

Key Performance Indicators Vs Key Intangible Performance among Academic Staff: A Case Study of a Public University in Malaysia

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Abstract

Very often academic staff at any university will be evaluated based on their key performance indicators (KPI) which include teaching, research, supervision, publication and consultancy. While these indicators are crucial element in justifying academic staff performance, there is another aspect of performance which has been neglected and is anticipated to have negative consequences if university's authority does not plan to seriously observe this issue. Hence, unlike KPI that has been commonly researched in the past, this study is specifically devoted to the key intangible performance (KIP) of academic staff with respect to their contribution to the academic staff KPI. The population of this study is determined by purposive sampling and comprises all categories of staff, namely professors, associate professors, senior lecturers and lecturer of a public university in Malaysia. The results demonstrate that KIP has a positive and significant implication on academic staff's KPI.

Keywords: Key Performance Indicator; Key Intangible Performance; Academic Staff Performance

1.1 INTRODUCTION

Higher educational institutions (HEIs) in Malaysia can be classified as public and private institutions as shown in Table 1. Table 1 show that the number of HEIs in Malaysia is growing rapidly. However one notable point from Table 1 is regarding the declining number of private colleges, a reduction from 632 in 2000 to merely 487 in 2008. This change occurs because in recent years many private colleges in Malaysia has been upgraded as either university or university college, due to the quality recognized and accredited obtained for the programs offered in the private HEIs. On top of any kind of mission and vision set by any HEI, to be the world class university is the ultimate objective of HEIs in Malaysia. In fact, this is also one of the objective of Ministry of Higher Education (MOHE) Malaysia when MOHE embarked recently in a program called "Accelerated Program for Excellence (APEX)" which aims at promoting a public university to be among the world top 100, if not top 50 universities. As the pioneer, Universiti Sains Malaysia has been honored to be the first public university to be given this opportunity in 2008. Whether or not USM can materialize the target set as an APEX University is yet to be seen and evaluated in the next few years after implementation.

Table 1: Higher Education Institutions in Malaysia

	2000	2005	2008
	Public		
University	11	18	20
Polytechnic	11	20	24
Community College	0	34	37
Sub-Total	22	72	81
	Private		
University/ University College/ Branch Campus	8	27	37
College	632	532	487
Sub-Total	640	559	524
TOTAL	662	630	605

Source: Malaysia Higher Education Statistic, 2000-2008 (MOHE)

The interest to have a world class university or local university to be listed in top 200 (preferably lower than 200) has prompted Malaysian government, via MOHE to embark in series of efforts. Prior to APEX, MOHE initiated effort to intensify and accelerate world-class research by appointing four universities¹ to be classified

¹ The universities are Universiti Malaya, Universiti Sains Malaysia, Universiti Teknologi Malaysia and Universiti Putra Malaysia.

under Research-University (RU) in 2006. With the acknowledgement as an RU, these universities have a higher potential to become the front liner in innovation, design and research outputs of international standards. Universiti Putra Malaysia, Universiti Teknologi Malaysia, Universiti Kebangsaan Malaysia and Universiti Malaya had been appointed, alongside Universiti Sains Malaysia as the first five public universities to be under RU.

‘World-class university’ or ‘global ranking’ has become a phrase for not simply improving the quality of learning and research in tertiary education but more importantly for developing the capacity to compete in the global tertiary education marketplace through the acquisition and creation of advanced knowledge (Salmi, 2009). Apparently, the obsession to be a world-class university or to the global ranking² has attracted large attention from higher education institution and governments. Salmi (2009, p.5) summarized three important complementary sets of factors that could be found at play among top universities, namely (i) a high concentration of talent (faculty and students), (ii) abundant resources to offer a rich learning environment and conduct advanced research, and (iii) favourable governance features that encourage strategic vision, innovation and flexibility, and enable institutions to make decisions and manage resources without being encumbered by bureaucracy. While the second and third factors are very much related to government policies, the first factor is mainly based on that institution’s long-term strategies in attracting and developing human resource³. In short, the above mentioned criteria could be the thing should be offered and believe as capable to accelerate a university to be a world class university. In higher education institution, the performances of academic staff are traditionally evaluated according to three major criteria; teaching, research, and services (Comm and Mathaisel, 1998). Recently, it encompasses another two dimensions, namely supervision and consultancy. These performance criteria are normally termed as key performance indicators (KPI).

