

Globalization and the trend in demand for higher education in Malaysia

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Abstract— Malaysia has always given an emphasis on the transformation of institutions of higher education to fulfill the demand for competitive and creative human capital. This is to enable Malaysia to endure the challenges of globalization whereby some of these challenges can be damaging for the development of the nation. Education plays an important role in enabling Malaysia to withstand challenges brought by globalization. Therefore, it is crucial to identify what are the trends in demand for higher education in the era of globalization. This study has been conducted with the aim of identifying changes in demand for higher education after globalization. The trend in demand for pre-university education, higher education, technical and vocational education was compared between before and after globalization, whereby before and after 1995. Data were obtained from 288 samples using questionnaires as instrument. Respondents of this study were randomly selected from the population of administrators in institutions of higher education in Malaysia. Data obtained were analyzed using inferential statistics method to answer the research questions. It was found that trend in demand for pre-university education, higher education, technical and vocational education showed positive trend overall, with the trend for private HEIs and technical and vocational education showing the most significant changes. This gives the implication that globalization has impacted most on the demand for private HEIs as well as technical and vocational education to fulfill the demands for more skilled labours.

Keywords—Education demand, Globalization, Higher education, Pre-university education, Vocational and technical education

I. INTRODUCTION

EDUCATION has always been the field in which the government of Malaysia has given emphasis since its independence till now. [1] stated that education structure help define a society's long term health prosperity, educating workers and leaders of tomorrow. Malaysian government believes that education is the key towards an on-going effort to develop potential human capital who are intellectually,

Manuscript received November 1, 2011. This work was supported by the Universiti Kebangsaan Malaysia (UKM) Research Grant UKM-AP-CMNB-20-2009-4.

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spiritually, emotionally and physically capable of leading Malaysia towards a fully developed nation by 2020. Education in Malaysia not only plays the role of producing faithful, well-mannered, united and loyal Malaysians, but also to produce knowledgeable, competent and resilient human resource for the development of the nation. According to [2], higher education in Malaysia has experienced an increasing competition among universities and other higher education institutes to attract students both locally and internationally.

However, globalization has caused drastic changes in education in the last decade of the 20th century [3]. Globalization has demanded for a more competitive, knowledgeable, creative and innovative workforce, thus causing a change in the education system overall, from the level of pre-school to higher education. Besides, the demand for information technology and competitive global economy make it crucial that all individuals have admittance for an affordable higher education. [4] argued that globalization has fostered considerable demand for higher education throughout the world, as greater levels of remuneration accrue at higher levels of education. Many countries are moving towards achieving mass higher education (defined as having an enrolment of 40 percent or more of the age 18-24 population).

This paper aims to identify what are the current trends in demand for education, in particularly higher education, due to globalization. This is because globalization, liberalization and the vast development of ICT has influenced the development of the national education system, with the aim to produce human capital with first class mentality. According to [5], the increase in the demand for post-compulsory education recorded in the second half of the twentieth century has been phenomenal. The number of students pursuing higher education rose substantially in both developed and developing countries. Issues discussed in this paper include challenges of globalization, institutions of higher education, human capital and the findings made about the trend in demand for higher education. Comparison of the trend in demand before and after globalization were made, to show how globalization has impacted the demand of higher education in Malaysia. If your paper is intended for a *conference*, please contact your conference editor concerning acceptable word processor formats for your particular conference.

II. CHALLENGES OF GLOBALIZATION

Globalization is the result of a borderless world, whereby

the development in information technology as well as extensive mobility of goods and services across the world, has led nations around the world to be interconnected through politics, economic and social activities.

[6] described globalization as a process in which geographic distance becomes a diminishing factor in establishing and maintaining cross-border, political and socio-cultural relations. Globalization is a continuous process which has resulted in uncertainties of the future [7]. Some view globalization as an opportunity but others look at it as a threat. Despite of the different views and opinions given on the process and effects of globalization, the debates prove to be fruitless because globalization is a reality which has been forced onto nations, in particular, developing nations such as Malaysia.

