

The Influence Of Supply Chain And Strategic Orientation Through Competitive Strategy And Its Impact On Coal Business Performance (Studies On Coal Company In Indonesia)

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ABSTRACT: Coal is one of the alternative energy sources instead of petroleum. It results in the coal mining industry as an industry that is highly prospective. But the growth of coal production, both domestic and export coal sales in the period 2005-2012 was experiencing turbulence tends to decrease. The decline in world coal prices directly impact the business performance of coal mining companies of Indonesia. Preliminary survey results show the phenomenon of the weak performance of the business due to the coal mining industry management tends not yet fully capable of formulating competitive strategy appropriated. In addition there is a weakness for supply chain management and strategic orientation. On that basis then do research on supply chains and strategic orientation on competitive strategy and its implications on the business performance of the coal mining industry in Indonesia. The study was conducted using an explanatory method. Duration of the study is the time horizon which is cross section/one shoots. Objects of research are taking by sampling that takes part members of the population to be studied. The results show that the supply chain, strategic orientation and competitive strategy on coal mining companies in Indonesia are generally located in either category, but found that business performance in general cannot be expressed well so that the cause of the low performance achieved during this business. It shows the implementation of all activities associated with the business activity has not gone as expected.

Keywords: Supply Chain, Strategic Orientation, Competitive Strategy, Business Performance

1. Introduction

1.1. Research Background

In the future, coal mining production is expected to increase it is not only to meet domestic need but also to meet export demand. Considering that coal resources in Indonesia is still abundant. On the other hand, the price of fuel oil remains high; it demands the industries to shift to use coal. Likewise, the demand of coal from importer countries causes the increasing of coal mining production. Until now, the fulfillments of national energy need are still dominated by fuel oil which reaches 52% from the total final fuel mix. While, energy consumption tends to increase about 7% per year, it is in line with the growth of population and economic and industrial development. This is not good condition since during a last decade Indonesia's oil reserves relatively remains the same. The dependence on imported energy definitely contains economical and political risks. Therefore, to achieve the target of national fuel mix 2025 then it is expected that the use of coal reaches 33%. In addition, the technology to exploit eco-friendly coals have developed rapidly then be known as clean coal technology. The target of primary fuel mix is created in two scenarios, those are, conservative scenario (Business as usual) and energy

managing optimization scenario which is accordance with Presidential decree of Republic of Indonesia Number 5 Year 2006 which to optimize renewable energy resources. Based on the target of National primary fuel mix in 2006 there must be change in current energy mix which is still dominated by oil. In 2005 the user's oil are still 54, 78%, coal is 16, 77%, gas is 22, 24% and new renewable energy is 6, 2%. However, in 2025 energy mix for oil is expected to be 20%, gas to be 30%, coal to be 33%, and new renewable energy is about 17%. Most of coals that are spread in Indonesia are categorized as low and medium calories; they reach 94% from the total of Indonesia's coal reserves. Borneo is an Island which has the biggest coal reserves in Indonesia, in which the total of its coal resources reaches 18.0979 million tons. The biggest coal reserves are located at East Borneo about 11.815 million tons. While, in Sumatra the coal resource reaches 15.718 million tons. In Sulawesi, it reaches 94 million tons and in other areas it reaches 100 million tons.

Table 1.1

The Coal Reserves and Resources in Indonesia (million tons)

| Location | Terukur | Terindikasi | Total | Reserves |
|-----------------|--------------|---------------|---------------|--------------|
| Borneo | 5.882 | 13.097 | 18.979 | 2.255 |
| East Borneo | 2.945 | 8.870 | 11.815 | 1.554 |
| South Borneo | 2.185 | 3.691 | 5.876 | 347 |
| West Borneo | 67 | 173 | 239 | 4 |
| Middle Borneo | 686 | 363 | 1.049 | 349 |
| Sumatera | 4.410 | 11.308 | 15.718 | 2.571 |
| North Sumatra | 58 | 1.588 | 1.645 | - |

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|-----------------|---------------|---------------|---------------|--------------|
| Middle Sumatra | 315 | 723 | 1.038 | 141 |
| South Sumatra | 3.989 | 8.919 | 12.908 | 2.415 |
| Bengkulu | 49 | 78 | 127 | 15 |
| Sulawesi | 18 | 76 | 94 | - |
| Others | 25 | 75 | 100 | - |
| Total | 10.336 | 24.555 | 34.890 | 4.826 |

Source: Directorate General Mineral and Coal, Ministry of Energy and Mineral Resources, 2013.

