

The Impact Quality Management and Knowledge Management on Firm's Performance with Competitive Advantage as a Mediating Variable

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Abstract: The main objective of this study is to analyze the Indonesian food and beverage industry, in aspects of quality management, knowledge management, competitive advantage and firm's performance. Research was conducted at food and beverage industry in Indonesia which are registered in Indonesia Food Directory 2012 – 2013 year book. The data obtained and analyzed by using SEM (Structural Equation Modelling), SPSS 22.0 and Lisrel 8.80 version. This study shows that in food and beverage industry in Indonesia, quality management and knowledge management affect competitive advantage, and competitive advantage affects firm's performance. The result also shows that quality management, knowledge management and competitive advantage all together affect firm's performance. This study has 2 (two) novelties, those are: 1. the quality management and knowledge management all together affect on firm's performance. 2. the mediating effect of competitive advantage between quality management, knowledge management and firm's performance.

Keywords: Food and beverage industry, quality management, knowledge management, competitive advantage and firm's performance.

INTRODUCTION

This study was conducted from the fact that Food and Beverage Industry in Indonesia had a significant contribution on Product Domestic Brutto of Indonesia. In the year of 2000 the contribution is 8.1% of Product Domestic Brutto, but in the year of 2016 it is only 6.9%. Food and Beverage Industry is contributing significantly but its contribution is decreasing during past fifteen years.

Government stimulus had been launched in the form of BMDTP or free import duty policy for this sector of industry in the year of 2008, but the result was not satisfactorily. There were several obstacles in Food and Beverage industry in Indonesia, for instances are restricted supply and variety of raw materials, production process is not adequate, labels that mentioning date of production, date of expiration, compositions are neglected and the rush of imported food and beverage which is superior in price and quality (The Indonesian Institute, 2917, HumasKemenkopdan UKM, 2016).

The suggestions of Minister of Cooperations and UKM of Indonesia, in order that Indonesian Food and Beverage Industry to strengthen and enhance their quality and variety of the products (HumasKemenkopdan UKM, 2016).

If the Food and Beverage industry in Indonesia want to success in the market, they have to have so called Competitive Advantage. A firm has a competitive advantage when it is able to create more economic value than the marginal (breakeven) firm in its industry. Economic value is the difference between the perceived benefits gained by the purchasers of the good and the economic cost to the enterprise (Barney, 2006).

For the anticipation of market turbulence, the competitive advantage has to be equipped with so called Dynamic Capability. Dynamic capability is the firm's ability to integrate, build, and reconfigure internal and external competences to address rapidly changing environments (Teece, 1997).

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In searching the source of competitive advantage with dynamic capability approach, the role of quality management and knowledge management are crucial. Quality management and knowledge management are distinctive organizational capabilities, precursor in creating sustainable competitive advantage (Elshaer, 2016; Khan, 2014).

The objectives of this research are: To analyse the effects of quality management and knowledge management on firm's performance via mediating variable competitive advantage in Indonesian Food and Beverage Industry.

LITERATURE REVIEW

RBV Theory

The resourced-based approach sees firms with superior systems and structures being profitable not because they engage in strategic investments that may deter entry and raise prices above long-run costs, but because they have markedly lower costs or offer markedly higher quality or product performance.

From resourced-based perspective, firms are heterogenous with respect to their resources/ capabilities/ endowments. A firm is more than an administrative unit, it is also a collection of productive resources the disposal of which between different uses over time is determined by administrative decision (Penrose, 1959; Hoskisson, 1999).

Quality Management Theory

Quality management is defined as a systematic way of guaranteeing that organized activities happen the way they are planned (Kafetzopoulos, 2015).

The paradigms of quality management develops from the early stage to the total quality management of today. Following are the stages :Quality inspection – quality control – quality assurance – quality management – total quality management (Weckenmann, 2013).

Knowledge Management Theory

According to Rosenberg (2006) the knowledge management is defined as : The Knowledge management is the creation, archiving, and sharing of valued information, expertise, and insight within and across communities of people and organizations with similar interests and needs, the goal of which is to build competitive advantage (Chatti, 2012).