Malaysia has always been proud of its success in politics and socio-economic performances, but it now needs to move out of the current status of being an averaged income nation to a high income nation [8]. Economic challenges brought by globalization, especially the spectacular developments in knowledge and IT technologies, must be embraced strategically in order to enable Malaysia to not only gain from such developments, but also utilize, improvise and improve them in order to make Malaysia as a country which can contribute towards the betterment of the world society at large. Therefore, education activities in this country need to take into account the necessity to create human capital who can meet the challenges and developments brought by globalization.

Education is the key of survival for any nations in this era of information and technological advancement as well as the increasing flow of international finance and trade. The shift of Malaysia's economic policy from production based economy towards knowledge based or k-economy, is critical to fulfill the national aspiration to be a well-developed, prosperous and competitive nation. Therefore the education system need to produce human capital with first class mentality in order to be a knowledge-drive economy.

[9] stated that education itself is a developmental process. whereby it has to connected to with futuristic visions and change process. This concept is important in the field of education, especially higher education, whereby globalization has force education system in Malaysia to be futuristic. Recent developments in world politics and economic events, seemed to have given impact to the economic development of Malaysia. Events such as Southeast Asia financial crisis in 1997-97, 9/11 bombings, war against terror in Iraq and Afghanistan, increase in crude oil price [10], debt crisis in the US and Europe as well the slowing of Japan's economy due to tsunami disaster in Japan, have indirectly impacted Malaysian economy. These are some of the challenges brought by globalization to developing nations such as Malaysia. Thus, it is essential to develop human capital who are not only innovative and creative but resilient as well, resilient to face uncertainties brought by globalization. The development of human capital can be achieved by strengthening and improving the institutions performance of institutions of higher

education.

[9] has suggested that twenty first century education perspective should involve these elements :

- perspective planning
- anticipatory management
- technology and technical forecast
- communication technology
- inter-disciplinary approach
- system approach and system dynamics
- computer education at all levels
- internet systems
- future values and value education
- environmental education
- vocational education
- education for all
- peace education
- future studiers – researchers, experiments and innovations in specific future (its problems, goals, process inputs and feedback mechanism)
- future studies and creativity – creativity being an essential prerequisite of search for future life
- excellence in teacher education for quality development in education

There is a need for countries all over the world to conduct reforms in their education system, to enable it to produce human capital who are important key-players in the global arena. But before this can be achieved, it is essential to first look at the trend of demand in higher education, especially for a developing nation such as Malaysia, especially after the term “globalization” has now assimilated with the term “education”.

Institutions of Higher Education

Knowledge is a scarce national resource that must be developed on a continuum. The supply of knowledge can be increased by an education system [11]. Hence, a nation's institutions of higher education play an important role in producing human capital. One of the main role of universities, which are part of institutions of higher education, as stated by [12] is their role in teaching, by which they prepare graduates to carry out national and regional development plans. However, globalization has created situations at which the nations are vulnerable to any political, economic and social changes that occur at any part of the globe. Speech given by the ex-Prime Minister of Malaysia, Tun Abdullah Ahmad Badawi during NEAC Dialogue Forum in 2004, gives an overview of how crucial is the role of education in equipping its citizens to face globalization.

“ I believe we will need nothing less than an “education revolution” to ensure that our aspirations to instill a new performance culture in the public and private sectors is not crippled by our inability to nurture a

*new kind of human capital that is equal to
the tasks and challenges ahead”*

[13]

Globalization has demanded institutions of higher education to undergo revolutionary changes to ensure human capital are “produced” not for a product-based economy, but for knowledge-based economy. According to [14], the continuous improvement of quality and performance of higher education is essential and it requires an effective correlation done by aggregation between all involved parties, both public and private. The rapid expansion of Malaysia’s higher education has involved extensive growth that has relied mainly on the liberalization of the education sector. Therefore, efforts has been taken by the government of Malaysia, through the Ministry of Higher Education (MOHE) to transform its institutions of higher education to increase its competitiveness, productivity and innovativeness in producing human capital with first class mentality.

The transformation of institutions of higher education has been revealed through The National Higher Education Strategic Plan Beyond 2020, which provides a framework through which actions can be taken to produce human capital with first class mentality. The strategic plan has identified seven thrust through which the process of strengthening and revolutionizing higher education can take place. The seven thrusts are : widening access and increasing equity ; improving the quality of teaching and learning ; enhancing research and innovation ; strengthening of higher education institutions ; intensifying internationalization ; enculturation of lifelong learning ; and reinforcing the delivery systems of the Ministry of Higher Education [13]. It is hoped that institutions of higher education can lay the foundation towards improving the nations competitive edge in various aspects, especially in human capital development who are competitive and resilient.