The availability of oil supply that is getting limited causes the rise of oil price in late years. Therefore, the world needs alternative energy which still has big potential. Coal is one of alternative energy resources that acquire big attention. It makes coal mining industries counts in very prospective industry. It makes coal mining companies take the benefit from the growth of high profits within late years especially for the companies which orient export. The ability either to penetrate export market or to fulfill domestic needs continue to increase. As the table illustrate that in 2005 the production of coal in Indonesia reached 152 million tons, in 2006 it reached 180 million tons, in 2007 it reached 179 million tons, in 2008 it reached 189 million tons, in 2009 it reached 208 million tons, in 2010 it reached 217 million tons, in 2011 it reached 230 tons, in 2012 it reached 242 million tons, and in 2013 the productions reached 251 million tons.

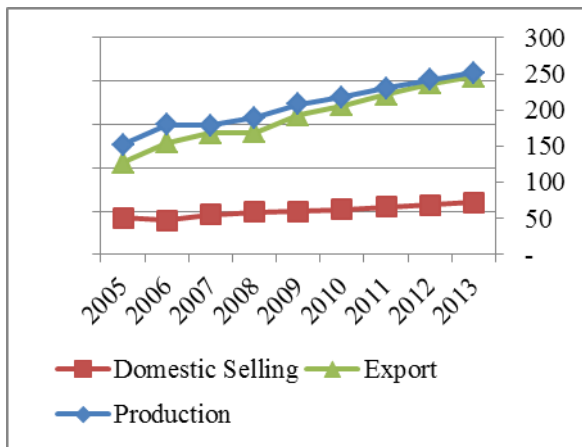


Figure 1.1

The development of Coal Production in Indonesia 2005-2013 (in Million Ton)

Source: Ministry of Energy and Mineral Resources, 2013 (www.esdm.go.id), data processed

Most of coal productions in Indonesia are exported to abroad mainly to Japan, Taiwan, China and India. Above graphic illustrates the increase of coal production in Indonesia which continues to increase and it shows that a number of coals that are exported higher than for fulfilling domestic needs. From the graphic above, if it is observed carefully reveals that the growth of domestic and export production selling during late 6 years it tends to be declined. As an illustration in late 5 years the production of

coal is about 5% tends to be stagnation, as well as the growth of domestic and export selling which considers to be fluctuation, as it is shown on following table.

Table 1.2

The development of domestic and export production, selling in Indonesia in 2005-2013 (in Million Tons)

| Year | Production and Development | | Domestic Selling and its Development | | Export and Its Development | |
|------|----------------------------|----|--------------------------------------|----|----------------------------|----|
| | Ton | % | ton | % | ton | % |
| 2005 | 152 | - | 42 | - | 106 | - |
| 2006 | 180 | 18 | 39 | -8 | 129 | 22 |
| 2007 | 179 | 0 | 46 | 18 | 140 | 8 |
| 2008 | 189 | 6 | 49 | 6 | 141 | 0 |
| 2009 | 208 | 10 | 50 | 1 | 161 | 15 |
| 2010 | 218 | 5 | 52 | 6 | 172 | 7 |
| 2011 | 230 | 6 | 55 | 5 | 184 | 7 |
| 2012 | 242 | 5 | 57 | 4 | 197 | 7 |
| 2013 | 251 | 3 | 60 | 5 | 205 | 4 |

Source: Ministry of Energy and Mineral Resource 2013 (www.esdm.go.id), data processed

Based on above graphic, it is seen that until 2013, the reference price for coal shows decline. The movement is more negative up to -8% in the middle of 2012. The decline of world coal price directly impact on Indonesia coal mining companies' business performance.

