INTERNATIONAL JOURNAL OF BUSINESS RESEARCH™

Publication of the
International Academy of Business and Economics®
IABE.org

International Journal of Business Research™

EDITORIAL BOARD:

Welcome Note from the Editor-In-Chief:

It is our pleasure to present to the Volume 16, Number 5, 2016 issue of the International Journal of Business Research (IJBR). This issue contains research papers that have met the criteria of the peer reviewers from universities around the world.

In keeping with its nascent tradition of promoting all forms of intellectual inquiry, including that conducted outside the box, the current issue proposes to its readers, the findings of research in a verity of business and economics areas.

We thank all authors for the quality of the manuscripts they submitted to our review and for trusting IJBR to be the medium to share it with a truly global audience. We praise the scholars who volunteered their expertise to review these intellectual contributions.

Help us get IJBR on more library shelves, starting with yours: donate the issue you are currently holding to your library. Give more visibility to your own research: share IJBR with a colleague or friend; request promotional materials from us, or use those already available at our site; link our site to your web pages and intranets.

We invite you to give us some feedback. If you have suggestions for future improvement, we'd like to hear from you. As usual, we hope to have the privilege of reviewing your work in the near future. Consult IJBR deadlines and guidelines at our website.

Please visit our new website **www.iabe.org** with many online features including online paper submission, status of your paper, member account, and others.

We look forward to a challenging but bright future for IJBR, with your help.

Best wishes!

Timothy Mantz,

DBA, Dean School of Business, Associate Dean of the Graduate School, Keiser University

Editor-In-Chief

TABLE OF CONTENTS

TESTING THE EFFECT OF INFORMATION SHARING ON COMPETITIVENESS AND DELIVERY PERFORMANCE AT MANUFACTURING INDUSTRY IN INDONESIA

Slamet Riyadi, Faculty of Economics, DR. Soetomo University, Indonesia
Musran Munizu, Faculty of Economics and Business, Hasanuddin University, Indonesia
Maat Pono, Faculty of Economics and Business, Hasanuddin University, Indonesia
Nurdjanah Hamid, Faculty of Economics and Business, Hasanuddin University, Indonesia
dx.doi.org/10.18374/IJBR-16-5.6

ABSTRACT

This study aimed to analyze the effect of information sharing toward competitiveness, information sharing toward delivery performance, and competitiveness toward delivery performance at manufacturing industry in Indonesia. This study conducted in two areas i.e.: Surabaya City, East Java Province and Makassar City, South Sulawesi Province of Indonesia. Number of sample were 90 companies which consist of 40 companies from Makassar, and 50 companies from Surabaya. Respondents were production/ operation managers of manufacturing companies. This study used two kinds of data, namely primary data and secondary data. Primary data collected through questionnaire instrument, whereas secondary data collected by relevant documents such as organization profile, and production report in the organization. The data analyzed with using both descriptive statistics and partial least square (PLS). The results show that information sharing has a positive and significant effect on competitiveness. Information sharing also has a significant effect on delivery performance. Then, competitiveness has a significant effect on delivery performance. In addition, delivery performance more influenced by variable of competitiveness than information sharing.

Keywords: *information sharing, competitiveness, delivery performance, manufacturing industry, Indonesia.*

1. INTRODUCTION

The manufacturing industry has an important role in many countries of either advanced countries or emerging countries. In the literature of management and business, manufacturing industries will be grown if supported by information technology in their supply chain system (Zhou and Benton, 2007). The growth of manufacturing industries also determined by competitive advantage as well as operational performance, in terms of delivery on time to customers (Barney 1991; Munizu, 2016). In addition, Porter (1990) argues that *"to achieve competitive success, firms must possess a competitive advantage in the form of either lower costs or differentiated products or services"*. Schroeder *et al*. (1986) stressed *"the operations strategy as part of organization strategy is implemented through the effective use of basic operations management trade-offs that support the organization's competitive strategy*.

Related to competitive strategy, Barney (1991) argues that both organizational resources and organization capabilities as primary sources of competitive advantage. Companies would be competitive if they have organization resources that rarely and unique and it couldn't be imitated and also substituted by competitors. Then, Competitiveness related to the company's ability broadly in creating a defensive position more than its competitors. Competitiveness is consists of a set of capabilities that makes an organization different from its competitors, and also the result of important management decisions (Prahalad and Hamel, 1990).

