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**ADVANCING AN ANTECEDENT-OUTCOME MODEL OF
ECO-INNOVATION PRACTICES**

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Abstract

Climate change risks and impacts, alongside unprecedented economic growth have provoked significant ecological stress towards the ecosystems and human well-being. These concerns have resulted in eco-innovation practices among businesses. Innovations through environmental management appear to be the possible solutions to these climate and environmental challenges. The claim that there has been a dearth of research models in this area through a systematic review triggered the development of an antecedent-outcome model to understand the dynamics of eco-innovation practices further. To bring a holistic view on business practice, this paper proposes a conceptual framework that may enhance eco-innovation practices among businesses, which subsequently lead to substantive business benefits. Based on an extensive literature review, a total of six propositions were proposed to understand the various dimensions of organisational culture (market, humanistic and competitive orientation) that may affect the business organisation's likelihood to engage in eco-innovation practices, and whether these eco-innovation practices are associated with specific business benefits (employee commitment, customer loyalty and business performance). As such, this paper sheds some light on the sustainable development salience of eco-innovation practices and provides valuable insights on how businesses can capitalise on organisational culture to engage in eco-innovation practices to reap superior business benefits accordingly.

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Keywords: Eco-innovation, organisational culture, business benefits, sustainable development, antecedent-outcome model.



1. Introduction

The current rate of globalisation coupled with the spur in the economic growth have brought about a vast change in the environment (Howard-Grenville, Buckle, Hoskins, & George, 2014; Bossle, de Barcellos, Vieira, & Sauvée, 2016). It is inevitable that with a booming economy and the ever-expanding global markets, this signifies a spike in the energy utilisation and production accordingly (IEA, 2014). This in turn leads to a higher global demand of energy, thereby raising the concern of the depleting natural resources. Not to mention, the dire repercussions on the environment which includes climate change also arises (IPCC, 2007; 2014). It is undeniable that human well-being has been exacerbated by the ever-increasing magnitude and extent of business activities coupled with the likelihood of a large scale irreversible environmental damage (da Silva Monteiro & Aibar-Guzman, 2010; Jakhar, 2017).

Concerns over climate change have grown significantly lately. It is therefore imperative to alleviate the likely strain of economic growth in regard to the climate and the environment. In fact, there has been a rather significant positive response globally (Kolk, Levy, & Pinkse, 2008; UNFCCC, 2015). Business organisations have realised the threat of climate change and destruction of the environment, making sustainable development challenges a top priority to minimise the detrimental impact of business activities on the environment and the climate (Amran, Ooi, Wong, & Hashim, 2016; Ooi & Amran, 2018). As the issues becoming salient, green strategies, climate change adaptation and mitigation plans have been gradually being emphasised (Howard-Grenville et al., 2014; Ooi & Amran, forthcoming). Hence, eco-innovation is a topic of growing interest nowadays, and its importance is recognised worldwide with the paradigm shift towards green technology and environmental management.

2. Problem Statement

With the growing pressures to reduce anthropogenic impact on the environment, more often than not, the relative importance of eco-innovation practice aid in the organisation's endeavour to mitigate environmental and climate risks is gaining increasing attention (Bossle et al., 2016; Hojnik & Ruzzier, 2016a; 2016b; de Jesus Pacheco et al., 2017; Xavier, Naveiro, Aoussat, & Reyes, 2017). Innovations through environmental management appear to be the possible solutions to these climate and environmental challenges, considering that economic growth may be coupled with environmental damage (Bossle et al., 2016).

Eco-innovation is a prevalent environmental master plan that has been embraced by numerous organisations in order to be at the cutting edge of both environmental and economic performance (Dangelico & Pujari, 2010; Triguero, Moreno-Mondejar, & Davia, 2013). Since eco-innovation is a relatively new research field (Diaz-Garcia, Gonzalez-Moreno, & Saez-Martinez, 2015), a couple of terms have been used interchangeability in regard to the study of sustainable development, namely "eco", "green", "environmental" and "sustainable" (Saez-Martinez, Ferrari, & Mondejar-Jimenez, 2015). Eco-innovation can be defined as "the production, assimilation or exploitation of a product, production process, service, or management or business method that is novel to the organisation (developing or adopting it) and which results, throughout its life cycle, in a reduction of environmental risk, pollution and other negative impacts of resources use (including energy use) compared to relevant alternatives" (Kemp & Pearson, 2007).

