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The influence of knowledge management toward innovation and its impact to food and beverage business performance

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Abstract. The aim of the research was to know the influence of knowledge management toward innovation and its impact on business performance, conducted at food and beverage businesses in west Jakarta. This was an explanatory research which applied a quantitative research methods with data analysis tools using structural equation modeling (SEM) using WarpPLS 6.0. The result of the research indicates that knowledge management has a positive and significant effect on business performance. Innovation contributes positively and significantly toward business performance. Knowledge management has a positive and significant impact on innovation.

Keywords: knowledge management, innovation, business performance, food and beverage business

1. Introduction

The world is witnessing dynamic changes in the development of international economics. Economic growth is a decisive indicator of the success of the government in managing and developing a country. Indonesia is one of the largest economic movements in Southeast Asia. Indonesia has high economic potential, a potential that is starting to become international attention and has several characteristics that place Indonesia in a good position to experience rapid economic development.

The largest contribution to the Indonesian economy is the Small Medium Enterprise (SMEs) sector, according to [1] based on the results delivered by the United Nations Industrial Development Organization (UNIDO) in the "Workshop on Industrial Performance of Indonesia Based on Statistics Presented in the International Yearbook of Industrial Statistics 2016" Indonesia becomes the top 10 manufacturing companies in the world with 25 million employees. The one sector of the manufacturing industry in MSMEs with the largest contribution is the food and beverage sector. Indonesia's Manufacturing Output in SMEs. Food and beverage grew rapidly from 2014 to 2017, amounting to 22 billion USD. It can be concluded from the manufacturing output food and beverage sector in small and medium enterprises SMEs increase business growth in Indonesia and also led to increasing the food and beverage sector on small and medium SMEs businesses in Indonesia. The size of opportunities for SMEs businesses for food and beverages makes SMEs businesses food and beverages competing fiercely. To be able to survive in the fierce competition in small and medium enterprises (SMEs), it is necessary to have good business performance. The research will be very useful because it concerns with the knowledge management (KM) food and beverage industry which needs innovation for the development



and variety of products. In general, companies that have a competitive advantage in this industry are companies that are unique in their products both in products, processes, and services to customers.

Business performance management is a critical segment of the company that is a combination of human resources and KM to achieve competitiveness [2]. The one factor that influences business performance is KM. It deals with how organizations recognize and enhance collective knowledge to help organizations be able to compete [3] [4]. Besides KM, another factor that influences business performance is innovation.

According to [5] a new product, process or service results from changing an innovation and putting it into actual commercial use. Innovations are often portrayed as a source of organizational life and are decisive in a company. The true value of innovation is announced in the outcome (outcome) as the product being offered. Support companies to promote current markets or develop new markets, which support industrial development. Thus, success in commercializing an innovation is an important achievement for a company's strategy. In the food and beverage industry product innovation, for example, how to find healthy food ingredients and natural drinks Process innovations such as how to design production designs that use environmentally friendly technology Innovative performance is the combination of overall organizational achievements as a result of renewal and improvement efforts done considering various aspects of firm innovativeness, for instance, processes, products, marketing, organizational structure, etc.

Previous studies show that there is a relationship between KM and innovation which has an impact on business performance. KM is an important concept as awareness of the importance of knowledge for the prosperity and survival of the company increases [6]. Innovation (IN) provides a firm with a strategic orientation to achieve a sustainable competitive advantage [6]. KM influences significantly toward Business Performance (BP), IN, and IN influences significantly toward BP [6]. Wang and Lin in [6] assert that KM orientation plays a positive role in promoting organizational performance in China and they find that IN provides companies with a strategic orientation to achieve sustainable competitive advantage. [6] supports the research by revealing that there is a significant relationship between IN and BP. In [6] it is shown that product and process innovation causes superior performance measured by sales, market share, and profitability. Besides that, the influence of KM on business performance of this research is supported by [7] which states, "There is a positive relationship between knowledge management and SMEs performance." The application of knowledge can maintain a firm's competitive advantage by determining and exploit market opportunities. Employee's knowledge plays important role as one of the dynamic elements in the entrepreneurial process through the vibrant network, effective KM, and proper intellectual asset. This research is also supported by [8], "There is a positive relationship between knowledge management and organizational performance," because KM can improve corporate performance and competitiveness.

