

Investigating the Determinants of Green Entrepreneurial Intention: A Conceptual Model

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Keywords: Green Entrepreneurship, Malaysia, Intention, TPB, Green Entrepreneurial Intention.

Abstract: Green entrepreneurship is an emerging important agenda in business education as well as economic policy. It is recognized as a crucial path to green economic growth that is instrumental to sustainability. Despite its importance, the knowledge about the determinants to nurture the green entrepreneurial intention is still at infancy. The gaps in literature provide great opportunity for this research. To address these gaps, investigation on the determinants of green entrepreneurial intention is pursued and explained based on the Theory of Planned Behaviour in the context of Malaysian MBA students. Educational service provider, green business community and educational policy makers will be benefited from the findings of this research as it provides the determinants and insights on green entrepreneurial intention. This will help the stakeholders of education to align their strategies in developing their business education programs.

1 BACKGROUND OF STUDY

Green entrepreneurship is the backbone to green economic growth that not only promises job creation and economic growth (International Labour Organization, 2013; 2014), but also is considered as a crucial path to sustainability (Allen and Malin, 2008; Gibbs and O'Neill, 2012; Schaper, 1993). A green entrepreneur is someone who is committed towards the effort to adopt environmentally friendly production such as new technology, into his business or involve in business that produces environmentally friendly products (OECD, 2011). Intention to become a green entrepreneur is a planned behavior. The event of becoming a green entrepreneur is therefore a result of an individual's inclination to undertake the risk of starting-up a new venture in green business sector.

In 2008, the total world market for green products and services was estimated at around US\$1,370 billion and was set to double by 2020 (United Nations Environment Programme, 2008). In 2009, the revenue generated by green businesses made up 1.38% of Malaysia's GDP (ILO, 2014), increased to 2% in 2013 and expected to increase to 8% by 2020 (Adnan, 2013). The Malaysian government is devoted to pursue green economy, as

reflected in the key agenda of pursuing green growth for sustainability and resilience in 11th Malaysia Plan (Economic Planning Unit, 2015). The agenda is set to be achieved through sustainable consumption and production concept in government procurement, adoption of green buildings criteria and green certification. Government green procurement will be made mandatory for all government ministries and agencies. By 2020, it is targeted that at least 20% of government procurement will be green (Economic Planning Unit, 2015). Despite strong commitment from the government, Malaysia has been underperforming in green economy. Environmental Performance Index 2016 ranked Malaysia 63rd in 180 countries; the Global Green Economy Index 2016 concluded that Malaysia continued to decline in green economic performance, especially in the dimension of markets and investment, despite continuous pledging of public resources to support the sector and growing concern of business leaders and consumers towards for sustainability of present business and economic model (Tamanini, 2016). These figures have indicated limited number of green enterprises being started up in the country.

1.1 Entrepreneurial Intention of Malaysian

In general, statistics shows that Malaysian possesses low intention to become entrepreneur. Acs, Laszlo and Autio (2016) found Malaysia ranked 56th among 132 countries based on Global Entrepreneurship Index, dropped 3 places from 2015, among the top 10 biggest decline of all indexed countries. Global Monitor of Entrepreneurship (GEM) shows Malaysian to be among the least interested with entrepreneurship in ASEAN and worldwide (Singer et al., 2015). This is supplemented by the lowest perceived capabilities of Malaysian to achieve entrepreneurial success in the region, which is in strong contrast to strong belief of abundant entrepreneurial opportunities and low fear of failure, in both ASEAN and worldwide context. GEM statistics also shows that in 2014, Malaysia had the lowest nascent entrepreneurship rate, new business ownership, and early-stage entrepreneurial activity in ASEAN. The report also showed Malaysian firms at early-stage entrepreneurial activity were relatively not innovative among ASEAN competitors, where only 30% were offering new product to all or some of its customers, compared to 61% of new Philippines firms and near to half of new start-up firms from other ASEAN countries. However, there is no relevant study so far to clearly show the intention level of average Malaysian to venture into green entrepreneurship, hence it is difficult to determine if Malaysian are equally uninterested with green entrepreneurship.