In light of this, eco-innovation has emerged as one of the most crucial and paramount area of research (Bossle et al., 2016; de Jesus Pacheco et al., 2017; Xavier et al., 2017). As a matter of fact, so salient is this aspect that results in the policy makers intending to have eco-innovation as a focal point even as it has gain heightened prominence amongst the practitioners and academicians. In 2011, the “Eco-innovation Action Plan (EcoAP)” was proposed by the European Union with the aim of incorporating eco-innovation within the structure of the European 2020 strategy as well as the “Innovation Union” (Saez-Martinez et al., 2015).

Nevertheless, previous studies on eco-innovation, environmental management as well as green process and practises were largely focused on the drivers of eco-innovation (Saez-Martinez et al., 2015; Diaz-Garcia et al., 2015). Existing studies are merely a prelude coupled with the dearth of comprehensive empirical research (Bossle et al., 2016; Hojnik & Ruzzier, 2016a; 2016b; de Jesus Pacheco et al., 2017; Xavier et al., 2017). As a matter of fact, not incorporating a holistic view while establishing eco-innovation may turn up to be a futile attempt, bearing in mind that eco-innovations have unique and distinguishing features (Cheng, Yang, & Sheu, 2014; Hojnik & Ruzzier, 2016a). Against this setting, this paper aims to propose an antecedent-outcome model of eco-innovation practices.

3. Research Questions

Earlier discussion raises the importance, relevance and timeliness of eco-innovation practice among businesses, the research questions are:

- RQ1: Does organisational culture affect the feasibility of a business organisation to engage in eco-innovation practice?
- RQ2: Does eco-innovation practice lead to specific business benefits, such as customer loyalty, employee commitment and enhance business performance?

4. Purpose of the Study

In this sense, the purpose of this paper is to conceptualise and propose an antecedent-outcome model of eco-innovation practice to rationalise whether eco-innovation practice among businesses can be engaged by organisational culture; and the possible business benefits that an organisation gained through eco-innovation practices. Based on literature review method, this paper proposes an antecedent-outcome model, as a contribution to advance knowledge in corporate responsible behaviour, especially eco-innovation practices among businesses.

5. Theoretical Background

Why do some business organisations voluntarily operate in environmental responsible ways or engage in green practices? Prior studies offer a diverse set of theories (Hojnik & Ruzzier, 2016a) to justify. To advance understanding of eco-innovation practices among businesses, the role of stakeholders (Maignan & Ferrell, 2001; Leonidou, Christodoulides, & Thwaites, 2016), and the believe of organisational culture and environmental management practice possess unique and typical features (Hojnik & Ruzzier, 2016a), which can be transformed into competitive advantage (Barney, 1991; Cheng et al., 2014), are the two

underlying logics which encompassed the antecedent-outcome model of eco-innovation practice among businesses.

The notion of stakeholder theory has been explained by Freeman (1984), as the success of a business organisation depends on the successful management of the relationship between the organisation and its stakeholders. As the continued existence of a business organisation requires the support of its stakeholders (Liu & Anbumozhi, 2009), stakeholder theory can be used to explain the adoption of specific organisation practice may be driven by the stakeholder pressures, and it is the organisation's deliberate choice to manage its stakeholders, which lead to superior business outcomes in doing so (Leonidou et al., 2016). As emphasised by the stakeholder management perspective, a proactive business is aware of its responsibilities towards its stakeholders (Maignan & Ferrell, 2001), hence, in this context, it is believed that the establishment of a stakeholder oriented organisational culture would enable the organisation to focus on its stakeholders, whereby organisational practices or strategies appear to respond accordingly to stakeholder pressures, and this will be echoed on the business performance.

Furthermore, eco-innovation practices can also be discussed within the boundary of resource-based view (RBV). The underlying idea is that the competitive advantage of an organisation depends on its inimitable and valuable resources (Barney, 1991). In this context, eco-innovation practice, as an environmental practice, can be considered as exclusive green capabilities developed with various organisational resources, including the organisational culture, which can be translated into superior business performance (Cheng et al., 2014). Against these theoretical underpinnings, this paper attempts to propose 6 propositions based on the direct relationships between organisational culture and eco-innovation practices, as well as eco-innovation practices and business outcomes.

5.1. Proposition Development

5.1.1. Antecedents of Eco-innovation

It is assumed that business organisations realised their social and environmental responsibilities by engaging in corporate responsible practices (Jones, 2010). In order for eco-innovation to be implemented, the criteria are, among others managerial environmental concern, customer demand, regulatory pressure, competitive pressure, economic incentive, and the establishment of an eco-innovation favour culture (Hojnik & Ruzzier, 2016b; de Jesus Pacheco et al., 2017). Hence, this paper assimilates the work by Maignan and Ferrell (2001) to propose various dimensions of organisational culture (market, humanistic and competitive orientation) as the antecedents to influence eco-innovation practices.

