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The Third International Conferences on Entrepreneurship and Business Management

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Preface

The International Conference on Entrepreneurship and Business Management (ICEBM) is a conference that aims to facilitate the exchange of best practices information and knowledge dissemination in the field of entrepreneurship, business, and management.

The ICEBM was organized by Tarumanagara University and collaborating universities as well as related institutions. The conference provides the forum for various groups of professionals including practitioners, researchers, academicians, practitioners, government officials, individuals in society, and graduate/postgraduate students.

As a continuation of ICEBM Jakarta 2012 and Bali 2013, the third ICEBM 2014 is held in Penang, Malaysia. The third ICEBM is held in collaboration between four institutions: Tarumanagara University (Indonesia), Universiti Sains Malaysia (Malaysia), National Creativity Network (United States), and Ciputra University (Indonesia). The theme of the Third ICEBM is Entrepreneurial Innovation and Business Sustainability.

In this third ICEBM, the speakers, presenters, and participants are from several countries such as Australia, Bangladesh, France, Finland, India, Nigeria, Philippines, Singapore, South Africa, Malaysia, and Indonesia. The number of abstract accepted by the committee is 114 abstracts. However, not all submitters are able to come to present their papers for different reasons, therefore, the number of abstracts presented are 83 abstracts.

There are different review process in the ICEBM 2014 compares to ICEBM 2012 and ICEBM 2013. The review of conference papers was through several steps. Firstly, the review of abstracts to decide whether an abstract was eligible to be presented at the ICEBM 2014. The second step was the full review of the manuscripts; to decide whether these full papers was eligible to be published at the conference proceedings. The third step of review was the quality improvement. At the last step of review, the process of correspondence and revisions by submitter was conducted.

This book of abstracts contains all abstracts accepted for the third International Conference on Entrepreneurship and Business Management, which is held in Penang, Malaysia, 6-7 November 2014. All abstracts were reviewed and edited by the member of scientific committee.

The accomplishment of the conference as well as this book of abstracts is the result of efforts by many people. We would like to thank to all collaborators, all speakers, all abstract submitters, scientific committee, organizing committee, supporters and sponsors, for their ongoing support and participations.

We hope this book of abstracts could contribute to the body of knowledge of entrepreneurship and business management.

Chairman of ICEBM 2014

Jap Tji Beng, Ph.D.

**THE BOOK OF ABSTRACT
ICEBM 2014**

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EFFICIENCY OF THE TEXTILE INDUSTRIES AND PRODUCTS IN CENTRAL JAVA INDONESIA

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Abstract

Textiles and textile product industry, or commonly known as TPT industry is one of the pioneer industries and Indonesian's manufacturing backbones. Textile industry does not only play an important role for the national economy, but also to the economy of Central Java Province. The industry is a priority industrial sector for Central Java Province. Nevertheless, there were still many problems faced which ultimately weakened the competitiveness of the textile industries in the world market. The aim of this research was to analyze the efficiency of the textile industries in Central Java in 2010-2011. The data used was 10 Indonesian Standard Industrial Classification (ISIC) of four digits of the Central Bureau of Statistics, Central Java. The output variable used in this researck was the value of output, and the input variables were the cost of raw and auxiliary materials, expenditures for labor, purchased electricity and fuel, and lubricant expenses. This research used the data analysis tools of Data Envelopment Analysis (DEA). The results show that, in 2010, more than 60% of the textile industries in Central Java could produce their outputs with a number of existing inputs. Of 10 KBLIs of TPT industries in Central Java, six KBLIs worked efficiently based on the measurement of CRS and eight KBLIs worked efficiently based on the measurement of VRS in 2010. In 2011, more than 50% of TPT industries in Central Java could produce the outputs with a number of existing inputs. Of 10 KBLIs of TPT industries in Central Java, five KBLIs worked efficiently based on the measurement of CRS and five KBLIs worked efficiently based on the measurement of VRS in 2011. The suggestion given was that the textile industries in Central Java should be able to minimize inefficiencies in their production processes.

