

THE INTEGRATION MODEL OF MANUFACTURING STRATEGY, COMPETITIVE STRATEGY AND BUSINESS PERFORMANCE QUALITY: A STUDY ON POTTERY BUSINESS IN TAKALAR REGENCY

Anwar Anwar, Universitas Negeri Makassar
Muhammad Azis, Universitas Negeri Makassar
Zainal Ruma, Universitas Negeri Makassar

ABSTRACT

The paper aims to establish sustainable competitive advantage for pottery businesses through the integration of manufacturing strategies and competitive strategies in improving business performance. This study tests and analyzes the effect of direct and indirect manufacturing strategies through mediating competitive strategies on business performance.

The research method of this study is survey method. The sample is the 149 Small and Medium enterprises of pottery businesses. The unit of analysis is the owner of the pottery business. To collect out the data, questionnaire with Likert scale measurements is employed. The method of data analysis used descriptive statistics to describe research variables and inferential statistics to test hypotheses using Generalized Structured Component Analysis (GSCA) analysis.

The results of this study indicate that; the application of manufacturing strategies in production activities is able to encourage the application of competitive strategies in the pottery business, priority of quality strategies, delivery strategies, flexibility strategies, and cost strategies provide an important role in implementing manufacturing strategies and then, the application of competitive strategies in the business activities has not been able to improve business performance.

Keywords: Manufacturing Strategy, Competitive Strategy, Business Performance

JEL Classifications: L26, M21, O32, Q00

INTRODUCTION

Leading small businesses in Takalar Regency experienced rapid growth over the last three years in 2015-2017 in terms of the number of businesses and labor absorption; however this does not contribute significantly to the Gross Regional Domestic Product of the Regency (Hasan, 2019). Based on the previous statement, economic growth in Takalar Regency is still not reach its full potential and still needs further improvement. This condition also illustrates that small businesses have not been able to provide maximum value-added to the achievement of regional economic activities or performance.

One of the core industries of leading commodities in Takalar Regency is a pottery business. The major problem for the pottery business is that the level of technology used is finite so that product creation is still narrow; not only that, but also the high market competition and market control by imported products also make it increasingly difficult to market pottery. From the strength of the pottery business, the availability of raw materials and sufficient labor is

available (Hasan, 2019). Pottery business performance is highly dependent on the strategies used in maximizing competitive advantage and minimizing competing limitations (Hunger & Wheelen, 2001; David, 2009; Pearce et al., 2011; Hitt et al. 2011). Many researchers have proven the importance of business strategies to gain competitive advantage and build good performance (Porter, 1985; Barney, 1991; Mintzberg & Lampel, 1999). In addition, Gupta & Lonial (1998); Nandakumar et al. (2011); Pribadi & Kanai (2011) provide the same evidence that the accuracy of strategies influences business performance.

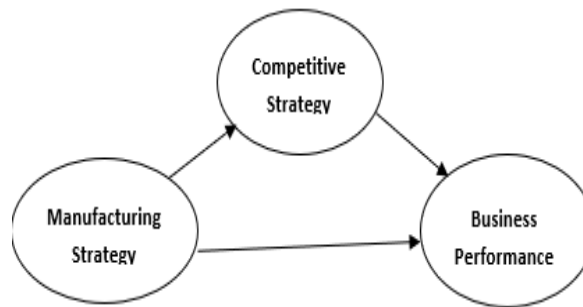
Competitive strategies can be developed specifically through manufacturing strategies, so that they can produce and design goods of better quality and at lower prices (Hayes & Pisano, 1996). Moreover, Skinner (1969) states that the implementation of manufacturing strategies have an impact whether to strengthen or to weaken a company's competitive ability. In addition, Swamidass & Newell (1987) pointed out that manufacturing strategies are seen as an effective force and one of the competitive weapons to achieve company goals. Manufacturing strategies affect competing goals and strategies that enable manufacturing functions to contribute to increasing the competitiveness of companies in the long run (Hayes & Wheelwright, 1988; Schroeder et al., 2011; Volberda et al., 1996 & 2011). According to some researchers, manufacturing strategies represent competitive priorities (Van Dierdonck & Miller, 1980; Hayes & Wheelwright, 1984; Wernerfelt, 1984). These competitive priorities include cost, quality, flexibility and delivery.

