

DETERMINANTS OF ACADEMIC ENTREPRENEURSHIP: A STRATEGIC ENTREPRENEURSHIP MODEL

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Abstract

Traditionally, universities are regarded as carrying two missions—teaching and research. Over later decades, in any case, they have been conjectured to donate more noteworthy consideration to a ‘third mission’—that of “contributing to the industry, the economy, the local region or the society. Universities have adopted academic entrepreneurship as the strategy to grow and influence the economy and society. Despite tremendous endeavours to grasp the third mission, universities still present extraordinary heterogeneity in their association and participation in academic entrepreneurship. This study aims to study academic entrepreneurship through the lens of strategic entrepreneurship while exploring the accountable factors of entrepreneurship orientation, entrepreneurship leadership, strategic management, and organizational culture. This study promises that entrepreneurial orientation, entrepreneurship leadership, strategic management and organizational culture are imperative for the optimization of academic entrepreneurship. It is proposed that the right combination and availability of these variables will enable universities to bring forth a synergy to accelerate academic entrepreneurship. The implications and limitations of the study are presented.

Keywords: *entrepreneurial orientation, entrepreneurial leadership, strategic management, organizational culture, academic entrepreneurship*

INTRODUCTION

Entrepreneurship is ostensibly the foremost essential driver of economic value creation, whether within the shape of a modern start-up or as a recovering drive inside a built-up company, and entrepreneurs can serve as arbitragers, capable of bringing markets back into competitive equilibrium (Wong & Ho, 2016). Traditionally, universities are regarded as carrying two missions—teaching and research. Over later decades, in any case, they have been conjectured to donate more noteworthy consideration to a ‘third mission’—that of “contributing to the industry, the economy, the local region or society more generally” (Martin, 2012). This type of entrepreneurship specific to the academic arena is seen as Academic entrepreneurship (Wadhvani, Galvez-Behar, Mercelis, Guagnini, 2017).

The role of universities in terms of academic entrepreneurship is the progress of transforming from generating direct financial returns to unleashing a more extensive social and economic impact to the “university ecosystem” (Siegel & Wright, 2015). This is attributable to the fact that academic entrepreneurship has played a part in forming the directions of “knowledge development”, the structure of foundations where knowledge was produced and transmitted, and the connection of such structures to advanced markets, society, and state (Wadhvani et al., 2017).

As a construct of scholarly interest, academic entrepreneurship has been studied as an organizational phenomenon within entrepreneurial universities, whereby the

institutional environment is needed to be developed to support the flourishing of academic entrepreneurial activities (Yusof, & Jain, 2010; Mirani, & Yusof, 2016). In addition, it is argued that universities need to adopt a strategic perspective to unleash the synergy effect of entrepreneurial orientation, leadership, strategic management and organizational culture. Therefore, this paper views university as an organization and attempts to develop a theoretical model through the lens of strategic entrepreneurship to promote academic entrepreneurship in universities. The following sections will discuss the key components of strategic entrepreneurship model of academic entrepreneurship in universities.

LITERATURE REVIEW

Entrepreneurship

Wong and Ho (2016) perceives entrepreneurship as the most constituent driver of economic value creation, whether it is manifested as a new start-up, or a rejuvenating force within an established organization; and through a process of creative destruction, entrepreneurs create opportunities for more innovations to be spun-off and for more entrepreneurs to bring forth greater economic and social impact (Wong & Ho, 2016). This analysis is in line with the definition of entrepreneurship by Shane, Scott and Venkataraman (2000) which regarded entrepreneurship as “a study of opportunities during the processes of discovery, evaluation, and exploitation of opportunities.” As a brief summary, organization researchers are primarily concerned with three sets of scholarly enquiries with regards to entrepreneurship: (1) the creation of opportunities; (2) the discovery and exploitation of opportunities; and (3) actions taken for the exploitation of entrepreneurial opportunities (Shane et.al., 2000).

Corporate Entrepreneurship

Considering the notion that entrepreneurial activity is the result of individuals' creativity, passion, and tenacity, the one essential strategy to unleash individual innovators is corporate entrepreneurship (CE) (Kuratko & Morris, 2018). The concept of Corporate Entrepreneurship prompts concerns of whether and how the attributes of behavioural attributes commonly associated with individual entrepreneurs can influence the organization (Stopford, & Baden-Fuller, 1994). While summarizing the strategy literature, Stopford and Baden-Fuller (1994) identified three forms of corporate entrepreneurship, including (1) the creation of new enterprise within an established one – intrapreneurship; (2) “transformation or renewal” of the current enterprise; and (3) amending the ‘laws of rivalry’.