Keywords: Efficiency, textile and clothing industry, DEA

INTRODUCTION

Textiles and textile product industry, or commonly known as TPT industry is one of the pioneer industries and Indonesian's manufacturing backbones. The strategic position of the industry is increasingly apparent when viewed from the side of its contribution to the economy, especially in the form of export earnings and employment (www.regionalinvestment.bkpm.go.id/).

The importance of TPT industry can be seen from its role as one of basic human needs other than food and shelter. Therefore, the consumption of clothing will tend to increase as the population rate growth (Herman, 2011). Currently, TPT industry is selected as one of 32 priority industries the government declared in the National Industrial Development Policy (KPNI) (Kuncoro, 2009).

Textile industry does not only play an important role for the national economy, but also to the economy of Central Java Province. The industry is a priority industrial sector for Central Java Province. The data of the Industrial and Trade Agency of Central Java (Disperindag) shows that in the textile industry in 2009 there were 718 business units which were able to absorb 154,964 workers and generates the output of IDR 30.531 billion. Meanwhile, from the apparel sector in the same year, there were 913 business units which absorbed 95,236 workers and produced the output valued at IDR 9.35 billion (www.regionalinvestment.bkpm.go.id/)

The importance of the roles of TPT to the economy of Central Java is also seen in this industry's contribution to the total exports of Central Java, as shown in Table 1 below. The contribution of this sector was the biggest compared to other sectors. Based on table 1, the export contribution of textile industries in Central Java was 40.65% in 2010 and decreased to 39.74% in 2011.

Table 1. The Export Value and Percentage of Textile and Textile Product Industries in Central Java in 2006-2011 (US\$)

Year	Value	%
2006	1.193.905.055	38,33
2007	1.309.419.321	37,74
2008	1.211.182.599	36,74
2009	1.163.164.754	37,93
2010	1.572.524.432	40,65
2011	1.864.521.024	39,74

Source: Central Bureau of Statistics, 2012

In the development of recent years, TPT exports grew more slowly than the main competitor countries such as China. The above shows that the Indonesian TPT industry in general and Central Java in particular should have high competitiveness in order to compete with similar industries from competing countries like China. In building a strong textile industry and has high competitiveness, many challenges or problems must be faced. These problems include: old machineries of domestic textile industries, labor problems, high cost of energy, dependence on imported raw materials, the rise of legal and illegal imports, and others.

Two basic things as the causes of low competitiveness are relatively low efficiency and high cost economy. In addition to these reasons, the competitiveness of Indonesian industrial products is still low because the quality and quantity and the continuity of supply of industrial products, mostly, have not qualified the world trade. It is, therefore, important to conduct research related to the efficiency of TPT industries in Central Java in order to have high competitiveness in the world market. The aim of this research was to analyze the efficiency of the textile and textile products (TPT) industries in Central Java in 2010-2011.

LITERATURE REVIEW

Efficiency is one of performance parameters which theoretically is one of the underlying performance of the overall performance of an organization. The ability to generate maximum output with existing input is an expected measure of performance. At the time of efficiency measurement, industries are faced with the challenges of how to get the optimum output level with the existing input levels, or to get the minimum input level with the given level of output. In addition, the separation between the unit and the price can identify the level of technological efficiency, allocation efficiency, and total efficiency. With the identification of input and output allocation, it can be analyzed further to see the causes of inefficiencies (Hadad, et al, 2003).

According to Farrell (1957) in Rusydiana (2013), the efficiency of a company consists of two components; technical efficiency and allocative efficiency. Technical efficiency reflects the ability of a company to generate output with the available number of inputs, while allocative efficiency reflects the ability of a company to optimize the use of inputs, the pricing structure and production technology. The two measures are then combined into economic efficiency. A company can be said to be economically efficient if the company is able to minimize the production cost to produce a given output with a level of technology commonly used as well as the prevailing market price.

