

Product Development for Microenterprise: A New Technique

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Abstract: Entrepreneurs often make numerous decisions to grow business by developing new products for the market. However, many entrepreneurs face difficulties to sustain in the market and are forced to close their businesses. One of the reasons for the business closure is due to product failure. This paper aims to propose a new technique to guide the entrepreneur in enhancing a new product success rate and subsequently improve the small to micro and medium enterprises (SMMEs) business growth. The SCAARERU technique was developed based on the “SCAMPER” technique and the “Four Actions Blue Ocean” strategy, which has been used extensively by businesses as a technique to generate new product ideas. Therefore, the SCAARERU technique serves as an excellent platform to motivate entrepreneurs to create ideas and assess business opportunities.

Keywords: business growth; growth strategy; small, micro and medium enterprises (SMMEs)

Paper type: Research paper

1. Introduction

Microenterprises are considered to be the backbone of every economy. According to The Organisation for Economic Co-operation and Development (2018), 97 per cent of the enterprise population in most Association of Southeast Asian Nations (ASEAN) countries consist of SMMEs. Malaysia is one of the ASEAN countries that consist of large SMMEs business. As of 2020, SMMEs have catered to 7.3 million employees in the country and have contributed to RM117.8 billion exports (Department of Statistics, 2021).

To grow, SMMEs need to ensure that their products and services are competitive. However, many companies, including SMMEs, struggled and failed to create successful new products for future company survival (Dijksterhuis, 2016; Dunn and Dahl, 2012; Victory et al., 2021). According to Kortge and Okonkwo (1989), the failure rate of new products in 1964 was between 20 to 35 per cent, and Castellion and Markham (2013) found in their research that the new product failure rate is about 40 per cent. Further, Salnikovaa et al. (2019) discovered in their study that a new product failure rate ranges between 25 to 50 per cent, depending on the type of products and industry. The new product's failure causes business closure and impacts society and the economy, including loss of jobs and income, poverty, social evils, and unemployment. It has

widely been reported that small to micro and medium enterprises (SMMEs) face business closure within the first 5–7 years of inception. For example, Bushe (2019) mentioned that over 70 per cent of SMMEs in South Africa fold their business. In Canada, Ward (2019) noticed that approximately 7,000 businesses go bankrupt yearly, and as much as 96 per cent of small businesses able to survive for one full year, 85 per cent survive for three years, and 70 per cent survive for five years. Many products and services offered by SMMEs are tailored to local economies. Therefore, new product development is important for businesses. However, 42 per cent of SMMEs fail because there's no market need for their services or products (Griffith, 2014). In other words, many SMMEs could not determine which product was to be developed and what market they should venture into. This paper aims to propose a new technique that can assist and support SMMEs business growth. This paper focuses on developing and synthesizing a comprehensive new product creation technique based on the previously well-known and acknowledged model, specifically for SMME.

2. Literature Review

Small, micro and medium enterprises (SMMEs) need to ensure their business grows to survive and sustain both in the short and long run. Introducing new products and services is one of the business growth strategies of businesses, including SMMEs. Product development strategy is one of the four business growth strategies presented by Ansoff (1957). Cooper's (2011) reported that businesses could enjoy more success by offering new products in high market attractiveness, compared to the poor market attractiveness. Offering products and services in a high market attractiveness can directly influence business success. Further, it was found that a product with high market attractiveness has a 73.9 per cent success rate of new product life. On the contrary, a product with poor market attractiveness has only a 42.5 per cent chance of success rate (Cooper's, 2011).

Previous literature broadly discusses technique, process or method to discover ways to discover competitive strength and position of a business. For example, theories such as Porter's Five Forces model, Four Actions Blue Ocean strategy and SCAMPER technique has long been acknowledged and used by businesses. All of the methods have been extensively used to help businesses create new business ideas. Porter's Five Forces is a model that identifies and analyzes five competitive forces that shape every industry and helps determine an industry's weaknesses. Isabelle et al. (2020) confirmed the use of Porter's Five Forces framework, which was published in 1979, to help understand the attractiveness of an industry. Isabelle et al. (2020) explain each of the five competitive forces consists of the threat of new entrants, buyers' bargaining power, the bargaining power of suppliers, the threat of substitute products or services, and the rivalry among existing competitors. Four Actions Blue Ocean strategy helps identify a market for a product where there is no or less competition. At the same time, SCAMPER, which stands for substitute, combine, adapt, modify, put to other uses, eliminate and rearrange, is a technique that challenges the status quo and helps businesses to explore new market possibilities.