Market orientation is the measure to which an organisation embraces the marketing notion and place the customers at the nucleus of its blueprint and business (Maignan & Ferrell, 2001). Narver and Slater (1990) viewed market orientation as a quintessential component towards development of superior quality for both buyers and sellers, thereby maintaining superior business performance. Market orientation is therefore paramount for a burgeoning environmental sustainability game plan (Green, Toms, & Clark, 2015) and green product innovation, which functions as a proxy to achieve sustainable development by means of empirical findings (Lin, Tan, & Geng, 2013). This is concurred by other authors that emphasise the imperativeness of market demand in achieving eco-innovation (Triebswetter & Wackerbauer, 2008). Not to mention, a robust market orientation organisational culture essentially ensures the organisation has

the capability to spearhead its alliance with various stakeholders' needs and wants (Maignan & Ferrell, 2001). This in turn enhances the management's apprehension that the organisation experiences resource advantage via sustainable practices. This leads to the first proposition:

P1: The greater the market orientation in an organisation, the greater the eco-innovation practice in the organisation.

Humanistic orientation is defined as the aspect that emphasises on the imperativeness in relation to encouragement and accord among employees (Maignan & Ferrell, 2001). It is assumed that employees should encourage, assist and be intrigued by the propositions and plans of others, to enhance harmonious relationships in a humanistic environment (Galbreath, 2010). For instance, employees should have empathy, be supportive, show concern for the need of others and ensure participation of others in regard to the decision that will impact them (Galbreath, 2010). In fact, there is a tacit understanding that humanistic values, policies and cultures promote harmony and caring among both employees and all stakeholders. Furthermore, previous research has found that managers who place great emphasis on environmental matters were veritable buttresses in steering the organisation to embrace the environmental innovation plans (Chen, Chang, & Wu, 2012). With that said, it is not just the managers, but also the top management commitment that has been found to contribute positively to the magnitude as well as the rate of the organisation's receptiveness to environmental matters (Hojnik & Ruzzier, 2016a). This leads to the second proposition:

P2: The greater the humanistic orientation in an organisation, the greater the eco-innovation practice in the organisation.

Competitive orientation is referring to the triumph and remuneration for coming out victorious (Maignan & Ferrell, 2001). With idiosyncratic individualists or personal success taking precedence in competitive cultures, employees have the disposition of apathy towards the stakeholders. Hence, the organisation may have an inherent attribute to not consider the satisfaction of legal, economic, discretionary and ethical moral obligations as paramount to their success. Furthermore, competitive orientation also involves the organisation's general blueprint, the nexus with its environment, the ruthless circumstances as well as the inclination to react "offensively" or "defensively" (Marjanova, Sofijanov, Davcev, & Temjanovski, 2015). This is concurred by other authors who elucidate competitive orientation as the capacity of organisations to enhance their market position (Bansal & Roth, 2000). Competitive culture orientation induces corporate environmental responsiveness, as it used to involve more visible practices to enhance its corporate reputation (Bansal & Roth, 2000). This leads to the third proposition:

P3: The greater the competitive orientation in an organisation, the greater the eco-innovation practice in the organisation

5.1.2. Outcomes of Eco-innovation

Generally, it pays off to be green (Busch & Hoffmann, 2011; Busch & Lewandowski, 2018), hence, eco-innovation practice of an organisation is of value and importance to raise the economic value, resulting in positive business benefits. The business benefits will be measured through employee commitment, customer loyalty and accounting-based business performance (Maignan & Ferrell, 2001).

Employee commitment is the measure to which the employees are passionate about the organisation, looking beyond the present into the ensuing future in regard to the organisation and waiving their own gains for the organisation (Maignan & Ferrell, 2001). One of the quintessential approaches is corporate environmental initiative, which is touted as one of the primary determinants of employer attractiveness and employee commitment (Revell, Stokes, & Chen, 2010; Dogl & Holtbrugge, 2014). Correlations between employees' behaviour and organisation's involvement in environmental approaches like energy efficiency and waste management thus exist (Boiral & Paille, 2012). In fact, the environmental technology and strategy positively influence the reputation of an organisation, which eventually influence employee commitment (Dogl & Holtbrugge, 2014). Hence, accentuating environmental responsibility in an organisation through spearheading environmental strategies play a prominent role in improving desirable employee commitment. This leads to the fourth proposition:

P4: The more proactive the eco-innovation practice, the greater the employee commitment to the organisation.