Information sharing is one of the sources of competitiveness and an important element in supporting supply chain improvement in the organization. Information sharing related to using of information technology and sharing the information among supply chain partners in supply chain system (Zhou and Benton, 2007). Information is the most valuable resource to an organization in achieving competitive advantage. Therefore, information could be said as the source of competitive advantage.

Turban *et al*. (2001) stressed the important role of information technology in today's organization. It useful to support the major business activities and to create best products or services in the organization. The business environment has an impact on business activities. Information technology could support business activities in achieving the best performance (Rahmasari, 2011). Information technology consists of a set of hardware and software which needed to support the company's information systems. Information content as one of parts information technology refers to information that sharing between organization and customers. While, quality of information measures the quality of information that sharing between organization and customers (Turban *et al*., 2001; Zhou and Benton, 2007). The quality of information covers three main aspects, i.e. information of environment uncertainty, intra-organizational information, and inter-organizational information. In addition, information sharing could help companies to achieve effective coordination in a supply chain system. Therefore, information sharing has to control in the supply chain system (Anatan and Ellitan, 2008).

Information sharing could improve product delivery performance (Munizu, 2016) it also could be a source of corporate competitiveness (Turban et al., 2001). Then, Heizer and Render (2010) point out that delivery performance refers to on-time delivery of product and service. Therefore, delivery performance could be improved through information sharing and competitiveness. Some findings related to performance measurement was done by previous researchers. Arumugam and Mojtahedzadeh (2011) conclude that there were a positive effect SCM practices to corporate performance. Li et al. (2006) also find that practice of supply chain management (SCM) can enhance competitiveness, also the company's performance. Competitiveness has a direct positive influence on business performance. Han et al. (2007) find that efforts to obtain certification of ISO 9001 and TQM practices could improve organization competitiveness. In addition, Lakhal (2009) also find that competitiveness has a positive effect on organizational performance.

Based on some findings and literatures above, this study will analyze the effect of information sharing on competitiveness and delivery performance at manufacturing industry, in Indonesia especially in Surabaya and Makassar city.

2. LITERATURE REVIEW

2.1 Information Technology and Information Sharing

In practice, each organization needs technology information support to achieve the better competitiveness and also performance compared to competitors. The role of information technology could be found in a variety of fields within the organizational context. For example, in the production area, information sharing focuses on information flow from one work center to next work center. Information sharing consist of information content and information quality. Information content refers to content, which shared between suppliers and buyers. Whereas the quality of information focuses on quality which shared between suppliers and buyers (Zhou and Benton, 2007).

Information sharing is a very important element in the supply chain system because it could support all members in providing better product and services. The success of supply chain depended on information systems which used in their organizations (Pujawan and Mahendrawathi, 2010). The quality of information measures information that exchanged among organizations in the supply chain system to meet organization need (Petersen, 1999). Information sharing consist of three elements i.e.: information technology support, information content, and information quality (Ramdas and Spekman, 2000; Zhou and Benton, 2007; Rao et al., 2011). Therefore, this study uses information technology support, information content, information quality, and information integrated as indicators of information sharing.

2.2 Competitiveness

Kuncoro (2008) asserts that competitive advantage was developed from specific activities in an organization to be more superior compared to its competitors. The word "superior" is a relative position of an organization to other organizations. Based on some studies, it could be identified that price/ cost, quality, delivery, and flexibility as the important organization capabilities. Skinner in Krajewski et al. (2012)

develops four priorities of competition, namely: cost/price, quality, speed of delivery and flexibility to improve performance and organizational competitiveness.

Porter (1990) argues that *"competitive advantage can be translated into higher productivity than that of competitors. The low-cost firm produces products and services using fewer inputs than competitors. The differentiated firm achieves higher revenues per unit than competitors"*. Related to above opinion, Han et al. (2007) stressed that business performance could be increased when the companies become stronger its competitiveness through some improvements at four dimensions, namely: quality, cost, delivery, and flexibility. Therefore this study uses quality, cost, delivery and flexibility as indicators of competitiveness.

