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Assessing the Supply Chain Management among Bumiputera Entrepreneurs in Johor

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ABSTRACT

Bumiputera entrepreneurs in Malaysian Small Medium-sized enterprises has largest business establishment and one of the main components of the country's economic development. This study intends to assess the management of supply chain among Bumiputera entrepreneurs in Johor. They have many challenges and opportunities to build successful business. Moreover, in a condition of up and down market, supplier and entrepreneur need to build strong network because if they failed to do so, it will expose to a threat toward entrepreneur's survival by which that other races always seeking for such opportunities. Bumiputera entrepreneur is also viewed as weak competitor and the Malaysia government agencies are aware of the issues and struggles of Bumiputera entrepreneurs. This paper seeks to explore the potential challenges faced by Bumiputera entrepreneurs especially on supply chain management. By using method of quantitative research, the study hopes that the findings might be useful in improving the performance of Bumiputera entrepreneurs and their business sustainability.

Keywords: Bumiputera entrepreneurs, Bumiputera entrepreneurs' challenges, Supply chain management

1. INTRODUCTION

Entrepreneurship is one of the economic strategies to preserve the country's competitiveness to cope with the increasing trend of globalization [1] and it is one of the main contributors of economic growth in Malaysia economy. It reduces poverty and creates wealth, innovation, and technology deployment, while Bumiputera entrepreneurs must also be ready to seize business opportunities. Generally, the sufficient and cheap supplies of goods and stocks are important to the entrepreneurs including the Bumiputera entrepreneurs. However, supply chain network is being monopolized by non-Malays business networks. This has left Bumiputera entrepreneurs and suppliers have poor inventories management which resulted in their inability in helping each other businesses networking. In addition, the price offered by the non-Bumiputera suppliers is also high. As a result, Bumiputera entrepreneurs would not have any choices but to obtain their supplies at high. This issue has been long faced by the Bumiputera entrepreneurs and it will be quite difficult for their local business activities to be expanded and improved. There have been some challenges that obstruct Bumiputera entrepreneurs to establish its own supply chain management and networking that will be identified in this research. Several factors might be identified would include pricing matters, lack of knowledge in supply chain management, time management and also financial management.

Therefore, the purposes of this study are to find out the challenges that Bumiputera entrepreneur face in supply chain management, to explore the factors that can provide support to Bumiputera entrepreneur in supply chain management and to study the factors that can support and building strong supply chain among Bumiputera entrepreneur related to knowledge transfer, pricing matters, relationship between supplier and entrepreneur and attitude.

2. LITERATURE REVIEW

The literature review will be discussing further all related variables in previous research that can be linked with the scope of the study.

2.1 Supply Chain Management and its Challenges

A supply chain can be defined as a chain of facilities and distribution options. It performs the functions of procuring materials, transforming materials into intermediate and finished products, and distributing finished products to end users [2]. It is a systematic process of the business operation and strategic function with supply chain parties which would increase chances of business sustainability in the long term perspective. The knowledge in supply chain management

(SCM) can also help to prevent business crisis should the supplies of goods and services becoming limited [3]. Entrepreneurs should be concerned about the supply chain because it is one of the important ways to enhance competitive strength among them [4] and uses supply chain knowledge to upkeep their business performance [5].

The SCM is paramount to all entrepreneurs especially in aspect of enhancing productivity and improving cycle time. The long term goal is to increase the profits through market share and customer satisfaction [6]. The main focus of SCM is to provide right product to the right customers at the right cost, right time, right quality and in right quantity [7].

It was indicated that some of the challenges faced by entrepreneurs are business goal versus personal goal, poor business planning, lack of decision-making information, lack of management experience, cash flow management, and succession planning [8]. Similarly, it was also claimed that other challenges that the entrepreneurs in globalized world are facing would also come from the lack of finance knowledge, low productivity, lack of managerial capabilities and experiences, poor access to technology, and a heavy regulatory burden [9]. Table 1 shows the common problems faced by the Malaysian Bumiputera entrepreneurs [10].