1.2. Literature Review

The weak of coal mining business performance in Indonesia is caused by management party tends to be fully unable yet to formulate competitive strategies appropriately. Referring to above condition, the low coal mining companies' business performance in Indonesia, still have weaknesses in designing competitive strategy compared to other countries. On the other hand, Hubbard and Beamish (2011:20) state that competitive strategy is how an organization positions its business to be more competitive than other similar business. This business phenomenon indicates that difficulties to create the improving products' quality do not go according to the market demand, the company deficiency in anticipating business environmental change and there is not more competitive price of the product yet than the price of competitors' products as well as difficulty of on time delivery order. Whilst, Pearce and Robinson (2011:215) argue that competitive strategy is an effort to create sustained competitive strategy through product's uniqueness and leadership cost. Regarding to the relation of supply chain, competitive strategy, and business performance, the result of Soni and Kodali's research (2011:70) explores the conformity strategy between competitive strategy and supply chain strategy. The role of supply chain toward business performance is revealed in their research which aims at exploring the conformity strategy between competitive strategy and supply chain strategy in India's manufacture industries by investigating mediation strategy's role of supply chain between competitive strategy and company performance / supply chain. According to Kevin Kriese (2012:2) Strategic orientation is ability to link long-term vision and daily work-determination of Aborigine, start from simple understanding to high awareness toward ideas and actions. Kavcic and Bartoncelj (2010:748) state that "Clear

strategic orientation of companies is much needed in an ever-competitive environment". They argue that strategic orientation is clearly needed in current competitive environment. In coal mining world, managers are demanded to be continually strategic-oriented by following efforts: (1) improvement of business performance, (2) improvement of revenue, (3) efficiency of operational cost, (4) innovation in overcoming limitedness, (5) development of integrated-business (6) commitment toward environmental reserve (Annual Report, PT. Bukit Asam (Persero) Tbk). Not all mining companies implement strategic orientation as it is implemented by big company such as PT. Bukit Asam (Persero) Tbk, since there are also coal mining companies which appearing and falling just like illegal mining, that is why the writer is interested in investigating the case.

1.3. Research Objective

This research focuses on the object of the research those are coal mining companies which are located in Indonesia territories. The unit of analysis is managers of coal mining companies' management and managers of business unit/ division of those companies. While the research variable covers four variables, those are: chain supply, strategic orientation, competitive strategy, and business performance.

2. Research Methods

2.1. Methods

Survey design that is utilized is by drafting questions list that will be proposed to respondents. There are several types of surveys such as mail-questionnaire, face-to-face interview, and telephone interview, while this research applies mail-questionnaire (in this case is electronic mail/e-mail) and telephone interview, where the questionnaire is proposed through email and telephone so it can cost and time-saving, the respondents can choose the time to fill the questionnaire, anonymity for respondents, possibility to reach

wide/ far geographical locations, time effective, be able to control the steps of questionnaire filling, and possibility to give complex question forms. The unit analysis of this research is coal mining industries which operate in Indonesia in which the unit of observation is their managements. Data and information are collected directly from the site empirically in particular time that is 2013, so that the research uses one shoot/ cross section time horizon, on the other words the data or information collections as what they are stated.

2.2. Sampling technique

Data collection technique about management perception as well as happening phenomena is undertaking through survey activity. Data and information either primary or secondary are collected through telephone interview technique, it is undertaken to gain the data from informant. Interview is undertaken by giving open questions to some of manager/leader through telephone.

2.3. Hypothesis Testing design

The analysis design using PLS (Partial least Square) which indicates that the company resources and value creation can improve business performance as well, can be seen on the component-based structural equation models or variants (PLS).

