

Drivers and Barriers in Organizational Innovation Adoption among Malaysian SMEs

Noor Akmal Abdul Wahab¹Izaidin Abdul Majid²

^{1,2}*Faculty of Technology Management and Technopreneurship, Universiti Teknikal Malaysia Melaka, Malaysia*

ABSTRACT: *Small and Medium Enterprises (SME's) are known to have large potential to be expanding to a higher level through innovation. This study was undertaken to identify the factors that can initiate SME to innovate as well as factors that hinder SMEs from innovating. The finding of this study conclude that among the key factors that initiate SMEs to innovate are to improve product quality, reduce environmental damage and extend product range while among the main factors that prevent SMEs from innovating are market dominated by established enterprise, uncertain demand for innovative products or services and lack of excess to expertise. However new generations of SMEs should take the risk in innovations and the willingness to embrace changes by having the right attitude at using knowledge and creativity to meet the demand of the technology driven innovation economy.*

KEYWORDS: *Drivers and Barriers, Organizational Innovation, Organizational Performance, Small and Medium Enterprises*

I. Introduction

Lately Malaysia Government is progressively captivating in free trade agreements to open business access and set up components that encourage worldwide exchange and speculations. As a result, customers obtain increases in purchasing power and these assumptions will invigorate interest for excellence products. Nowadays it is common for business performance to be associated to overall innovativeness as innovative firms are up to twice as profitable as other firms [1-4]. Given by these changing domestic and global economic landscapes, initiatives to enhance national competitiveness and resilience through innovation strategies are a priority especially in the small and medium-sized enterprise (SME) sector since this sector was considered as part of major contributor to Malaysia Gross Domestic Product. Due to that reason Malaysian Government aim to strengthening and developing the SMEs as the engine of growth and innovation by intensifying on more SME activities such as reducing regulatory costs incurred by SMEs, SME capacity building, supporting a culture of entrepreneurship, strengthening infrastructure and enhancing access to financing.

Since Small and Medium Enterprises (SMEs) are part of the country's economic development contributor, they are known to have large potential to be expanding to a higher level through innovation. New policies and incentives were developed and varieties of programs have been provided by the Malaysian Government to assist the financing and to help in stimulating and attracting more SMEs in Malaysia to become innovative entrepreneur. However due to the smaller size, SMEs have limited managerial capabilities as well as limited resources and these are among the issues that can influence the decision not to carry out any innovation within their organization. Since any deficiencies in innovation would have cause SMEs not to gain benefit from these innovations thus would stop SMEs in achieving their full potential. The findings from national survey by MOSTI also has point out that one of the major factor that hampering innovation activities or influencing the decision not to innovate is lack of appropriate source of finance [5].

Consequently, in order to catch up with the rapid economic development, the SMEs need to evolve through changes and innovate to survive and remain competitive. Nevertheless, managing and handling changes in organizations by implementing organizational innovation is never an easy task since there are many factors that have to be considered to prevent any mistakes when making decisions. This is because organizations such as SMEs will always face a variety of risks and threats as well as the uncertain economic conditions. Therefore they should always be alert and vigilant to match the capacity and capability to the rapidly changing environment through evaluating their strengths and weaknesses [6].

II. Literature Review

2.1 Organizational Change and Absorptive Capacity

Recently, there is an increasing awareness of the role and importance of organizational innovation as part of a competitive strategy in facing current economic challenges [7, 8]. Although the changes are risky and have a high failure rate whereby nearly 70 per cent of change initiatives fail but due to the need to survive, the change needs to be made [9, 10]. The relatively high failure rate is probably due to the lack of framework and reliable information that can guide the organization to handle the change successfully [11].

Therefore it is vital for organizations to develop the capacity for rapid adaptation, innovation and flexibility so they can cope with the rapidly changing market [12-15]. This is because the pace of organizational adaptation to opportunities and threats and the rate of environmental change are the vital success factors for organizational growth and survival [6, 16, 17]. If an organization wants to move towards full sustainability, they must be able to identify the stage where it is now so that it can determine the ways on how to move forward.