According to Kumbhaker and Lovell (2000) in Rusydiana (2013), technical efficiency is only one component of overall economic efficiencies. However, in order to achieve economic efficiency, a company must be technically efficient. In order to achieve the maximum level of profits, a company must produce maximum output with a certain number of inputs (technical efficiency) and produces output with the right combination with a certain price level (allocative efficiency).

RESEARCH METHODOLOGY

Variables and Variable Operational Definition

The output variables in this research were the output value of textiles and textile product industry. The input variables used were: the cost of raw and auxiliary materials, expenditures for labor, purchased power, and fuel and lubricants expenses.

Data Sources

This research entirely used the secondary data of textiles and textile product industries obtained from the Statistics of Large and Medium Industries in Central Java, Volume I, II and III from 2010 to 2011, from the Central Statistics Agency (BPS) of Central Java Province. The data used was based on the classification of the International Standard Industrial Classification of All Economic Activities (ISIC), which has been adapted to the conditions in Indonesia under the name of Indonesian

Standard Industrial Classification (KBLI). The groups of textile and textile product industries used were Indonesian Standard Industrial Classification (KBLI) of four digits.

Analytical Tools

The analytical tool used was the Data Envelopment Analysis (DEA). DEA formula starts from a simple formula which is in linear programming as follows (Denizer and Dinc, 2000):

$$\text{Maximize } h_j = \frac{\sum_{r=1}^s u_r Y_{rj}}{\sum_{i=1}^m v_i X_{ij}}$$

$$\text{Constraints } \frac{\sum_{r=1}^s u_r y_{rj}}{\sum_{i=1}^m v_i x_{ij}} \leq 1 \quad \text{where } j = 1, 2, \dots, n$$

$v_i \geq 0$ where $i = 1, 2, \dots, m$ and $u_r \geq 0$ where $r = 1, 2, \dots, s$

where :

h_j = the efficiency value of TPT industries in Central Java j

r = output

i = input

u_r = the weight of output r resulted by TPT industries in Central Java j

y_{rj} = the number of output r, resulted by TPT industries in Central Java, counted from $r = 1$ to s

v_i = the weight of input i resulted by TPT industries in Central Java

RESULTS AND DISCUSSION

The calculation efficiency used Banxia Frontier Analyst. The results of efficiency calculation using the method of Data Envelopment Analysis (DEA) are shown in Table 2 as follows:

Table 2. the Efficiency Value of TPT Industries in Central Java Using DEA Calculation

No	DMU	CRS Efficiency		VRS Efficiency	
		2010	2011	2010	2011
1	1311	1	1	1	1
2	1312	0.786	0.77	0.864	1
3	1313	1	0.876	1	1
4	1391	0.736	0.748	1	0.784
5	1392	0.829	1	0.883	1
6	1394	1	0.846	1	0.855
7	1399	1	1	1	1
8	1411	0.993	1	1	1
9	1413	1	0.894	1	1
10	1430	1	1	1	1
Mean		0.9344	0.9134	0.9747	0.9639

Source: Processed Data, 2014

Based on table 2, in 2010, more than 60% of the textile industries in Central Java could produce the outputs with a number of existing inputs. Of 10 KBLIs of TPT industries in Central Java, six KBLIs worked efficiently based on the measurement of CRS and eight KBLIs worked efficiently based on the measurement of VRS in 2010.

In 2010, the calculation of efficiency based on the assumption of CRS model shows that there were six or approximately 60% of TPT industries with the efficiency of 100%, which means, they were efficient in technical and scale. Six of the textile industries were manufacturing industries and spinning of textile fibers (KBLI 1311), the industry of textile final finishing (KBLI 1313), the industry of rope and goods of rope (KBLI 1394), other textile industries of YTDL (KBLI 1399), the clothing industry with the main material made of textile (KBLI 1413) and the industry of knitted and embroidery / border apparel. In other hand, four or approximately the other 40% were not efficient because their values were less than 100%, which means

inefficient in technical and scale. The four inefficient TPT industries were textile weaving industry (KBLI 1312), the industry of knitted and embroideries fabrics (KBLI 1391), textile product industry, not apparel (KBLI 1392) and apparel industry (instead of suturing and manufacture of clothing) (KBLI 1411).