A. Evaluating Attractive of New Product Ideas

Attractive new product ideas can be tested in various ways. According to Spohn (2004) and Tolonen et al. (2015), the attractiveness of new products is determined by five major factors: market life cycle stage, the existence of competitors, technological innovation/change in

regulation, resource availability, age and size of competitors. Several theories, such as organization ecology theory, transaction cost theory, contingency theory, game theory, and Porter's five forces, are among the framework, technique and strategy used to analyse the competition of a business and evaluate new product ideas. For example, organization ecology theory gives the correct overview of organization longevity and sustainability by exploring the environmental condition for the birth and growth of an organization and looking at the economic, social and ecological environment surrounding an organization (Hajmohammad and Shevchenko, 2020). Transaction cost theory explains that organizations (sellers) and customers (buyers) agree in creating economic deals which involve dealing costs (Akbara and Tracognab, 2018). According to Spohn (2004), five factors influence new business or product success: seller and buyer concentration, asset specificity, uncertainty within the transaction process, vertical integration, and the existence of competitors.

Contingency theory, on the other hand, refers to how two or more companies factors impact each other and result in performance distinction, which depends on how an organization combines both internal contingencies (capabilities, strategies, technology, and culture) and external contingencies (environment surround organization) to achieve a maximum result (Jung et al., 2020). In addition to that, Nie et al. (2014) mentioned that game theory is an applied mathematics theory applied and used in various disciplines such as economics, sociology, etc. The game Theory concept anticipates a reaction from other players (competitions) in the game, such as reacting to a high degree of competition, incoming threats and barriers to entry (Spohn, 2004). According to Nalebuff and Brandenburger (1996), Game Theory identified four factors influencing the new business or product attractiveness: product heterogeneity, fixed costs, capital intensity or irreversibility of investments, and competitive responsiveness. Further, Michael Porter created a competitive strategy to analyze a business's competitive position, especially a new company, before venturing into a new market (Yunna and Yisheng, 2013).

B. New Product Idea Generation

SCAMPER is a compelling idea generation and creativity technique (De Bono, 2000). Created by the US psychologist Robert F. Eberle in 1971, the tool aims to enhance product and project execution improvement. It has seven keywords to facilitate new ideas (Özyaprak & Leana-Taşçılar, 2019). SCAMPER has been applied in many contexts, including information systems (Lopes et al., 2020), fashion design (Suh, 2019; Choi and Kim, 2014) and solid waste (Çelikler and Harman, 2015). According to Özyaprak and Leana-Taşçılar (2019), SCAMPER consist of Substitute (alternative products or ideas); Combine (assembling various non-related and interrelated ideas); Adapt (changing existing idea or product to adapt to a new situation or environment); Modify (changing the current products or ideas by magnifying, minifying, modifying it); Put to other uses (using the product in a different situation, and application); Eliminate (enhancing the current product by removing certain part of product features); Rearrange/Reverse (rearrange/reverse certain process and pattern, to create alternative options of products or ideas). SCAMPER was invented in the education industry, which stimulates children's creativity to contribute ideas to solve issues in the games (Tsai, 2019). Tsai (2019) discovered a need to redefine each alphabet meaning into the correct categories. It is strengthened by Radziszewski's research (2017), who found that the SCAMPER's role is to guide users with connecting ideas from various knowledge sources. It showed an understanding that SCAMPER is very crucial for the users. Therefore, if SCAMPER's does not categorize into the correct

categories, it will lead the users to nowhere, and there is a need to redefine SCAMPER's into a business application.

Blue ocean four actions strategy was also associated with a new product idea generation process. The strategy was built with four key questions that help challenge an industry's strategic logic and business model to arrive at blue ocean moves that break the trade-off between differentiation and low cost (Kim and Mauborgne, 2017). Kim and Mourborgne (2017) define four powerful mantra questions to discover and build blue ocean business such as Eliminate: "Which factors that the industry takes for granted should be eliminated?"; Reduce: "Which factors should be reduced well below the industry's standard?"; Raise: "Which factors should be raised well above the industry's standard?"; Create: "Which factors the industry has never offered should be created?". The blue ocean four actions strategy has been applied in many sectors such as manufacturing (Sadiq et al., 2021, Lohtander et al., 2017), construction (Orlov and Chubarkina, 2017) and the government public sector (Ramli et al., 2016).

This paper considered the SCAMPER technique and Four Actions Blue Ocean strategy to create value for the latest products and businesses that separate the organization from its competitors. In addition, four Actions Blue Ocean strategy was considered since it has been proven and extensively applied to creating new business opportunities (Lohtander et al., 2017; Orlov & Chubarkina, 2017).