The position of manufacturing strategy towards competitive strategies is confirmed by Skinner (1969) that manufacturing strategies are different from competitive strategies, because manufacturing strategies are only one of the functional components, in which the suitability of the relationship (fit) with competitive strategies is needed. Mintzberg (1978) also emphasizes the importance of the alignment of the relationship between competitive strategies and manufacturing strategies. The linking of competitive strategies to manufacturing strategies shows that manufacturing strategies have several characteristics based on competitive strategies; (1) a strong emphasis on cost leadership strategies, so the characteristics of its manufacturing strategy are strong emphasis on reducing and controlling costs, high-level engineering skills, strong emphasis on inventory removal, high-level production standards, high flow of materials and machinery; (2) a strong emphasis on differentiation, the characteristic of its manufacturing strategy is a strong emphasis on premium products and services, high-level product complexity, various final product variations, high-level engineering skills, and high flexibility in scheduling production (Hunger & Wheelen, 2001; Amoako-Gyampah & Boye, 2001).

Several studies have shown that the relationship between manufacturing strategies and competitive strategies is still focused on alignment (Swink & Way, 1995; Amoako-Gyampah & Acquah, 2008; Amoako-Gyampah, 2003; Haeruddin, 2017) with a top-down approach (Hunger & Wheelen, 2001), thus research now also aims to analyze the support of manufacturing strategies for competitive strategies (Hayes, 1985; Hayes & Pisano, 1996; Brown & Balckmon, 2005; Hill et al., 2014; Schroeder et al., 2011) with bottom-up approach (Slack & Lewis, 2002; Hunger & Wheelen, 2001). Based on the description above, the researchers are interested in focusing on reviewing the integration model of manufacturing strategies and competitive strategies on the impact on business performance (studies on small pottery businesses in Takalar Regency).

CONCEPTUAL FRAMEWORK

Understanding that can be assessed from the results of the development of this research model is the suitability of the relationship between manufacturing strategies and competitive strategies in supporting increased business performance. Manufacturing strategy support for competitive strategies is a key instrument in determining business performance. The conceptual framework of the study can be seen from the following Figure 1.



Source: developed for research

FIGURE 1
CONCEPTUAL FRAMEWORK

Manufacturing strategies support competitive strategies (Swink & Way, 1995). The conception from the works of Ward et al. (1996); Hill et al. (2014) and Schroeder et al. (2011) show that the manufacturing strategies may have a significant influence on competitive strategies in improving company performance.

Therefore it can be argued that:

H₁: Manufacturing strategies have a significant and positive effect on competitive strategies.

Furthermore, the conception of the Ward et al. (1996) & Schroeder et al. (2011) show that directly manufacturing strategies affect the performance of the company. Then the results of Ward et al. (1995 & 1996); Gupta & Lonial (1998); Badri et al. (2000); Amoako-Gympah & Acquah (2008); Sum et al. (2004); Rhee & Mehra (2006); Oltra & Luisa Flor (2010); and Hung et al. (2011) show that the implementation of manufacturing strategies is able to improve company performance. Therefore a hypothesis can be proposed as follow:

H₂: Manufacturing strategies have a significant and positive effect on business performance.

Nandakumar et al. (2011) said that Porter's generic competitive strategy had an effect on company performance. Companies that adopt one of the cost or differentiation leadership strategies will be better than "*stuck-in-the-middle*" companies that have no dominant strategic orientation. Integrated strategy groups have lower performance compared to cost leadership and differentiation in terms of financial performance measures (Haeruddin & Natsir, 2016; Moses, 2019). Kim et al. (2004) mention that companies pursuing hybrid strategies (combining cost leadership and differentiation) show the highest level of performance. The results of the Syamsurizaldi's (2011) research on small wood furniture industries show that competitive

strategies have a significant and positive effect on the performance of small industries where the application of differentiation strategies is more dominant than the low cost strategy. Furthermore, the results of Suardhika's research (2011) explain that competitive strategies (dominant low cost strategies) have a significant and positive effect on business performance. Pribadi & Kanai (2011) suggest that a positive direct relationship of company strategy and company internal factors towards company performance. High-performing Indonesian SMEs on average opt for differentiation strategies rather than cost leadership. Therefore it can be formulated that:

H₃: Competitive strategies have a significant and positive effect on business performance.

METHOD

Methodologically, this research used quantitative (positivist) research method. The sample unit is the pottery business with 149 businesses. The unit of analysis is the perception of the pottery business owners. Questionnaire instruments with Likert scale measurements are used as data collection. Respondents were asked to provide answers to closed statements. The respondent is the owner or manager of the pottery business. The method of data analysis in this study used descriptive statistics to describe research variables and inferential statistics to test hypotheses using Generalized Structured Component Analysis (GSCA) analysis.