The contribution of IN to the performance of a business is supported by [9] which reveals that the owner-manager's ability to recognize and overcome obstacles and maximize innovation resources will have an impact on products that can be accepted by customers, which will ultimately be able to compete with company performance more high. The measurement instrument for KM refers to the indicators used by [10] developed from the research of [11]. The indicator innovation variables referring to the research of [12] developed from previous research from [13]. Indicators for business performance also adopted from [10] developed from the research of [14].

Research on KM and IN in food and beverage industry, especially small and medium industries is still very rare. The research will measure the rate of KM toward IN and its impact on BP on food and beverage SMEs in West Jakarta. Also, to find out whether KM has a positive and significant effect on BP, whether IN has a positive and significant effect on BP, and whether KM has a positive and

significant effect on IN. Therefore, the aim of the research is to know the influence of KM toward IN and its impact on BP.

Based on the relationship between the variables discussed earlier, it can be stated several research hypotheses as follows:

H_1 : Knowledge management contributes positively and significantly toward Business performance

H_2 : Innovation contributes positively and significantly toward Business Performance

H_3 : Knowledge management contributes positively and significantly toward innovation

2. Method

The research applies a quantitative method with the formulation of explanatory studies. Quantitative research is generally associated with positivism, mostly when used with predetermined and highly-structured data collection techniques. The purpose of the research design is to emphasis on explanatory research. Explanatory research is the study of a situation or a problem to explain the relationships between variables [15]. The unit analysis is the owner or manager of food and beverage SMEs by distributing questionnaires to them. The horizon used in the research is cross-sectional. According to [16] cross-sectional means a study can be undertaken in which data are gathered just once, perhaps for days or weeks or months, to answer a research question.

Data sources used are primary data and secondary data. Primary data collection methods involve data collection from sources for the specific purpose of the study. In the research, the primary data are collected by offline questionnaire which consists of closed questions, by limiting the choice of answers so that the respondent chooses answers according to the alternatives that have been provided, thus allowing them to answer the question briefly. The offline questionnaire is carried out by distributing questionnaires to food and beverage businesses by visiting their businesses one by one. This is done to get accurate results. Secondary data are online journals and articles, such as Emerald, Scopus, Elsevier, and other publications as well as reference books, websites, and libraries.

The sampling technique in the research uses non-probability sampling that is judgment sampling. Judgment sampling is a purposive, non-probability sampling design in which the sample subject is chosen based on the individual's ability to provide the type of particular information needed by the researcher [16]. Respondent's criteria are business owners or trusted people to run food and beverage businesses. The number of samples is 30 respondents of food and beverage SMEs in West Jakarta. Data analysis method applies Partial Least Square (PLS) using Warp PLS 6.0 software. The pathway model of PLS consists of two elements [17]: (1) Measurement model (outer models on PLS-SEM) which displays the relationship between construction and indicator variables, Evaluation of the measurement model or outer model is done to assess the validity and reliability of the model. (2) Structural models (inner models in PLS-SEM) show the relationship (path) between constructs by model fit and quality indices and hypothesis testing.

The research is expected to become a consideration for food and beverage SMEs in improving the BP on SMEs food and beverages. They also need to improve KM and IN to be able to compete with other competitors.

3. Results and discussions

The majority of respondents in terms of the duration of doing business are <2 years reaching 33% of SMEs, and by respondents in terms of operating years are 2-5 years reaching 30% of SMEs, and 37% are followed by others from operations six years to less than ten years in terms of years of operation. This is because most SMEs in West Jakarta have a majority of newly established businesses. Table 1 presents results from the rule model fit test and quality indices. Average Path Coefficient (APC) has a value of $p < 0,05$ ($0,001 < 0,05$) so fit, Average R- Squared (ARS) has a $p\text{-value} < 0,05$ ($0,003 < 0,05$) then fit, Average adjusted R-squared (AARS) has a value of $p < 0,05$ ($0,004 < 0,05$) then fit, Average

Block VIF (AFIF) $1.221 \leq 3,3$ then ideal, TenenhausGoF (GoF) has a value of 0,518 then large and fit [18].