[15] stated that through the Lisbon strategy universities must consider the employability skill of their graduates, equip them with the skills for public and private sectors, and ensure that the unemployed can improve their skills for work. Globalization has caused human capitals in any country to not only rely on academic qualification, but to equip themselves with skills which will increase their competitiveness as well as being able to face globalization.

Human Capital

The theory of human capital has become the basis for the development of any nation. [16] believes that productivity, earning and improved quality of life can be achieved through investment in training and schooling, as well as other factors such as health. Wages increase positively, with age, through training and schooling obtained [16]. The theory that investment in human capital provide returns though time, despite of the increase in the cost at the time the investment being made, has given hope to developing nations such as Malaysia to emphasize education for the purpose of developing its citizens. Through development, poverty can be

diminished and quality of life can be improved [17] and one way to achieve development is through education. Furthermore, the human capital of the individual is an important factor for the innovation activity, while the representation of the human capital at the level of a nation can be an expression of the innovation-relevant skills[14].

Education has been viewed as a capital good which can be used to develop human resources necessary for economic and social growth [18]. They added that it has been widely accepted that education improves citizens and helps to upgrade the general standard of living in a society. [15] indicated that the difference in earnings among individuals are determined by physical investment, education, technology and capability. He too added that age-earning profiles tend to be steeper among more skilled and educated person. Therefore, there is an increasing perception that higher education provides better financial reward.

[19] stated that education at any level contributes to the process of economic development both in the form of non quantifiable element such as the existence of a democratic political system. This is important because a peaceful and democratic political situation is essential for a prosperous economic. Through education, not only human capital gain return through time individually but it produces human capital who are matured, calm and values peace. However, lack of education of the individual generates negative effects for the economy and society in which they live and manifest, such as income disparity of people who have received education compared to others [19]. Income disparity will lead to unhappy individuals who will then give pressure to the political stability of a country, which will then lead to the collapse of politics, economy and social balance of a country. However, [19] too warned that over-qualification and over-education of an individual gives a negative effect to jobs which require lower qualification. This has seem to be affecting Malaysia lately where the industries such as construction, plantations, manufacturing as well as the service sector have been heavily relying on cheap foreign labours.

Malaysia has been a firm believer in education as a way in enhancing human capital. New Economic Policy (1971-1990) was implemented due to social and economic issues, with the goal of achieving unity through eradicating poverty and eliminating the identification of ethnics in Malaysia based on economic activities. During this period, Malaysia saw the expansion of higher education, with the aim of producing manpower for the economic sector. However, the development of ICT has accelerated the process of globalization in 1990ies, which has resulted into drastic change to produce skilled and creative as well as competitive workforce. With better education, the earning and quality of life of Malaysians too has improved tremendously, thus causing an increased demand in higher education. Thus, the idea of human capital theory, which is to increase productivity and wages through education, is a suitable in developing human capital.

Problem Statement

In 1996, the 1961 Education Act was amended in order to ensure that the education system of the nation is relevant to

current needs. The need to amend the Education Act was to meet the demands of globalization and ICT era, as well as gearing the nation, especially the education system towards achieving Vision 2020. Vision 2020 was launched by Dato' Seri Dr. Mahathir Mohammed in 1991 to aspire Malaysians towards achieving the status of developed nation by 2020. One of the major amendments made was to allow the establishment of more private higher education institutes [20]. Does this give the indication that the demand for institutions, especially private institutions for higher education has been affected by globalization?

Due to this, one of the major step taken by the government in late 1990ies as well as in past ten years, was to increase access to higher education by setting up more public universities, college universities, matriculation colleges, community colleges, private colleges and university as well as branch campus of overseas universities. The increase in the number of institutions of higher education is to fulfill the demands for a more skilled, knowledgeable, creative, innovative and competitive workforce, as well as resilient to meet the challenges of globalization. Based on statistic figure given in the [21], 22% of the number of school leavers join the workforce after secondary school. This leaves the question of where do the other 78% go and if they do further their studies, what type of institutions do they go for?