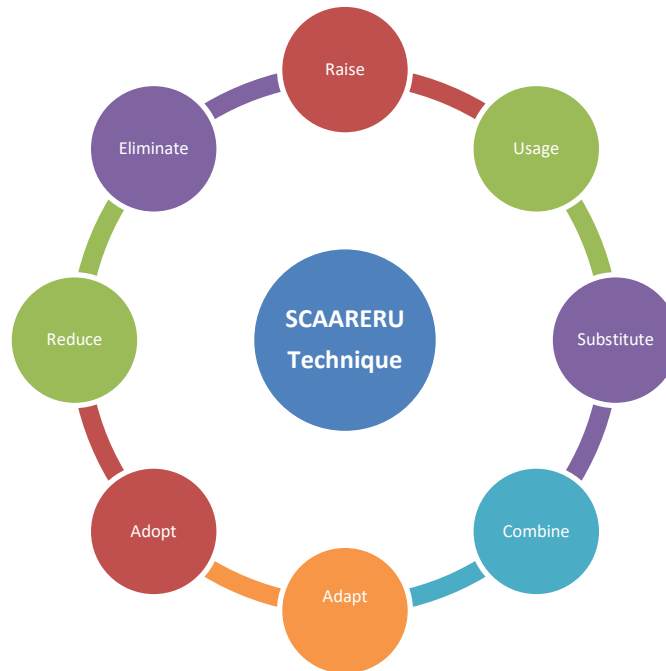
3. The Proposed Technique

This paper develops SCAARERU as a new technique for generating new product ideas. SCAARERU was developed from the "SCAMPER" technique and the "Four Actions Blue Ocean" strategy, which has been extensively used to generate new ideas, especially for new products. It was also developed due to the limitation of SCAMPER. Radziszewski (2017) found that the SCAMPER technique relies solely on guides to help users link ideas of different knowledge sources. According to Tsai (2019), the idea of SCAMPER came from Osborn in 1963 when he developed 73 questions to trigger new ideas, but in 1972, Eberle shortened Osborn's 73 questions list into a short acronym called SCAMPER. Initially, Osborn used SCAMPER in children education applications like a game to stimulate children's interest to generate new ideas and increase curiosity. On the other hand, Tsai (2019) found a need to redefine the SCAMPER technique into the right categories of definitions. The SCAMPER technique has gone through several developments. For example, Ulger (2016) added two new different meanings of the alphabet "M" in SCAMPER on top of its original meaning "Modifying", the two new meanings which is Magnifying and Minimizing to have a broader meaning. On the other hand, Tsai (2019) argues that these three meaning of "M" is not suitable for SCAMPER because Modifying means altering the actual item in form, shape or colour. Still, Magnifying and minimising mean making the actual item bigger or smaller. On the other hand, Burke (1994), due to its limitation meaning of alphabet "A" meaning, widened the alphabet "A" meaning, he extended one more new meaning of the alphabet "A" in SCAMPER, which is "Adapt" on top of its original meaning which is "Adopt". Adapt means to tune or calibrate to fit a purpose or shape (Glenn, 1997) and Adopt means to acquire ideas from the process, model, theory, philosophy or other things to create a new one (Buser et al., 2011). But Tsai (2019) identified that these two meanings of "A" do not fit to be in the SCAMPER technique because "Adopt" and "Adapt" have two different meanings for the "A" alphabet of the SCAMPER technique. Therefore, there is a need to modify and repurpose the

SCAMPER technique for business applications, especially for generating ideas for new products in the business field application.

To repurpose and remodify the SCAMPER technique to apply to the business field, especially in new product ideas creation, it is worthwhile to look into a prevalent new business creation technique. In 2004, a popular new business model called “Blue Ocean Strategy” was introduced by Kim and Mauborgne (Alam and Islam, 2017). The blue ocean strategy introduces several tools to create new value that makes the competition irrelevant. The value creations consist of 4 action strategies: a four-key questions list to ask the company to generate ideas on what needs to be done next to create value for the company to challenge industry standards to create the competition irrelevant (Kim and Mauborgne, 2017). Alam and Islam (2017), the first action is to question which factors should be eliminated. These factors are below the industry standard, and it costs the company long term loss and unnecessary costs. The next question is what factors should be reduced to below industry standard—the third question is what things to rise above industry standards that are valuable to customers. The last question is what things to be created in the current business competition that has never been offered, and it can create new customers demand. The SCAARERU technique is shown in figure 1 below.