3. Discussion

Hypothesis test of the effect in this research utilizes structural equation modeling PLS-PM tool. Hypothesis test of the supply chain and strategic orientation through competitive strategy as well as the implication on business performance of coal companies includes measurement model test and inner model test. Following picture illustrates the result of model test by utilizing Smart PLS 2.0:

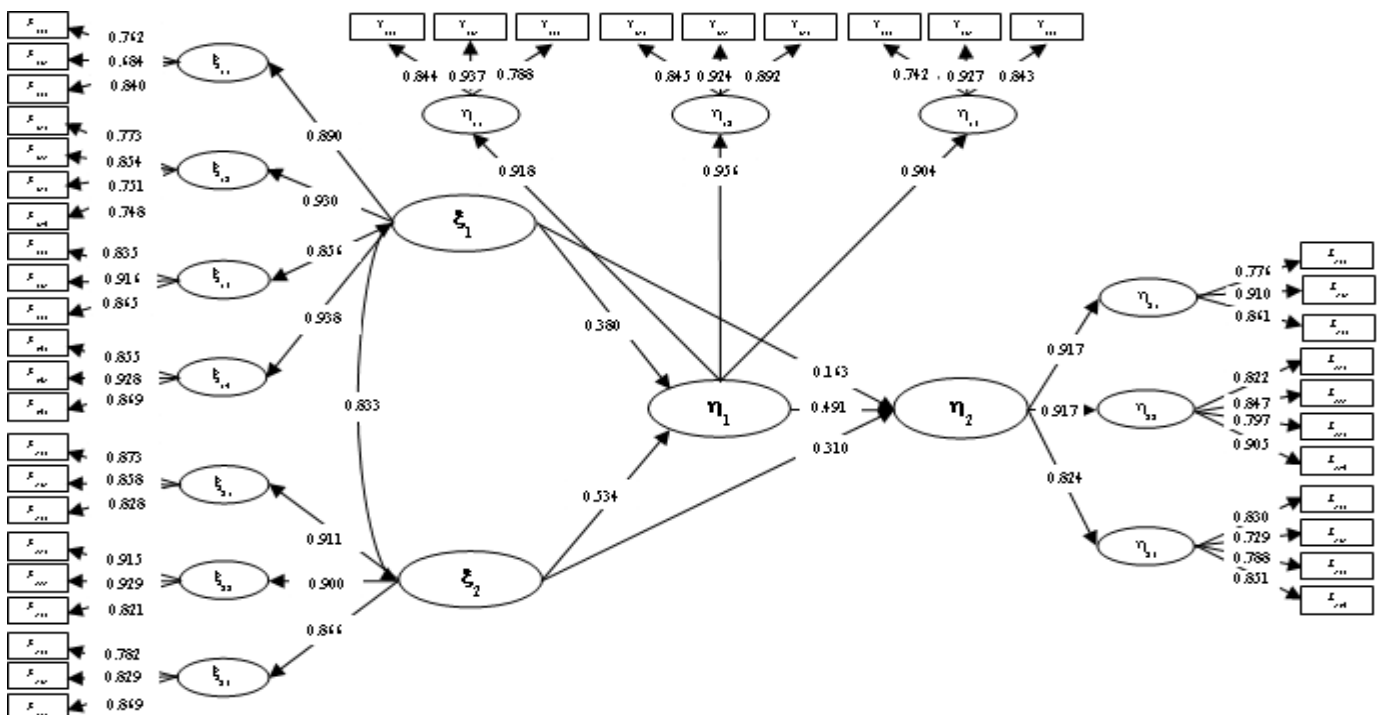


Figure 1.2
Coefficient of Research Line Model

The measurement model shows the relationship between manifest variable (indicator) and latent variable. While, structural model evaluation includes the analysis of predictive from the model is seen from Q^2 and signification of the effect among variables.

4.3.2.1. The Analysis of Measurement Model

Measurement model purposes to analyses the dimensions' validity and the indicators used to measure every research variable which is constructive. The analysis of measurement model involves *convergence validity* which is measured from *loading factor*, *discriminant validity* which measured from *Average Variance Extracted* and *composite reliability* value.

