Interfering Factors of Academics towards University-Industry Linkages in Sri Lanka: An Analysis Based on Institutional Demographics

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INTRODUCTION

The primary role of Sri Lankan universities when driving towards an innovative economy as providing advanced human resource capacity and then directing those people towards university-industry projects (Gamage, 2015). Therefore, number of scientists or the monetary value of the investment is all-time problems of a developing economy, but most critical issue is the availability of entrepreneurial mind sets in the system. Consequently, in this university-industry collaboration, academics those who transform research outcome to a commercialized product or contribute to a company formation are significant in uplifting the country's economy. However, prior research works have revealed that academics and industry partners of Sri Lanka demarcate lack or loose linkages in between them (Esham, 2008). Many studies were conducted to assess the role of university as an institute in this university-industry linkage, but not for individual faculty members as the actors of this relationship. Hence, this research was conducted to study about hindering factors with Sri Lankan academics towards university-industry linkages.

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OBJECTIVES

Main objective: What are reasons with individual academics towards the loose linkages between university-industry?

Sub-objectives: How do those reasons of individual academics vary based on age of the university and how do those reasons of individual academics vary based on distance from the highly industrialized urban area of the country to the university.

THEORY

University-industry interaction includes a wide range of activities which express entrepreneurial orientation of the university in addition to its traditional roles including teaching and conducting research (Esham, 2008). De Silva et al. (2012) discussed a range of research related to entrepreneurial activities and company creation activities of academics. Such broader viewpoint about academic entrepreneurship enables to define the term university–industry linkage. Therefore, any activity mentioned in Table 1 considered as a linkage between university and industry in this research.

Table 1. University-industry linkage activities of individual academics

Research related academic entrepreneurial activities	Company creation activities
(1) Working in the industry (research based) (2) Research based consultancy for industry through the university (3) Research based consultancy privately (but without forming a company) (4) Developing products or services with potential for commercialization (5) Acquiring research funding from government, non-governmental or international bodies (those without collaborations with industry) (6) Collaborating with industry through joint research projects (7) Research related assistance to small business owners	(1) Contributing to the formation of joint ventures in which university and industry are the joint partners (2) The formation of joint venture/(s) privately through collaborating with industry (3) Contributing to the formation of one or more new spin-off companies (4) Contributing to the establishment of university incubators and/or science parks (5) Contributing to the formation of university centres designed to carry out commercialization activities (6) The formation of your own company/(s)

Source: De Silva *et al*. (2012)

METHODS

This research followed the qualitative approach and data were gathered through interviews with faculty members from three selected universities in Sri Lanka. These local universities were selected based on their variances in demographics. Ten faculty members in permanent positions

from the same faculty were selected by considering the purposeful sampling technique and then total sample consisted of 30 respondents. It is important to present the faculty members' own experiences as stories in order to build a strong foundation for academic entrepreneurship. Phenomenological narrative way was used to analyze the data. In this study, common phenomenon for the individual academics is the 'academic entrepreneurship'. Prolonged time and peer debriefing were used to assess the validity while maintaining regular coordination and communication among researchers were applied to ensure the reliability.

RESULTS AND DISCUSSION

Table 2 carries the details about geographical proximity from the university to the highly industrialized urban area of the country and age of the university with each other.

Table 2. Demographics of the institutions

University	Geographical proximity to the highly industrialized urban area	Age of the university
P	Higher distance	Young
Q	Lower distance	Middle-age
R	Moderate distance	Old

Based on interview findings, five major interfering factors with individual academics towards university-industry linkage were revealed. They are as seniority in the position, institutional procedures, lack of resources, career priorities and attitudes. These interfering factors were further analyzed according to the geographical proximity from the university to the highly industrialized urban area of the country and age of the university. Few selected interview responses which prove these interfering factors are presented as follows. It is noted that only at the lack of resources factor, respondents' feedbacks are different based on their institute while all other responses of them are almost similar. Hence, responses under lack of resources are listed according to the university wise while responses for other factors are listed in generally without highlighting the respondents' universities.