Considering that all five RUs in Malaysia are already to certain degree endowed with the above criteria set by Salmi (2009), the issue of not being able to penetrate the world class group (even in the top 200) could be the thing that requires a more attention. Although the ranking provided by any institution could be controversial to many parties, Times Higher Education World University Ranking (THE-WUR) and QS-WUR might still be useful to provide hint about the level of HEIs in Malaysia. In 2011, no any Malaysia HEI is classified under top 200 by THE-WUR and QS-WUR⁴. Masron and Ahmad (2011b) has on contrary argued the importance of shifting our attention from purely objective or tangible performance measurement of academic staff to pay attention on the key intangible performances (KIP) of academic staff. This is particularly a pressing issue as the world does not seem to turn into a better world for all in the presence extensive universities’ activities done across the globe. Issues such as poverty, income inequality and so on remain in existence for large section of world population. Combining this new perspective in evaluating the overall performance of academic staff, this study aims at investigating the integration between KPI and KIP. Basing the research on a public university case in Malaysia, the ultimate aims of this study is to identify the potential implication of KIP on KPI.

The organization of this study is as follows: The next section provides the review of literature. Third section describes methodology employed in this study and fourth section analyzes and explains the findings. Section five conclude this study.

2.0 LITERATURE REVIEW

2.1 Performance – Its Measurement and Importance

There are several definitions on performance. According to Lockett (1992), performance is defined the as “a multidimensional construct and the common factors that are frequently associated with organizational performance are efficiency, quality, responsiveness, cost and overall effectiveness”. In 1994, Armstrong has extended the definition to a “Performance management” as “a means of getting better results from the organization, teams and individuals by understanding and managing performance within an agreed framework of planned goals, objectives, and standards of achievement and competence.” More recently, Neely et al. (2002, pp. xiii) defined a “performance metric” as the scope, content, and component parts of a broadly-based performance measure.

² For a time being, two most influential global ranking providers are Times Higher Education Supplement (THES) and Shanghai’s Jiao Tong University (SJTU).

³ Please see Fielden (2008), Morshidi (2009) and Morshidi & Ahmad (2009), among others for the detail discussion on this issue.

⁴ The best for Malaysian HEIs under QS-WUR in 2011 was Universiti Teknologi Malaysia which ranked 279.

Neely et al. (1995) added that measurement is the process of quantification and action correlates with performance. At the same, Simmons (2000) defines that measures can be objective or subjective and objective measures can be independently measured and verified whereas subjective ones cannot. As recommended by scholars Kaufman, Thiagarajan, and MacGillis (1997), measurement is a necessary component of evaluation. It gives us data for determining the worth of the object being evaluated.

With this regards, performance measures must be based on a set of objectives that are linked to the mission of the department and its visions for the future (Al-Turki & Duffuaa, 2003, pp. 330). Pritchard et al. (1990) defined performance measures as “the numerical or quantitative indicators that show how well each objective is being met”. On the other hand, Neely et al. (2002, pp. xiii) defined a performance measure as “a parameter used to quantify the efficiency and / or effectiveness of past action”. In their other paper, performance measurement as the process of quantifying action, where measurement is the process of quantification and action leads to performance, (Neely et al., 1995). Consequently, the performance of organizations can be measured by the achievement of their goals such as satisfying their customers need better than their competitors and etc. This been agreed by definition of Kaplan and Northon (2000) with other opinion that the performance measures and targets for these measures can be seen as concrete formulations of the firm’s strategic choices; and the actual results achieved for the various measures reflect how well the firm succeeds in achieving these strategic choices”.

