<td>Organization Perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Perspective of Quality Management</td>
<td>Competitiveness</td>
<td>0.242</td>
<td>1.966</td>
<td>0.049</td>
<td>Significant</td>
</tr>
<tr>
<td>Management</td>
<td>Organization Perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Work productivity</td>
<td>Competitiveness</td>
<td>0.176</td>
<td>2.024</td>
<td>0.043</td>
<td>Significant</td>
</tr>
<tr>
<td>Management</td>
<td>Organization Perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>self Efficacy</td>
<td>Competitiveness</td>
<td>0.050</td>
<td>0.442</td>
<td>0.658</td>
<td>Not significant</td>
</tr>
<tr>
<td>Management</td>
<td>Organization Perspective</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Source: calculated from the data surveyed.

Based on the above table, the findings can be described as follows.

a. There is a positive influence of telecommuting systems on the increase of labor productivity, assuming other factors that affect the size of labor productivity was constant.

b. The quality of management has a positive and significant influence labor productivity, as shown from the statistical values.

d. Self-efficacy has no significant influence on labor productivity.

e. Telecommuting systems has positive and significant influence on the competitiveness of the organization's perspective.

f. The quality of management perspective has positive and significant influence on the competitiveness of the organization's perspective.

g. Labor productivity has positive and significant influence on the competitiveness of the organization's perspective.

Based on the analysis of data, all indicators of system variables telecommuting and work productivity is declared valid and reliable both for all factors or for the confirmatory factor analysis. The coefficient of telecommuting system showed a positive and significant influence on the productivity. This suggests that a reliable and an appropriate telecommuting systems of the company will result in an increase in employee productivity. This findings support the previous research findings conducted by Dutcher (2012) and Butler et.al. (2007), but it was different with research findings undertaken by Hartman et.al. (1991) in that telecommuting system has a significant and negative effect on productivity.

In terms of self-efficacy, this study found that all indicators of the variables of self-efficacy and work productivity is declared valid and reliable both for all factors or for the confirmatory factor analysis. The coefficient of self-efficacy has no significant influence on work productivity. This suggests that improvement in the quality of self-efficacy has no influence on labor productivity. This finding was in contrast with the research findings conducted by Rankin (1992) and Lynch (2003) as well as by Fan (1997) and Starko (1986).

Furthermore, all indicators of the variables of quality management and productivity were also found to be valid and reliable work as a whole as well as in terms of the factor analysis. The coefficient of the perspective of quality management on work productivity showed a positive and significant influence. This suggests that the perspective of the quality of management needs to be
given attention in improving labor productivity. This finding was in line with the previous study conducted by Gunasekaran et al. (1998).

Similarly, the study found that both indicators of telecommuting systems and competitiveness perspective were also valid and reliable either as a whole or in terms of the factor analysis. The coefficient of the telecommuting systems on the perspective of organizational competitiveness showed a positive and significant impact. This result confirms that the telecommuting system has important influence on the organizational competitiveness. This finding supports the previous study conducted by Bernardino et al. (2012).

The variables of self-efficacy and the organizational competitiveness perspective was also found valid and reliable. However, the influence of the self efficacy on the organizational competitiveness perspective was insignificant. This result indicate that the increase in self-efficacy of the companies under study will have no impact on increasing employees’ productivity. Again, this finding differed with the previous findings undertaken by Thomas (2010), and Garza (1996) as well as Bandura (2006).

Furthermore, the study found that the perspective of quality management has positive and significant influence on the organizational competitiveness. This finding as consistent the previous study conducted by Lakhal (2009) and Helms (1996) to name just two studies. Also, it was found that labor productivity has a positive and significant influence on the organizational competitiveness perspective. This suggests that the labor productivity plays an important role in improving the organizational competitiveness perspective. This finding confirms the previous studies conducted by Helms (1996) and Oeij et. al. (2011) in that the perspective of organizational competitiveness is determined by an increase in employee productivity of the companies.

Finally, this study also found that the constructs of the organizational competitiveness perspective was determined mainly by the quality of management. This variable plays a greater role than other indicators. Of the indicators of the quality management, it was found that the improvement of the quality of human resources and quality management have been the most important indicators to improve the organizational competitiveness, while job design indicator plays the lowest contribution to the construct of organizational competitiveness perspective.

V. CONCLUDING REMARKS

Some concluding remarks are as follows. First, a good and reliable telecommuting system was found to have positive and significant influence in increasing the productivity of employees of the companies. Second, Self-efficacy has no significant effect on work productivity. Third, the quality management has positive influenced on employee productivity. Fourth, self-efficacy has no significant influence on the perspective of organizational competitiveness. Fifth, the perspective of quality management has positive and significant influenced on the competitiveness of the organization. Sixth, labor productivity has positive and significant influence on the organizational competitiveness perspective.

Therefore, it can be concluded that only the self-efficacy has no influence on the labor productivity as well as on the organizational competitiveness of the companies under surveyed. This finding has been different with the previous findings advanced in the literature. The multinational companies under surveyed need to give further attention to the importance of telecommuting system, labor productivity and the quality of management in improving the organizational competitiveness. The improvement of labor productivity of the companies, inter alia, can be done by increasing the skills of the employees in accordance with the needs of the companies. Whilst the improvement in telecommuting system can be done by increasing the use of the house as the main place for the employees in doing their job and other businesses’ activities.

REFERENCES