Table 1.3 Reliability

| Variable | Composite Reliability | AVE |
|-----------------------|-----------------------|-------|
| Supply Chain | 0,936 | 0,553 |
| Strategic Orientation | 0,927 | 0,585 |
| Competitive Strategy | 0,941 | 0,640 |
| Business Performance | 0,928 | 0,542 |

Source: Primary data processed by Smart PLS 2.0 (2014)

Reliability test is undertaken to verify the accuracy, consistency, instrument determination in measuring construct. From the table above, it is known that Composite Reliability value is $> 0,7$; while average variance extracted value (AVE), the suggested value is above 0,5 means that measurement model of those four variables are consistent and have determination in measuring construct. Supply chain variable has composite reliability 0,936 which shows that items used to measure supply chain variable has very high internal consistency. Strategic orientation variable has composite reliability 0,927 which shows that items used to measure strategic orientation has very high internal consistency. Competitive strategy variable has composite reliability 0,941 which shows that items used to measure competitive strategy has very high internal consistency. Business performance variable has composite reliability 0,928 which shows that items used to measure business performance variable has very high internal consistency. The analysis of dimension measurement model upon its indicators are undertaken to figure out to what extent the validity of indicators in setting the dimensions that build the research's variables.

4.3.2.2. The Analysis of Structural Model

Structural Model (inner model) on PLS is evaluated by utilizing Goodness of Fit Model, which shows the difference between the observed values and predicted values by model. Before the verification is done whether the hypothesis of the research is supported by empiric facts, the step that must be done first is by testing the model to show the completely model is accepted or not. Goodness of Fit Model test is to verify the hypothesis that the theories used has been appropriate with empiric data, or the theories are supported by data (Fit model with data). Inner model is evaluated using Goodness of Fit Model (GoF); besides, conformity test is also shown by value Q^2 in which the value is above 80% considered as good. Following are value of GoF and Q Square on the construct.

Table 1.4
Structural Model Test (Inner Model)

| Variable | R Square | GoF | Q-Square |
|-----------------------|----------|-------|----------|
| Supply Chain | - | 0,689 | 0,963 |
| Strategic Orientation | - | | |
| Competitive Strategy | 0,769 | | |
| Business Performance | 0,838 | | |

Source: Primary Data processed by Smart PLS 2.0 (2014)

The table above shows the R^2 value and GoF value on quite high criteria as well as the Qsquare values higher than 0,8 or close to 1, so it can be concluded that the model of this research is supported by empirical condition or fit model. R^2 value on the structural model states coefficient of determination explains how big the simultaneous influence of exogenous variables to endogenous variable. This research reveals big simultaneous influence of supply chain and strategic orientation to competitive strategy reach 76,9% and the impact of supply chain, orientation strategic and competitive strategy to business performance reach 83,8%. Whilst, GoF explains conformity index which is the summary of overall coefficient of determinations in the structural model and reliability index in measurement model. Value of GoF 0,689 states that research model can explain the variation occurs on the overall data reach 68,8%. Q^2 value states the model's ability to predict. The value must close to 1 (one) because the strength of the test in PLS-PM is located at the model's ability to predict. Value of Q^2 in the research reaches 0,963 can be stated as very large so it can be concluded that model has good ability to predict the Q^2 value is close to 1.

4. Conclusions and Recommendations

a. Conclusions

Based on the research and analysis of the problem, following conclusions are drawn:

1. The ability of coal mining industrial practitioners in Indonesia in running the supply chain management, strategic orientation and competitive strategy which are designed and implemented up until now even though they have been in good category
2. There are relationship between supply chain and strategic Orientation in which the relation is very strong (69,39%) shows that the change on supply chain is in line with change on strategic orientation.
3. The contribution of strategic orientation has the most dominant influence if it is compared to supply chain toward the competitive strategy and business performance of coal mining companies in Indonesia.
4. There are partial influence of following variables to coal mining companies:
 - a) Supply chain gives positive influence and significant to competitive strategy. The better supply chain the higher competitive strategy.
 - b) Strategic orientation gives positive influence and significant to competitive strategy. The better strategic orientation the higher competitive strategy.
 - c) Supply chain gives positive influence and significant to business performance. The better supply chain the higher business performance because good supply chain

practice support the improvement of companies' performance.