2.3 Delivery Performance

According to Rao et al. (2011) concept of delivery performance could be defined as the level of products and services supplied by the organization to meet customer expectation. Delivery is one of supply chain activities in providing products and services to the customer. Heizer and Render (2010) stress that delivery performance has a positive impact on operational performance. Then, on-time delivery is an important element in operational performance.

Related to delivery performance, management must understand the important of on-time delivery of goods and services to customers, because it can increase organizational performance. Delivery performance is a key performance measurement criteria in supply chain management (Zhou and Benton, 2007; Chopra and Meindl, 2007). Effective delivery performance has a significant impact on supply chain performance (Supply Chain Council, 2002). Indicators of delivery performance consists of on-time delivery, order fulfillment rate, delivery reliability, and delivery dependability (Zhou and Benton, 2007). Furthermore, Coyle *et al.* (2003) states three delivery dimensions namely delivery speed, production lead-time, and delivery reliability. Therefore, this study uses four indicators to measure variable of delivery performance namely, on-time delivery, order fulfillment rate, delivery reliability, and delivery speed.

3. RESEARCH METHODOLOGY

This study used quantitative approach in solving research problem. The unit of analysis for this study was the manufacturing organizations in Indonesia. Number of sample was 90 companies which consisted of 50 companies from Makassar City, and 40 companies from Surabaya city. Thus, description of sample characteristic can be presented in the following table.

TABLE 1. CHARACTERISTICS OF SAMPLE

No.	Types of Industry	Location			
		Surabaya (unit)	Percentage (%)	Makassar (unit)	Percentage (%)
1.	Food and Beverage	16	32.00	13	32.50
2.	Metal Basic	8	16.00	11	27.50
3.	Shrimp and fishery	14	28.00	8	20.00
4.	Furniture	8	16.00	6	15.00
5.	Others:	4	8.00	2	5.00
	Total	**50**	**100.00**	**40**	**100.00**

Sources: Primary data, processed (2016)

As shown in Table 1, there were three industries which dominant than others, namely food and beverage industry (29 units), shrimp and fishery industry (22 units), and metal basic industry (19 units). Moreover, most of respondents in this study were production managers or operation managers. Furthermore, this study used both primary data and secondary data. The research variables includes information sharing (X), competitiveness (Y_1), and delivery performance (Y_2). Then, variables and indicators measured by

using Likert Scale 1 to 5. Value of 5 representing a very high frequency of practice, and value of 1 representing a very low frequency of practice (Hair et al., 2010; Solimun, 2011)

Questionnaire was used to collect field data. Questionnaire must be valid and also be reliable before field data collection. Test of validity used Pearson correlation coefficient, whereas reliability test performed by using Cronbach's α measurements. Indicators can be valid if value of correlation coefficient was more than 0.30. In addition, variables also can be reliable if value of Cronbach's α was more than 0.60 (Hair *et al*., 2010). This study used both descriptive statistics and Partial Least Square (PLS) as method of analysis. Then, data calculated by using SmartPLS 2.0 Software.

4. RESULTS AND DISCUSSION

Descriptive analysis conducted for describes the average value of each variable in implementation context. The results of descriptive analysis are presented in the following table.

TABLE 2. MEAN VALUE OF VARIABLES

No.	Name of Variables	Mean	Description
1.	Information sharing (X)	3.37	Good Enough
2.	Competitiveness (Y_1)	3.91	Good
3.	Delivery performance (Y_2)	4.05	Good

Sources: Primary data, processed (2016)

Table 2 shows that mean value of information sharing variable was 3.37 (good enough category). Whereas variable of competitiveness was in good category with mean value of 3.91. It was followed by delivery performance (mean value = 4.05). These results indicate that information sharing in terms of information technology support, information content, information quality, and integrated information wasn't optimal yet in implementation context. The same condition also occurs at variables of competitiveness and delivery performance.

