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Integration of supply chain management to business performance and business competitiveness of food micro industry

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C H R O N I C L E

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A B S T R A C T

The food sector is a sector with great potential to be developed, especially in the Bekasi Regency area in Indonesia. Tight business competition and limited resources have forced entrepreneurs to reconsider production processes, one of which is by implementing Supply Chain Management (SCM). With MSC analysis, it is expected that business processes can be more responsive, so that they can respond quickly, effectively, and efficiently to all forms of changes in the market and further increase business competitiveness. The study involved 87 SME entrepreneurs in the food sector who were randomly obtained from several developing SME communities in Bekasi Regency, West Java and 5 experts related to the food industry. Research variables include; Supply Chain Management (SCM), Business Performance and Business Competitiveness. The results showed that in creating a business competitiveness, entrepreneurs need to improve the SCM system. SCM can affect Business Competitiveness directly, as well as through the Business Performance variable.

1. Introduction

The high potential of the food business is increasing along with the increasing demand from the public. Today's food has a very complex function; not only because of its function as meeting basic needs but also because further food can be used as a tool in introducing the culture that is owned to the wider community (Untari et al., 2018). The diversity of human needs for food is currently growing, not only to meet biological needs, but also food also shows the position of a person's economic status. Furthermore, food is a reflection of culture and the relationship that occurs between humans and their environmental ecology (Marten, 2003). Based on market size data in several industrial sectors in Indonesia. In 2008 the growth of the food industry in Indonesia reached 19.4%, this indicates that the food industry sector market is increasing every year (Nursal et al., 2019). The huge potential for developing the food business today has not been accompanied by massive policies; which determines the direction of the development of the food industry market (Parys, 2013). The food industry market is currently dominated by large investors with high resources, as a result the food industry market generally leaves micro-scale food sector marketers and entrepreneurs; which have small capital and have very simple governance (O'Callaghan et al., 2018). Small and Mid-size Enterprise (SME) in Bekasi Regency is one of the answers to the increasingly tight competition in the labor market, especially in Bekasi. In general, the increase in SME development in terms of quantity has not been matched by an even increase in the quality of SMEs (Agus Dharmanto et al., 2019). The classical problem faced is low productivity. This situation is caused by internal problems faced by micro businesses, namely: the low quality of SME Human Resources in management, organization, mastery of technology, and marketing, weak entrepreneurship of business actors (Hurley & Hunt, 1998; Jaworski & Ajay, 1993), and limited SME's access to capital, information, technology and markets, as well as other production factors (Cerey, 2015). Meanwhile, the external problems faced by SMEs include the large transaction costs due to an unsupportive business climate and scarcity of raw materials (De Bruycker et al., 2017). It also concerns obtaining

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formal legality, which is still a fundamental problem for SMEs in Indonesia, following the high costs involved in obtaining permits. Meanwhile, a lack of understanding of the correct business legal entity (best practices) has resulted in the low quality of SMEs in Bekasi District. The imbalance that occurs between the high potential and the lack of capacity in business governance can hinder the competitiveness of SME businesses in the Food sector in Bekasi District. Good business strategy, innovation, and activity planning will encourage the company to be competitive. Supply Chain Management is the management of activities, resources, and relationships between suppliers and consumers from upstream to downstream. If this theory is implemented properly, it will be able to further increase business competitiveness (Untari and Satria, 2019). Based on this background, it is very important to further examine the factors that determine the success of Supply Chain Management in terms of increasing the competitiveness of SME businesses in the food sector in Bekasi Regency, West Java.

2. Research methods

The study involved 87 SME entrepreneurs in the food sector who were randomly obtained from several developing SME communities in Bekasi Regency, West Java. The indicators of each research variable are listed in Table 1,

