

Workers' Competency, Performance and Competitiveness in Malaysia's Private Education Sector

(Kebolehan, Prestasi dan Daya Saing Pekerja di Sektor Pendidikan Swasta di Malaysia)

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ABSTRACT

In Malaysia, the education sector, in particular the private education sector has been expanding rapidly as a result of government policy in liberalizing the sector and to turn Malaysia as a centre of excellence in the educational provision within the Asian region. This subsequently requires a more competent and competitive workforce to spearhead the expansion of this sector. This article aims to investigate determinants of workers' competency, performance and competitiveness in the education sector so that future human resource development can be enhanced to produce a more competitive workforce. The analysis in this article is based on 567 executives/professionals in the private education sector in four major states, namely Selangor, Penang, Federal Territory and Johor. The study will compute the workers' competency and performance indices and use these indices to construct competitiveness index, and subsequently regress these indices on several determinant factors, which include human capital, employee attributes and personal characteristics variables. The linear regression model and Ordinary Least Squared (OLS) procedure will be used in the data analysis. Our analysis shows that most of the human capital variables and workers' attributes contributed significantly to workers' competency, performance and subsequently their competitiveness.

Keywords: human capital; workers' competent; workers' performance; workers' competitiveness; private education sector

ABSTRAK

Di Malaysia, sektor pendidikan terutamanya sektor pendidikan swasta telah berkembang dengan pesat berikutan dasar liberalisasi dan usaha kerajaan menjadikan negara ini sebagai pusat kecemerlangan pendidikan di rantau Asia. Usaha ini sudah tentulah memerlukan lebih ramai tenaga kerja yang berkebolehan dan berdaya saing bagi menerajui perkembangan sektor ini. Artikel ini bertujuan mengkaji faktor penentu kepada daya saing pekerja dalam sektor pendidikan supaya program pembangunan sumber manusia yang disediakan berupaya menghasilkan tenaga kerja yang berdaya saing. Analisis dalam artikel ini adalah menggunakan data yang diperolehi daripada 567 pekerja eksekutif/profesional dalam sektor pendidikan swasta di empat negeri iaitu, Selangor, Pulau Pinang, Wilayah Persakutuan dan Johor. Kajian ini akan membentuk indeks kebolehan, indeks prestasi dan seterusnya menggunakan kedua-dua indeks ini untuk membentuk indeks daya saing pekerja. Analisis regresi kemudiannya dilakukan ke atas indeks-indeks berkenaan untuk menganalisis faktor penentu kepada indeks tersebut yang meliputi pemboleh ubah modal manusia, ciri-ciri dan personaliti pekerja. Analisis ini menggunakan model regresi linear dan penganggar kuasa dua terkecil (OLS). Hasil analisis mendapati sebahagian besar daripada pemboleh ubah modal manusia dan ciri-ciri pekerja mempengaruhi kebolehan, prestasi dan seterusnya daya saing pekerja secara signifikan.

Kata kunci: modal manusia; kebolehan pekerja; prestasi pekerja; daya saing pekerja; sektor pendidikan swasta

INTRODUCTION

In this new era of economy, educated and skilled human intelligence is increasingly viewed as a nation's and organizational primary economic resources (Brown & Lauder 1996; Steward 1996; Davies & Guppy 1997; Carnoy 1998; Lewin 1998; Kraak 1999; Oxfam 1999a, 1999b; Varma 1999; Sieh 2000). Many believed that human resource is an important factor for investment, economic development and key component of competitiveness. Thus, Malaysia's

ability to develop and retain highly skilled talent is of critical importance in maintaining and strengthening its competitiveness. The country can no longer depend on its low cost, mass production manufacturing activities, which rely heavily on low wages and relatively unskilled workforce. In a recently published report, the World Bank suggested that to gain competitiveness Malaysia needs an economy where science, technology, and engineering are integrated into the production process and where creativity, imagination, knowledge, and design capability



are embodied in well-educated skilled workforce (World Bank 2007).