Strategic Entrepreneurship

Within the construct of corporate entrepreneurship, strategic entrepreneurship activities identify a broad array of significant entrepreneurial activities or innovations that are adopted in the organization's pursuit of competitive advantage, and these innovations mature an organization's essential differentiation from its industry rivalry (Kuratko & Morris, 2018). As an examination of the underlying dimensions of strategic entrepreneurship, Ireland, Michael and Sirmon (2003) contributed to this body of knowledge by proposing a model of Strategic Entrepreneurship (as illustrated in Figure 1). This is an important integration because it addresses how the combination and synthesis of opportunity-seeking behaviour and advantage-seeking behaviour induce the creation of wealth. These

four distinctive dimensions examined were “(1) entrepreneurial mindset, (2) entrepreneurial culture and entrepreneurial leadership, (3) strategic management of organizational resources and (4) creativity implementation and Innovative development.”

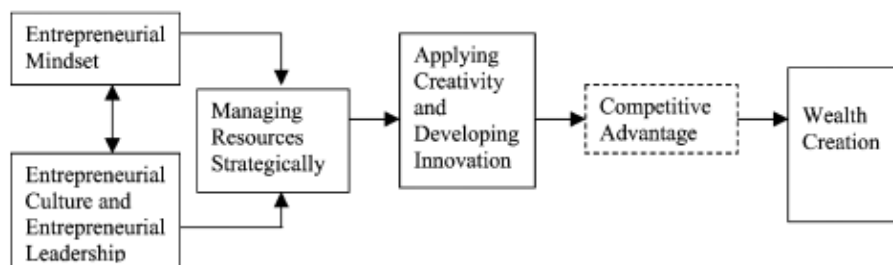


Figure 1. A model of Strategic Entrepreneurship (Ireland. et al. 2003)

This paper adopts this model of strategic entrepreneurship (Ireland et al., 2003) and further amends it to prioritise on the accountable factors of entrepreneurship orientation, entrepreneurship leadership, strategic management, and organizational culture.

Academic Entrepreneurship

Apart from value-creation being the essential construct in the analytical model of academic entrepreneurship, other values such as social, economic, and ecological values, should also be considered (Mars & Rios-Aguilar, 2010). This consideration of multifaceted evaluation of the value of the different types by academic entrepreneurship will constitute a stronger theoretical structure to gauge the diverse entrepreneurial activities taking place in and out of the educational institutions.

When probing academic entrepreneurship through corporate entrepreneurship and organizational lens, Yusof, Siddiq and Nor (2012) promotes that holistic approach that academic entrepreneurship shall incorporate “corporate venturing, innovation and strategic renewal has taken place from both inside and outside the university” and also depicted the components of it as “organizational creation, organizational innovation and organizational renewal.” This is in close parallel to the definition of corporate entrepreneurship by Zahra & Covin (1995), which consists of innovation aimed at business creation and venturing, and strategic renewal.

Over the years, extensive literature encompassing the new approaches and discourses of academic entrepreneurship has made an appearance. A detailed analysis of literature of 173 articles related to university entrepreneurship conducted by Rothaermel, Agung, Jiang, (2007) concluded that the conceptual Framework of University Entrepreneurship consists the following four research areas : “(1) entrepreneurial research university, (2) productivity of TTOs, (3) new firm creation, and (4) environmental context including networks of innovation.” For the shift of perspectives to the emerging perspectives, Siegel and Wright (2015), when arguing that is imperative to adopt a progressive approach towards academic entrepreneurship, analysed the emerging perspectives of academic entrepreneurship from the aspects of the “rationale of academic entrepreneurship (why)”, “the emerging forms of academic entrepreneurship (what)”, “broader range of actors involved in academic entrepreneurship (who)” and the modes for facilitating academic entrepreneurship (how)”. Major questions remained to be about the decisions if all universities should participate in academic entrepreneurship activities,

and if the involvement is necessary, “how to be effective at this complex activity” (Siegel & Wright, 2015).

The above analysis calls for concerns related to “strategy formation and implementation” at universities and policy development and evaluation conducted by the government; and also creates avenues of research opportunities in various areas, such as “organizational behaviour, organizational theory, human resource management, ethics and social responsibility and social networks” associated with academic entrepreneurship. It, therefore, offers immense significance for entrepreneurship research at numerous levels of examination, hence providing opportunities for the contribution to the body of theoretical knowledge and practical exploration (Siegel & Wright, 2015). In consequence, this paper adopts Yusof et.al (2012)’s analytical dimensions of academic entrepreneurship inspired by Zahra & Covin,(1995)’s analysis of corporate entrepreneurship.