Structural Equation Modeling (SEM-PLS) was employed to test the hypotheses. It is a useful technique that can be used to analyze the relationship among variables in the complex model. Then, data analyzed by using Smart PLS 2.0. In The SEM-PLS analysis, a model must meet criteria "goodness of fit". A model can be said "fit" when it supported by empirical data. It can be known from relevance predictive value (Q^2). The relevance predictive value (Q^2) obtained by the following formula:

$Q^2 = 1 - (1 - R_1^2) (1 - R_2^2)$
$Q^2 = 1 - (1 - 0.185) (1 - 0.436)$
$Q^2 = 0.540$ or 54%

Results of calculating shows that value of predictive relevance (Q2) was 0.540. This means that empirical model can explain the variation of delivery performance variable of 54%. Based on the result of Q2 value, it can be inferred that model has a good predictive value. Therefore, this model can be used to test research hypothesis. Figure 1 displays the results of the empirical model of the study.

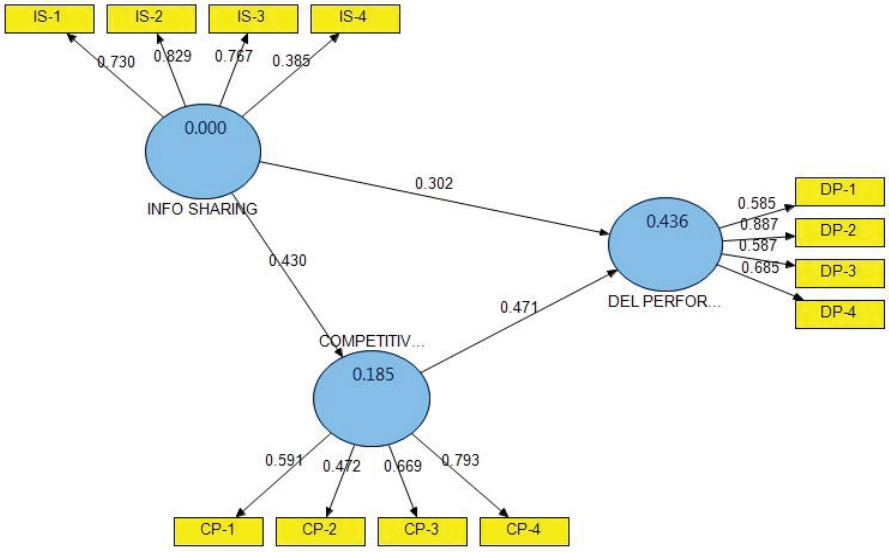

FIGURE 1. RESULT OF EMPIRICAL MODEL

As can be seen in figure 1, the relationship among variables in the model. First relationship was the effect information sharing on competitiveness. The effect information sharing on delivery performance as second relationship, and third relationship was the effect competitiveness on delivery performance. The figure also describes the loading factor of each indicator which forming each main variable in the model. Then, results of hypothesis test can be presented in the following table.

TABLE 3. RESULTS OF HYPOTHESIS TEST

Hypotheses	Exogenous Variable	Endogenous Variable	Path Coefficient	T-Statistic	Description
I	Information sharing	Competitiveness	0.430	6.192	H_1 (accepted)
II	Information sharing	Delivery performance	0.302	5.350	H_2 (accepted)
III	Competitiveness	Delivery performance	0.471	6.390	H_3 (accepted)

Sources: Primary data, processed (2016)

Based on table 3, it concluded that three hypotheses proposed in this study were supported by empirical facts. First, information sharing has a positive and significant effect on competitiveness (H_1, supported by empirical data). Second, information sharing has a positive and significant effect on delivery performance (H_2, supported by empirical data). Third, competitiveness has a positive and significant effect on delivery performance (H_3, supported by empirical data). In addition, the results of this research indicate that delivery performance more influenced by competitiveness compared by information sharing. Testing of hypotheses conducted at level of significant ($\alpha = 0.05$).

Therefore, the first priority in increasing the delivery performance was improvement of information sharing elements such as providing access information widely for all members in supply chain system through use of electronic data interchange (EDI) to all partners. The second priority was improvement of competitiveness indicators such as providing higher quality product and services to customers greater than competitors.

These findings were in line with Munizu (2016) who found that information sharing has a positive effect toward delivery performance, especially in term of on-time delivery product and services to customers.