- d) Strategic orientation gives positive influence and significant to business performance.
- e) Competitive strategy gives positive and significant to the business strategy. The better competitive strategy the higher business performance.

b. Recommendations

1. Academic objective

This research is a research which runs on strategic management field and it mainly focuses on supply chain, strategic orientation, competitive strategy, and business performance in coal mining business in Indonesia. There are still a lot of imperfection on this research in which the units of analysis and various mores problems and

2. Practical objective

Followings are some strategic steps in order to improve business performance:

1. Development of strategic orientation::
 - a. Improvement in adapting toward market behavioral change.
 - b. Improvement in adapting market movement demand.
 - c. Improvement of innovation in production process.
2. Development of supply chain by:
 - a. The improvement of delivery product.
 - b. Improvement of stock handling.
 - c. Improvement of production process.
 - d. Improvement of location aspect.
3. Development of competitive strategy by:
 - a. *Concentrate on innovation and price competitiveness,*
 - b. *Efficient producer of goods, and*
 - c. *Quick and effective response to customers and government.*
4. The improvement of central government and regional government roles must be directed to following matters:
 - a. The implementation of Clean and Clear policy objectively to both of private enterprises and regional-owned companies.
 - b. Bringing up government policy about the socialization of alternative energy conversion that can create, and improve new big opportunity.
 - c. The improvement of sufficient infrastructure quality which accommodates the product delivery.
 - d. The improvement of government role in struggling for domestic coal production in global market.

References

- [1] Aaker David , V. Kumar; George S. Day. Marketing Research, 2013, 10th edition., Publisher : John Wiley and Sons Inc.
- [2] Abbas Mousavi Tatfi. Seyed (2012). The Relationship between Business Strategies and The Case Performance: of Iranian Exporting SMEs. J. Basic. Appl. Sci. Res., 2(1)271-275
- [3] Awwad. Abdulkareem ,(2008). The link between competitive priorities and competitive advantage. POMS 19th Annual Conference La Jolla, California, U.S.A May 9 to May 12,
- [4] Barney,J, Hesterly W 2010 Strategic Management and Competitive Advantage. Concepts and cases Third Edition.: Pearson.
- [5] Best, Roger J., 2009. Market-Based Management: Strategies For Growing Customer Value and Profitability. Third Edition. Prentice Hall: Upper Saddle River, New Jersey.
- [6] Chin W. 2000. Partial Least Squares for Researchers: An Overview and Presentation of Recent Advances Using the PLS Approach, <http://disc-nt.cba.uh.edu/chin/indx.html>
- [7] Cravens, David W and Nigel. F Piercy. 2009. Strategic Marketing. 9th Edition. New York: Mc Graw-Hill.
- [8] Creswell., Jhon W. (2002) Research Design: Qualitative, Quantitative, and Mixed Methods Approaches (2nd Edition)
- [9] Coulter, Mary. 2008. Strategic Management in Action, 4th edition. Pearson Education. NJ
- [10] Cooper, Donald R. Pamela S Shindler. 2008. Business Research Methods. Mc.Grawhill. Int.
- [11] Dawid, Herbert dan Marc Reimann, 2004, Evaluating Market Attractiveness: Individual Incentives Versus Industry Profitability, Computational Economics 24: 321–355.
- [12] Day, George D. 1999, Marketing Driven Strategy: Process for Creating Value, The Pree Press: New York.
- [13] Eye A.V and Schuster C. (1998). Regression Analysis for Social Science, Academic Press
- [14] Ghozali, Imam. 2008. Structural Equation Modeling: Metode Alternatif dengan Partial Least Square (PLS). Universitas Diponegoro.
- [15] F Harry Sampurno-Kuffal, 2011, Keruntuhan Industri Strategis di Indonesia, Penerbit Khasanah Bahari, Jakarta.
- [16] Haenlein, Michael.,Kaplan, M Andreas.(2004), A Beginner's Guide to Partial Least Squares Analysis. Journal Of Understanding Statistics, 3(4), 283–297
- [17] Hitt, Michael A., R. Duane Ireland, and Robert E. Hoskisson, 2011.The Management Strategy. Concept and Cases. South-Western Publishing Company.
- [18] Hill, LW, Charles, dan Jones, R. Gareth. 2004. Strategic Management an Integrated Approach: Houghton Mifflin.
- [19] Hubard, Graham,Paul Beamish.2011. Strategic Management; Thinking, Analysis, Action. 4th ed.Pearson.