Entrepreneurial Orientation

The first notion of Entrepreneurial Orientation originated when Miller (1983) pointed out that entrepreneurship is intrinsically related with factors of “environment, structure, strategy, and leader personality”, and that these connections demonstrate variations in both systems and logics from one entity to another, and studied entrepreneurship as an aggregate variable with innovation, proactiveness and risk-taking. This study has laid the essential basis for Entrepreneurial Orientation, although the words “Entrepreneurial Orientation” was never mentioned (Dao, 2018).

When exploring about the associations between Entrepreneurial Orientation and organizational performance, Rua, França, and Ortiz, (2017) postulated that Entrepreneurial Orientation influences the performance of organizations when organizations acquire, develop and leverage resources for opportunity exploitation in a strategic manner with the purpose to gain competitive advantage. Similarly, Arunachalam et al. (2018) also proved that Entrepreneurial Orientation is positively related to the innovation outcomes of new products.

Considering that Academic Entrepreneurship is a performance at the organizational level, it can be theorized that the right entrepreneurial orientation will facilitate the development of Academic Entrepreneurship. Furthermore, Li, Guo, Liu and Mingfang (2008) unveiled a significant positive association between Entrepreneurial Orientation and technology commercialization. Therefore, this study proposes that;

Proposition One: A right Entrepreneurial Orientation of universities promotes Academic Entrepreneurship by academics.

Entrepreneurial Leadership

As summarised by Harrison, Burnard, and Paul (2017), there are three major perspectives about Entrepreneurial Leadership among the Peer-reviewed publications, including the “Psychological or Trait Based point of view, the Behavioural Perspective, and the Skills”; and further defined entrepreneurial leadership as a part of leadership that uses different skills for the purpose of creating opportunities inside difficult climate. Furthermore, Mamun, Ibrahim, Yusoff and Faizal (2018), through an empirical study of 403 micro-entrepreneurs in Kelantan, concluded that Entrepreneurial Leadership constructs such as responsibility, accountability, analytical thinking and emotional intelligence are closely related to the enterprises’ performance and sustainability. With regards to start-up enterprises, Yang, Pu and Guan (2019) implied that entrepreneurial

leadership plays an essential role that coincides with the developments of the new business ventures.

When it comes to the academic setting of universities, academics strive to be innovative through commercialization of research, and this can only be achieved by facilitating the inventors and researchers to be more innovative in their approach and by providing incentives for them to commercialize (Pane, Dileep, & Yusoff, 2015). This is on the basis that effective entrepreneurial organization or community is characterized by the fact that the leaders exert visible effort to extend their support in various entrepreneurial activities (Pane, Dileep & Yusoff, 2015). Therefore, the following proposition is formulated;

Proposition Two: Effective Entrepreneurial Leadership of universities promotes academic entrepreneurship by academics.

Strategic Management

Bonnici, (2014) summarized strategic management as the process of evaluation, planning, and implementation designed to maintain or further improve competitive advantage. For almost over three decades, new theoretical perspectives and concepts have been continuously sought to address the key issues of strategic management (Danviboon, 2018). Peng, Sun, Pinkham and Chen (2009) summarized the three leading perspectives of Strategic Management, namely, industry-based view, resource-based view and Institution-based view, and argued that Institution-based view gives attention to contextual factors and overcomes the long-standing criticism of the other two perspectives, and therefore represents the third leg as an emerging perspective that braces the proposition that “institutions matter”. Additionally, Sopha and Kwasira (2016) postulated that Strategic management practices facilitate Small Scale Enterprises in overcoming the challenges which restricted their optimal performance and growth through understanding the operating environment and developing strategies to diminish threats and embrace opportunities. They also recommended that strategic management principles should be adopted for performance optimization and growth for small scale enterprises (Sopha & Kwasira, 2016).

In exploring the relationship between strategic management and wealth-creation, Rowe (2001) concluded that strategic Leadership plays a significant role in promoting wealth-creation process in entrepreneurial and established organizations, and therefore leads to above-average returns. Considering the academic entrepreneurship is a process of wealth and value creation through commercialization. Therefore, this study proposes that;

Proposition Three: Effective strategic management of universities promotes academic entrepreneurship by academics.