Figure 1. The “SCAARERU” Technique



4. Conclusion

This paper proposes a technique, SCAARERU, to develop a new product idea to assist and support business growth, especially MSMEs. A comprehensive technique and the correct product evaluation and development method are essential for business growth and success. In this paper, the proposed technique can provide businesses with a thorough analysis before a product venture. The proposed SCAARERU technique provides a comprehensive guide on generating and evaluating new product ideas. Therefore, this paper offers significant theoretical implications by pointing to the strategy and methods of assessing the market and product. The technique serves as an excellent platform to motivate entrepreneurs to generate ideas and evaluate business opportunities. Also, utilizing a SCAMPER and blue ocean strategy to business cases and management as a part of product development assessment was considered a promising approach both from academic and industrial perspectives.

As with any research work, the technique presented in this paper also has its limitations. First, the SCAARERU technique presented in this paper is developed based on a combination of established theories and techniques. The other important factors and items might need to be introduced into the model to fit the complexity of different business sectors and industries. However, this paper has given an extensive overview of the most relevant factors in the context of MSMEs.

Acknowledgement

This work was supported by the Ministry of Higher Education Fundamental Research Grant Scheme (FRGS) No R.K130000.7855.5F121

References

- Alam, S., and Islam, M.T. (2017) 'Impact of Blue Ocean Strategy on Organizational Performance: A literature review toward implementation logic', *IOSR Journal of Business Management*, Vol. 19, No. 1, pp. 1-19.
- Bushe, B. (2019) "The causes and impact of business failure among small to micro and medium enterprises in South Africa", *Africa's Public Service Delivery and Performance Review*, Vol. 7 No. 1, pp.1-26.
- Buser, J.K., Buser, T.J., Gladding, S.T., and Wilkerson, J. (2011) 'The creative counselor: Using the SCAMPER model in counselor training', *Journal of Creativity in Mental Health*, Vol. 6, No. 4, pp. 256-273.
- Burke, M.E. (1994) 'Creativity circles in information management', *Librarian Career Development*, Vol. 2 No. 2, pp. 8-12.
- BCG Company history. 2020. Available at: <https://www.bcg.com/en-sea/about/our-history/default>
- Castellion, G. and Markham, S.K. (2013) 'Perspective: New product failure rates: Influence of argumentum ad populum and self-interest', *Journal Product Innovation Management*. DOI: 10.1111/j.1540-5885.2012.01009.x.
- Çelikler, D. and Harman, G. (2015) 'The effect of the SCAMPER technique in raising awareness regarding the collection and utilization of solid waste', *Journal of Education and Practice*, Vol. 6 No. 10, pp.149-159.

- Choi, S.Y. and Kim, M.J. (2014) ‘Creative idea and an analysis of fashion design on Korean image through the SCAMPER technique’, *Journal of the Korean Society of Costume*, Vol. 64 No. 1, pp. 1-17.
- Cooper, R. (2011) *Winning at New Products: Creating Value Through Innovation* (4th ed). Basic Books. New York, USA.
- De Bono, E. (2000) *New thinking for the new millennium*. Beverly Hills, California: New Millennium Press.
- Department of Statistics (2021), “Small and Medium Enterprises (SMEs) Performance 2020 ”, available at:
https://www.dosm.gov.my/v1/index.php?r=column/cthemByCat&cat=159&bul_id=KzdrS25pRTZ1VGfkcTINY0FEczBYUT09&menu_id=TE5CRUZCblh4ZTZMODZlBmk2aWRRQT09 (accessed 1 December 2021).
- Dijksterhuis, G. (2016) ‘New product failure: Five potential sources discussed’, *Trends In Food Science & Technology*, Vol. 50, pp.243-248.
- Dunn, L. and Dahl, D.W. (2012) ‘Self-threat and product failure: How internal attributions of blame affect consumer complaining behavior’, *Journal of Marketing Research*, Vol. 49 No. 5, pp. 670-681.
- Griffith, E. (2014) “Why startups fail, according to their founders”
<https://fortune.com/2014/09/25/why-startups-fail-according-to-their-founders/> (Accessed on 1 November 2021).
- Glenn Carroll, (1988) *Ecological Models of Organizations*. Cambridge: Ballinger Publishing Company.
- Glenn, R.E. (1997) ‘SCAMPER for student creativity’, *Education Digest*, Vol. 62 No. 6, pp. 67.
- Hajmohammad, S. and Shevchenko, A. (2020) ‘Mitigating sustainability risk in supplier populations: an agent-based simulation study’, *International Journal of Operations & Production Management*, Vol. 40, pp. 897-920.
- Kim, W., C., and Mauborgne, R. (2017) *Blue Ocean Shift: Beyond Competing. Proven steps to inspire confidence and seize new growth*. Hachette Books. New York.
- Kortge, G.D., and Okonkwo, P.A. (1989) ‘Simultaneous New Product Development: Reducing the new product failure rate’, *Industrial Marketing Management*, Vol. 18, pp. 301-306.
- Lopes, R., Malta, P., Mamede, H. and Santos, V. (2020) *A Creative Information System Based on the SCAMPER Technique*. In European, Mediterranean, and Middle Eastern Conference on Information Systems (pp. 595-606). Springer, Cham.
- Lohtander, M., Aholainen, A., Volotinen, J., Peltokoski, M. and Ratava, J. (2017) ‘Location independent manufacturing—Case-based blue ocean strategy’, *Procedia Manufacturing*, Vol. 11, pp. 2034-2041.
- Nalebuff, B.J. and Brandenburger, A.M. (1996) *Coopetition. A revolutionary mindset that combines competition and cooperation in the marketplace*. The game theory strategy that's changing the game of business. London: Harper Collins Publishers.
- Nie, P.Y. Matsuhisa, T. Wang, H. and Zhang, P.A. (2014) ‘Game theory and applications in economics’, *Journal of Applied Mathematics*.
- Orlov, A.K. and Chubarkina, I.Y. (2017) ‘Blue ocean strategy application in the course of planning and implementation of construction projects in the area of SMART housing and social infrastructure’, In MATEC Web of Conferences, Vol. 106.