Then, this study supports Arumugam and Mojtahedzadeh (2011) that there was a positive influence between SCM practices and corporate performance. The results of this study were consistent with some previous studies which found that variable of competitiveness has a positive influence on business performance (Li *et al*., 2006; Han et al., 2007; and Lakhal, 2009). Related to use of information technology, the results of this study also supported Rahmasari (2011) that information technology could supported business activities in an organization to generate best performance.

Furthermore, the results of this study are consistent with Porter (1990) that stressed the important of competitiveness to an organization. Porter asserts that "*In the long run, firm succeed relative to their competitors if they have sustainability competitive advantage. There are two basic types of competitive advantage, namely lower cost and differentiation. Lower cost is the ability of a firm to design, produce, and market a comparable product more efficiently than its competitors. While differentiation is the ability to provide unique and superior value to the buyer in terms of product quality, special features, or after sales service*".

Most of competitiveness and organization performance can be achieved by companies if they have a set of abilities to provide and to produce goods as well as services which has some criteria includes a high quality standard of product, competitive prices, flexibility and speed of delivery. As a result, products and services can compete in terms of quality, price, delivery of the product, and flexibility more than competitors in the global market (Prahalad and Hamel, 1990; Heizer and Render, 2010; Krajewski *et al*., 2012).

5. CONCLUSIONS

In conclusion, this study has examined the relationship between the information sharing, competitiveness and delivery performance. The level of information sharing (information technology support, information content, information quality, and information integrated) was found to affect competitiveness. Then, the level of information sharing (information technology support, information content, information quality, and information integrated) was found to affect delivery performance. In addition, the level of competitiveness (quality, cost, delivery, and flexibility) was found to affect delivery performance. The results of this study also indicate that delivery performance more influenced by competitiveness than information sharing.

This study gives some implications to managers. Managers must have a good understanding to fix the elements of information sharing and competitiveness. As a result, it can help managers to take some corrective actions in increasing the quality of information sharing and also organization competitiveness. For improving quality of information sharing purpose, managers can provide full access information to all supply chain members such as inventory reports and product price reports. Then, managers also must improve the elements of competitiveness such as providing low price, high quality, high flexibility, and high speed in delivery of goods and services to customers. Furthermore, from the theoretical perspective, the findings of the study support the competitiveness model derived from strategic and operation management theories.

REFERENCES:

Anatan, L. and Lena, E., Supply Chain Management: Theory and Application, Alfabeta Publishing, Bandung, 2008.

Arumugam, V.C., and R. Mojtahedzadeh., "Relationship between supply chain management practices and performance in the Iranian industries: A theoretical approach", International Journal of Academic Research, Volume 13, Number 4, Pages 594•635, 2011.

Barney, J., "Firms Resources and Sustained Competitive Advantage", Journal of Management, Volume 17, Number 1, Pages 391•400, 1991.

Chopra, S. and P. Meindl,. Supply Chain Management: Strategy, Planning, and Operations, Pearson Education Inc., New Jersey, 2007.

Coyle, J.J., Bardi, E.J. and Langley, J., The Management of Business Logistics, Thomson South-Western, Mason, OH, 2003.

Hair, J.F, Black, W.C, Babin, B.J, and Anderson, R.E., Multivariate Data Analysis, 7th Edition, Prentice Hall Inc., New Jersey, 2010.

Han, S. Bruce, Chen Shaw, and K. Maling E., "The Impact of ISO 9000 on TQM and Business Performance", Journal of Business and Economic Studies, Volume 13, Number 2, Pages 223•230, 2007.

Heizer, Jay and Barry R., Operation Management, 10th Edition, Pearson Education Inc., Australia, 2010.

Krajewski, Lee J., Larry P. Ritzman, and K. Malhotra., Operation Management: Processes and Supply Chains, Eleventh Edition, Pearson Prentice Hall Inc., USA, 2012.

Kuncoro, E. A., Leadership as Primary Forces in Competitive Strength, Competitive Area, Competitive Result in Improving Higher Education Competitiveness, Alfabeta Publishing, Bandung, 2008.