The term absorptive capacity was created by Cohen and Levinthal [18] to reflect the firm's ability to value, assimilate, and apply new knowledge especially the external knowledge which is the critical organizational resource for success in dynamic economic environment [19]. Since organizational innovation represents an important source of sustainable competitive advantage, it is essentially a requirement for an organization to innovate and the organizational absorptive capacity has become an influential framework in the study of organizational innovation. The organization's ability to acquire, absorb and exploit external knowledge effectively constitutes a critical factor for companies with an interest in achieving innovation outcomes [18, 20-22]. Thus, the combination of organizational absorptive capacity and a successful organizational change management is essential to ensure the survival of an organization [11].

2.2 Organizational Innovation

Being innovative and understand on how to manage organizational innovation (OI) process is a prerequisite that organizations must have to gain higher performance level and competitive advantage [23]. Innovation is crucial since it provides a positive impact on the organization's capability, the social change and also the economic change [24-26] and it has to be a organizational continuous effort in maintaining the innovation activities or the organization will face the risk of becoming stagnant [27-29]. OI can generally be defined as the adoption of any idea or behavior that is new through making changes in the structure and processes of an organization [30-34] while having regard that individual creativity is the vital source in generating the new idea [35-37]. The expansiveness of innovation incorporates gear, frameworks, strategies, techniques, items and administrations while the profundity of innovation likewise incorporates significance, level of impact and consequences for long term productivity.

The importance of OI in creating wealth and allowing organization growth has been recognized [38-40] with numerous studies supporting the relationship between OI and performance [41-45] which in turn make OI part of the important and sustainable sources of competitive advantage due to its constantly changing nature [46, 47]. Despite the fact that previous studies have proven that OI can assist in enhancing organizational performance, there is no guarantee that every attempt in adopting OI will be successful or for it to run smoothly during the process of change in the organization [48]. Thus a well-organized system which based on both successful and failure experiences and the integration of internal resources is needed to ensure that the OI process can move along more efficiently and successfully [48, 49].

2.3 Drivers and Barriers in Organizational Innovation Adoption

In order to develop a comprehensive strategy framework in adopting organizational innovation, the main question that needs to be considered is what are the factors and drivers that would motivate or even hamper an organization to be innovative. There are many past innovation researches that have look into this matter and have come out with their answer on the motivating forces despite the innovation adoption. Based on literatures from Laforet [50], Ganter and Hecker [51], Mol and Birkinshaw [52], Garcia-Morales, et al. [23], Clarke [53], Starkey and McKinlay [54], Tao [55], Naranjo-Gil [56] and Radas and Božić [57] stated that the most common driving factor found to be the motivator for an organization to innovate is the environmental factor.

However, the environmental term involved relatively broad meanings such as the market environment, the geographic scope, the operating environment of the firm itself, the administrative structure and the organization capacity and the technological environment that will encourage the organization to be innovative. For an organization to stay competitive in the competitive market they must have good knowledge and understanding on organizational innovation and also type of environment that the organizations have to confront due to the environment uncertainty [23, 50, 56].

Environmental changes towards market globalization means there will be more competitors and intense competition that caused the organization to change by being innovative and move on to the latest tools and techniques especially for small and medium organizations in order to gain market share, higher chances of survival and growth and also to outperform their rivals [58-64]. Another factor that determines the decision to innovate is the top management strategic commitment in strengthening the organizational core competencies and innovation capacity which include the financial, highly educated and skilled workforce and collaborative structure in multi-functional teams and technological competencies [50, 57, 65, 66].

Financial has been identified as the most vital issue that can hamper the SMEs from adopting innovation due to the high costs of innovation and lack of awareness on the alternative sources of finance [57, 67-70]. Customers are also considered as part of the innovation driving factor since firms need to maintain good relationships with their customers through working closely and hand in hand in order to meet the customers' requirements and demands by developing new products and services [50]. Therefore, a unique and well-defined corporate strategy is needed in order for innovation to have a significant positive effect towards organizational performance.