Customer loyalty is referring to the methodical habits of a huge crowd to purchase from the same organisation time and again as well as to link positive perceptions with the organisation's products (Maignan & Ferrell, 2001; Shin, Ellinger, Mothersbaugh, & Reynolds, 2017). Customer loyalty can therefore be related to behavioural intentions, whereby behavioural intentions exist when customers purchase the services or products across a designated price range, having positive notions in regard to the organisation or its related products or services as well as propensity to repurchase the products or services (Shin et al., 2017). Furthermore, empirical verifications reveal that environmental friendliness of products ameliorate customer loyalty (Suki, 2015). Drawing on research in incorporating environmental measures in organisation, Nik Abdul Rashid, Annuar Khalid and Abdul Rahman (2015) posit that customer loyalty is the key business plan in order to attain longevity in the business. This leads to the fifth proposition:

P5: The more proactive the eco-innovation practice, the greater the customer loyalty.

Findings of previous research on the relationship between responsible practices and financial performance were rather indecisive (Busch & Hoffmann, 2011; Wang, Dou, & Jia, 2016). Notably, some revealed negative results, some revealed positive results while the remaining depicted no clear trend (Orlitzky, Schmidt, & Rynes, 2003; Endrikat, Guenther, & Hoppe, 2014; Wang et al, 2016). These nebulous results were attributed to erratic and at times, controversial means of corporate performance (Wang et al, 2016). However, subsequent research has linked environmental innovation strategy with the organisation's positive business performance as it results in internal efficiency (Tseng, Wang, Chiu, Geng, & Lin, 2013; Cheng et al., 2014). This is concurred by Bossle et al. (2016), whereby business growth depends on innovation and organisations which place great emphasis on environmental or ecological issues. These are the reasons that drive a successful organisation. This leads to the sixth proposition:

P6: The more proactive the eco-innovation practice, the greater the business performance.

Figure 1 puts all the antecedents and business outcomes together into a conceptual eco-innovation practice model. This is essentially a two-stage model, as the first stage examines the antecedents (organisational culture) of eco-innovation (market orientation, humanistic orientation and competitive orientation), while the second stage focuses on the business outcomes / benefits of eco-innovation practice (employee commitment, customer loyalty and business performance). In this context, eco-innovation has

been conceptualised as a formative construct, constituted by eco-process, eco-product and eco-organisation (Cheng et al., 2014). Despite its timeliness and relevance, there appears to be a dearth of eco-innovation research (Xavier et al., 2017), thus, this model aims to advance eco-innovation knowledge in this area.