Globalization has caused the demand for a "world class human capital" [21]. It is essential to make sure that the institutions of higher education can provide sufficient and quality knowledge and skill needed to enable Malaysian workforce to be "world class human capital". Due to this fact it is essential to identify how has globalization affected the trend in education demand in Malaysia, especially the demand for types of institutions of higher education. This study aims to identify the trend in demand for institutions for higher education before 1995 and after 1995. The research questions are :

1. What is the trend in demand for pre-university education before and after 1995?
2. What is the trend in demand for institutions of higher education before and after 1995?
3. What is the trend in demand for technical and vocational institutions of education before and after 1995?

III. METHODOLOGY

This study aims to identify the trend in demand for institutions of higher education before and after 1995. The population of this study are administrators from public and private institutions of higher education in Malaysia, whereby they were chosen because of their awareness of the changes in policies in higher education as well as their experience in administrative role. Population of this study include Vice Chancellors, Directors, Deans, Deputy Deans and Head of Departments. The number of population identified are 1073 from a total of 20 public and 32 private institutions of higher education. The 31 private institutions of higher education consists of private universities and college universities (26),

and five branches of foreign universities from all over Malaysia. List of private institutions of higher education were obtained from MOHE. A total number of 285 samples are needed but 288 samples were randomly selected for this study. Number of samples selected was determined by using the Table for determining sample size from a given population by Krejcie & Morgan [22]. The selection of samples randomly is an important requirement to enable results obtained can be generalized to its population [22]-[23].

This study was conducted by using survey method, whereby trend in demands for type of higher education before 1995 and after 1995 were surveyed based on the perception of administrators in institutions of higher education. Questionnaire were used as instrument to obtain data. The items in the questionnaire were self developed by the team of researchers using document analysis technique. Two important documents which were used to identify the items in the questionnaire are [13]and [24]. Pilot test was conducted using 30 samples [22], to test all the 11 items under three main construct which are pre-university education (three items), institutions of higher education (five items) and technical and vocational institutions (three items). The Cronbach Alpha value obtained is 0.853, which is high [22]-[23]. The questionnaires consist of two parts, Part One includes three questions, namely, type of institutions represented by the respondent, number of years in service and the title of the posts held. Part Two consists of 11 items based on three constructs, as mentioned earlier.

A total of 600 questionnaires were distributed, but only 288 of the questionnaires can be analyzed, which is sufficient based on the number of samples required. Based on the experience of the researchers during data collection process, "busy" has been the most common reason given by respondents in their lack of response in completing the questionnaires. Questionnaires were distributed using postal service and some were personally distributed by the researchers. All of the 11 items were measured using seven point numerical scale [23] with one indicating as the least important and seven indicates having the most importance. Respondents were asked to indicate the importance of all the items before 1995 and after 1995. The year 1995, has been set as the benchmark for globalization for this study as it was the year Malaysia became a member of the World Trade Organization (WTO). It is an organization which administers international trade and has 120 members. [25] indicated that countries which became members of WTO agreed upon liberalization of trade by signing up General Agreement of Tariffs and Trade (GATT). According to [23], liberalization of twelve sectors were agreed upon, including education. Even if Malaysia did not participate in the liberalization of the education sector, but by signing up GATT and through WTO, Malaysia officially became a member of an organization which promotes globalization through free trade, indicating the era of globalization for Malaysia. Therefore, 1995 is used as the "cutting off point" to measure globalization.

Data obtained were analyzed using inferential statistics method, that is by using paired-sample t-test, at the significant value of $p < 0.05$. According to [26] a paired sample t-test (also

referred to as repeated measures), is used when there is only one group of people from whom data are collected on two different occasions or under two different conditions. In the case of this research, the samples are administrators in institutions of higher learning, from whom data were collected under two different occasions, before 1995 and after 1995. Even if the means for all constructs maybe different under both conditions, however by testing the mean difference using paired-samples t-test, how significant are the differences in the means obtained can be identified. Each items for all three constructs, which are demand for pre-university education, demand for institutions of higher education and demand for technical and vocational education, were compared with two independent variable, which are before 1995 and after 1995. Data were processed using SPSS for Windows Version 18.0.