III. Methodology

3.1. Population and sampling

For this study the population are limited to the SME from the central region and southern region of Malaysia namely as Selangor, Kuala Lumpur, Negeri Sembilan, Melaka and Johor. The lists of SME companies were prepared by randomly selecting companies in the SME directory from the SME Corp based on sectors which are manufacturing, services and other sector sector in Selangor, Kuala Lumpur, Negeri Sembilan, Melaka and Johor. A total of 1500 questionnaires have been distributed to the respondents that were have been selected through stratified random sampling technique using random number generator software where each member of a sector population will have an equal opportunity to become part of the research sample and this is said to be the efficient sampling procedure [71]. The questionnaire was distributed by mail, e-mail and self-administered handing out by the assistant researchers and enumerators. From the 1,500 questionnaires distributed, 352 respondents returned the questionnaires back where out of that 315 are usable for analysis.

3.2. Instrumentation

In order to address the objectives of this study, a survey method was used for this study in order to investigate the feedbacks of the participants based on a certain topic. In line to efficiently use the survey method for this study, a questionnaire was developed. The questionnaire was originally designed to measure the innovativeness rate of the SME companies as well as to make the most of the information on identifying the factors that lead to acceptance and rejection of innovation applications within their organization that affect the innovation projects and also to understand the current organizational environment dimensions of the SME's in Malaysia. The assessment is based on the respondents' opinion on the list of contributing factors and barriers that are given in terms of the degree of importance whether it is low, medium, high or never experienced it.

3.3. Data Analysis Procedures

A simple analysis using IBM SPSS Statistics Version 20.0 software is conducted to examine the percentage and frequency of the drivers and barriers.

IV. Results and discussion

The respondents were asked the main reasons for them to innovate and the results indicated as in Table 1 that the top three reasons that majority of the respondents choose are to improve product quality as the main reason to innovate, to reduce environmental damage and to extend product range which is similar to the findings of Beneito, et al. [72]. While other reasons such as to reduce materials and labor cost, increase speed of production time, flexibility and capacity and reduce energy consumption also have high percentage of vote. This result shows that Malaysian SMEs still have the desire to innovate, even though there are obstacles that hinder their plans and attempts to innovate as they are aware and know the advantages they will get if their innovation strategy is implemented correctly. Although many SMEs in developing countries tend not to innovate due to lack of financial support and the complex procedure [73], therefore SMEs need to find the effective channels of information to forecast customers future purchasing behavior [74] so they can expand their market by attracting more new customers and maintaining the loyalty of former customer [75, 76].

Statement	Percent
To improve product quality	45.4
To reduce environmental damage	45.0
To extend product range	44.8
To reduce materials	44.4
To increase speed of delivering products to the market	44.1
To increase production capacity	42.5
To reduce production time	41.2
To reduce your labor costs	40.0
To improve production flexibility	40.0
To reduce energy consumption	40.0
To replace products being phased out	38.1
To deal with or to respond to new government regulations	35.9

Table 1: Reason to innovate

While TABLE 2 present the eleven factors that hinders Malaysian SMEs from innovating. The top three reasons chosen by the respondents are market is because market dominated by established enterprises, uncertain demand for innovative goods or services and innovation costs to high which is similar to the findings of Ghazilla, et al. [77]and Eravia and Handayani [78]. Although SMEs are provided with facilities and incentives, the SMEs find that there is still lack of sufficient financial resources and funds for them that hindering them from innovating and expanding their business[79]. Other factors such as lack of support in technical expertise and difficult to acquire cooperation with other parties as partners for innovation are also the reasons that can affect them to decide not to innovate. Even though SMEs are often linked as a driving force for innovation[80], then again their innovative and creative capacity was not always utilized to the fullest as many SMEs are still not aware on choosing the suitable strategies that suit their organization that can lead to various management problems in innovation activities [81, 82]