Table 1. Rule Model Fit and Quality Indices

	Value	Criteria	Result
APC	0.443 ($p < 0,001$)	$p < 0,05$	Fit
ARS	0.409 ($p < 0,003$)	$p < 0,05$	Fit
AARS	0,381 ($p < 0,004$)	$p < 0,05$	Fit
AFIF	2.044	Acceptable if ≤ 5 and Ideally $\leq 3,3$	Fit
GoF	0.518	Small > 0.1 , medium $> 0,25$, large $> 0,36$	Fit

The validity test results and the reliability for each variable and indicator are shown in Table 2. Convergent validity criteria, loading factor > 0.70 , and significance (P-Values < 0.05), and invalid will be removed from the model [18]. And all indicators in this research is valid. KM has a value of AVE $0.675 > 0.05$, then it is valid, IN has a value of AVE $0.625 > 0.5$, then it is valid, Business Performance has a value of AVE $0.668 > 0.5$ then it is valid. KM has a Cronbach alpha value of $0.956 > 0.6$ and a reliable composite value of $0.961 > 0.6$, then reliable, IN has a Cronbach alpha value of $0.796 > 0.6$ and a reliable composite value of $0.869 > 0.6$, then reliable, BP has a Cronbach alpha value of $0.874 > 0.6$ and reliable composite $0.909 > 0.6$ are reliable [18].

Table 2. Loading factor, P-value. AVEs, CR and CA

Variables	Indicators	Loading Factor	P Values	AVEs	CR	CA
Knowledge Management	KM 1	0,810	0,001	0,675	0,961	0,956
	KM 2	0,752	0,001			
	KM 3	0,794	0,001			
	KM 4	0,866	0,001			
	KM 5	0,827	0,001			
	KM 6	0,875	0,001			
	KM 7	0,821	0,001			
	KM 8	0,881	0,001			
	KM 9	0,774	0,001			
	KM 10	0,846	0,001			
	KM 11	0,800	0,001			
	KM 12	0,800	0,006			
Innovations	IN 1	0,716	0,001	0,625	0,869	0,796
	IN 2	0,845	0,001			
	IN 3	0,719	0,002			
	IN 4	0,869	0,001			
Business Performance	BP 1	0,749	0,001	0,668	0,909	0,874
	BP 2	0,758	0,001			
	BP 3	0,861	0,001			
	BP 4	0,856	0,001			
	BP 5	0,855	0,001			

The result from the statistic descriptive show that the rate of KM is at a very high level, IN is at a high level, and BP is at a high rate. And, the hypothesis testing from WarpPLS 6.0 is presented in Figure 1.

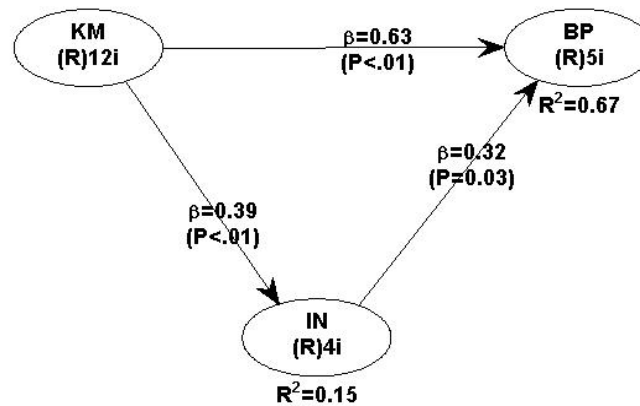


Figure 1. Hypothesis Test

Figure 1 shows that KM has a coefficient value of 0.626 with a p -value of $0.01 < 0.05$, then KM contributes positively and significantly toward BP, IN has a Coefficient value of 0.315 with a p -value of $0.03 < 0.05$, so IN contributes positively and significantly toward business performance, KM has a coefficient value of 0.387 with a p -value of $0.01 < 0.05$, then KM contributes positively and significantly toward IN.