Nonaka and Takeuchi (2005) adopt a dynamic model of Knowledge management, view knowledge as a flow rather than object and focus on knowledge creation, collaboration and practice as opposed to knowledge management. This knowledge creation model has been referred to as SECI model, which encompasses four different model of knowledge creation, namely : Socialization – Externalization – Combination – Internalization (Chatti, 2012).

Competitive Advantage Theory

Competitive advantage can be defined as : An enterprise has a competitive advantage if it is able to create more economic value than the marginal (breakeven) competitor in its product market. The economic value is the difference between the perceived benefits gained by the purchasers of the good and the economic cost to the enterprise (Barney, 2009).

Firm's Performance

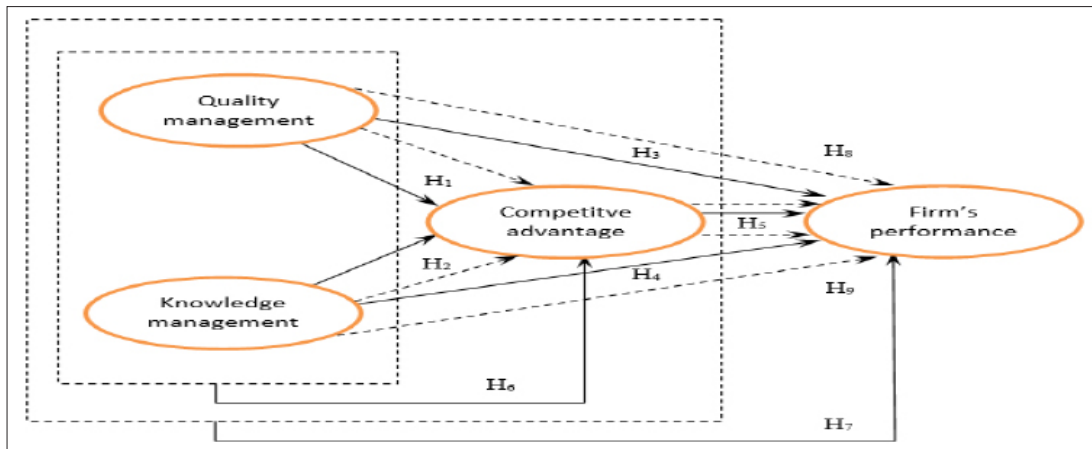
Firm performance is defined as :The fulfillment or accomplishment of a promise, contract, or other obligation according to its terms (Business Dictionary by Farlex).

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Three types of performance measures are used regularly in the strategy literature :

1. objective financial performance (ROA & ROI).
2. subjective financial performance (sales & profitability),
3. subjective nonfinancial performance (marketing & market share) (Newbert, 2008).

Framework



Hypothesis

- H1.** Quality management positively affect on competitive advantage.
- H2.** Knowledge management positively affect on competitive advantage.
- H3.** Quality management positively affect firm's performance.
- H4.** Knowledge management positively affect on firm's performance.
- H5.** Competitive advantage positively affect on firm's performance.
- H6.** Quality management and knowledge management all together positively affect on competitive advantage.
- H7.** Quality management, knowledge management and competitive advantage all together affect on firm's performance.
- H8.** Quality management positively affect on firm's performance via competitive advantage mediation.
- H9.** Knowledge management positively affect on firm's performance via competitive advantage mediation.

RESEARCH METHODOLOGY

Research Design

This research is a survey to examine the hypothesis of the effects of quality management and knowledge management on competitive advantage and firm's performance, and the effect of competitive advantage on firm's performance and the relation between all variables are causal.

The research is carried out in Indonesian Food and Beverage Industry which are registered in GAPMMI year book 2013. The analysis unit here is one food and beverage company, represented by the CEO or manager of the company. Time dimension of this research is cross sectional. The data obtained are processed and analyzed with tools of Structural Equation Modelling (SEM).