IV. FINDINGS AND DISCUSSIONS

The purpose of this study is to find out in the trend in demand for education before and after 1995. 1995 is the year chosen to mark globalization for Malaysia due to its participation in WTO. Demand for education here has been categorized under three constructs : demand for pre-university education, institutions of higher education, and , technical and vocational education. Findings and discussion will be discusses separately according to the research questions.

RQ 1 : What is the trend in demand for pre-university education before and after 1995?

Table 1 : Trend in demand for pre-university education before and after 1995

Pre-university education	N	mean	df	T	sig.p
Higher School Certificate before 1995	288	5.41			
Higher School Certificate after 1995	288	4.93	287	4.84	0.000*
Matriculation Program before 1995	286	4.97			
Matriculation Program after 1995	286	5.56	285	-6.62	0.000*
A Level before	287	5.18			
A Level after	287	5.45	286	-3.08	0.002*

Sig at p<0.05

Table 1 shows results of the findings to identify the trend in demand for pre-university education before and after 1995. The results show that there is a significant difference for all three types of education before and after 1995. There is negative trend for high school certificate after 1995 with $t(287) = 4.48$, $p < 0.05$. Whereas there are positive trend for

both matriculation program with $t(285) = -6.62$, $p < 0.05$ and A Level with $t(286) = -3.08$, $p < 0.5$. There seem to be a negative trend for the demand of Higher School Certificate when compared to trend to the demand for matriculation program and A Level seem to increase after 1995, based on the opinion of the respondents who are administrators in institutions for higher education. Table 2 summarizes the mean difference for all items under the construct of pre-university education before 1995 and after 1995.

Table 2 Mean difference for trend in demand for pre-university education

Item	mean before 1995	mean after 1995	Difference in mean (after-before)
Higher school certificate	5.41	4.93	-0.48
Matriculation program	4.97	5.56	+0.59
A-Levels	5.18	5.45	+0.27
Total mean	5.19	5.31	+0.12

Table 2, summarizes the mean difference among all three items under the construct of pre-university education. It can be seen that higher school certificate showed a negative difference at -0.48, while matriculation program and A-Levels showed positive difference, at +0.59 and +0.27 respectively. The overall mean score all three items too showed a positive difference of +0.12. This indicates that the demand for matriculation program and private has increased after globalization. Higher School Certificate seem to have less demand maybe due to school leavers do not prefer to stay back in school after the age of 17 and they would prefer to go to other institutions.

In Malaysia, students who are interested to further their study in public university are required to have Higher School Certificate (HSC) or Matriculation as their entrance qualification. Higher School Certificate are offered in public schools all over Malaysia. Matriculation programs were previously conducted by public universities, however, in 1996, Matriculation Division under the Ministry of Education was established to manage all matriculation programs [3]. Since then, 11 matriculation colleges were established nation-wide which offers one year program, which are meant to prepare students for profesional fields in institutions of higher learning [3].

Matriculation program, being an alternative to HSC, seem to have more demand after 1995, as the result shows. Besides, students spend one and half year for HSC compared to Matriculation program which is a year program [3], thus gaining more popularity since the establishment of matriculation program after 1996. The same goes for A-Level education, which is an alternative for both HSC and matriculation program, has gained positive trend in demand. A-Level is a program offered by private institutions of

education, which is a favorite among students who intend to further their studies in foreign universities either through local branch or through twinning program.

To answer the research question one, which is “What is the trend in demand for pre-university education before and after 1995?”, the answer is there is a positive trend in the demand for all types of pre-university education in Malaysia after 1995, namely Matriculation and A-Levels, however the trend for the demand of Higher School Certificate (HSC) is negative.

RQ 2: What is the trend in demand for institutions for higher education before and after 1995?