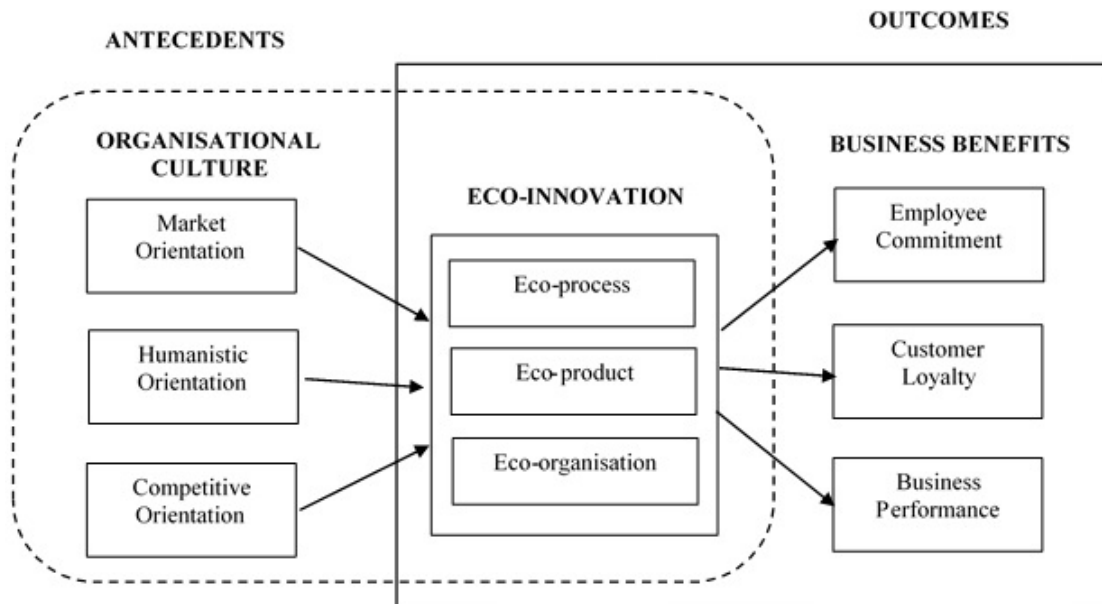


Figure 01. Antecedent-Outcome Model of Eco-Innovation Practices

6. Research Methods

This paper addressed the eco-innovation research gap through synthesising the available literature, and proposed an antecedent-outcome model to understand the dynamics of eco-innovation practices among businesses. Based on the integration of stakeholders and resource-based perspectives, the conceptual model is outlined, and a set of propositions was formulated. The model and propositions lay out the theoretical foundation for the subsequent empirical analysis.

7. Findings

Encouraging environmental friendly practices or strategies may result in substantial reduction in environmental and climate change problems (IPCC, 2007; 2014). This paper attempts to propose a conceptual model that posits the linkages between organisational culture, eco-innovation practice and business benefits. It postulates that a business organisation would have operate in environmental responsible ways subject to its organisational culture. Specifically, a market orientation, humanistic orientation or competitive orientation organisational culture affects the feasibility of a business organisation to adopt eco-innovation practice. Whereas, a weak organisational culture reduces such feasibility. As the eco-innovation activities are effective in fostering business performance (Cheng et al., 2014; Hojnik & Ruzzier, 2016b), it is then asserted that eco-innovation practices would build customer loyalty, enhance employee commitment and lead to better business performance.

The proposed conceptual model is based on the integration of stakeholder and resource-based perspectives. It is argued that stakeholders pressure business organisations to be accountable to corporate sustainability and demand them to get involved in eco-innovation practices, and it is the presence of valuable and imitable resources (organisational culture) that lead to the development of green capabilities (eco-innovation practices). This is because various dimensions of organisational culture are conducive of corporate responsible practices (Maignan & Ferrell, 2001), organisational culture enables the organisation to be stakeholder orientated, and hence, adopting the eco-innovation practices as pressured by the stakeholders to gain their support.

Innovation that grant sustainable development is crucial, and it has been acknowledged by a number of scholars (Bossle et al., 2016; de Jesus Pacheco et al., 2017; Xavier et al., 2017). Businesses that innovate are most likely to pay off (Cheng et al., 2014; Hojnik & Ruzzier, 2016b), as the eco-innovation activities are inimitable resources that would allow the business organisation to develop competitive edge that lead to superior performance. Therefore, it is crucial to understand whether organisational culture enhances the implementation of eco-innovation practice among businesses, so that it can subsequently contribute to sustainable development.

Based on the stakeholder and resource-based perspectives, this paper draws attention to a few propositions specifying the conditions under which businesses are likely to engage in responsible, sustainable and ecological ways. It highlights the importance of organisational culture, specifically the three dimensions of organisational culture in enhancing eco-innovation practices, which eventually will lead to substantive business benefits. If the empirical findings concur with the stated six propositions, it then appears that organisational culture is an important resource to trigger business organisations to engage in eco-innovation practices. Therefore, it is expected that this paper shed some light on corporate responsible practices, whereby it provides valuable insights on how organisations can engage the organisational culture to capitalise on eco-innovation practice and reap superior business benefits accordingly.

8. Conclusion

Overall this paper attempts to provide a holistic understanding of eco-innovation practices from the integration of stakeholder and resource-based perspectives. To summarise, the propositions of this antecedent-outcome model argue that market, humanistic and competitive oriented organisational culture affect business organisations' likelihood to engage in eco-innovation practices; and meeting sustainable development agenda (through eco-innovation practices) does not come at the expense of business performance, instead eco-innovation practice pays off, as in enhancing employee commitment, building customer loyalty and yield better business performance.

Finally, given the severity of the environmental and climate change concern, it would seem prudent for businesses to behave in a responsible way, rather than just paying lip service to the issues. If the propositions are proven to be valid, then it would be wise for the government and business organisations to continuously facilitate and proactively engage in eco-innovation practices. Taken all together, there is an urgent need for business organisations and policy makers to work hand in hand substantively echoes to the triple bottom line consideration. It is believed that through eco-innovation, new products, processes and

organisations can be created, which subsequently contribute not just to the economic growth, but social development and environmental protection as well, which ultimately improve the quality of life for society.

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