1.2 Entrepreneurship Education in Malaysia

Knowledge is critical to the economic growth of a country through the investment in education of human capital (Islam et al., 2016). Therefore, entrepreneurship education is central to the development and nurturing of entrepreneurial characteristics among students, particularly at higher education institutions (HEIs). A report by the Ministry of Higher Education Malaysia (MOHE) in 2015 showed tremendous effort in term of capital investment to develop entrepreneurship education in Malaysia. As of 2015, entrepreneurship centre had been established in all HEIs. In the report, 53% of HEIs in Malaysia had inculcated entrepreneurship elements in their programs and 57% of HEIs had incorporated more than 15% of practical elements in teaching entrepreneurship (Loh et al., 2015). In 2017, the Siswapreneur Showcase 2017 programme

was launched by MOHE to provide a platform and expose students to the real world of entrepreneurship so that they would be prepared to put their entrepreneurial knowledge and skills into practice (The Star Online, 2017).

However, based on Cheng et al., (2009), there is a mismatch between the outcomes that is expected from HEIs' alumni, for example, their entrepreneurship knowledge acquisition is rather unfavorable. Based on this fact, the effectiveness of the current program can be further improved. The report by MOHE in 2015 indicates that students and alumna from HEIs responded that areas to be improved are the curriculum and delivery of content by academia. In term of return-on-investment, it was reported that 17% of entrepreneurship centers in public HEIs generated 30% or more than their operating budget. Moreover, 39% of the HEIs reported to benefited half of student population in entrepreneurial activities. Therefore, the satisfaction rates on the perceived entrepreneurship ecosystem among the students were reported to be mediocre (Hamidon, 2015). As far as green entrepreneurship is concerned, there is a little indication of direct and formal integration of green entrepreneurship values into entrepreneurship education.

2 THEORETICAL MODEL

Green Entrepreneurial Intention (GEI) can be explained based on the framework of Ajzen's (1991) Theory of Planned Behavior (TPB). TPB is one of the most well-known theoretical frameworks for research related to intention (e.g. Liñán and Chen, 2009; Liñán et al., 2011; Liñán et al., 2011). There are three fundamental components in Ajzen's TPB model: attitudes, subjective norms and perceived behavioral control, often referred to as cognitive variables in empirical study (Liñán and Chen, 2009). Attitudes refer to "the degree to which a person has a favorable or unfavorable evaluation or appraisal of the behavior in question" (Ajzen, 1991). Iakovleva et al., (2011) explained subjective norms as the perceived social pressure to perform or avoid a behavior by a person. It can also be defined as a person's perception of whether a particular behavior is important in his or her life (Krueger et al., 2000). On the other hand, perceived behavioral control refers to the ability and feasibility to execute a target behavior (Ajzen, 1991).

TPB is chosen as the theoretical framework for the proposed research model for a few reasons. Firstly, based on the theory, green entrepreneurial

intention is associated with attitude of an individual towards green business, the influence he received from his social environment, as well as his confidence level towards own capability. However, the distinction between green entrepreneurship and conventional entrepreneurship, is on the motivation i.e. profit-seeking orientation versus the desire to contribute to environmental wellbeing (Schaper, 2010). As such, the investigation of intention to involve in green entrepreneurship focused on both the psychological components of TPB framework and matched with ones' motive to accommodate the wellbeing of natural environment. Empirically, TPB has been found highly relevant in entrepreneurial intention (EI) study. The model of Gelderen et al., (2008) explains 38 per cent of variance in EI; Krueger et al. (2000) found the TPB model explains 35 per cent of variance in EI; and Tkachev and Kolvereid (1999) has found as high as 45 per cent of the model variance is explained. In other TPB models that include entrepreneurship education as additional independent variable, Liñán et al., (2011) reported 0.538 of model determination coefficient (R-squared); the model of Zhao et al., (2005) also reported 42% explanatory power of the variance in the entrepreneurial intention. In addition, due to lack of empirical study in GEI, previous TPB studies in green behaviour provides a useful insight on the relevance of the theoretical framework in GEI study, for instance in a recycling intention study by Ramayah et al., (2012). Based on structural equation modeling estimation, the robustness of TPB model in the green behaviour study is thus evidently justified.