Malaysia has recognised the importance of having knowledge workers to deepen the technology of firms, improve the productivity and attract foreign direct investment (Malaysia 2001a, b; 2002). Recent development initiatives clearly indicate that Malaysia is moving from a production-based to a knowledge-based economy. As Malaysia moves towards a knowledge-based economy, Malaysia is moving up the competitiveness rankings from the 31th place in 2004 to 24th place in 2005 for the Growth Competitiveness Index. However, for the Business Competitiveness Index, Malaysia's ranking was unchanged at 24th place as shown in Table 1. For the Global Competitiveness Index (GCI) in 2006-2007, Malaysia was ranked 26th by the World Economic Forum's (WEF). However, recently Malaysia has moved up to the 19th place in the World Competitiveness Yearbook 2008 published by the International Institute for Management Development (IMD) based in Switzerland (IMD 2008).

Most literature from classical or neo-classical economist tends to focus only on the labour cost to reflect the level of competitiveness. However, in modern economy labour cost alone is not an important factor in determining cost-competitiveness. Competitiveness is not only the ability to produce at a cost below that of competitors, but more importantly is the labour productivity, which depends greatly on the range of human factors that affect how people work (Werther & Davis 1996; Harris 1997; Mathis & Jackson 2000; Dessler 2002). A high quality of workforce who possesses a strong cognitive, functional and social competence in order to perform tasks efficiently and effectively is a crucial factor for enhancing competitiveness.

Theoretically, there are several determinants of workers' competitiveness and among them are the human capital variables. Rahmah (2002) showed that there is a significant positive relationship between workers' performance and the proportion of having a tertiary level

education and training attendance. Gerfin (2004) also found that training activities will increase workers' competitiveness and contributed 2.0% of wage increase. A study by Verner (2000) showed that there is a direct relationship between training and workers' experience on workers' productivity in Ghana. His study indicated that the worker's experience has a higher impact on productivity compared with the impact on wages. A study by Suharto Wijono (1997) in the Central Java, Indonesia showed a significant relationship between workers' motivation and personality and workers' performance. Judith et al. (2005) studied the personality of the graduates entering the labour market and found that human capital variables (education, training and workers experience) and graduates' personality have significantly affect graduates' ability to fulfil the labour market requirement.

The main purpose of this paper is to investigate the factors determining workers' competency, performance and competitiveness in the private education sector in Malaysia. The paper is organised into six sections. After the introduction, we shall provide an overview and the importance of the private education sector in Malaysia. Section three describes the data collected for this study and section four explains the computation of the workers' competency and performance indices and how these two indices are used to construct competitiveness index. The analysis on the determinants of workers' competency, performance and competitiveness is presented in section five followed by the conclusions in the final section.

AN OVERVIEW OF MALAYSIA'S PRIVATE EDUCATION SECTOR

Education in Malaysia comes under the jurisdiction of the Ministry of Education and is governed by the Education Act 1996, which replaces the Education Act 1961. As stated in section 15 of the Act, National Education System is comprised of five levels: pre-school education, primary education, secondary education, post secondary education and higher education. Under section 16 of the Act, there are three categories of educational institutions or schools in the National Education System, namely, Government education institutions/schools, which are established and fully maintained by the government; Government-aided educational institutions/schools, which are not established by the government but received full grant from the government; and Private educational institutions/schools that are privately funded and do not receive any types of grant from the government. The third category of the educational institution under this Act is of special interest to the study, and therefore, shall be given special emphasis.