Statement	Percent
Market dominated by established enterprises	27.3
Uncertain demand for innovative goods/services	24.1
Innovation costs too high	23.8
Lack of access to expertise in government laboratories that could assist in developing/introducing new or significantly improved products/processes.	23.2
Lack of access to expertise in universities that could assist in developing/introducing new or significantly improved products/processes.	22.9
Lack of external technical support services required to develop /introduce new or significantly improved products/processes	21.6
Lack of qualified personnel	21.3
Difficulty in finding cooperation with other firms as partners for innovation	21.0
Lack of finance from source outside your enterprise	20.6
Lack of funds within your enterprise	20.3
Lack of information on technology relevant to the development / introduction of new or significantly improved products	20.3

Table 2: Reasons not to innovate.

This study has identified several factors that can initiate SME to innovate as well as factors that hinder SMEs from innovating. Some of the factors identified which prevent SMEs from innovating are the high cost in innovation and the uncertain demand in innovative product due to lack of information and inability to predict customers' demands and situations [50, 53, 54, 56, 83-86]. Despite many studies showing organization innovation positive impact, but there are many more SMEs are still hesitant to make innovation in their organizations because there is no guarantee that every attempt in adopting organizational innovation will be successful or run smoothly during the process of change in the organization [48]. This is because the implementation of innovation requires financial stability and also risky and being innovative which means that they need to understand on how to manage organizational innovation process[23]. Therefore it is necessary for organization to have the ability to acquire, absorb and exploit external knowledge effectively so that they can increase their innovative capability in a sustainable way[87].

V. Conclusion

The performance of SMEs are vital for Malaysia because of the contribution by the SMEs would help in leading Malaysia in becoming a high income country and this can be achieved through emphasizing innovation in organizations since it is known that the capability to innovate is the important factors to survive and succeed [88]. As for an organization to implement organizational innovation and become successful, it requires a strong cultural commitment and high degree of organizational discipline, a process approach, a measurement orientation and a willingness to change [89]. Along with all the facilities, incentives and programs provided by the government, SMEs in Malaysia must make use all the benefit and opportunities given to thrive and remain competitive. SME need to fully utilized their innovative and creative capacity as well as be more cautious on choosing the suitable strategies that suit their organization or it can lead to various management problems in innovation activities [81, 82]. Thus, it is hoped that through continuous development and innovation assistance from the Malaysian government and relevant agencies can contribute to the resilience of SMEs in becoming more innovative [90].