3 PROPOSED CONCEPTUAL FRAMEWORK

In this study, the proposed conceptual framework as per depicted in Figure 1 is adapted from TPB. The proposed determinants to study GEI are mainly based on TPB model: attitude, perceived behavioural control and subjective norm. A new variable - perceived educational support is included in the proposed framework to examine the relevance of entrepreneurship education to intention in green entrepreneurship. Higher education institutions will be very much benefited from the knowledge of knowing which of the cognitive variables play the paramount influence in green entrepreneurship, especially with the knowledge of the role played by existing entrepreneurship education programme. For

the business community, understanding the determinants to GEI would help the business managers to effectively cultivate the interest of their employees to green entrepreneurship, especially in green business sector itself. For education policy makers, grasping the determinants to GEI would facilitate better allocation of educational resources – teaching personnel, training facilities, start-up funding etc. to support the effort of education institutions in green entrepreneurship education, which is a crucial enabler to the green economic agenda of the country.

4 SIGNIFICANCE OF STUDY

Green entrepreneurship is the upcoming trend in business and education. Theoretically, this study will contribute to green entrepreneurship literature by providing insights on the determinants of GEI. To date, there has been little empirical research pertaining to the determinants of GEI, and the relevance of TPB in prediction of GEI is unascertained. This research will contribute important theoretical foundation to fill the gaps in literature. Practically, this study will be significant for education service providers to understand the underlying factors that could increase the green entrepreneurial intention among their students, particularly in higher education sector. With the understanding of the specific determinants to GEI, educational policy makers will be able to design and execute more effective policy to develop green entrepreneurship education programme. It will also allow business level entity in the green business sector to understand and appreciate the key factors in designing training programme to improve the entrepreneurial morale of their employees. From a theoretical viewpoint, the proposed framework will be an important extension of the application of Theory of Planned Behaviour (TPB) into the green behavior domain. It also provides crucial insight for further understanding of the fundamental differences between the behavioral reasoning of conventional entrepreneurs and green entrepreneurs, for the benefit of predicting the implication of general entrepreneurial policy towards green entrepreneurship, and identification of specific policy alignment necessary for the development of green entrepreneurial intention.

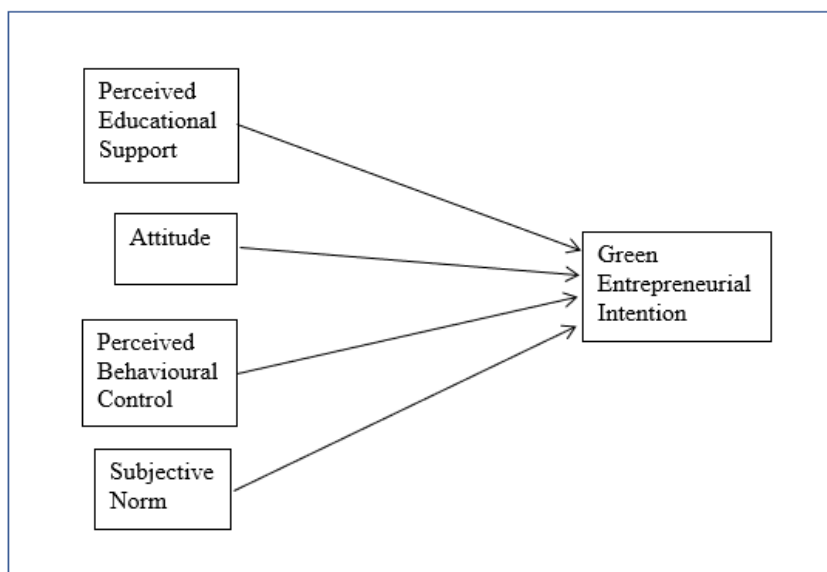


Figure 1: Proposed Research Framework.

5 CONCLUSION

Green entrepreneurship is crucial to business community and economic growth. In the long run, green entrepreneurship will benefit businesses when more green businesses emerge to support the adoption of green management practices by ordinary businesses. On the other hand, knowledge on the determinants of GEI will enhance the education service provider’s ability to design better green entrepreneurship education programme, which helps the institution to fulfill the demand of business community for green entrepreneurs, as well as improving the reputation and ranking of the institutions in green entrepreneurship programmes, enabling them to obtain more funding from government and enrolling more students that will ultimately benefit the institutions financially. From a theoretical viewpoint, the literature gap in green entrepreneurship is largely unfilled. This study will provide important insights and pave a way for future empirical study in this emerging domain of knowledge.

REFERENCES

Adnan, H. (2013). Bio-economy and Green Economy (February), 19-21.
 Ajzen, I. (1991). The theory of planned behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211.