Since the 1950s, private education has started merely to cater for dropouts and to serve minority groups through the establishment of missionary and religious schools. By the early 1970s private education had become more

TABLE 1. The Overall Comparisons of Malaysia's Competitiveness

Country	Growth Competitiveness Index		Business Competitiveness Index	
	2005	(2004, 2003)	2005	(2004)
Finland	1	(1,6)	2	(2)
Republic of Korea	17	(29,18)	24	(24)
Malaysia	24	(31, 29)	23	(23)
Ireland	26	(30,30)	19	(22)
Thailand	36	(34,32)	37	(37)
China	49	(46,44)	57	(47)
India	50	(55,56)	31	(30)
Singapore		6 (7,6)	5	(10)
The Philippines	77	(76,66)	69	(70)

Source: World Bank 2007

structured, being involved mostly in primary, secondary and vocational schools. During this period, there was a paramount shift of roles and functions of the private education system where the private education providers started to place importance on pre-university courses. The levels of education provided by the private sector in Malaysia ranged from pre-school education to tertiary education. At the pre-school educational level, there are childcare centres and private kindergartens offering pre-school education for children between the ages of 3 and 6 years. Usually, private providers follow programs and activities based on pre-school curriculum guidelines provided by the Ministry of Education. There are also private primary schools following the national curriculum for the children between ages 7 and 12 years. Although primary schools are free in the public sector, it is observed that there are various reasons for parent sending their children to this type of private schools. This may include religion, language, and to some extent, for better quality of education.

In the early years after independence, the establishment of private sector education in this country was merely to cater for dropouts or to serve minority groups for language and religious education. At the secondary and post secondary levels of education, private schools, besides providing various choices of education for the society, also act as an alternative means of continuing education for those who are not able to continue education in the public system of education. Only in the early 1990s the private sector began to take a more vigorous role in the development of the educational system. Since then, private educational institutions have been involved in tertiary education offering various courses and programmes including professional, technical and managerial. Realising the importance of the private sector contribution in the provision of tertiary education, the government has encouraged its expansion through the passing of the 1996 Private Higher Education Act, which allows local private institutions of higher learning to offer courses that can confer degrees. This education bill also allows selected foreign universities to establish their branch campuses locally.

Generally, the government has always accorded high priority to education as was reflected in the extensive coverage in all its previous five-year development plans. On the average, education expenditure accounted for more than 25% of the total government expenditure, or in terms of Gross Domestic Product (GDP), it was around 6.2%. This ratio is relatively high when compared with other developed nations, including the newly industrialising economies in the Asia region with an average of only 3-4% (UNESCO 2008). Table 2 shows that pupil/teacher ratio at the primary school in Malaysia is comparable with those of the developed nation. As a developing nation, Malaysia's enrolment ratios by level of schooling portrayed in Table 2 is also considered relatively high. Consequently, the Malaysian education system, in particular the public sector provision is likely to be superior since it receives sufficient attention from the government (World Bank 2007). However, this may not be necessarily true within the private sector provision. The majority of private schools and colleges are privately funded and receive only minimal grants from the government, which may subsequently affect their achievements.

The situation is more critical at the tertiary education level. Recent statistics from the Ministry of Higher Education show there are some 525 private university/colleges compared with only 20 public owned universities. In 2007, both public and private tertiary education sectors enrolled almost equal number of students, which is 382 997 (51%) and 365 800 (49%) students respectively (MOHE 2008). However, Table 3 shows that the total number of academic staff in the private sector tertiary education represents only 41% of the total academic staff in the tertiary education sector. A previous study has shown that there is a tendency amongst the private university/colleges to employ less qualified or part time teaching staff in an effort to minimise the cost of provisions (Wilkinson & Ishak Yussof 2005). Clearly, Table 3 shows that the proportions of teaching staff with higher qualifications are relatively larger within the public institutions compared with those in private institutions.