REFERENCES

- [1] A. E. Akgün, H. Keskin, J. C. Byrne, and S. Aren, "Emotional and learning capability and their impact on product innovativeness and firm performance," *Technovation*, vol. 27, pp. 501-513, 2007.
- [2] J. Tidd and J. Bessant, *Managing innovation: integrating technological, market and organizational change*: Wiley, 2011.
- [3] S. Gannon. (2007, 24 March 2013). Why innovate. Available: http://innovationwikie.brighton.ac.uk/index.php/Why_Innovate
- [4] R. Gilmore, *The innovation journey: Australian Institute for Commercialisation.*, 2009.
- [5] C. Lee and L. C. Ging, "SME Innovation in the Malaysian Manufacturing Sector," *Economics Bulletin*, vol. 12, pp. 1-12, 2007.
- [6] A. Schmitt and P. Klarner, "From snapshot to continuity: A dynamic model of organizational adaptation to environmental changes," *Scandinavian Journal of Management*, vol. 31, pp. 3-13, 2015.
- [7] M. Mazzanti, P. Pini, and E. Tortia, "Organizational innovations, human resources and firm performance: The Emilia-Romagna food sector," *Journal of Socio-Economics*, vol. 35, pp. 123-141, 2006.
- [8] C. S. Koberg, N. Uhlenbruck, and Y. Sarason, "Facilitators of organizational innovation: The role of life-cycle stage," *Journal of Business Venturing*, vol. 11, pp. 133-149, 1996.
- [9] V. Pellettiere, "Organization Self-Assessment to Determine the Readiness and Risk for a Planned Change," *Organization Development Journal*, vol. 24, 2006.
- [10] P. Klarner, G. Probst, and R. Soparnot, "Organizational change capacity in public services: The case of the World Health Organization," *Journal of Change Management*, vol. 8, pp. 57-72, 2008.
- [11] N. Heckmann, T. Steger, and M. Dowling, "Organizational capacity for change, change experience, and change project performance," *Journal of Business Research*, vol. 69, pp. 777-784, 2// 2016.
- [12] D. A. Levinthal and J. G. March, "The myopia of learning," *Strategic management journal*, vol. 14, pp. 95-112, 1993.
- [13] F. A. Van Den Bosch, H. W. Volberda, and M. De Boer, "Coevolution of firm absorptive capacity and knowledge environment: Organizational forms and combinative capabilities," *Organization science*, vol. 10, pp. 551-568, 1999.
- [14] A. Pettigrew and R. Whittington, *Complementarities in action: Competition and change in BP and Unilever 1985-2000*. London: Sage, 2003.
- [15] R. A. Kok and P. H. Driessen, "Antecedents of market orientation in semi-public service organizations: A study of Dutch housing associations," *The Service Industries Journal*, vol. 32, pp. 1901-1921, 2012.
- [16] A. Y. Lewin and H. W. Volberda, "Prolegomena on coevolution: A framework for research on strategy and new organizational forms," *Organization science*, vol. 10, pp. 519-534, 1999.
- [17] M. T. Hannan and J. Freeman, "Structural inertia and organizational change," *American sociological review*, pp. 149-164, 1984.
- [18] W. M. Cohen and D. A. Levinthal, "Absorptive capacity: a new perspective on learning and innovation," *Administrative Science Quarterly*, vol. 35, 1990.
- [19] D. J. Teece, G. Pisano, and A. Shuen, "Dynamic capabilities and strategic management," *Strategic management journal*, pp. 509-533, 1997.
- [20] A. L. Leal-Rodríguez, J. A. Ariza-Montes, J. L. Roldán, and A. G. Leal-Millán, "Absorptive capacity, innovation and cultural barriers: A conditional mediation model," *Journal of Business Research*, vol. 67, pp. 763-768, 2014.

