

**PERFORMANCE MEASURES OF STRATEGIC  
UNIVERSITY-INDUSTRY COLLABORATIONS IN  
MALAYSIA: DYADIC MULTICASES APPROACH**

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COLLABORATIONS IN MALAYSIA: DYADIC MULTICASES APPROACH

By

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## ABSTRACT

Collaboration without performance measures is likened to a football game without scoreboard. Traditionally, university operated in isolation to the industry and vice versa. University and industry were formed with different agenda and objectives. Fundamentally, university is a non-profit oriented organization while industry is a profit oriented organization. However, industrialization and egalitarian awakening at early 20<sup>th</sup> century has gradually brought university and industry together. Currently, university and industry are increasingly seeking avenues to collaborate strategically. Nevertheless 50% to 70% of collaborative efforts fail prematurely due to lack of performance measures. In light of that, there is a need to search for a set of holistic performance measures for university-industry collaboration. Therefore, this study is undertaken to determine the performance measures of strategic university-industry collaborations in Malaysia using dyadic multicases approach. The researcher analyzes multiple cases from the perspectives of university and industry within bounded system via qualitative research methodology. Interviews respondents were from university and industry perspectives. From the 68 interviews conducted, university and industry respondents shared their experiences on the needs for performance measures to include trust, commitment, enterprising, communication, complementary, flexibility, commercialization and resources on top of conventional performance measures like agreed objectives, timelines, financial indicators and reporting. With that, a set of holistic performance measures is established from interviews. Hence, the main contributions of the research findings are: (i) contribution to policy-making for the Ministry of Higher Education in Malaysia; and (ii) contribution to the body of knowledge in investigating the performance measures in satisfactory performance of strategic university-industry collaboration.

**Keywords:** Strategic university-industry collaboration, Performance measures, Dyadic, Multicases and Malaysia

## ABSTRAK

Kerjasama tanpa pengukuran prestasi adalah seperti permainan bolasepak tanpa papan angka. Secara tradisi, universiti berfungsi berasingan daripada industri dan sebaliknya. Universiti dan industri ditubuhkan dengan agenda dan objektif-objektif yang berbeza. Asasnya, universiti adalah pertubuhan tanpa keuntungan sementara industri merupakan pertubuhan yang mengutamakan keuntungan. Walaubagaimapun, zaman perindustrian dan egalitarian pada awal abad ke 20an telah menyaksikan kesedaran secara beransuran untuk universiti dan industri berkejasama. Kini, universiti dan industri semakin giat untuk menjalin hubungan secara strategik. Namun begitu, 50% ke 70% usaha berkerjasama tersebut gagal disebabkan tiada pengukuran prestasi yang sesuai. Dengan itu, satu set pengukuran prestasi kerjasama universiti-industri yang holistik diperlukan. Sehubungan dengan itu, kajian ini dilaksanakan bertujuan menentukan pengukuran prestasi atas kerjasama strategik universiti-industri melalui pendekatan "dyadic multicases". Penyelidik menganalisis pelbagai kes dari perspektif universiti and industri dalam sistem yang disempadani melalui kaedah kualitatif. Daripada 68 wawancara, responden-responden dari universiti dan industri berkongsi pengalaman perlunya pengukuran prestasi termasuk kepercayaan, komitmen, keusahawanan, komunikasi, komitmen, fleksibiliti, pengkomersiilan, komersil dan sumber-sumber selain daripada pengukuran prestasi yang konvensional seperti objektif yang dipersetujui, tempoh masa, penunjuk kewangan dan laporan hasil koleborasi. Dengan itu, satu set penunjuk prestasi holistik telah dikemukakan melalui wawancara yang dilaksanakan. Sumbangan utama kajian ini adalah : (i) sumbangan kepada pembentukan polisi untuk Kementerian Pengajian Tinggi Malaysia; dan (ii) sumbangan kepada pengetahuan yang sedia ada dalam pengukuran prestasi berhubung kepuasan kerjasama strategik universiti industri.

**Katakunci:** Kerjasama strategik universiti-industri, Pengukuran prestasi, Dyadic, Multicases dan Malaysia



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## **LIST OF ABBREVIATIONS**

ABC	- Activity Based Costing
ABM	- Activity Based Management
APEX	- Accelerated Program for Excellence
BSC	- Balanced Scorecard
EVA	- The Economic Value Added Model
FFCM	- Feedforward/Feedback Control Model
IDPMS	- Integrated Dynamic Performance Measurement System
IPM	- Integrated Performance Measures
IPTA	- Institusi Pengajian Tinggi Awam
IPTS	- Institusi Pengajian Tinggi Swasta
KPI	- Key Performance Indicator
MoA	- Memorandum of Agreement
MoHE	- Ministry of Higher Education
MoU	- Memorandum of Understanding
MQA	- Malaysia Qualifications Agency
NHESP	- National Higher Education Strategic Plan
PMS	- Performance Measurement System
PP	- Performance Prism
R&D	- Research and Development
RDC	- Research, Development and Commercialization
RMC	- Research Management Centre
ROI	- Return on Investment

SETARA	- Sistem Penarafan Institusi Pengajian Malaysia
SMART	- Strategic Measurement Analysis and Report
SPA	- Supportive Performance Measure
UIC	- University-Industry Collaboration
VINNOVA	- Swedish Governmental Agency for Innovation Systems

## **CHAPTER ONE: INTRODUCTION**

### **1.1 Background of Research**

The global structural transformation is changing the conditions that govern the work of universities in various ways and giving rise to new challenges. Besides the aforementioned, according to studies of The World Bank<sup>1</sup> (2007) and Swedish Governmental Agency for Innovation System or VINNOVA<sup>2</sup> (2006), research funding directly available to universities has gradually declined and, thus, there is a greater need to seek for external funding, placing more focus on research environment and greater emphasis on the importance of scientific excellence. It is difficult for any organisation to encompass all resources and capabilities (Hamel, Doz & Prahalad, 2002), hence, collaboration with industry for research funding, ideas generation and research and development (R&D) commercialisation is much sought after. The reduction in national subsidy to universities is in tandem with the Malaysian government policy of encouraging self-reliance among universities to generate their own income (MoHE, 2007a). Perhaps one of the alternatives is to engage industry for funding via research, development, commercialisation and consultancy (RDCC). Thus, strategic university-industry collaboration (UIC) is important as an income stream to expand universities' resources in view of current and future limited funding capability by the Federal Government (Nordin, 2010).

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<sup>1</sup> Based on a report commissioned by the Economic Planning Unit of the Malaysian Government.

<sup>2</sup> Based on a report commissioned by the Ministry of Enterprise, Energy and Communications of the Swedish Government and European Union.

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