TABLE 2. International Comparison of Basic Educational Indicators

Country	Public Expenditure on Education (2004)		Pupil-Teacher ratio (Primary) (2006)	Net Enrolment (%) (2006)		
	As % of GDP	As % of total government expenditure		Primary	Secondary	Tertiary ^a
United States	5.3	13.7	14	92	88	82
United Kingdom	5.6	12.5	18	98	92	59
Malaysia	6.2	25.2	17	95	65	28 ^b
Japan	3.5	9.2	19	100	99	57
Korea, Rep. of	4.6	16.5	28	98	94	91
China	1.9	13.0	18	-	-	22

Notes: a = value for Gross Enrolment Ratio; b = figure for 2002

Source: Data adapted from UNESCO website - <http://stats.uis.unesco.org/unesco/>

TABLE 3. Total Number of Academic Staff by Qualifications in Tertiary Education, 2007

Academic Qualifications	Public University/ Colleges		Private University/ Colleges	
	Number	%	Number	%
PhD	6 109	25.9	1 173	7.0
Masters	12 717	54.0	6 242	37.4
First Degree	4 057	17.2	7 502	44.9
Diploma/Others	684	2.9	1 788	10.7
Total	23 567	100.0	16 705	100.0

Source: Ministry of Higher Education Malaysia, website: <http://www.mohe.gov.my/>

Since the passing of the 1996 Private Higher Education Act, the government has always encouraged the establishment of private sector tertiary education. Malaysia's vision is to transform the education sector into an export-oriented business through attracting more international students to pursue their study here (MOE 2005). In achieving this, the education sector, in particular the private sector provisions should be able to offer a world-class higher education system which relies heavily on the quality of its human capital resources as well as teaching and learning facilities. In this paper, we shall only evaluate the human capital aspects, which relates to workers competitiveness and factors influencing it within the sector.

PROFILE OF DATA

Data for this study was gathered through a survey method using self-administered questionnaires conducted during September and December 2007. The population for the study covers mainly executives working in the private education sector within selected four major states in Malaysia. The states were selected on the basis of their status as the most developed states and the majority of private educational institutions are found within these states. The states include Selangor, Penang, Federal Territory and Johor. From the population size for each selected state, representative samples of 809 executives were drawn using a stratified sampling technique. The sample size is calculated using technique proposed by Israel (1992). A detailed population and sample distribution are provided in Table 4.

Research instruments from previous studies are blended and adapted to develop a comprehensive measurement of workers' competency, performance and competitiveness indices and their determinant factors. A survey questionnaire is designed mainly based on research articles published by *the Research Centre for Education and the Labour Market, Commonwealth Department of Education Science and Training, Journal of Managerial Psychology, NEO Personality Inventory, Job Performance Inventory* and several local studies (Rahmah 2002; Rahmah & Syahida 2010).

TABLE 4. Population and Sample Size by Major States

State	Population (N)	Sample (n)
Selangor	2 846	404
Penang	460	65
Federal Territory	1 982	282
Johor	406	58
Total	5 694	809

Note: Sample size, $n = N/1 + N(e)^2$, where e is the level of precision, which show the maximum variability with the value of 0.05.

Prior to the actual fieldwork, the survey instrument (questionnaire) was tested via a pilot study on a randomly selected 11 executives. The survey instruments were then examined for reliability using the consistency measure developed by Cronbach & Meehl (quoted in Rezin & McCaslin, 1999). According to George & Mallery (2001), Cronbach alpha (∞) of 0.7 is considered acceptable, while 0.8 is good and 0.9 is excellent. Table 5 below shows that most instruments are excellent.

TABLE 5. Reliability of Instrument

Subjective Components	Pilot Test (n = 11)
> Ethic, Values & Personality (18 items)	.961
> Job Satisfaction (14 items)	.975
> Employee Competency (40 items)	.965
> Job Performance (8 items)	.945

With almost 70% response rate, the study receives a total of 567 respondents, in which the percentage share of male and female respondents is estimated at 38.2% and 61.8% respectively. The difference in the gender percentage share is not likely to affect the results since we have a sufficient sample of male respondents. Table 6 shows almost an equal distribution of percentage share between male and female respondents based on their academic qualifications. The majority of the respondents have either a bachelor or a master degree qualification. There is also a small percentage share of respondents with PhD qualification. This is parallel to the trend of the macro data presented earlier in Table 3.