Tangen (2005) verified that, a successful performance measurement system is a set of performance measure (i.e. a metric used to quantify the efficiency and effectiveness of action) that provides a company with useful information that helps to manage, control, plan and perform the activities undertaken in the company. As proposed by Tangen, the performance measures must be designed to reflect the most important factors influencing the productivity of the different processes that can be found in the company. A performance measurement system as cited by Al Turki and Duffuaa (2003), should be developed for collecting, analyzing and reporting data and information related to the performance of the academic departments. Performance measurement in higher education (HE) seems to have a major developments and significant continuities. (Cave, Hanney and Henkel, 1995,). In higher education, as in business there are common practices of measuring excellence. The higher education institution emphasized more on academic measures compare to financial performance and Ruben(1999) also indicates that one area deserving greater attention in the process of measurement in higher education is – the student, faculty and staff expectations and satisfaction levels (Umashankar and Dutta, 2007, pp. 4).

2.2 Positioning KIPs in KPIs of Universities

Recently because of the pressure for accountability in the public sector, performance measurement has become an agenda item in higher education institutions. Chen, Yang and Shiau (2006) mentioned that to face the challenge of competition, action needs to be taken to reform the operations of the institutions of education. A strategic management tool needs to translate into workable actions, rather than just ambitious words. Another pressure on public universities to evaluate their performance is because the competition for funding from government as well as for attracting good local and international students has become more intense due to the growing number of private universities. In short according Koslowski (2006) assessing the quality of higher education has become a major public concern due to increasing competitive pressure, finite individual and institutional resources, and increased demand for universal access. Hence, the need for greater accountability and improvement has become a major issue in higher education in recent years (Wilson, Lizzio & Ramsden, 1997).

In response to this need, governments and universities have attempted to institute policies and practices designed to measure, encourage and reward academic staff performance, such as teaching, supervision, research and publication. The idea of performance indicators (PIs) derives from economic models of the education system as a process within a wider economic system that converts inputs, such as academics' salaries, into outputs such as research papers (Cave, Hanney, Kogan & Trevett, 1988). Nowadays, universities are very much concerned about their “world ranking” and desire to gather talent, resources and introduce good governance. Nonetheless, with the overwhelming and prolonged period of sustained poverty across the globe, we are very curious as to the direction that academicians are heading. Are they really doing something for the betterment of society as a whole, particularly those groups of marginalized people who numbered in billions for their own advancement? Are they conducting lectures, research and development (R&D) activities and services to produce quality outcomes that are equitable, accessible, available and affordable to all, particularly the bottom billion of humanity? These fundamental questions need to be addressed by both universities and academicians.

No one should question the importance of setting tangible criteria, such as teaching, supervision and consultation, research and publication, societal involvement and so on. In addition, the evaluation criteria should

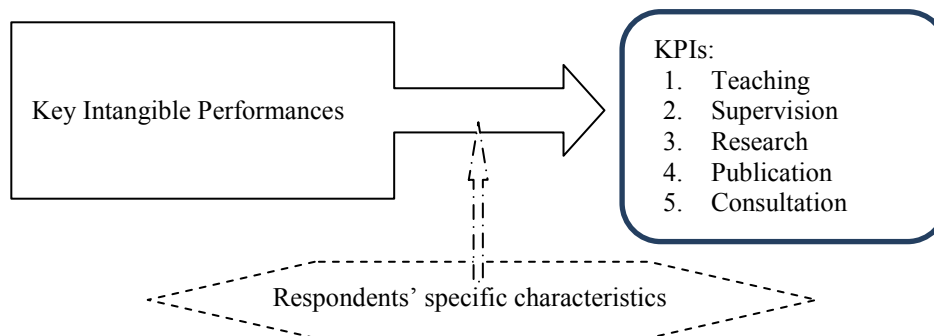
also consider intangible criteria. According to Umashankar and Dutta (2007), it has to be understood that by simply having good scores for external indicators an organization may not necessarily be successful internally. Instead, to ensure a healthy culture, the institution has to ascertain that internal performance measures are linked to the corporate (or institution) goals that attempt to improve the organization's operations and not simply those that compete with peer institutions (Yu, Suraya & Ijab, 2009). In this way, the organization should focus on internal measures according to the nature of the work of the staff and link them to the strategic goals of the organization thereby resulting in academic excellence. The importance of managing intangible assets has been stressed by Seemann and Smallwood (2004), who argued that intangibles are the most significant growth driver in the US economy.⁵ Nevertheless, present governance and management practices focus almost entirely on the tangible assets of the organization or firm.