- [21] W. Tsai, "Knowledge transfer in intraorganizational networks: Effects of network position and absorptive capacity on business unit innovation and performance," *Academy of management journal*, vol. 44, pp. 996-1004, 2001.
- [22] I. M. Cockburn and R. M. Henderson, "Absorptive capacity, coauthoring behavior, and the organization of research in drug discovery," *The Journal of Industrial Economics*, vol. 46, pp. 157-182, 1998.
- [23] V. J. Garcia-Morales, F. J. Llorens-Montes, and A. J. Verdu-Jover, "Antecedents and consequences of organizational innovation and organizational learning in entrepreneurship," *Industrial Management & Data Systems*, vol. 106, pp. 21-42, 2006.
- [24] C.-F. Cheng, M.-L. Chang, and C.-S. Li, "Configural paths to successful product innovation," *Journal of Business Research*, vol. 66, pp. 2561-2573, 2013.
- [25] S.-H. Kim and K.-H. Hwang, "Winning strategies for innovation and high-technology products management," *Journal of Business Research*, vol. 64, pp. 1147-1150, 2011.
- [26] S.-I. Wu and C.-L. Lin, "The influence of innovation strategy and organizational innovation on innovation quality and performance," *International Journal of Organizational Innovation (Online)*, vol. 3, p. 45, 2011.
- [27] B. Leavy, "The concept of learning in the strategy field review and outlook," *Management Learning*, vol. 29, pp. 447-466, 1998.
- [28] S.-T. Chen and B.-G. Chang, "The Effects of Absorptive Capacity and Decision Speed on Organizational Innovation: A Study of Organizational Structure as an Antecedent Variable," *Contemporary Management Research*, vol. 8, pp. 27-50, Mar 2012 2012.
- [29] J. Marshall, S. Smith, and S. Buxton, "Learning Organisations And Organisational Learning: What have we learned?," *Management Services*, vol. 53, p. 36, 2009.
- [30] F. Damanpour, "The Adoption of Technological, Administrative, and Ancillary Innovations: Impact of Organizational Factors," *Journal of Management*, vol. 13, pp. 675-688, 1987.
- [31] F. Damanpour and W. M. Evan, "Organizational Innovation and Performance: The Problem of Organizational Lag," *Administrative Science Quarterly*, vol. 29, 1984.
- [32] O. f. E. Co-operation and Development, *Oslo manual: Guidelines for collecting and interpreting innovation data: OECD publishing*, 2005.
- [33] F. Damanpour, "Organizational innovation: A meta-analysis of effects of determinants and moderators," *Academy of Management Journal*, pp. 555-590, 1991.
- [34] R. L. Daft, "A Dual-Core Model of Organizational Innovation," *Academy of Management Journal*, vol. 21, pp. 193-210, 1978.
- [35] M. R. Redmond, M. D. Mumford, and R. Teach, "Putting creativity to work: Effects of leader behavior on subordinate creativity," *Organizational behavior and human decision processes*, vol. 55, pp. 120-151, 1993.
- [36] C. E. Shalley and L. L. Gilson, "What leaders need to know: A review of social and contextual factors that can foster or hinder creativity," *The Leadership Quarterly*, vol. 15, pp. 33-53, 2004.
- [37] R. SeyedHadi and O. Attarnezhad, "Management of Organizational Innovation," *International Journal of Business and Social Science*, vol. 4, Jan 2013 2013.
- [38] R. D. Ireland, M. A. Hitt, S. M. Camp, and D. L. Sexton, "Integrating entrepreneurship and strategic management actions to create firm wealth," *The Academy of Management Executive*, vol. 15, pp. 49-63, 2001.
- [39] P. F. Drucker, "Innovative and Entrepreneurship, Practice and Principles," ed: Harper & Row, Publishers, Inc, 1985.
- [40] J. A. Schumpeter, *The Theory of Economic Development: An Inquiry into Profits, Capital, Credit, Interest, and the Business Cycle (1912/1934): Transaction Publishers*, 1982.
- [41] R. F. Hurley and G. T. M. Hult, "Innovation, market orientation, and organizational learning: an integration and empirical examination," *The Journal of Marketing*, pp. 42-54, 1998.
- [42] E. Caroli and J. Van Reenen, "Skill-biased organizational change? Evidence from a panel of British and French establishments," *The Quarterly Journal of Economics*, vol. 116, pp. 1449-1492, 2001.
- [43] F. Damanpour, K. A. Szabat, and W. M. Evan, "The relationship between types of innovation and organizational performance," *Journal of Management Studies*, vol. 26, pp. 587-602, 1989.
- [44] N. Greenan, "Organisational change, technology, employment and skills: an empirical study of French manufacturing," *Cambridge Journal of Economics*, vol. 27, pp. 287-316, 2003.
- [45] M. Piva and M. Vivarelli, "The skill bias: comparative evidence and an econometric test," *International review of applied economics*, vol. 16, pp. 347-357, 2002.
- [46] G. Hamel, "The why, what, and how of management innovation," *Harvard Business Review*, vol. 84, p. 72, 2006.