It is observed that most of the respondents (95.4%) are employed in local institutions. Only 4.6% of the respondents worked within the foreign-owned private institutions. Table 7 offers additional information regarding respondents' types of occupation and average monthly income. More than 85% of the respondents fell under the professionals/lecturer job category, which strongly represents the core business of the education sector. Others are involved in the supporting services either at the managerial level (7.2%) or a much lower job category (6.8%).

The average monthly income for the professional and lectures is RM2,664.49. This is considered relatively

TABLE 6. Academic Qualification by Gender

Academic Qualifications	Male		Female		Total	
	Frequency	%	Frequency	%	Frequency	%
SPM/STPM	9	4.2	4	1.1	13	2.3
Diploma	20	9.3	29	8.3	49	8.7
Bachelor Degree	97	44.9	169	48.4	266	47.1
Master	76	35.2	142	40.7	218	38.6
PhD	14	6.5	2	0.6	16	2.8
Others	0	0.0	3	0.9	3	0.5
Total	216	100.0	349	100.0	565	100.0

Note: missing value = 2

TABLE 7. Occupational Category and Average Monthly Income

Academic Qualification	Respondents		Average Monthly Income
	Frequency	%	
Managers and senior executives	40	7.2	RM4,353.40
Professionals/Lecturers	477	85.9	RM2,664.49
Technicians and associate professionals	23	4.1	RM2,255.95
Clerical officers	14	2.5	RM1,650.44
Services and sale officers	1	0.2	RM1,500.00
Total	555	100.0	RM2,741.60

Note: missing value = 12

low compared with the rate received in the public sector. A lecturer with master degree qualification and at least 5 years of experience in the public sector may receive an average income of more than RM3,000 per month. This is critical since income is an important component of workers' competitiveness (Rahmah & Syahida 2010), among others. We shall discuss further this aspect in the following section.

MEASUREMENT OF WORKERS' COMPETENCY, PERFORMANCE AND COMPETITIVENESS

Conventional economists often believe that there is a strong association between workers' competitiveness and low cost of labour. Frequently, workers are treated similarly with other production inputs, and thus, the number used in the production processes is critical. However, such perception has changed with economic progress and the widespread of globalisation. In human capital theory for instance, the main focus is on the quality of the available workforce (Schultz 1961; Becker 1962). Employers' perceptions and subsequently treatments for workers have also changed. This is more obvious when the service sector is gaining importance and demand for highly skilled workers increases (Kaldor 1967; Rowtorn & Ramasamy 1997).

Workers' competitiveness nowadays is not only concerning numbers and costs or low wages but more importantly other characteristics such as skills, competency levels and other quality traits. Thus, wages or labour costs must not necessary be low. In fact, worker

competitiveness is likely to increase as wage increases. A study conducted in Malaysia has shown that wages and worker productivity have a positive relationship as indicated by the efficient wage theory (Zulkifly Osman & Mohd Azlan Shah Zaidi 2002). Previous literature indicated that workers' competitiveness can be classified into two main components. First, the level of competency owned by individual workers, and second, the job performance for a given task (SCANS 1991, 1994; Wood & Lange 2000; McConnell 2001; Zuniga 2004). According to Vroom (1964), competency is an individual ability or strength to implement job with stable characteristics. Vroom's (1964) study also shows that work performance is a combination between competency and motivation, in which the ability of individuals to perform jobs are frequently consistent. Meanwhile Robbins (1978) defined job performance as an individual's ability towards achieving organisational goals or objectives.

Although the conceptual definitions of workers' competitiveness are relative and requires complex measurements, there have been several attempts to examine the extent of this aspect in affecting productivity and subsequently, firm's competitiveness. For example, Corvers (1996) discovered that efforts to increase workers' competitiveness have also increased the competitive position of firms within the European Union member countries. This is because competitive workers are able to use their competency to generate value added products. These types of workers are also able to exploit firm's internal and external networking which could increase and strengthen the competitiveness of the firm globally (Drake 1998).