Seniority in the position: "Our batch mates in the industry are in established positions now and they ask our support for industry problems.", "It took so many years for me to work with the industry, because industry always prefers the seniority.", "It takes time for juniors to make their image in the industry.", "Industry always goes to our seniors."

Institutional procedures: "Administration red tapes demotivate me to involve in business activities.", "We as state university academics have restrictions on doing businesses.", "We

have to provide a considerable amount from our consultancy charges to the university and it is a discouragement."

Lack of resources:
University P - "As a newly established university, we do not have sophisticated laboratories when comparing with University Q and R, hence it is difficult to attract companies to our laboratories.", "Even though, we receive an industry project, it is difficult to work on that as we do not have relevant machines and tools."

University Q - "Our University received many industry opportunities to work with them.", "Industry comes to our university for our expertise and laboratories with state-of-the-art facilities."

University R - "We have the oldest laboratories and higher reputation when compared with the other two universities.", "Our capacity for laboratory facilities and human resources attract industry towards us."

Career priorities: "Publications add value to the academicians, not commercialization or company creations.", "Establishing a company needs more commitment, it takes our time that we have for writing research papers, therefore, I will think about creating a company in future.", "I contributed to the product development and made research publications, then my job is over, industry will do the commercialization, it is their job."

Attitudes: "We are academics, we should give our support to the development of country and industry even though we do not receive money.", "I am not into money-oriented company formations, it is not in my genes.", "It is my happiness to disseminate knowledge without charging money for those who are in the industry but with poor basic theoretical knowledge."

Revealed interfering factors are matched with extant literature based on other countries. Findings related to seniority in the position confirmed the results of the studies of D'Este and Perkmann (2011) and Perkmann et al. (2013). Institutional procedures in Sri Lankan context supported to confirm the point, non-availability of detailed technology transfer policies in Turkey (Yildirim and Askun, 2012). Lack of resources matched with the result of Franzoni and Lassoni (2006) who mentioned that lack of monetary resources is a problem to commercialize university scientists' product prototypes. Argyres and Liebeskind (1998) have mentioned that conflicts of interests arise since entrepreneurialism consumes time which allocated for lectures and other university works and it matched with the factor, career priories in this research. Prior research also proved faculty members' attitudes that they are academics, not businessmen to make money from business activities which create obstructions towards academic

entrepreneurship (Franzoni and Lissoni, 2006; Etzkowitz, 1998). However, this research was specifically able to discover the impact of geographical proximity of the university to the highly industrialized urban area of the country and age of the university on those hindering factors of individuals. It was significant to have a thorough understanding of the real situation, specifically in the context of a developing country like Sri Lanka to build a strong basis for future research.

IMPLICATIONS

The authors were able to find the answers for the stated research questions and developed six propositions as the implications of this research. After suggesting these propositions based on interview findings, another three universities in Sri Lanka were selected and interviewed selected three lecturers from each university but from a different faculty when comparing with the original study. The new findings gained similar results with the initial study. Hence, authors were able to theoretically generalize these six propositions and direct future research to generalize the findings statistically.

Proposition 1: Regardless of the age and the geographical location of the university, the lower the number of years of experiences in academic career makes lower involvement in university–industry linkages.

Proposition 2: Regardless of the age and the geographical location of the university, higher the rigidity of institutional procedures make lower engagement of individual academics in university–industry linkages.

Proposition 3: Lower age of the university and a location more distant from industrialized urban area create lack of sophisticated laboratory facilities as a barrier towards its academics to involve in university–industry linkages.

Proposition 4: Lower age of the university and a location more distant from industrialized urban area make lack of access towards funds as a barrier towards its academics to engage in university–industry linkages.

Proposition 5: Regardless of the age or the geographical location of the university, receiving higher marks for the publications in academics' promotions hinders their continuous commitment to university–industry linkages.

Proposition 6: Regardless of the university's demographics, bearing the attitude that, once the academics start-up companies, they become businessmen and they do it for money, creates a hindrance towards the university–industry linkages.

Findings of the study will be useful for the universities, industries and policymakers to enhance the involvement of academics in university–industry linkages by minimizing or eliminating the hindrances.

KEYWORDS

Academics, Interfering factors, Sri Lanka, University Industry linkage

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