Table 1
Research Operational Variables

Variables	Dimension	Indicators	
SCM (Maddeppungeng et al., 2015)	Flow of raw material	1. Material Delivery 2. Scheduling Material Purchases 3. Sufficiency of material 4. No Lead Times 5. Material handling	6. Warehousing procedures; material handling and packaging 7. Recording of incoming and outgoing materials 8. Warehouse 9. Warehouse configuration; lay out, and determination of warehouse space Material distribution system
	Cash Flow	1. Capital to start 2. project implementation 3. Payroll 4. Market price fluctuation 5. Term of payment	6. Flow of project funds 7. Capital in business management 8. Government policy; in finance / banking sectors 9. Business capital capacity Pricing and payment agreement
	Flow of Information	1. Coordination flow 2. Product desain 3. Coordination of the owner in project implementation 4. Problems in the flow of information 5. Communications for procurement and changes in material prices	6. Communication constraints during implementation project 7. Supplyer performance 8. Process flow and information about inventory 9. Internal supply chain in material procurement processing
The company performance According to Sudarto (2011)	Internal Factors	1. Communication system; between leaders and Employees 2. Technical knowledge and skills 3. Creativity and innovation 4. The nature and character of company leaders 5. Corporate strategy setting 6. Manager experience	7. Employee ethical and moral standards 8. Work atmosphere 9. Managerial and entrepreneurial skills 10. Innovation and leadership 11. Human Resource Management
	External Factors	1. Currency exchange rate fluctuation 2. Bank interest rate 3. Concern for the surrounding community 4. Community concern around the project 5. Environmental health problems	6. Public 7. Natural disasters 8. Weather and climatic conditions 9. The level of competition is not healthy 10. Settlement patterns of contract disputes
	Factors influenced by the market situation internal and external factors.	1. Barriers to market access 2. Service inconsistencies 3. Unfair competition 4. Competitiveness of competitors 5. Employer satisfaction 6. Competition with other companies 7. Market segmentation strategy 8. Ability to get a niche market	9. Technology competitiveness and innovation 10. Lack of a labor market 11. Gradual project 12. Maintain a working relationship 13. Job market creation 14. Project quantity 15. Brand image / corporate image 16. Positive corporate culture
Business Competitiveness. (Maddeppungeng et al., 2015)	Costs	1. Offering product cost 2. Suitability of the Budget Plan	1. Transparency of costs to the owner and governmen
	Time	1. Minimizing delays in carrying out work 2. Time line compatibility	3. The company is ready to accept fines if work is late 4. Suitability of completion time
	Quality	1. The best production quality for 2. work implementation 3. Product durability 4. Product specifications 5. Machine quality	6. Quality of work 7. The quality of the company's production has improved 8. Competitive technology 9. Quality experts and skilled 10. Material used

The research conceptual framework shows the pattern of relationships between variables. Based on the relationship between variables, a hypothesis can be formed;

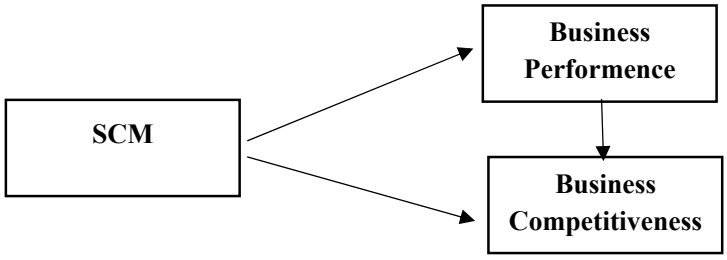

Fig. 1. Conceptual Framework

1. H1: Good management of SCM (Supply Chain Management) has an effect on business performance.
   H0: Good management of SCM (Supply Chain Management) has no effect on business performance.
2. H2: Good management of SCM (Supply Chain Management) has an effect on business competitiveness.
   H0: Good management of SCM (Supply Chain Management) has no effect on business competitiveness.
3. H3: Good management of business performance has an effect on business competitiveness.
   H0: Good management of business performance has no effect on business competitiveness.

3. Results and discussion

In this first stage all indicators are compiled from studies that have been collected to validate 5 experts with expertise criteria are; Doctoral education and have conducted research on a similar topic. These experts provided feedback, improvements and input on the 79 proposed research indicators. Then, a comparison of the responses between the 5 experts is carried out, if there is a more dominant indicator that is not approved, then the variable will be eliminated and not used in the second stage of data collection. Based on input from experts, there are indicators that are stated to be less relevant so that they are reduced to 65 indicators. Acceptable model occurs when a hypothetical model is conceptually and theoretically supported by empirical data. The results of the model suitability analysis. Significant structural paths are presented in Table 2. This can be seen by comparing the index values with the critical values of each index.