TABLE 8. Measurement of Job Competency

Component	Constructs	Total items
Cognitive (weight = 0.5)	a. Thinking skills	5
	b. ICT skills	4
Functional (weight = 0.3)	a. Decision making and problem solving skills	5
	b. Planning skills	5
Social (weight = 0.2)	a. Communication and interpersonal skills	9
	b. Team work and leadership skills	15

In this study, the measurement of workers' competency is associated with individual's cognitive, functional and social ability. Each of these competencies is captured by a set of indicators as shown in Table 8. We used a five-point Likert scale to measure the competence level of workers for each construct in these indicators.

Different weights were imposed on each component to represent its relative importance and contribution in calculating the competency index. The cognitive competence is assigned to a higher weight as compared to that of the other components mainly due to the importance of using knowledge in performing various tasks. Functional competence and social competence were given a weight of 0.3 and 0.2 respectively.

The measurement of worker performance comprised of both measurable and perception components as shown in Table 9. As for perception based performance, the respective constructs are also measured using a five-point Likert scale. The measurable performance and the perception based performance are given a weight of 0.6 and 0.4 respectively for the computation of performance index.

Subsequently, there are altogether five main components and a total of ten constructs were used to measure workers' competitiveness. The computation of competitiveness index is illustrated as follows:

Step 1: Computation of the aggregate index for each component

In the first step, the total score for each construct (except wage and appraisal) is obtained by summing up the response of all the items associated with construct k . In order to make the scores or values comparable across individual, the total scores, wages and appraisal points are then normalized using the approach adopted by the UNDP for their Human Development Reports through the following procedure (UNDP, 1990: 109):

$$\tilde{X}_k^i = \frac{\text{actual value} - \text{minimum value}}{\text{maximum value} - \text{minimum value}}$$

where \tilde{X}_k^i is the normalized value, between 0 and 1, for construct k and individual i . The computation of aggregate index for each of the five components is given as follows:

$$I_j^i = \frac{1}{n} \sum_{k=1}^n \tilde{X}_k^i \quad (2)$$

where I_j^i the aggregate index for component j and n is the number of constructs in component j .

Step 2: Computation of the aggregate index for each dimension

The second step derives the competency index and performance index by incorporating the weights as assigned in Table 8 and Table 9. The aggregation is undertaken using the following formula:

$$Z_y^i = \sum_{j=1}^m w_j I_j^i \quad (3)$$

where Z_y^i is the aggregate index for dimension y , m is the number of components in dimension y , and w_j is the weight associated with each component.

Step 3: Computation of overall competitiveness index

Finally, the overall competitiveness index is computed by taking the weighted average between competency index and performance index. The formula for computing the overall competitiveness index (CI^i) is as follows:

$$CI^i = \sum_y w_y Z_y^i \quad (4)$$

TABLE 9. Measurement of Job Performance

Component	Constructs	Total items
Measurable performance (weight = 0.6)	a. Wage	-
	b. Appraisal point	-
Perception based performance (weight = 0.4)	a. General performance related to job	5
	b. Specific performance related to skills	3

where w_y is the weight dimension with each dimension. Competency index and performance index are given a weight of 0.3 and 0.7 respectively.

The CI^i takes values between 0 and 1. A value of CI^i near to 1 implies that an individual is highly competitive. In contrast, the smaller CI^i reflects those individuals that exhibit a relatively lower level of competitiveness. The classifications of the competitiveness index for the purpose of subsequent discussion are shown in Table 10.

TABLE 10. Index and Level of Competitiveness

Competitiveness index	Level of competitiveness
less than 0.2000	Very low
0.2001 to 0.4000	Low
0.4000 to 0.6000	Moderate
0.6001 to 0.8000	High
more than 0.8000	Very high

As mentioned earlier, the competitiveness index is a cumulative index, which combined both the competency index and performance index of the workers. Table 11 shows that the competency index is relatively higher compared with the performance index as reflected by the mean value.