RESULTS AND DISCUSSION

The test results show that the three hypotheses tested all have a significant effect; (1) manufacturing strategies have a significant effect on competitive strategies, (2) manufacturing strategies have a significant effect on business performance and (3) competing strategies have a significant effect on business performance. The results of testing the direct influence between variables in full can be presented in following Table 1.

Path Coefficients			
	Estimate	SE	CR
Manufacturing Strategy --> Competitive Strategy	0.254	0.072	3.54*
Manufacturing Strategy --> Business Performance	0.364	0.080	4.58*
Competitive Strategy --> Business Performance	0.300	0.086	3.47*

Note: CR * = Significant at $\alpha = 0.05$

Source: GSCA processed products, 2018

Investigation of the path of influence of mediation aims to detect the position of intermediate or intervening variables in the model. The mediation variable as a link between the independent variable and the dependent variable can be perfect mediation (partial mediation), partial mediation, and not a mediating variable. The results of the analysis can be shown in Table 2 as follows:

No.	Variable Relationship	Variable	Path Coefficient				Conclusion
			cc	dd	aa	bb	
1	Manufacturing Strategy → Business Performance	Competitive Strategy	0.303*	0.260*	0.438*	0.649*	Partial Mediation

Note: * = significant and ns = non-significant at $\alpha = 0.05$

Source: GSCA processed products, 2018

Based on Table 2, it is known that the relationship (c), (d), and (a) are significant in the initial model. Then the relationship coefficient (a) is smaller (down) than the relationship (b), so that the relationship between manufacturing strategies to business performance through competitive strategies is partial mediation. This result means that manufacturing strategies can directly influence business performance and through competitive strategies. The first research findings show that the implementation of the manufacturing strategy is able to improve the application of the pottery business competition strategy. The owner of the earthenware business is quite good at implementing manufacturing strategies with almost the same emphasis on quality strategies, delivery strategies, flexibility strategies and cost strategies, so as to increase the application of competitive strategies with the main emphasis on differentiation strategies versus cost leadership strategies and focus strategies. This finding supports the theory proposed by Swink & Way (1995), Hayes & Pisano (1996) that to obtain the right competitive strategy can be done by setting competitive priorities on the manufacturing strategy. In addition, the findings of this study answer the statement of Stonebraker & Leong (1994) that manufacturing strategies trigger (drive) competitive strategies.

The second findings of the study, the application of the manufacturing strategy were able to improve the performance of the pottery business. The implementation of the manufacturing strategy in several priorities simultaneously with the sand-cone approach starts from quality, delivery, flexibility, and cost, which can improve the performance of pottery business, especially on productivity compared to profitability and the market. The research findings support the results of research by Roth & Miller (1992), Kathuria (2000), Musa (2019), and Wardana & Maulana (2019) which suggest that companies can be competent in several priorities and their position is not mutually excluded from each other, but are an integrated unit and strengthen each other. In addition, these findings support the conception of the Schroeder (1989) and Ward et al. (1996) that directly manufacturing strategies affect the performance of the company. Then these findings broaden the results of previous studies from Ward et al. (1995 & 1996); Gupta & Lonial (1998); Badri et al. (2000); Amoako-Gympah & Acquah (2008); Sum et al. (2004); Rhee & Mehra (2006); Oltra & Luisa Flor (2010); and Hung et al. (2011).

The third finding, the application of competitive strategies in the pottery business can improve business performance. Competitive strategies applied by pottery business owners who are more emphasized on differentiation strategies are considered appropriate. Based on the value of loading factors, the emphasis is on the focus strategy. The findings of this study are consistent with previous studies from Spanos & Lioukas (2001), Nandakumar et al. (2011), Musa (2017), and Musa et al. (2018) that competitive strategies can significantly improve organizational performance. This finding corroborates the opinion of Hunger & Wheelen (2003); David (2009); Pearce et al. (2011); and Hitt et al. (2011) that business performance is highly dependent on the strategies used in maximizing competitive advantage and minimizing competing limitations if there is conformity with the manufacturing strategy. Thus, the integration of manufacturing strategies with competitive strategies is the key to improving business performance.