Table 2
Goodness of Fit Index structural Model

Goodness of Fit Index	Cut of Value	Result Model	Model Evaluation
TLI	≥ 0,90	0,471	Fit
P-RMSEA	≤ 0.08	0.001	Fit
GFI	≥ 0.90	0,511	Fit
AGFI	≥ 0.90	0,379	Fit
CFI	≥ 0,90	0,467	Fit
Chi-Square	≤ 1829,47	3760,90	Fit
CMIND F	≤ 2,00	1,60	Fit
P	≥ 0.05	0.06	Fit
RMSEA	≥ 0.05	0,11	Fit

Sources; Data processed, 2021

After unidimensionality testing for each Latent variable using confirmatory factor analysis, the number of indicators decreased by 62 indicators, so the next step is to analyze structural equation models. This analysis is used to determine the effect of supply chain management (SCM) on business performance and business competitiveness. The value of the path coefficient and P-value for each variable can be shown in Table 3 below,

Table 3
Estimation of Parameters among Latent Model Structural Variables

Correlated	Path Coefficien	Cr	P Value	Sig
BP ← SCM	0,676	5,019	0.01	Sig
BC ← SCM	0,301	2,092	0.04	Sig
BC ← SCM	0,338	2,159	0,03	Sig

Sources; Data processed, 2021

Based on the estimation results as shown in Table 3, it is obtained significant relationship between SCM latent variables (Supply Chain Management) with Performance Business (BP); with the path coefficient value amounting to 0.676. The relationship between latent variables SCM (Supply Chain Management) against Business Competitiveness (BC) is also of significant value with a path coefficient of 0,301. The relationship between the latent variable business performance (BP)

on business competitiveness (BC) is significant with a path coefficient of 0.338. This is in line with several previous studies. Rostini et al. (2021) and Umrani et al. (2018) in their research stated that the development of business competitiveness and learning orientation has an indirect effect on business performance through entrepreneurial commitment. The increased importance placed on SCM is because it is considered a powerful driver and a significant strategic tool for firms striving to achieve competitive success (Tan et al., 2002; Gundlach et al., 2012). Therefore, SCM is increasingly being viewed by scholars to be having the ability to contribute to the enhancement of performances (Tan et al., 2002; Harwick, 2017; Agus, 2011; Untari 2019). The first hypothesis that there is an effect of SCM on business performance, then the test results are shown in Table 2, that the critical ratio (CR) value is 5.019 with P-value of 0.01 < significance level (α= 0.05), so that it has a significant effect, then H1 accepted and H0 rejected. So, it is in line with the assumption that the better SCM will improve the business performance. To improve business performance in rapidly changing environments, supply chain agility can be a crucial requisite to address responsiveness issues, especially in environments with high levels of customization (Um, 2017; Untari 2020). Then testing of the second hypothesis; which states that there is an effect of SCM on business competitiveness (BC). Based on the test results, it shows that the CR value is 2.092 with a P-value of 0.05 <significance level (α = 0.05), so that it has a significant effect, then H2 is accepted. So, it is in line with the assumption that a better SCM will create stronger business competitiveness. SCM has gained increasing importance in the production processes and strategic planning of global manufacturing companies, and it is considered as a contemporary topic of competitiveness (Kannann & Tan, 2005). Increasing global competition and the rising costs of natural resources today as well as customers demands for higher product quality, greater product selection, and better customer service have created new challenges for manufacturing companies (Agus, 2015). Moreover, the third test is to determine the effect of business performance on business competitiveness. The results in table 3 show that the CR value is 2.159 with a P-value of 0.03 > significance level (α = 0.05), so that has a significant effect (then H0 is rejected and H3 accepted). That means, higher business performance will have a positive impact in the form of increasing business competitiveness. Taking business as the unit of analysis, competitiveness refers to a firm's capacity to compete in a specific market, to increase its market share, to enter international markets by exporting, and to achieve sustainable growth and profitability (Cetindamar & Kilitcioglu, 2013). Thus, the firm competitiveness is based on three key pillars: competitive outcome/performance (output), firm resources (input), and the managerial processes and capabilities where these firm resources are flourished and utilized (Kang and Na, 2020). Competitive outcome can be measured through data on growth, export, profit, and customer and society. The key resources for competitiveness can be grouped under three categories, namely human, financial and technology, innovation and design based resources (Ali et al., 2019).

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