The table shows that more than 82% of the respondents have high and very high competency index. However, for the performance index, the majority of respondents (64.7%) has only a moderate achievement. For the cumulative competitiveness index, almost half of the respondents (52.4%) are at the moderate level. However, respondents with relatively high level of competitiveness are also quite high which accounted for 43.6%.

FACTORS DETERMINING THE WORKERS' COMPETENCY, PERFORMANCE AND COMPETITIVENESS INDEX

It is crucial to further examine the important factors affecting the workers' competency, performance and

competitiveness indices for future policy recommendations. In achieving this, we used a linear regression model that incorporates human capital variables, workers' attributes, demographics and ethnicity. The general model is written using the following equation:

$$Index = \beta_0 + \beta_1 S + \beta_2 JM + \beta_3 HC + \beta_4 EXP + \beta_5 T + \beta_6 JS + \beta_7 PS + \beta_8 MLY + \beta_9 CNS + \beta_{10} GEN + \mu$$

The definition explanation of each of these variables is shown in Table 12.

The regression results are presented in Table 13. In all three models, the overall results show strong statistical significance with $p < .01$ and $p < .05$ and R-square of 0.340, 0.354 and 0.407 respectively. The results also indicated that multi-collinearity issue does not appear to be a serious concern in all three models since none of the VIFs for all variables in used exceeded 2.5 (Hair et al., 1995). In all three models, the results consistently show that years of schooling, job satisfaction and personal traits are significantly associated with workers' job competency, job performance and competitiveness indices. An increased in 1 year of schooling (S) is likely to increase 0.01% of job competency level, 0.006% of job performance level, and subsequently, 0.008% of the workers' competitiveness index. This empirical evidence is consistent with the human capital theory, which gives strong emphasis on human capital investment through education.

For job satisfaction, a one-point increase in the mean score of job satisfaction will increase 0.042 points of workers' competency index, 0.037 points of workers' performance index, and subsequently 0.038 points of the workers' competitiveness index. Similarly, a one-point increase in the mean score of workers' personal traits will increase 0.108 points of workers' competency index, 0.064 points of workers' performance index, and consequently 0.078 points of the workers' competitiveness index. This is not surprising since most of human resource management theories and practitioners frequently claimed that workers' satisfaction and personal traits are among important principles in managing the human resources (Werther & Davis 1996; Harris 1997; Mathis & Jackson 2000; Dessler 2002).

TABLE 11. Workers' Competency, Performance and Competitiveness Indices

Level of Competitiveness	Workers' Competency Index		Workers' Performance Index		Workers' Competitiveness Index	
	Frequency	%	Frequency	%	Frequency	%
Very low	1	0.2	3	0.5	1	0.2
Low	3	0.5	68	12.0	22	3.9
Moderate	96	16.9	367	64.7	297	52.4
High	315	55.6	126	22.2	237	41.8
Very high	152	26.8	3	0.5	10	1.8
Total	567	100.0	567	100.0	567	100.0
Mean	0.7257 (0.7)		0.5195 (0.3)		0.5814	

TABLE 12. Definition of Variables

Dependent Variable	Definition
JCL	- Workers' Competency Index (Model 1)
JPL	- Workers' Performance Index (Model 2)
WCI	- Workers' Competitiveness Index (Model 3)
Independent Variables	
(a) Human capital	
S	- Workers years of schooling
JM	- Dummy variable for job mobility; coded 1 if ever change job and 0 otherwise
HC	- Dummy variable for health condition; coded 1 if healthy workers (with less than 14 days medical leave), 0 otherwise
EXP	- Mean of current and previous year of working experience
T	- Dummy variable for training; coded 1 if attending any type of training and 0 otherwise
(b) Workers' attributes	
JS	- Mean score for job satisfaction
PS	- Mean score for personal traits (work ethics, values and personality)
(c) Personal characteristics	
MLY	- Dummy variable for ethnicity; coded 1 if Malays and 0 otherwise
CNS	- Dummy variable for ethnicity; coded 1 if Chinese and 0 otherwise
GEN	- Dummy variable for gender; coded 1 if male and 0 otherwise