- Özyaprak, M., and Leana-Taşçılar, M. Z. (2019) ‘The effectiveness of self-regulated learning on teaching SCAMPER technique of creativity’, *Turkish Journal of Giftedness and Education*, Vol. 9 No. 1, pp. 16–31.
- Radziszewski, E. (2017) ‘SCAMPER and Creative Problem Solving in Political Science: Insights from Classroom Observation’, *Journal of Political Science Education*, Vol. 13 No. 3, pp. 308-316.
- Ramli, A.S., Ahmad, J.B. and Harith, N.M. (2016) ‘Blue ocean strategy in Malaysian public sector: An analysis of the four action framework’, *Advanced Science Letters*, Vol. 22 No. 5-6, pp.1702-1706.
- Sadiq, S., Amjad, M.S., Rafique, M.Z., Hussain, S., Yasmeen, U. and Khan, M.A. (2021) ‘An integrated framework for lean manufacturing in relation with blue ocean manufacturing-a case study’, *Journal of Cleaner Production*, Vol. 279, p.123790.
- Salnikovaa, E., Baglioneb, S.L. and Stantonc, J.L. (2019) ‘To launch or not to launch: An empirical estimate of new food product success rate’, *Journal of Food Products Marketing*. DOI: 10.1080/10454446.2019.1661930.
- Suh, S. (2019) ‘Study on derivation of creative thinking techniques for the fashion design development task’, *Journal of Fashion Business*, Vol. 23, No. 2, pp.48-61.
- Spohn, D. (2004) *Evaluating Market Attractiveness, A New Venture Perspective*. Dissertation of PhD in Economic. University of St. Gallen. Germany.
- The Organisation for Economic Co-operation and Development (OECD) (2018), “SME policy index: Asean 2018”, available at: <https://asean.org/wp-content/uploads/2018/08/Report-ASEAN-SMEPolicy-Index-2018.pdf> (accessed 1 November 2021).
- Tolonen, A., Shahmarichatghieh, M., Harkonen, J. and Haapasalo, H. (2015) ‘Product portfolio management–Targets and key performance indicators for product portfolio renewal over life cycle’, *International Journal of Production Economics*, Vol. 170, pp. 468-477.
- Tsai, L.L. (2019) ‘New SCAMPERS: Reclassifying and redefining thinking skills’, *Internal Journal for Innovation Education and Research*, Vol. 7, No.1.
- Ulger, K. (2016) ‘The creative training in the visual arts education’, *Thinking Skills and Creativity*, Vol. 19, pp. 73-87.
- Victory, K., Nenycz-Thiel, M., Dawes, J., Tanusondjaja, A. and Corsi, A.M. (2021) ‘How common is new product failure and when does it vary?’, *Marketing Letters*, pp.1-16.
- Ward, S. (2019) Why Small Businesses Fail and How to Avoid Failure, available at: <https://www.thebalancesmb.com/why-do-small-businesses-fail-2948582> (Accessed on 12 November 2021).