CONCLUSIONS AND FUTURE RESEARCH

Generally, it can be stated that the application of a fairly good manufacturing strategy in production activities is able to encourage the implementation of competitive strategies in the pottery business. Priority of quality strategies, delivery strategies, flexibility strategies, and cost

strategies provide an important role in implementing manufacturing strategies. Then the application of a fairly good competitive strategy in pottery business activities can improve business performance. The application of focus strategies is seen as the most important as a competitive strategy but has not been prioritized in its implementation. The proprietor of the pottery business assesses the implementation of differentiation strategies as a competitive strategy prioritized in its application. Inaccuracy in applying competitive strategies causes no significant contribution to the achievement of business performance.

There are further implications both theoretical and practical from this article. For the theoretical perspective, this study contributes to the extant literature in the field of strategic management. Next, the practical implication of this study is that the policy makers in related fields need to formulate such regulation in order to increase the business performance by implementing such strategies offered by this paper.

Despite of the contributions presented by this paper, several limitations need to be acknowledged. Firstly, as this study employed a qualitative method then it is difficult to provide a generalization. Further quantitative study needs to be conducted in order to obtain a bigger picture in this particular field. Secondly, future research might need to emphasize on the comparison among family business related strategies and non-family business related strategies.

REFERENCES

- Amoako-Gyampah, K. (2003). The relationships among selected business environment factors and manufacturing strategy: Insights from an emerging economy. *Omega*, 31(4), 287-301.
- Amoako-Gyampah, K., & Acquah, M. (2008). Manufacturing strategy, competitive strategy and firm performance: An empirical study in a developing economy environment. *International Journal of Production Economics*, 111(2), 575-592.
- Amoako-Gyampah, K., & Boye, S.S. (2001). Operations strategy in an emerging economy: the case of the Ghanaian manufacturing industry. *Journal of Operations Management*, 19(1), 59-79.
- Badri, M.A., Davis, D., & Davis, D. (2000). Operations strategy, environmental uncertainty and performance: a path analytic model of industries in developing countries. *Omega*, 28(2), 155-173.
- Barney, J.B. (1991). Firm resources and sustained competitive advantage. *Journal of Management*, 17(1), 99-120.
- David, F.R. (2009). Strategic management concepts. Jakarta: Salemba Empat.
- Gupta, Y.P., & Lonial, S.C. (1998). Exploring linkages between manufacturing strategy, business strategy, and organizational strategy. *Production and Operations Management*, 7(3), 243-264.
- Haeruddin, M. (2017). Mergers and Acquisitions: Quo Vadis?. *Management*, 7(2), 84-88.
- Haeruddin, M., & Natsir, U.D. (2016). The cat's in the cradle: 5 personality types' influence on work-family conflict of nurses. *Economics & Sociology*, 9(3), 99-110.
- Hasan, M. (2019). Characteristic of Human Development: Socio-economic Dimension. *KnE Social Sciences*, 865-874.
- Hayes, R.H. (1985). Strategic planning-forward in reverse. *Harv. Bus. Rev.:(United States)*, 63(6).
- Hayes, R.H., & Pisano, G.P. (1996). Manufacturing strategy: at the intersection of two paradigm shifts. *Production and Operations Management*, 5(1), 25-41.
- Hayes, R.H., & Wheelwright, S. C. (1984). Restoring our competitive edge: competing through manufacturing.
- Hill, C.W., Jones, G.R., & Schilling, M.A. (2014). *Strategic management: theory: an integrated approach*. Cengage Learning.
- Hung, S.W., Hung, S.C., & Lin, M.J.J. (2011). How different strategic alliances affect manufacturing competitive priority and firm performance: an empirical study of SMEs.
- Hunger, J.D., & Wheelen, T.L. (2001). Strategic Management. 1996. Fifth Editions.
- Kathuria, R. (2000). Competitive priorities and managerial performance: A taxonomy of small manufacturers. *Journal of Operations Management*, 18(6), 627-641.
- Kim, E., Nam, D.I., & Stimpert, J.L. (2004). Testing the applicability of Porter's generic strategies in the digital age: A study of Korean cyber malls. *Journal of Business Strategies*, 21(1).
- Mintzberg, H. (1978). Pattern in strategy formulation, *Management Science*, 24 (9), 934-948.