- [47] G. Hamel, "Management innovation," *Leadership Excellence*, vol. 24, pp. 5-5, 2007.
- [48] C. C. Lin, J. L. Yeh, and G. W. Hung, "Internal Impediments of Organizational Innovation: An Exploratory Study," *Journal of the Knowledge Economy*, vol. 3, pp. 185-198, Jun 2012.
- [49] I. Nonaka, H. Takeuchi, and H. Takeuchi, "The knowledge-creating company: how Japanese companies create the dynamics of innovation. 1995," New York, NY, 1995.
- [50] S. Laforet, "Organizational innovation outcomes in SMEs: Effects of age, size, and sector," *Journal of World Business*, vol. 48, pp. 490-502, 2013.
- [51] A. Ganter and A. Hecker, "Deciphering antecedents of organizational innovation," *Journal of Business Research*, vol. 66, pp. 575-584, 2013.
- [52] M. J. Mol and J. Birkinshaw, "The sources of management innovation: When firms introduce new management practices," *Journal of Business Research*, vol. 62, pp. 1269-1280, 2009.
- [53] L. Clarke, *The essence of change*: Prentice hall London, 1994.
- [54] K. Starkey and A. McKinlay, *Organizational Innovation*. Avebury, Aldershot, 1988.
- [55] R. Tao, "Barriers and drivers for process innovation in the petrochemical industry: A case study," *Journal of Engineering and Technology Management*, vol. 26, pp. 285-304, 2009.
- [56] D. Naranjo-Gil, "The influence of environmental and organizational factors on innovation adoptions: Consequences for performance in public sector organizations," *Technovation*, vol. 29, pp. 810-818, 2009.
- [57] S. Radas and L. Božić, "The antecedents of SME innovativeness in an emerging transition economy," *Technovation*, vol. 29, pp. 438-450, 2009.
- [58] J. M. C. Knot, J. C. van den Ende, and P. J. Vergragt, "Flexibility strategies for sustainable technology development," *Technovation*, vol. 21, pp. 335-343, 2001.
- [59] M. L. Santos-Vijande and L. I. Álvarez-González, "Innovativeness and organizational innovation in total quality oriented firms: The moderating role of market turbulence," *Technovation*, vol. 27, pp. 514-532, 2007.
- [60] L. Donaldson, *The contingency theory of organizations*: Sage, 2001.
- [61] S. Gopalakrishnan and F. Damanpour, "A review of innovation research in economics, sociology and technology management," *Omega*, vol. 25, pp. 15-28, 1997.
- [62] W. M. Cohen and R. C. Levin, "Empirical studies of innovation and market structure," 1989.
- [63] E. Cefis and O. Marsili, "Survivor: the role of innovation in firms' survival," *Research Policy*, vol. 35, pp. 626-641, 2006.
- [64] J. P. J. De Jong and O. Marsili, "The fruit flies of innovations: A taxonomy of innovative small firms," *Research Policy*, vol. 35, pp. 213-229, 2006.
- [65] D. Canto, J. Galende, and I. S. Gonzalez, "A resource-based analysis of the factors determining a firm's R&D activities," *Research Policy*, vol. 28, pp. 891-905, 1999.
- [66] J. Tidd, "Measuring strategic competencies: Technological, market and organisational indicators of innovation," ed: Imperial College Press, London, 2000.
- [67] A. Hadjimanolis, "Barriers to innovation for SMEs in a small less developed country (Cyprus)," *Technovation*, vol. 19, pp. 561-570, 1999.
- [68] M. S. Freel, "Barriers to product innovation in small manufacturing firms," *International Small Business Journal*, vol. 18, pp. 60-80, 2000.
- [69] A. Kaufmann and F. Tödting, "How effective is innovation support for SMEs? An analysis of the region of Upper Austria," *Technovation*, vol. 22, pp. 147-159, 2002.
- [70] W. Bartlett and V. Bukvič, *Knowledge transfer in Slovenia: Supporting innovative SMEs through spin-offs, technology parks, clusters and networks*, 2006.
- [71] W. L. Neuman, *Social Research Methods (6th Edition) : Qualitative and Quantitative Approaches*: Pearson, 2006.
- [72] P. Beneito, P. Coscollá-Girona, M. E. Rochina-Barrachina, and A. Sanchis, "Competitive pressure and innovation at the firm level," *The Journal of Industrial Economics*, vol. 63, pp. 422-457, 2015.
- [73] M. I. Dahnil, K. M. Marzuki, J. Langgat, and N. F. Fabeil, "Factors influencing SMEs adoption of social media marketing," *Procedia-Social and Behavioral Sciences*, vol. 148, pp. 119-126, 2014.
- [74] A. J. Kim and E. Ko, "Do social media marketing activities enhance customer equity? An empirical study of luxury fashion brand," *Journal of Business Research*, vol. 65, pp. 1480-1486, 2012.
- [75] N. Michaelidou, N. T. Siamagka, and G. Christodoulides, "Usage, barriers and measurement of social media marketing: An exploratory investigation of small and medium B2B brands," *Industrial marketing management*, vol. 40, pp. 1153-1159, 2011.
- [76] C. Castronovo and L. Huang, "Social media in an alternative marketing communication model," *Journal of Marketing Development and Competitiveness*, vol. 6, p. 117, 2012.