- [20] Hulsmanna, Michael, Jorn Grappa, Ying Lia. 2008. Strategic Adaptivity In Global Supply Chains-Competitive Advantage By Autonomous Cooperation. *Int. J. Production Economics* Vol.114, p. 14–26.
- [21] Kotler, Philip & Keller, 2012, *Marketing Management: Analysis, Planning, Implementation, and Control*, Englewood Cliffs : Prentice Hall International, Inc. A Division of Simon & Scuster.
- [22] _____, & Keller. 2009. *Marketing Management*, 13rd edition. New Jersey: Prentice Hall.
- [23] Kazmi, Azhar. 2008. *Strategic management and Business Policy* 3th edition. New Delhi:Tata Mcgraw-Hill.
- [24] Lee. Choong Y (2002). An Empirical Study of Business Strategy and Performance.The Second Conference on Electronic Business, Taipei, Taiwan 10-13
- [25] Malhotra, K. Naresh . 2010. *Marketing Research an Applied Orientation*. Prentice Hall.
- [26] Montgomery, Collis . 2005. *Corporate Strategy : A Resource Based Approach : Mc. Graw Hill Int.*
- [27] Pearce, John A. II, Richard B. Robinson, Jr. 2011. *Strategic Management: Formulation, Implementation, and Control*. Boston: McGraw Hill Irwin.
- [28] Peter, Doyle,. 2008. *Value Based Marketing Strategies for Corporate Growth and Shareholder Value*, 2nd Edition. John Wiley.
- [29] Priem L. Richard L. 2007. A Customer Perspective on Value Creation. *Journal of Management Review*: Vol.32,No.1,210-325.
- [30] Porter, Michael E. 1996. What is Strategy?. *Harvard Business Review*. November-December. Pp 39-73.
- [31] Porter, Michael E., 1990. *Competitive Advantage of Nation*. New York: The Free Press
- [32] Porter, Michael E.1987, *From Competitive Advantage to Corporate Strategy*. *Harvard Business Review*.
- [33] Porter, Michael E.2008, *Competitive Strategy*, collier macmillan publisher.
- [34] Prahalad C.K and Venkat Ramaswamy, 2004. *The Future of Competition, Co Creating Unique Value with Customer*. Boston Massachusetts: Harvard Business School Press,
- [35] Rosipa, Roman. Kr"amer, Nicole (2001).Overview and Recent Advances in Partial Least Squares. Austrian Research Institute for Artificial Intelligence. Freyung 6/6, A-1010 Vienna, Austria
- [36] Sekaran, Uma. 2010. *Research Methods For Business. A Skill-Building Approach*. Third Edition. USA: John Wiley and Sons Inc.
- [37] TB. Hasanuddin, 2012, *Rumusan Undang-Undang Industri Strategis*, Komisi I DPR RI, Jakarta.
- [38] Vural Öktem, Serdar,(2003). *Market Orientation, Hotel Industry, Turkey, Profitability, Business Performance*. Maltepe University Sahilyolu Orhantepe Mah. Yakamoz sok. 81540 Dragos Istanbul / TÜRKİYE
- [39] Walker, O.C., H. W. Boyd and J. C. Lawrenche, 2003. *Marketing Strategy: A Decision – Focus Approach*. 4th Boston: Irwin/McGraw Hill.
- [40] Walker & Mullens, 2011, *Marketing Strategy*, Seventh Edition, Mc Graw Hill International.
- [41] Walpole, Ronald E., Myers, Raymond H (1993).*Probability and statistics for engineers and scientists*. Macmillan (New York and Toronto and New York) 5th edition
- [42] Wheelen, Thomas L., & Hunger, J. David. 2012. *Strategic management and business policy: Concepts*.13th ed. Pearson/Prentice Hall.
- [43] W Peng. Mike, Denis YL Wang, and Yi Jiang (2008). An institution-based view of international business strategy: a focus on emerging economies. *Journal of International Business Studies* (2008) 39, 920–936.
- [44] Zheng Zhou. Kevin ,James R. Brown , Chekitan S. Dev (2009). Market orientation, competitive advantage, and A demand-based perspective performance. *Journal of Business Research* 62 (2009) 1063–1070.