3.0 METHODOLOGY

3.1 Framework of Analysis

Synthesizing all the literatures that we have discussed in the earlier section, we present here the framework of our analysis. In principle, we borrow the framework designed by Masron, Ahmad & Marimuthu (2011) in linking KIP and KPI. However, since our focal attention is on the first half of the framework pioneered by Masron et al. (2011), combined with the problem of measurement that it requires more than one period, we modified the original framework to be as follows:

Figure 1: The role of Intangible Performances



3.2 Measurement of KIPs

While the measurement of KPIs is a bit standard in terms of criteria to be used – teaching, supervision, research, publication and consultancy (see Figure 1), the measurement of KIPs is relatively difficult to measure and nothing standard. To ease our task, we divide the measurement of KIPs into two areas, namely, contribution to the university as well as contribution to the society or community. In short, we proposed our measurement of KIPs as depicted in Figure 2⁶. In our efforts to outline the possible criteria of intangible performances, we gather several criteria from other universities such as California State University (US)⁷, Cornell University (US)⁸, University of North Carolina Wilmington⁹, the Ohio State University¹⁰ and Universiti Sains Malaysia. After discussing all criteria suggested or available in the above mentioned sources, we summarize the information and end up with eight criteria as outlined in the contribution to university.

⁵ According to Seemann and Smallwood (2004), more than 60 percent of the aggregate value of the stock market is based on future expectations, with 30-60 percent of an average company's value lying in its intangibles. In addition, wild swings in a company's stock price are more often than not investment community reaction to intangible issues, such as an unexpected innovational success, the departure or entrée of a key figure, or a reputation crisis.

⁶ For the detail on the two domains chosen, please read Masron and Ahmad (2011b).

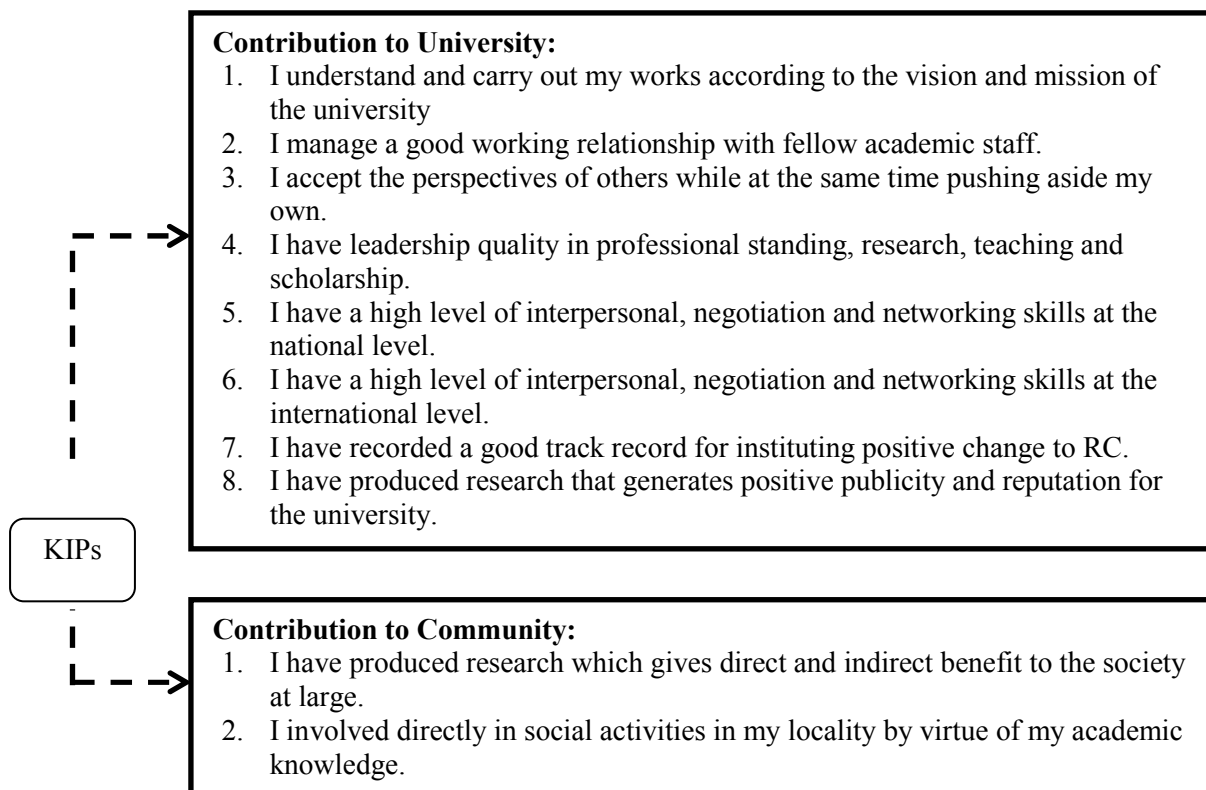
⁷ Retrieved June 2009 from http://daf.csulb.edu/forms/bhr/staffpersonnel/mpp_evaluation-form.pdf.