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Variable Measures

Quality Management

Quality management consists of three dimensions : Leadership and top management support, Process management, Supplier management. Each dimension contains three indicators statements adopted from Elshaer (2016) and Kafetzopoulos (2015), and adjusted to the situation of Food and Beverage Industry in Indonesia. Measures use Five Likert Scale.

Knowledge Management

Knowledge management consists of three dimensions : Knowledge creation, Knowledge transfer and storage, Knowledge application and use. Each dimensions contains three indicator statements adopted from Fernandez (2015) and Ranjbarfard (2014), and adjusted to the situation of Food and Beverage Industry in Indonesia.

Competitive Advantage

Competitive advantage consists of three dimensions :Reduction of costs, Neutralization of competitive threats, Exploitation of market opportunities. Each dimensions contains three indicator statements adopted from Sigalas (2013) danNewbert (2008), and adjusted to the situation of Food and Beverage Industry in Indonesia.

Firm's Performance

Subjective non-financial firm's performance consists of three dimension : Product quality performance, Financial performance, Customer satisfaction performance. Each dimension contains three indicator statements adopted from Psomas (2014) and Newbert (2008), and adjusted to the situation of Food and Beverage Industry in Indonesia.

Sample and Data Collection

Population of food and beverage industry firms in Indonesia is estimated around 6000 of various size of the firms. But only 1500 are registered in GAPMMI year book 2013. From 500 of questionnaire distributed, only 386 are responded. And 26 questionnaire are deleted due to uncomplete filling, only 360 questionnaire are used.

Validity and Reliability Results

No.	Variable and dimensions.	Standardized loading factor $\lambda > 0.70$	Cronbach Alpha > 0.60
01.	Quality management		0.949
	Top management support	0.87	
	Process management	0.99	
	Supplier management	0.93	
02.	Knowledge management		0.965
	Knowledge creation	0.98	
	Knowledge transfer and storage	0.96	
	Knowledge application and use	0.97	
03.	Competitive advantage		0.983
	Reduction of costs	0.98	
	Neutralization of competitive threats	0.95	
	Exploitation of market opportunities.	0.99	
04.	Firm's performance		0.964
	Product quality performance	0.98	
	Financial performance	0.99	
	Customer satisfaction performance	0.94	

Source : Output of validity and reliability test with SPSS22 and Lisrel8.80.

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TEST RESULTS

Parameter Estimations

Hn	Hypothesized path	Standardized path coefficient $0.0 \leq \beta \leq 1.0$ (partial correlation)	t-Value >1.96 (significance)	Decisions.
H1	Quality mgt. → competitive advantage	0.37	2.59	Supported
H2	Knowledge mgt. → competitive advantage	0.48	3.40	Supported
H3	Quality mgt. → firm's performance	0.35	3.33	Supported
H4	Knowledge mgt. → firm's performance	0.24	2.55	Supported
H5	Comp.advantage → firm's performance	0.41	5.86	Supported
H6	(Quality mgt. + knowledge mgt.) → comp.advantage	R square (Coeff. determination) 0.68	Fcalculated 192.651 Ftable 3.02	Supported
H7	(Quality mgt. + knowledge mgt. + comp. advantage) → firm's performance.	R square (Coeff. determination) 0.89	Fcalculated 474.165 Ftable 2.63	Supported
H8	Quality mgt. → firm's performance. (via competitive advantage)	0.15 (0.37 x 0.41)	2.51	Supported
H9	Knowledge mgt. → firm's performance. (via competitive advantage)	0.20 (0.48 x 0.41)	2.95	Supported

Source: OutputLisrel 8.80

CONCLUSIONS, MANAGERIAL AND THEORITICAL IMPLICATIONS, AND SUGGESTIONS FOR FUTURE RESEARCHERS

Conclusion

1. Quality management influence on competitive advantage. The influence of quality management towards competitive advantage is positive and significant.
2. Knowledge management influence on competitive advantage. The influence of knowledge management towards competitive advantage is positive and significant.
3. Quality management firm's effect on performance. The influence of quality management against firm's performance is positive and significant.
4. Knowledge management influence on firm's performance. The influence of knowledge management against firm's performance is positive and significant.
5. Competitive advantage influence on firm's performance. The influence of competitive advantage against firm's performance is positive and significant.
6. Quality management and knowledge management are jointly influence competitive advantage. The influence of quality management and knowledge management are jointly against the competitive advantage is positive and significant.