Table 1: Problems of Malaysian Bumiputera Entrepreneurs.

No.	Problems of Malaysian Bumiputera Entrepreneurs
1.	Lack of information, awareness and knowledge in getting funds from financial institutions and the government.
2.	A lack of human capital knowledge, management and experiences.
3.	High level of competition in international market.
4.	Shortage in accessing to ICT and technology development. This shortage could hinder to a more efficient and productive in their business operations.
5.	Bureaucracy in government agencies.
6.	Small amount of allocation in research and development (R&D) activities.
7.	Substantial business orientation towards the domestic market as compared to international market segments.

2.2 Factors to Build Strong Supply Chain Management (SCM) among Bumiputera Entrepreneurs

The factors affecting SCM and the identification of these factors has been based on some of the previous studies and research conducted [11]. The following show generic SCM factors and sub-factors that might have impacting the supply chain management and networking activities.

There are some factors that have been identified to achieve strong network of supply chain which are pricing matters, deficiency of knowledge in supply chain management, time

management and also financial management. However, Malaysian Bumiputera entrepreneurs' poor awareness of practicing the effective SCM has been highlighted for quite some times already. Malaysian Bumiputera entrepreneurs take too lightly about the potential advantages of SCM. They thought that SCM as a way to reduce cost, quality assurance or take supply chain as their maintain control by through the visibility. It is indeed agreed that the majority of Malaysian Bumiputera entrepreneurs have lack of knowledge in SCM. [12]. This is one of the important factors in strategic supply chain for entrepreneurs in order to establish good network in supply chain. If the Bumiputera entrepreneurs concern on the awareness towards the supply chain sustainability, they will lead to higher level of performance among the entrepreneurs.

One of the important elements to achieve the strong network between suppliers and entrepreneurs is the supply chain relationship. The combined of activities with suppliers and the understanding of consumer's wants gives higher advantage for entrepreneurs. In addition, the relationship management can also be linked directly with SCM that involves suppliers and customer. Strategic plan of supplier and customer relationship plays the important role in SCM practices [13].

It is essential that networking or relationship with suppliers can fulfil various business requirements. It is also crucial to be able to discover an argumentative relationship between buyers and suppliers in terms of the pricing of the commodity products [11]. This situation will ignore the toleration in cost reduction in supply chain. By the way, it might give advantageous to network between entrepreneurs with supplier and also build good alliances where both can get win-win decisions. In relationship with customers, it is claimed in the variation of products and materials comes from any country in the world will have different quality with different costs [11]. However, as good entrepreneurs that always makes sure their products are sold by high quality and reasonable price, they need to compete and struggle in reducing costs and improve the quality.

In business, customers expected having goods with higher quality at low cost. On top of that, there must have ways to achieve these goals where entrepreneurs should find for method and strategies that can make it work. This is some methods to improvise the process performance either in rework rate, inventory turnover, lower defect items, and lean activities along the process [13].

Entrepreneurs are always facing the problem of how to apply marketing strategies in their business. It will be better to improvise their advertisement, to create and invest in loyalty programs such as Member Card Program that offer lower price and to obtain financial returns based on strategic marketing [11].

2.3 Impact of Good Supply Chain Management (SCM) to Bumiputera Entrepreneurs

A good supply chain management can give many benefits such as increasing business flexibility, saving cost in resource planning, improve the number of sales, increase in coordination with supplier, and improvement in e-trading [14]. However, most of the Bumiputera entrepreneurs are less likely to hitch the benefits of SCM and also still having such difficulties in implementing effective SCM practices [15].

In SCM, flexibility is one of the important issues since it involves the ability of business to adapt any circumstances in business environment. If the entrepreneurs can adapt to a high number of suppliers for their materials, they could increase the level of flexibility to generate other initiative sources for procurement and could also reducing the risks in SCM [16]. By establish long-term relationship between supplier and customers, it could contribute to improve the process of the supply chain through a similar practice among the business partners [17].