- Mintzberg, H., & Lampel, J. (1999). Reflecting on the strategy process. *Sloan Management Review*, 40, 21-30.
- Musa, M.I. (2019). Analysis of financial performance in regional vii Indonesia telecommunication based on the du pont system approach in Makassar city. *Economix*, 4(1).
- Musa, M.I. (2017). Bundling Pricing Strategy on Purchasing Decision: A Case of Indihome Product, *Management*, 7(3), 126-130. <http://article.sapub.org/10.5923.j.mm.20170703.04.html>
- Musa, M.I., Haeruddin, M.I.W., & Haeruddin, M.I.M. (2018). Customers' repurchase decision in the culinary industry: Do the Big-Five personality types matter?. *Journal of Business and Retail Management Research*, 13(01), 131-137.
- Nandakumar, M.K., Ghobadian, A., & O'Regan, N. (2011). Generic strategies and performance—evidence from manufacturing firms. *International Journal of productivity and performance management*.
- Oltra, M.J., & Luisa Flor, M. (2010). The moderating effect of business strategy on the relationship between operations strategy and firms' results. *International Journal of Operations & Production Management*, 30(6), 612-638.
- Skinner, W. (1969). Manufacturing-missing link in corporate strategy.
- Pearce, I.I., John, A., & Richard, B.R. Jr. (2011). *Strategic Management: Formulation, Implementation and Control*.
- Porter, M.E. (1985). *Competitive advantage*. The Free Press, New York
- Pribadi, H., & Kanai, K. (2011). Examining and exploring Indonesia small and medium enterprise performance: An empirical study. *Asian Journal of Business Management*, 3(2), 98-107.
- Rhee, M., & Mehra, S. (2006). Aligning operations, marketing, and competitive strategies to enhance performance: An empirical test in the retail banking industry. *Omega*, 34(5), 505-515.
- Roth, A.V., & Miller, J.G. (1992). Success factors in manufacturing. *Business Horizons*, 35(4), 73-81.
- Schroeder, R.G. (1989). *Management: Decision Making in the Operations Function*. McGraw-Hill.
- Schroeder, R.G., Goldstein, S.M., & Rungtusanatham, M.J. (2011). *Operations management 5th edition*. Avenue of the Americans.
- Slack, N., & Lewis, M. (2002). *Operations strategy*. Pearson Education.
- Spanos, Y.E., & Lioukas, S. (2001). An examination into the causal logic of rent generation: contrasting Porter's competitive strategy framework and the resource-based perspective. *Strategic Management Journal*, 22(10), 907-934.
- Stonebraker, P.W., & Leong, G.K. (1994). *Operations strategy: focusing competitive excellence*. Allyn and Bacon.
- Suardhika, I.N. (2011). *An Integration of Strategic resources, entrepreneurship orientation, and dynamic environment as basis of competitive strategy and its influence on business performance: A study on small & medium scale business in Bali*, Unpublished Dissertation, University of Brawijaya, Malang.
- Sum, C.C., Shih-Ju Kow, L., & Chen, C.S. (2004). A taxonomy of operations strategies of high performing small and medium enterprises in Singapore. *International Journal of Operations & Production Management*, 24(3), 321-345.
- Swamidass, P.M., & Newell, W.T. (1987). Manufacturing strategy, environmental uncertainty and performance: a path analytic model. *Management Science*, 33(4), 509-524.
- Swink, M., & Way, M.H. (1995). Manufacturing strategy: propositions, current research, renewed directions. *International Journal of Operations & Production Management*, 15(7), 4-26.
- Syamsurizaldi. (2011). *The Influence of macro environment, industry environment, resources and transactional leadership toward competitive advantage strategy and performance of small scale industry: A study on small scale industry of wood furniture in West Sumatra province*, Unpublished Dissertation, University of Brawijaya, Malang.
- Van Dierdonck, R., & Miller, J.G. (1980). Designing production planning and control systems. *Journal of Operations Management*, 1(1), 37-46.
- Volberda, H.W., Morgan, R.E., Reinmoeller, P., Hitt, M.A., Ireland, R.D., & Hoskisson, R.E. (2011). *Strategic Management: Competitiveness and Globalization (Concepts & Cases)*. Cengage Learning.
- Volberda, P.T., Bickford, D.J., & Leong, G.K. (1996). Configurations of manufacturing strategy, business strategy, environment and structure. *Journal of Management*, 22(4), 597-626.
- Ward, P.T., Duray, R., Leong, G.K., & Sum, C.C. (1995). Business environment, operations strategy, and performance: an empirical study of Singapore manufacturers. *Journal of Operations Management*, 13(2), 99-115.
- Wardana, M.I., & Maulana, M.I. (2019). The effect of promotion costs on Toyota Yaris car sales (case study: Pt hadji kalla Makassar). *Economix*, 4(2).
- Wernerfelt, B. (1984). A resource-based view of the firm. *Strategic Management Journal*, 5(2), 171-180.