- [77] R. A. R. Ghazilla, N. Sakundarini, S. H. Abdul-Rashid, N. S. Ayub, E. U. Olugu, and S. N. Musa, "Drivers and Barriers Analysis for Green Manufacturing Practices in Malaysian SMEs: A Preliminary Findings," *Procedia CIRP*, vol. 26, pp. 658-663, 2015.
- [78] D. Eravia and T. Handayani, "The Opportunities and Threats of Small and Medium Enterprises in Pekanbaru: Comparison between SMEs in Food and Restaurant Industries," *Procedia-Social and Behavioral Sciences*, vol. 169, pp. 88-97, 2015.
- [79] N. Salikin, N. Ab Wahab, and I. Muhammad, "Strengths and Weaknesses among Malaysian SMEs: Financial Management Perspectives," *Procedia-Social and Behavioral Sciences*, vol. 129, pp. 334-340, 2014.
- [80] A. S. Saleh, P. Caputi, and C. Harvie, "Perceptions of business challenges facing Malaysian SMEs: some preliminary results," 2008.
- [81] S.-S. Sukarmijan and O. D. V. Sapong, "The importance of intellectual property for SMEs; Challenges and moving forward," *UMK Procedia*, vol. 1, pp. 74-81, 2014.
- [82] C. H. Hoe, "Financial management practices: an in-depth study among the CEOs of Small and Medium Enterprises (SMEs)," *International Review of Business Research Papers*, vol. 6, pp. 13-35, 2010.
- [83] R. M. Grant, "Strategic planning in a turbulent environment: evidence from the oil majors," *Strategic Management Journal*, vol. 24, pp. 491-517, 2003.
- [84] S.-H. Liao and T.-C. Hu, "Knowledge transfer and competitive advantage on environmental uncertainty: An empirical study of the Taiwan semiconductor industry," *Technovation*, vol. 27, pp. 402-411, 2007.
- [85] A. K. Gupta and V. Govindarajan, "Business unit strategy, managerial characteristics, and business unit effectiveness at strategy implementation," *Academy of Management Journal*, vol. 27, pp. 25-41, 1984.
- [86] N. Karagozoglu, "Environmental uncertainty, strategic planning, and technological competitive advantage," *Technovation*, vol. 13, pp. 335-347, 1993.
- [87] S. Trantow, A. Hansen, A. Richert, and S. Jeschke, "Emergence of innovation—eleven strategies to increase innovative capability," in *Automation, communication and cybernetics in Science and Engineering 2011/2012*, ed: Springer, 2013, pp. 161-189.
- [88] A. R. Ibrahim, A. H. S. Zolait, S. Subramanian, and A. V. Ashtiani, "Organizational Innovative Capabilities: An Empirical Study of Malaysian Firms," *Journal of Innovation and Business Best Practices*, vol. 1, pp. 9-18, 2009.
- [89] T. H. Davenport, "Process Innovation," 1993.
- [90] M. Z. Muhammad, A. K. Char, M. R. bin Yaso, and Z. Hassan, "Small and Medium Enterprises (SMEs) Competing in the Global Business Environment: A Case of Malaysia," *Editorial Board*, p. 66, 2010.