The implementation of the strategic planning can help the utilization of forecasted resources and costs reduction. Normally, the cycle period can be reduced in production by decreasing the fix time or eliminating the non-value added activities. By shortening the production phase time, the production volume can be increased and lower production cost per unit can be achieved. Moreover, by having the technology capacity, the order lead time could be eventually shortened and ordering cost would be able to be reduced accordingly.

A good supply chain can be seen by their effective use of resources networks which would be help in lower costs of material, better quality of materials, higher responsiveness and higher market share probably. The good strategy in supply chain can be benchmarked in order to help for becoming a top player in the industry. By the way, the beginner entrepreneurs can also benchmark the other suppliers' performance as references for future business improvisation [16].

By using e-procurement, it is good for entrepreneur to have a few suppliers and make a close relation with suppliers which is can enhance the synchronization with suppliers. By practicing the e-procurement, it can help to builds efficient relationships with suppliers. During establishment of relationship with supplier, process, product and also innovation of technology can be achieved. Not only supplier and customer can get the advantage, but improvement of coordination between these parties will ensure supply chain control could be better [16].

3. METHODOLOGY

The factor analysis and correlation analysis are used to summarize data so that any potential relationships and patterns can be interpreted and understood. Factor analysis is normally used to regroup variables into a limited set of clusters and it helps to isolate constructs and concepts [18]. This study has used quantitative approach and survey method. The survey method is used to collect information from representative target respondents using a predesigned questionnaire. It is a structured method of data collection in which the researcher will extract exactly the same information from the target samples. The items that will be asked in the questionnaire were developed based on literature review. The collected data then will be analyzed through the related analysis technique. The justification of this research is to have knowledge about the factor, challenges and impact of supply chain network among Bumiputera entrepreneur. The 7-point Likert scale is used to collet quantitative data and open ended question to collect qualitative data. The sample size is set to 384 respondents using table of Morgan and Krejcie. This research took two weeks to complete the targeted 60 respondents for the pilot study. Afterwards it took six months of field work to complete data collection process

4. RESULTS AND DISCUSSION

The final study sample contained 200 respondent survey records. Two hundred were returned by 384 entrepreneurs that invited to participate in the survey but only 101 data from respondents are valid to use for analysis purpose. This resulted in a response rate of 52%, which was an adequate response for research analysis [19].

4.1 Exploratory Factor Analysis (EFA) on Challenges in Supply Chain Management.

The Bartlett's Test Spherecity is to confirm that the item has patterned relationships. Indeed, these tests show that the researcher does have a patterned relationship amongst the variables ($p < .001$). Finally, the data will be analyzed for its suitability for EFA by referring to the Kaiser-Meyer-Olkin Measure (KMO) of Sampling Adequacy (the value of KMO and must cut-off above .50) and the diagonal element of the Anti-Correlation matrix that has the 'a' superscript (cut-off above .50).

Based on Table 2, the statistical data of KMO and Bartlett's Test which for the Kiaser-Meyer-Olkin Measure of Sampling Adequacy shows the result of 0.889 which mean the items above are suitable to be implemented and analyzed by using factor analysis factor, the value of KMO have to be more than 0.50. For the table above, the value of KMO shows the data did not have any multicollinearity problem so that these items are suit to be tested in factor analysis method.

Table 2: Table of KMO and Bartlett's Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.889
Bartlett's Test of Spherecity	Approx. Chi-Square	1010.424
	df	136
	Sig.	.000

The other test is Bartlett's Test of Spherecity is to determined which the correlation between items is significance to be analyzed by using factor analysis method. The value of significance should be less than 0.05 to determine as significance result or not. If this requirement is not met, the distinct and reliable factors cannot be produced accordingly. Based on the table above, it shows the result is 0.00 which mean the result is significance.