⁸ Retrieved June 2009 from <http://www.library.cornell.edu/iris/policies/performance.html>.

⁹ Retrieved June 2009 from <http://library.uncw.edu/web/policies/performance.html>.

¹⁰ Retrieved June 2009 from <http://library.osu.edu/sites/staff/perfrev.pdf>.

Figure 2: Domains and Elements of KIPs



The above each element is given rank of 1 to 5. 1 is for strongly disagree and 5 for strongly agree. Respondents are asked to rank their own KIPs based on the likert scale 1-5. The KIP score for each respondent is then calculated based on the total score of each element.

3.3 Data Collection

The population of this study is the academic staff of USM from the three campuses (i.e. main campus, engineering campus and health campus). As at 2011, the total population of academic staff was 1,539. Stratified random sampling will be employed for sample selection. Questionnaires were distributed to 500 academic staff among the three campuses. Although there is no pre-agreed upon standard for a minimum acceptable response rate (Fowler, 2002) noted that a typical questionnaire response rate could be conservatively between 20% and 30%. Therefore, the response rate of 66.67% (or 372 out of 500) in the present study is considered acceptable.

4.0 RESULTS AND DISCUSSION

As shown in Table 2, the respondents consist of 57.5 percent males and 42.5 percent females. In terms of age, 17.7 percent are the respondent are between 26-35 years old, 46.8 percent of the respondents are between 36 to 45 years old, followed by 31.7 percent between 46-55 years old and only 3.8 percent are more than 56 and above. More than half (70.7 percent) of the respondents reside on the main campus. About 50 percent of the respondents are senior lecturers and about 37.6 percent of the respondents have less than 5 years of working experience in the university.

Table 2: Demographic Analysis

Demographic	Frequency	%
<i>Gender</i>		
Male	214	57.5
Female	158	42.5
<i>Age</i>		
26 - 35	66	17.7
36 - 45	174	46.8
46 - 55	118	31.7
56 and above	14	3.8
<i>Resident Campus</i>		
Main Campus (Pulau Pinang)	263	70.7
Engineering Campus (Transkrian)	66	17.7
Health Campus (Kubang Kerian)	43	11.6
<i>Current Position</i>		
Professor	24	6.5
Associate Professor	75	20.2
Senior Lecturer	180	48.4
Lecturer	93	25.0
<i>Years of working experience in USM</i>		
Less than 5 years	140	37.6
6 – 10 years	113	30.4
11 – 15 years	47	12.6
More than 16 years	72	19.4

We do not present the summary of statistics for KPIs for two reasons. Firstly, as we just sum up all the achievements, combined with no available benchmark to be referred to, the figure could be of no specific meaning. Secondly, we observe that almost 1/3 of respondents did not fill in any item of KPIs. While this could be the biggest limitation to this study, we suspect that it could be because of too many items that they should key in in the questionnaire. The summary of statistics for KIPs is presented in Table 3. Similar to KPIs, in order to calculate single index for KIPs, we do sum up the score of each of 10 elements. Hence, the maximum score would be 10. As shown in Table 3, the mean score is about 40 and can be considered as high.