Organizational Culture

Schein (2004) conceptualized Organizational Culture as a pattern of shared assumptions learned by a group to solve problems pertaining to external adaptation and international integration and to guide new members to “perceive, think, and feel” in the right way to resolve those challenges and problems. On the other hand, however, Ahmadi, Salamzadeh, Mohammadreza, and Akbari (2012) reviewed the literature and summarized. Organizational Culture as a set of convictions and shared values that bind together individuals of an organization and solidifies them beneath the coverage of powerful behavioural standards and rules.

Literature has also demonstrated organizational culture as a phenomenon closely interlinked with the firm's performance. Murphy, Cooke, and Lopez, (2013) delineated that Organizational Culture is regarded quite widely as an important factor of firm performance, and since culture includes shared values and touches the people aspects of the organizations, managers can accelerate a firm's culture to improve participation and coordination results inside that firm which, in turn, impact firm performance. Similarly, when exploring the effect of cultures towards firm's performance, Zhao, Teng, and Wu (2018) found consistent evidence that organizational culture is positively related to innovation output. Exploring from institutional perspectives in universities as organizations, universities can offer an institutional environment that supports and promotes academic entrepreneurship to shape research scientists' intentions to engage in entrepreneurial endeavours, such as "spin-off creation, intellectual property rights and industry science interaction" (Huyghe, & Knockaert, 2014)

Above discussion draws into an understanding that organizational culture and academic entrepreneurship are strongly associated, and both are embedded in entrepreneurial commercialization activities taken place in universities. Given the proven links between organizational culture and positive outcomes such as performance, innovation output and entrepreneurial endeavours, the concept of organizational culture distinctively contribute to entrepreneurship-related research. Therefore, this study presents a thesis that supportive organizational culture will promote academic entrepreneurship, and that organizational culture supplemented by entrepreneurial orientation, leadership and strategic management will elevate the development of academic entrepreneurship. On this account, this study proposes: -

Proposition Four: *Organizational culture positively moderates the relationship between entrepreneurial orientation and academic entrepreneurship.*

Proposition Five: *Organizational culture positively moderates the relationship between entrepreneurial leadership and academic entrepreneurship.*

Proposition Six: *Organizational culture positively moderates the relationship between strategic management and academic entrepreneurship.*

RESEARCH METHOD

In pursuing the planned research strategy, the main method of this research is quantitative and is supplemented by qualitative method. The sequential mixed methods and the strategies to be undertaken are to be outlined. The profile of activities is identified, and all variables are operationalized. Measures are developed for the dependent and independent variables used in the hypotheses.

Data analysis techniques are suggested, such as reliability, normality, and Validity test at the first phase and univariate analysis and multiple linear regression using SPSS and Structural Equation modelling (SEM) with AMOS at the second phase. The hypotheses and their respective statistical tests used to test the hypotheses are presented.

The data analysis results of the quantitative and qualitative results through the data collection methods and strategies and analysis techniques used are to be explained. For quantitative results, the statistical tests results are to be analysed using SPSS and AMOS; and the qualitative results originated from the individual interviews would be thoroughly analyzed.

As a continuation with the analysis and results of the previous effort, the findings of the study will be summarized. It explores on how the results from the previous analysis have contributed to the answering of the research questions.

RESULTS AND DISCUSSION

Strategic entrepreneurship research focuses on the influence of the firm's entrepreneurial undertakings upon the overall performance, and therefore it calls for the meticulous evaluation of the entrepreneurial endeavour. Although the emerged assessment tools have been effective in attending the questions in this research area, we still require new measurement and sales to explore the determinants of the entrepreneurial activity. The strategic entrepreneurship model grasps accurately the essential opportunities by means of successful exploitation and commercializing process (Anderson, Eshima, & Hornsby, 2018).

Being a construct of corporate entrepreneurship, strategic entrepreneurship portrays the adoption of a wide array of significant entrepreneurial activities or innovations to pursue the competitive advantage of an organization (Kuratko & Morris, 2018). This integration is important because it addresses how combining and synthesizing opportunity-seeking behaviour and advantage-seeking behaviour could bring forth wealth creation, and this is the essence of entrepreneurial endeavours, regardless it is to the university, the economy or the society at a larger scale.

Hence, this leads to a strategic entrepreneurship model with organizational culture embedded as the internal environment that moderates the relationships between other variables articulated and adopted in the model and academic entrepreneurship, such as entrepreneurial orientation, entrepreneurial leadership, strategic management. The conceptual model (Figure 2) encompasses the essential aspects specified in the strategic entrepreneurship model (Ireland R.D. et al. 2003), considering academic entrepreneurship as an organizational level construct. This paper has sought to contribute to the *understanding* that academic entrepreneurship being an organizational phenomenon in universities is influenced by the organizational level factors such as entrepreneurial orientation, entrepreneurial leadership, strategic management and organizational culture, thereby adopting an institutional perspective.