4.2 Exploratory Factor Analysis (EFA) on Factors to Build Strong Supply Chain Management (SCM) among Bumiputera Entrepreneurs

Table 3 show the statistical data of KMO and Bartlett's Test which for the Kiaser-Meyer-Olkin Measure of Sampling Adequacy it shows the result is 0.882 which mean the items above are suitable to be implemented and analyzed by using factor analysis factor, the value of KMO have to be more than 0.50. For the table above, the value of KMO shows the data did not have any multicollinearity problem so that these items are suit to be tested in factor analysis method.

Table 3: Table of KMO and Bartlett's Test.

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.882
Bartlett's Test of Spherecity	Approx. Chi-Square	1087.815
	df	120
	Sig.	.000

The other test is Bartlett's Test of Spherecity is to determined which the correlation between items is significance to be analyze by using factor analysis method. The value of significance should be less than 0.05 to determine as significance result or not. If this requirement is not met, the distinct and reliable factors cannot be produced as well. Based on the table above, it shows the result is 0.00 which mean the result is significance.

4.3 Exploratory Factor Analysis (EFA) on Impact of Good Supply Chain Management (SCM) to Bumiputera Entrepreneurs

Table 4 show the statistical data of KMO and Bartlett's Test which for the Kiaser-Meyer-Olkin Measure of Sampling

Adequacy it shows the result is 0.896 which mean the items above are suitable to be implemented and analyzed by using factor analysis factor, the value of KMO have to be more than 0.50. For the table above, the value of KMO shows the data did not have any multicollinearity problem so that these items are suit to be tested in factor analysis method.

Table 4: Table of KMO and Bartlett's Test

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.896
Bartlett's Test of Spherecity	Approx. Chi-Square	668.489
	df	55
	Sig.	.000

The other test is Bartlett's Test of Sphericity is using to determined which the correlation between items is significance to be analyzed by using factor analysis method. The value of significance should be less than 0.05 to determine as significance result or not. If this requirement is not met, this means that distinct and reliable factors cannot be produced. Based on the table above, it shows the result is 0.00 which mean the result is significance.

5. CONCLUSION

The first objective was to identify the challenges faced by Bumiputera entrepreneur on supply chain. It was found that three main factors that contribute to the challenges faced by Bumiputera entrepreneur which are technology, global market and service. The second objective was to identify the factor that can support build of strong supply chain among Bumiputera entrepreneur. The study revealed that there are two main factors relationship and service which are necessary to build strong supply chain relationship among Bumiputera entrepreneur. The third objective is to study the relationship between the challenges in SCM and impacts by having a good supply chain. The result showed positive correlation between them. Lastly, the fourth objective was to study the relationship between the factors to build good supply chain and impacts by having a good SCM; the results revealed positive relationship.

This study concludes that the Bumiputera entrepreneurs need to be more innovative, if they wish to overcome the challenges of SCM. They should set up cooperatives so that they become able to push and motivate each other. This will be the place whereby all Bumiputera entrepreneurs can assemble, swaps ideas, seeking opportunities, get some motivational talks, resolve problems, and most crucially networking among them. The outcome of this chapter is verifying the main factors to build a good supply chain among Bumiputera entrepreneurs in Johor. The researcher gets the knowledge about the service is an important strategy to improve their

management in handling supply chain. Last but not least, Bumiputera entrepreneur should rely on another to help and build their own supply chain network.

REFERENCES

1. Clegg, J.,Forsans, N. and T.Reilly, K. (2003), "**Increasing the Size of the 'Country': Regional Economic Integration and Foreign Direct Investment in a Globalized World Economy**" *The Changing Global Context of International Business*, pp. 191-217. https://doi.org/10.1057/9780230501553_10

2. Dangayach, G.S. and Deshmukh, S.G. (2001), ''**Manufacturing strategy: experiences from Indian manufacturing companies**'', *Production Planning and Control*, Vol. 12, No. 8, pp. 775-86.

3. Malini, N. I. C. (2009), "**Managing Supply Chains in Times of Crisis: A Review of Literature and Insights**", *International Journal of Physical Distribution and Logistics Management*, Vol. 39, pp. 535-573.