KM has p -value $0.01 < 0.05$ and a coefficient of 0.626, then H_1 is accepted. It means that KM contributes positively and significantly toward business performance. Pragmatically, higher KM will increase business performance. Therefore, SMEs are suggested to increase their business performance and improve KM. IN has value p -value $0.03 < 0.05$ and coefficient of 0.315, then H_2 is accepted, which means that IN is positive and significant toward business performance. Pragmatically, the higher IN will increase business performance; therefore, SMEs are suggested to increase their business performance and improve IN. KM has value p -value $0.01 < 0.05$ and coefficient of 0.387, then H_3 is accepted, which means that KM contributes positively and significantly toward innovation. Pragmatically, the higher KM will increase IN; therefore, SMEs are suggested to increase their IN and improve KM.

Table 3. Standardized Path Estimates

Hypothesis	Path	Coefficient	p -value	Effect Size	Result
H_1	KM - BP	0, 626	0,001	0, 480	Accepted
H_2	IN - BP	0, 315	0,026	0, 188	Accepted
H_3	KM - IN	0, 387	0,008	0, 150	Accepted

Based on Table 3, KM has a Coefficient value of 0.626 with a p -value of $0.01 < 0.05$, then KM has a positive and significant effect on BP. IN has a Coefficient value of 0.315 with a p -value of $0.03 < 0.05$, so IN has a positive and significant effect on BP. KM has a Coefficient value of 0.387 with a p -value of $0.01 < 0.05$, then KM has a positive and significant effect on IN. KM has an effect size of 0.480 (large), IN has an effect size of 0.188 (medium); BP has an effect size of 0, 150 (medium).

The results of testing the first hypothesis indicate that KM significantly influences BP. This implies that better KM will further improve the BP of food and beverage small and medium business in West Jakarta and vice versa. Pragmatically, the higher KM will increase BP ; therefore SMEs are suggested to increase their BP and improve KM, especially for aspects: 1) knowledge application (changing competitive condition); 2) knowledge conversion (replacing outdated knowledge and absorbing

knowledge from business partners into the organization). The results of the second hypothesis test indicate that the higher the IN will improve BP; therefore, SMEs are advised to improve their BP increase IN, especially for aspects of 1) inventive; 2) new ideas; 3) new marketing. The third hypothesis testing indicates that the higher the IN will further enhance the performance of the food and beverage business in West Jakarta. This implies that the higher KM will increase IN, therefore SMEs are suggested to increase their innovation and improve KM, especially for aspect for the past few years, they have achieved a return on investment for the past few years, enhanced sale for the past few years, have achieved profit objectives.

With regard to the results of the first hypothesis testing, the research supports previous [6][7][8] research which reveals that there is a significant relationship between KM and BP. The results of testing the hypothesis in the research support previous research [9][19] which states that there is a significant relationship between IN and BP. Besides the results of testing the third hypothesis supports the results of previous research [20][21] which shows that there is a significant relationship between KM and IN.

Table 4. R^2 and Q^2 Values

Variables	R^2	Q^2
Innovation	0, 15	0, 155
Business Performance	0, 67	0, 664

Based on Table 4. KM has an effect of 15% on IN, and the remaining 85% is determined by factors not explained in the research. KM and IN have a 67% influence on BP, and the remaining 33% is determined by factors not explained in the research. R^2 value of 0.15, is included in a weak category. R^2 value of 0.67 is included in the substantial category. The coefficient of Q^2 IN 0,155, meaning that ability of the model to predict the phenomenon being studied 15%, this result shows an accurate predictive validity for valued above zero. The value of Q^2 business performance is 0,664, meaning that the accuracy of model to predict the phenomenon being studied 67% indicates an accurate predictive validity for value above zero.

4. Conclusion

Based on the results and discussions, it can be concluded that the rate of KM is at a very high, IN is at a high, and BP is at a high rate. KM has a positive and significant effect on BP, IN has a positive and significant influence on BP, and KM has a positive and significant effect on IN.

Considering the results of the research which indicate that higher KM will increase BP, therefore SMEs are suggested to increase their business performance and improve KM, especially for aspects: 1) knowledge application “changing competitive condition” 2) knowledge conversion “replacing outdated knowledge” 3) knowledge conversion “absorbing knowledge from business partners into the

organization". The limitations of the research are in terms of the relatively small number of samples and the limited scope of the region (West Jakarta).

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