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The Managerial Implications

Quality Management

The manager of the company, the need to maintain things that are already good and the improves things still lacking in an effort to increase the effectiveness of quality management. As for things that need to be maintained to enhance quality management among others are: the support of the leadership and top management to carry out quality management, product quality is always referenced with the standard product quality, product quality always discussed in meeting management.

While the things that should be improved are: quality control techniques should be able to suppress the variation of production results, fostering good relations with major suppliers, requiring suppliers in new product development process.

Knowledge Management

The manager of the company, the need to maintain things that are already good and the improves things still lacking in an effort to increase the effectiveness of knowledge management. As for things that need to be maintained to enhance knowledge management among others are: the company has a database system to store the knowledge from various sources, the company regularly collects information from various sources , the company has a specific procedure to allot of knowledge for employees.

While things have to be improved are: the employee is allowed to give advice in order to formulate a new strategy of the company, a key employee turnover does not impact the loss of vital corporate capability, in solving problems companies can adopt recommendations related employees.

Competitive Advantage

The manager of the company, the need to maintain things that are already good and the improves things still lacking in an effort to increase competitive advantage. As for things that should be preserved in order to maintain a competitive advantage is like: the company must remain capable of lowering total costs faster than competitors, companies must remain able to neutralize the threat of competition, company must remain being able to master the market opportunity exceeding competitors.

While things have to be improved are : the company's ability to master all market opportunities, the company's ability to lower operational costs faster than competitors, the company's ability to master fully the opportunities the market.

Firm's Performance

The manager of the company, the need to maintain things that are already good and the improves things still lacking in an attempt to improve firm's performance. As for things that should be preserved to maintain the firm's performance is like: the company should still managed to achieve customer loyalty that is marked with a repeat order, retain, recommend. the company must remain capable of producing the product content label food & beverage according to specifications, the company must remain able to produce appropriate quality standard food & beverage.

While things have to be improved are : the company's ability to continually improve customer satisfaction through product packaging food & beverage appearance, the company's ability to continually improve customer satisfaction through the acceleration returns the product expires, the company's ability to keep producing a delicious flavored food & beverage.

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The Theoretical Implications

1. The synergy model quality management and knowledge management can all together affect competitive advantage. This is apparent in support of Hypothesis 6. This means that basis synergize with quality management and knowledge management can impact on competitive advantage.
2. In this model of quality management can affect performance through the mediation of competitive advantage, it is visible in support of Hypothesis 8. It means an increase in the influence of total quality management against firm's performance is caused by the presence of variable mediation competitive advantage.
3. In this model of knowledge management can impact performance through the mediation of competitive advantage, it is visible in the support for the Hypothesis 9 that meant an increase in the influence of total effect knowledge management against firm's performance is caused by the presence of variable mediation competitive advantage.

The Limitations and Suggestions for Researchers to Come

Limitations

1. The respondents are not shared in the Size of the company, meaning that food and beverage companies large and small are put together in this research.
2. The respondent is only drawn from the book Food Directory GAPMMI 2013, whereas the fact other than members GAPMMI there is still a lot more food and beverage manufacturers large and small that have not been recorded.
3. Free Variables used are limited in quality management and knowledge management.

Advice for researchers to come are

1. Use a list of Indonesian food and beverage companies of a more complete and fall into the category of Size of the company.
2. Search for other free variables that could affect the competitive advantage and firm's performance, e.g. the implementation of the principle of Kaizen and Lean manufacturing (Patyal, 2016).

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