Ajzen, I. (2011). The theory of planned behaviour: Reactions and reflections. *Psychology & Health*, 26(9), 1113-1127.
 Allen, J. C., & Malin, S. (2008). Green Entrepreneurship: A Method for Managing Natural Resources? *Society & Natural Resources*, 21(November), 828-844.
 Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour. *British Journal of Social Psychology*, 40(May 2017), 471-499.
 Autio, E., Keeley, R. H., Klofsten, M., Parker, G. G. C., & Hay, M. (2001). Entrepreneurial Intent among Students in Scandinavia and in the USA. *Enterprise and Innovation Management Studies*, 2(2), 145-160.
 Baron, R. A. (2004). The cognitive perspective: A valuable tool for answering entrepreneurship’s basic “why” questions. *Journal of Business Venturing*, 19(2), 221-239.
 Devonish, D., Alleyne, P., Charles-Soverall, W., Marshall, A. Y., & Pounder, P. (2010). Explaining entrepreneurial intentions in the Caribbean. *International Journal of Entrepreneurial Behavior & Research*, 16(2), 149-171.
 Economic Planning Unit. (2015). Pursuing green growth for sustainability and resilience. In *Eleventh Malaysia Plan. Percetakan Nasional Malaysia Berhad*.
 Engle, R. L., Dimitriadis, N., Gavidia, J. V., Schlaegel, C., Delanoë, S., Alvarado, I., ... Wolff, B. (2010). Entrepreneurial intent: A twelve-country evaluation of Ajzen’s model of planned behavior. *International Journal of Entrepreneurial Behavior & Research*, 16(1), 35-57.
 Erikson, T. (1999). A Study Of Entrepreneurial Career Choices Among Mbas - The Extended Bird Model. *Journal of Enterprising Culture*, 07(01), 1-17.
 Erikson, T. (2003). Towards of taxonomy of entrepreneurial learning experiences among potential