In 2010, the calculation of efficiency based on the assumption of VRS model shows that there were eight or about 80% of TPT industries with the efficiency of 100%, which means that they were efficient in technical and scale. Eight of the TPT industries were the industry of manufacturing and spinning of textile fibers (KBLI 1311), the industry of textile final finishing (KBLI 1313), the industry of rope and products made of rope (KBLI 1394), the other textile industry of YTDL (KBLI 1399), the industry of clothing accessories mainly made of textile (KBLI 1413) and the industry of knitted apparel and embroidery / border (KBLI 1430), the industry of knitted fabrics and embroidery (KBLI 1391) and the apparel industry (instead of tailoring and manufacture of clothing (KBLI 1411). Meanwhile, two or about the other 20% were inefficient because their value was less than 100%, which means that they were inefficient technically. The two inefficient TPT industries were the textile weaving industry (KBLI 1312), the industry of manufacturing textile products, not apparel (KBLI 1392).

In 2011, more than 50% of TPT industries in Central Java could produce the outputs with a number of existing inputs. Of the 10 KBLIs of TPT industries in Central Java, five KBLIs worked efficiently based on the measurement of CRS and five KBLIs worked efficiently based on the measurement of the VRS in 2011.

In 2011, the calculation of efficiency based on the assumption of CRS model shows that there were five or approximately 50% of TPT industries with the efficiency of 100%, which means that they were efficient in technical and scale. Five of the TPT industries were the other textile industry of YTDL (KBLI 1399), the industry of knitted and embroidery/ border apparel (KBLI 1430), the industry of tailoring and by order (KBLI 1412), the industry of textile product manufacture, not apparel (KBLI 1392), the industry of apparel (KBLI 1411) and the industry of

processing and spinning of textile fibers (KLBI 1311). Meanwhile, five or about 50% were inefficient because their efficiency value was less than 100%, which means; they were inefficient in technical and scale. The five inefficient textile industries were the industry of clothing accessories mainly made of textile (KLBI 1413), the industry of textile final finishing (KLBI 1313), the industry of rope and products made of rope (KLBI 1394), the textile weaving industry (KLBI 1312) and the industry of knitted and embroideries fabrics (KLBI 1391)

In 2011, the calculation of efficiency based on the assumption of VRS model shows that there were eight or about 80% of TPT industries with the efficiency of 100%, which means that they were efficient in technical and scale. Eight of the TPT industries were the other textile industry of YTDL (KLBI 1399), the industry of knitted and embroidery/ border apparel (KLBI 1430), the industry of tailoring and by order (KLBI 1412), the industry of textile product manufacture, not apparel (KLBI 1392), the industry of apparel (KLBI 1411) and the industry of processing and spinning of textile fibers (KLBI 1311), and the textile weaving industry (KBLI 1312). Meanwhile, two or about the other 20% were inefficient because their efficiency value was less than 100%, which means; they were inefficient technically. The two inefficient TPT industries were the industry of rope and products made of rope (KLBI 1394) and the industry of knitted and embroideries fabrics (KLBI 1391)

CONCLUSION AND SUGGESTION

Conclusion:

1. In 2010, more than 60% of TPT industries in Central Java could produce the outputs with a number of existing inputs. Of 10 KBLIs of TPT industries in Central Java, six KBLIs worked efficiently based on the measurement of CRS and eight KBLIs worked efficiently based on the measurement of VRS in 2010.
2. In 2011, more than 50% of TPT industries in Central Java could produce the outputs with a number of existing inputs. Of 10 KBLIs of TPT industries in

Central Java, five KBLIs worked efficiently based on the measurement of CRS and five KBLIs worked efficiently based on the measurement of VRS in 2011.

Suggestion:

1. The TPT industries in Central Java should be able to minimize inefficiencies in the use of their inputs to be efficient.

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