Table 3: Summary of Statistics of KIPs

KIPs	No of Obs.	Min	Max	Mean	Std. Dev.
	372	19	50	39.44	5.4158

Table 4 highlights the result of simple correlation analysis. We conduct for both, parametric (Pearson) and non-parametric (Kendall's tau-b and Spearman's rho) tests. The results show a promising coefficient in which all three tests suggest that there is a significant positive association between KPI and KIP.

Table 4: Correlation Analysis [N = 372]

KIP	KPI		
	Pearson	Kendall's tau_b	Spearman's rho
	0.111** (0.033)	0.129*** (0.002)	0.157*** (0.002)

Note: Asteriks ** and *** denote significant at the 0.05 level and 0.01 level (2-tailed), respectively.

Table 5: Regression Analysis [Dep. Var. = KPI]

	Model 1	Model 2	Model 3	Model 4	Model 5	Model 6
Constant	-5.811 [-1.353]	-2.861 [-0.539]	-5.825 [-1.357]	-5.821 [-1.335]	-5.381 [-1.246]	-0.485 [-0.087]
KIP	1.161** [2.139]	1.207** [2.214]	1.107** [2.032]	1.160** [2.122]	1.197** [2.199]	1.180** [2.158]
AGE	-	-0.077 [-0.944]	-	-	-	-0.129 [-1.252]
POSITION	-	-	1.647 [1.154]	-	-	2.808* [1.668]

WORKYEAR	-	-	-	0.008 [0.014]	-	0.050 [0.741]
GENDER	-	-	-	-	-1.232 [-0.966]	-1.365 [-1.040]
R ²	0.111	0.115	0.126	0.111	0.121	0.158
Adjusted R ²	0.101	0.109	0.106	0.094	0.107	0.125
S.E. of Reg.	12.1256	12.1274	12.1202	12.1421	12.1267	12.1124
F-statistics	4.574** (0.033)	2.732* (0.066)	2.955* (0.053)	2.955* (0.053)	2.753* (0.065)	1.878* (0.097)

Note: Asterisks * and ** denote significant at 0.10 and 0.05 critical level, respectively. Figure in [] stands for *t-value* and figure in () stands for *p-value*.

Finally, we conduct a more formal statistical inference to identify the exact impact of KIP on KPI. In doing so, we do run the simplest model (Model 1) as our benchmark in which no any control variable is added. Gradually, we try to add one by one in the subsequent models (Model 2 to 5) in order to check the robustness of the impact of KIP on KPI. Finally, in Model 6, we add all control variables in the equation. Interestingly, KIP is found to have a robust positive and significant effect on KPI in all models. Hence, this finding provides strong support to conclude that focusing on KIP of academic staff could further enhance the KPI of academic staff. Ultimately, the ranking of university with high KIP and KPI is expected to be upgraded in the long run.

5.0 CONCLUSION

This study attempts in understanding and assess the implication of KIP of academic staff on the KPIs of academic staffs in a public university. Sticking to the standard measurement of KPIs – teaching, supervision, research, publication and consultancy, we develop a measurement of KIPs based on the items utilized at several universities in USA. A survey conducted in 2010 end up with 66.67 percent of response rate or 372 out of 500 questionnaire distributed. The finding of this study successfully shed a new are of attention that university could focus on in order to improve the KPI of university academic staff.

Nonetheless, as this study could be the first in this area of investigating the relationship between KIP and KPI, we observe several limitations. Firstly, the non-responded respondents of 1/3 could alter the results should they did not key in the information because of tedious work. Secondly, the items under KIPs are also subject to further research¹¹.

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¹¹ As part of the extensions of this study, we currently prepare another framework of KIPs by using the organizational citizenship behavior as our new reference.

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