- entrepreneurs. *Journal of Small Business and Enterprise Development*, 10(1), 106–112.
- Farashah, A. D. (2013). The process of impact of entrepreneurship education and training on entrepreneurship perception and intention: Study of educational system of Iran. *Education + Training*, 55(8), 868–885.
- Fayolle, A., Gailly, B. B., & Lassas-Clerc, N. (2006). Assessing the impact of entrepreneurship education programmes: a new methodology. *Journal of European Industrial Training* (Vol. 30).
- Gibbs, D., & O'Neill, K. (2012). Green entrepreneurship: building a green economy?—evidence from the UK. *Social and Sustainable Enterprise: Changing the Nature of Business* (Vol. 2). *Emerald Group Publishing Ltd.*
- Hardy Loh, R., M. A. Bahari, A. K., Zanariah, Z. A., Junainah, J., Laila, M. K., N. Faizah, M. L., ... Adlan, A. B. (2015). Entrepreneurship education in Malaysia: A critical review. *Journal of Technology Management and Business*, 02(02), 1–11.
- Hattab, H. W. (2014). Impact of Entrepreneurship Education on Entrepreneurial Intentions of University Students in Egypt. *The Journal of Entrepreneurship*, 23(1), 1–18.
- Iakovleva, T., Kolvareid, L., & Stephan, U. (2011). Entrepreneurial intentions in developing and developed countries. *Education & Training*, 53(5), 353–370.
- ILO. (2014). Green jobs mapping study in Malaysia: An overview based on initial desk research Regional. Bangkok.
- International Labour Organization. (2013). Green jobs becoming a reality Progress and outlook 2013. *Energy*, 20.
- International Labour Organization. (2014). Green entrepreneurship: Creating green jobs through sustainable enterprise development in Namibia. Retrieved from http://www.ilo.org/global/topics/green-jobs/publications/WCMS_250688/lang--en/index.htm
- Islam, R., Ghani, A. B. A., Kusuma, B., & Theseira, B. B. (2016). International Journal of Economics and Financial Issues Education and Human Capital Effect on Malaysian Economic Growth. *International Journal of Economics and Financial Issues*, 6(4), 1722–1728.
- Kolvareid, L. (1996). Prediction of employment status choice intentions. *Entrepreneurship: Theory and Practice*, 21(1), 47–57. Retrieved from <http://www.questia.com/PM.qst?a=o&se=gglsc&id=5002278812%5Chttp://web.ebscohost.com/ehost/pdfviewer/pdfviewer?sid=520195f2-f364-4fe8-afa6-c2e9016bfa2c@sessionmgr111&vid=5&hid=118>
- Kolvareid, L., & Isaksen, E. (2006). New business start-up and subsequent entry into self-employment. *Journal of Business Venturing*, 21(6), 866–885. <http://doi.org/10.1016/j.jbusvent.2005.06.008>
- Krueger, N. F., Reilly, M. D., & Carsrud, A. L. (2000). Competing Models of Entrepreneurial Intentions. *Journal of Business Venturing*, 15, 411–432.
- Liñán, F., & Chen, Y. (2009). Development and Cross-Cultural Application of a Specific Instrument to Measure Entrepreneurial Intentions. *Entrepreneurship Theory and Practice*, 33(3), 593–617.
- Liñán, F., Rodríguez-Cohard, J. C., & Rueda-Cantuche, J. M. (2011). Factors affecting entrepreneurial intention levels: A role for education. *International Entrepreneurship and Management Journal*, 7(2), 195–218.
- Liñán, F., Urbano, D., & Guerrero, M. (2011). Regional variations in entrepreneurial cognitions: Start-up intentions of university students in Spain. *Entrepreneurship & Regional Development*, 23(3–4), 187–215.
- Nabi, G., & Liñán, F. (2011). Graduate entrepreneurship in the developing world: intentions, education and development. *Education + Training*, 53(5), 325–334.
- Obschonka, M., Silbereisen, R. K., & Schmitt-Rodermund, E. (2010). Entrepreneurial intention as developmental outcome. *Journal of Vocational Behavior*, 77(1), 63–72.
- OECD. (2011). Entrepreneurship at a Glance 2011. *Entrepreneurship at a Glance*. Retrieved from http://www.oecd-ilibrary.org/industry-and-services/entrepreneurship-at-a-glance-2010/measuring-green-entrepreneurship_9789264097711-4-en
- Oosterbeek, H., Praag, M. V., Ijsselstein, A., van Praag, M., & Ijsselstein, A. (2010). The impact of entrepreneurship education on entrepreneurship skills and motivation. *European Economic Review*, 54(3), 442–454.
- Palich, L. E., Ray Bagby, D., Bagby, D. R., & Ray Bagby, D. (1995). Using cognitive theory to explain entrepreneurial risk-taking: Challenging conventional wisdom. *Journal of Business Venturing*, 10(6), 425–438.
- Ramayah, T., Lee, J. W. C., & Lim, S. (2012). Sustaining the environment through recycling: An empirical study. *Journal of Environmental Management*, 102, 141–147.
- Schaper, M. (1993). The Essence of Ecopreneurship. *Greener Management International*, (38), 237–247.
- Schaper, M. (2010). Understanding the green entrepreneur. In *Making ecopreneurs: developing sustainable entrepreneurship* (2nd ed., pp. 3–12). U.K.: *Gower Publishing*.
- Schmitt-Rodermund, E. (2004). Pathways to successful entrepreneurship: Parenting, personality, early entrepreneurial competence, and interests. *Journal of Vocational Behavior*, 65(3), 498–518.
- Singer, S., Amorós, E., & Moska, D. (2015). *Global Entrepreneurship Monitor - 2014 Global Report*. Global Entrepreneurship Monitor.
- Singh Sandhu, M., Fahmi Sidique, S., Riaz, S., Sandhu, M. S., Sidique, S. F., & Riaz, S. (2011). Entrepreneurship barriers and entrepreneurial inclination among Malaysian postgraduate students. *International Journal of Entrepreneurial Behavior & Research*, 17(4), 428–449.

- Tamanini, J. (2016). The Global Green Economy Index 2016.
- The Star Online. (2017, May 7). More student entrepreneurs by 2020. Retrieved from <https://www.thestar.com.my/news/education/2017/05/07/more-student-entrepreneurs-by-2020/>
- United Nations Environment Programme. (2008). Green Jobs: Towards decent work in a sustainable, low-carbon world. Worldwatch Institute (Vol. 19). Retrieved from <http://www.ncbi.nlm.nih.gov/pubmed/20720328>.
- Von Graevenitz, G., Harhoff, D., Weber, R., Graevenitz, G. Von, Harhoff, D., & Weber, R. (2010). The effects of entrepreneurship education. *Journal of Economic Behavior and Organization*, 76(1), 90–112.
- Zhao, H., Seibert, S. E., & Hills, G. E. (2005). The mediating role of self-efficacy in the development of entrepreneurial intentions. *Journal of Applied Psychology*, 90(6), 1265–1272.