4. Katunzi, T.M. (2010), "**Tanzanian SMEs' Perceptions towards adoption of Supply Chain Management (SCM) Strategy**", *International Journal of Business and Management*, Vol.5, No.10, pp. 42-50. https://doi.org/10.5539/ijbm.v5n10p42

5. Ibrahim, M. S. (2015), "**Factors Influencing the Performance of Supply Chain Management in Manufacturing Industry of Pakistan**", *Industrial Engineering Letters*, Vol. 3, No. 5, pp. 34-42.

6. Sukati, S., Hamid, A.B., Baharun, R. and Md Yusoff, R. (2012), "**The Study of Supply Chain Management Strategy and Practices on Supply Chain Performance**", *Social and Behavioral Sciences*, Vol.40, pp. 225-233.

7. Thoo, A.C., Abdul Hamid, A.B., Rasli, A. and Baharun, R. (2012), "**Adoption of Supply Chain Management in SMEs**", *Social and Behavioral Science*, Vol. 65, pp. 614-619.

8. Bentley, T. (2012), "*Learning Beyond the Classroom Education for a Changing World*", 1st edn, Routledge, London.

9. Rae, D. and Wang, C. (2015), "*Entrepreneurial learning: past research and future challenges*", Routledge, London. https://doi.org/10.4324/9781315857817

10. Khalique, M., Md. Isa, A.H., Jamal, A.N.S and Ageel, A., (2011), "**Challenges Faced by the Small and Medium Enterprises (SMEs) in Malaysia: *An Intellectual Capital Perspective*,**" *International Journal of Current Research*, Vol. 3, No. 6, p. 398.

11. Quesada. H, R. G. (2008), "**Critical Factors Affecting Supply Chain Management: A Case Study in the US Pallet Industry: Pathway to Supply Chain Excellence**", In Tech, Available from: https://www.intechopen.com/books/pathways-to-supply-chain-excellence/critical-success-factors-for-supply-chain-management-in-wood-industry.

12. Syed Abidur Rahman, Amran, A., Ahmad, N.H., Taghizadeh, S.K. (2015), "**Supporting entrepreneurial business success at the base of pyramid through entrepreneurial competencies**", *Management Decision*, Vol. 53, No. 6, pp. 1203-1223.

13. Li, X., Thomas, J.G. and Holsapple, C.W. (2009), "**Supply chain agility: scale development**", *The International Journal of Logistics Management*, Vol. 2, No. 3, pp. 408-424. https://doi.org/10.1108/09574090911002841

14. Meehan. J. (2008), "**SCM in Merseyside SMEs: Benefits and Barriers**" *The TQM Journal*, Vol. 20, No. 3, pp. 223-232.

15. Vaaland, T.I. and Heide, M. (2007), "**Can the SME survive the supply chain challenges**?", *Supply Chain Management: An International Journal*, Vol. 12, No. 1, pp. 20-31.

16. Lenny Koh, S.C., Demirbag, M., Bayraktar, E., Tatoglu, E. and Zaim, S. (2007), "**The impact of supply chain management practices on performance of SMEs**", *Industrial Management & Data Systems*, Vol. 107, No. 1, pp.103-124.

17. Chang, T., Fu, H., Lee, W., Lin, Y., & Hsueh, H. (2007), "**A study of an augmented CPFR 862 model for the 3C retail industry**", *Supply Chain Management: An International 863 Journal*, Vol. 12, pp. 200–209.

18. Yong, A. G., & Pearce, S. (2013), "**A Beginner' s Guide to Factor Analysis: Focusing on Exploratory Factor Analysis**", *Tutorials in Quantitative Methods for Psychology*, Vol. 9, No. 2, pp. 79–94. https://doi.org/10.20982/tqmp.09.2.p079

19. Sekaran, U. & Bougie, R. (2010), *Research Methods for Business: A Skill Building Approach*. John Wiley and Sons.