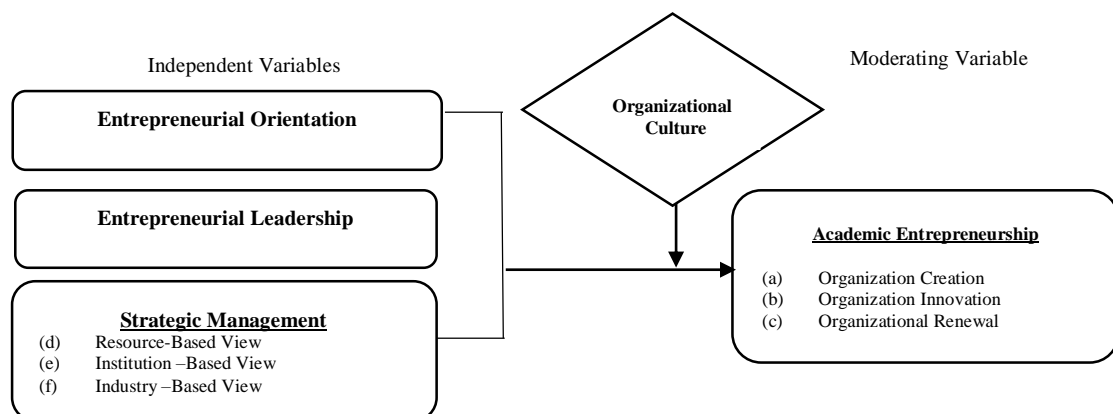


Figure 2. Proposed Model for Determinants of Academic Entrepreneurship

CONCLUSION AND SUGGESTION

This study starts off with setting the context of the research by introducing the concepts and evolution of entrepreneurship, corporate entrepreneurship, and strategic entrepreneurship. Subsequently, this paper acknowledges the role of entrepreneurial orientation, entrepreneurial leadership, and strategic management in enhancing academic entrepreneurship in universities with the moderating role of an organizational culture of the universities. It is proposed that the right and effective entrepreneurial orientation, entrepreneurial leadership, and strategic management of universities promote the development of academic entrepreneurship. Not only that, but this study also proposed that organizational culture positively moderates and affects the relationship between entrepreneurial orientation and academic entrepreneurship, that between entrepreneurship entrepreneurial leadership and academic entrepreneurship, and that between strategic management and academic entrepreneurship. This paper enriches the literature of academic entrepreneurship and strategic management whilst creating opportunities for future research in this academic pursuit and other stakeholders.

Implications and future research opportunities

This paper developed a strategic entrepreneurship model academic entrepreneurship within universities, which depicts the role of entrepreneurial orientation, entrepreneurial leadership, and strategic management of universities in elevating academic entrepreneurship. Additionally, this conceptual model demonstrates organizational culture as the moderating variables that infect the relationship between entrepreneurial orientation and academic entrepreneurship, that between entrepreneurship entrepreneurial leadership and academic entrepreneurship, and that between strategic management and academic entrepreneurship.

This paper contributes to the scholarly literature in several aspects. First, it contributes to the literature of academic entrepreneurship by adopting a holistic approach, in which, academic entrepreneurship is studied as an organizational construct from the strategic perspective, which comprehensively explores the roles of leadership, culture and strategy upon academic entrepreneurship in one framework. To this point, to the best of the authors' knowledge, no research has provided a theoretical framework nor empirical evidence on the association of the three aspects in one conceptual framework.

Second, this paper also offers strategic entrepreneurship literature more possibilities. Specifically, based on the Strategic Entrepreneurship Model (Ireland et al. 2003), this study replaces entrepreneurial mindset with entrepreneurial orientation, summarizes the internal environment as an organizational culture to be the moderating variable and makes entrepreneurial leadership one independent variable, together with strategic management and entrepreneurial orientation. This approach fosters revenues for future empirical studies in various contexts and in other disciplines.

From a practical perspective, the model will encourage universities to devise future strategies on the grounds of the pertinent function of entrepreneurial orientation, entrepreneurial leadership, and strategic management. The moderating effect of organizational culture can also be deliberated in formulating policies related to entrepreneurial activities within the universities. Since this study seeks to explore the research construct of academic entrepreneurship only through an organizational lens, it is suggested the individual-level determinants are to be considered when engaging in entrepreneurial endeavours in universities.

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