TABLE 13. Regression Results for Workers' Competency, Performance and Competitiveness Indices

Independent Variables	Dependent Variables					
	Workers' Competency Index		Workers' Performance Index		Worker's Competitiveness Index	
	β	<i>t</i>	β	<i>t</i>	β	<i>t</i>
Constant	.046	.687	.011	.191	.022	.422
(a) Human capital						
Years of schooling (S)	.010	3.525***	.006	2.573***	.008	3.412***
Job mobility (JM)	-.004	-.464	.005	.640	.002	.315
Health condition (HC)	-.053	-1.834	-.031	-1.290	-.038	-1.737
Working experience (EXP)	-.001	-1.227	.004	7.179***	.002	5.119***
Training (T)	.011	1.022	.031	3.402***	.025	3.064***
(b) Workers' attributes						
Job satisfaction (JS)	.042	5.103***	.037	5.361***	.038	6.218***
Work ethics (WE)	.108	11.342***	.064	8.016***	.078	10.775***
(c) Personal characteristics						
Malay (MLY)	-.037	-2.337**	-.020	-1.551	-.025	-2.142**
Chinese (CNS)	-.051	-2.759***	-.024	-1.541	-.032	-2.302**
Gender (GEN)	.007	.669	.006	.691	.006	.806
R ²	.340		.354		.407	
Overall <i>F</i>	26.344***		27.951***		35.119***	
Sample size	521		521		521	

Note: *** $p < 0.01$ ** $p < 0.05$ and the values of R-squared between 0.3 and 0.4 for cross section is reasonably good (Gujarati 1988).

Our analysis also shows that working experience (EXP) and training (T) are positive and significantly related to workers' performance index and competitiveness index at 1% significant level. The results indicate that an increase in 1 year of working experience will increase 0.04 points and 0.02 points of both indices respectively. Workers who attended training programme are found to have higher job performance index and subsequently higher level of competitiveness index compared with those without training. Surprisingly, the results also show that the Chinese and the Malays are less competent when

compared with other races. The results are also similar for the competitiveness index ($p < .05$). However, findings from gender dummy variables are not significant for all three models.

CONCLUSION

The discussion above indicates that workers' competency, performance and consequently their competitiveness in the Malaysian private education sector are relatively high

or moderately high as reflected by the computed indices. The mean value for each index is 0.7257, 0.5195 and 0.5814 respectively, which is generally above average. For the workers' competitiveness index, it is interesting to note that more than half of the respondents are considered above average, and some 43.6% respondents are with relatively high level of competitiveness. Nevertheless, there are some 12.5% of the respondents who are still at the low level of performance index, whilst in terms of competitiveness index, some 4.1% are also still at the low level of the index. Their job performance and competitiveness indices could be further increased if appropriate measures can be implemented.

Our further examination shows that, there are several important determinants, which influenced the workers' competency, performance, and consequently competitiveness indices. Our analysis shows that human capital variables like years of schooling, working experience and training attended have significantly determined the workers' performance and their competitiveness. In addition, workers' attributes like job satisfaction and personal traits have contributed significantly to the workers' competency, performance and competitiveness indices.

Nonetheless, in the effort to increase and maintain workers' competency, performance as well as competitiveness in the Malaysian private education sector, enhancing human capital variables become pertinent. Workers must be trained and their level of education must be upgraded. In addition, facilities and infrastructures to facilitate lifelong learning should be in place for this to materialize. Private education institutions should provide sufficient educational opportunities and training facilities to their workers since the workers' competency, performance and competitiveness contribute to the institutional performance. It is also crucial for the employers to provide a good working environment to enhance workers' job satisfaction. In this context, a comfortable workplace with good working condition and human relation is crucial to maintain workers' loyalty to their employers, thereby reducing costly staff turnover. Another important aspect is related to workers' personal traits, which includes work ethics, values and personality. These can be further enhanced through a good relationship between the employers and the employees as well as among the employees themselves.

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