Lakhal, L., "Impact of Quality on Competitive Advantage and Organizational Performance", Journal of the Operational Research Society, Volume 60, Number 1, Pages 637•645, 2009.

Li, Suhong; Bhanu Ragu-Nathan; T.S. Ragu-Nathan; S. Subba, R., "The Impact of Supply Chain Management Practices on Competitive Advantage and Organizational Performance", Omega, Volume 34, Number 1, Pages 107•124, 2006.

Munizu, M., "The Effect of Information Sharing Toward Delivery Performance: Case at Manufacturing Companies in South Sulawesi, Indonesia", Proceeding International Conference on Multidiciplinary Research on 6-8 September in Makassar, Pages 181•187, 2016.

Petersen, K. J., The Effect of Information Quality on Supply Chain Performance: An Inter-organizational Information System Perspective, Dissertation, Michigan State University, USA, 1999.

Porter, Michael E., The Competitive Advantage of Nations. The Free Press, Macmillan Inc., USA, 1990.

Prahalad C.K. and G. Hamel., The Core Competence of The Corporation, Harvard Business Review, Volume 68, Number 3, Pages 79•92, 1990.

Pujawan, I. N., and Mahendrawathi, E., Supply Chain Management, Second Edition, Guna Widya Press, Surabaya, 2010.

Rahmasari, L., Effect of Supply Chain Management Toward Corporate Performance and Competitive Advantage, Magazine Scientific Information, Volume 2, Number 3, Pages 9•17, 2011.

Rao, C. M., K. Prahalad, R. and, and V.V. M., "Delivery Performance Measurement In An Integrated Supply Chain Management: Case Study In Batteries Manufacturing Firm", Serbian Journal of Management, Volume 6, Number 2, Pages 205•220, 2011.

Schroder RG., Anderson JC., Cleveland G., "The Content of Manufacturing Strategy: An Empirical Study", Journal of Operations Management, Volume 6, Number 4, Pages 405•415, 1986.

Solimun., Multivariate Analysis: Structural Modeling of Partial Least Square (PLS), Citra Malang Publishing, Malang•Indonesia, 2011.

Supply Chain Council., E-Business and Supply Chain Processes, Amazon Publishing, USA, 2002.

Turban, E., Ephraim M., and James, W.., Information Technology for Management: Making Connections for Strategic Advantage, 5th Edition, John Wiley & Sons. Inc., New York, USA, 2001.

Zhou H., Benton, WC., "Supply Chain Practice and Information Sharing", Journal of Operations Management, Volume 25, Number 6, Pages 1348•1365, 2007.

AUTHOR PROFILE:

Dr. Slamet Riyadi earned his Ph.D. at Brawijaya University, Indonesia in 2012. Currently he is an Associate Professor at Faculty of Economics, DR. Soetomo University, Surabaya, East Java Province, Indonesia. His areas of research are Management and organization, Strategic Management, and Human Resources Management, and Leadership. Slamet Riyadi can be contacted through email at: slamet_riyadi08@yahoo.com.

Dr. Musran Munizu earned his Ph.D. at Brawijaya University, Indonesia in 2012. Currently he is an associate professor at Department of Management, Faculty of Economics and Business, Hasanuddin University, South Sulawesi Province, Indonesia. His field of research are Operation Management, Strategic Management, and Management and Organization. Musran Munizu can be contacted through email at: m3.feunhas@gmail.com or musran@fe.unhas.ac.id.

Dr. Maat Pono earned his Ph.D. at Brawijaya University, Indonesia in 2009. Currently he is an associate professor at Department of Management, Faculty of Economics and Business, Hasanuddin University, South Sulawesi Province, Indonesia. His field of research are Strategic Management, Operation Management, and Project Management. Maat Pono can be contacted through email at: maatpono@yahoo.com.

Dr. Nurdjanah Hamid completed her Ph.D. at Hasanuddin University, Indonesia in 2006. Currently she is an associate professor at Department of Management, Faculty of Economics and Business, Hasanuddin University, South Sulawesi Province, Indonesia. Her field of research are Human Resource Management, Marketing Management, and Management of Agriculture. Nurdjanah Hamid can be contacted through email at: hamidnurdjanah17@gmail.com.