Table 3 : Trend in demand for institutions of higher education before and after 1995

Institutions of Higher Education	N	mean	df	t	sig.p
Public HEIs before 1995	286	6.00			
Public HEIs after 1995	286	6.03	285	-0.39	0.698
Private HEIs before 1995	288	4.09			
Private HEIs after 1995	288	5.91	287	-22.90	0.000*
Foreign HEIs before 1995	288	5.31			
Foreign HEIs after 1995	288	5.64	287	-4.12	0.000*
Twinning Program Before 1995	288	4.31			
Twinning Program after 1995	288	5.47	287	-12.27	0.000*
College Universities before 1995	286	3.97			
College Universities after 1995	286	5.39	287	-15.68	0.000*

Sig at $p < 0.05$

Table 3 summarizes the findings about the trend in demand for institutions of higher education before and after 1995, based on the perception of administrators in institutions of higher education in Malaysia. The types of institutions include public higher education institutions (public universities), private higher education institutions, foreign higher education institutions, HEIs which offer twinning program and college universities. It should be noted here that foreign HEIs, HEIs which offer twinning program and college universities are also part of private institutions of higher education. There are

significant difference in the demand for private HEIs, foreign HEIs, twinning program and college universities when compared between before and after 1995. There are positive trend in the demand for private HEIs with $t(287) = -22.90$, $p < 0.05$, and the demand for foreign HEIs too showed increase in demand with $t(227) = -4.12$, $p < 0.05$. The demand for twinning program too shows positive trend with $t(227) = -12.27$, $p < 0.05$. Demand for college universities shows positive trend, whereby it obtained $t(287) = -15.68$ at $p < 0.05$. However, the findings show that there is no significant difference in the trend in demand for public HEIs, with $t(227) = -0.39$, $p > 0.05$. Table 4 summarizes the mean difference for all items under the construct of institutions of higher education before 1995 and after 1995.

Table 4 Mean difference for trend in demand for institutions of higher education

Item	Mean before 1995	Mean after 1995	Difference in mean (after-before)
Public HEIs	6.00	6.03	+0.03
Private HEIs	4.09	5.91	+1.82
Foreign HEIs	5.31	5.64	+0.33
Twinning Programs	4.31	5.47	+1.16
College Universities	3.97	5.39	+1.42
Total mean	4.74	5.69	+0.95

Table 4 summarizes the information obtained about the mean scores for all items under the demand for institutions of higher education. Overall, the difference in the mean score for all items show a positive trend, with after 1995 minus before 1995, with the difference of +0.95. Public HEIs showed the least difference in the mean score at +0.03, while private HEIs showed the most difference in mean score at +1.82. Foreign HEIs showed the difference of +0.33 in the mean score obtained, while the demand for twinning programs showed the mean difference of +1.42. The demand of college universities too showed a positive trend after 1995, with the mean score difference of +1.42. It is repeated here again, as mentioned earlier, that foreign HEIs, and most twinning programs are offered by private HEIs. while college universities too represent private HEIs.

These findings gives an impression that the demand for private HEIs which includes foreign HEIs, HEIs which offer twinning program and college universities have showed positive trend since globalization. This findings are in par with the introduction of [20] which allowed the establishments of more private higher education institutions [3]. The increasing trend in demand for private institutions too is due to its role which has gone through various changes and is an important alternative for students to gain quality tertiary education in Malaysia [3]. Furthermore, the increase of public demand for higher education in both public and private institutions, and

the government's aspiration to position Malaysia as a regional centre of academic excellence, have led to the growth of private higher educational institutions. Table 3 below, supports the findings for the demand for private HEIs, whereby the number of private education institutions exceed far more than public education institutions.

To answer research question two, which is "What is the trend in demand for institutions for higher education before and after 1995?", the answer is there is a positive trend in the demand for all types of institution of higher education, which are public HEIs, private HEIs, foreign HEIs, twinning program as well as college universities.

Table 5 : Comparison between public and private higher education institutions in 2009

Institutions	Number
Public HEIs	20
Private HEIs (includes private universities, college universities, foreign branch universities and colleges)	460

[24]

From Table 5, it can be inferred that the demand for private institutions has increased due to increase in demand for institutions of higher education, as well as with the introduction of Education Act 1996 and Private Institutions Act 1996. Public HEIs has always been a mean to obtain education even before globalization, however, in order to produce human capital to fulfill the needs of k-economy, private institutions play an important role in developing skilful as well knowledgeable workforce, which are much needed to enable Malaysia to compete globally. Besides, in the Malaysian context, in 1980's, the government has recognized that it would be unable to educate more than six percent of its population through its own institutions and began to partner with international institutions to supplement its system of higher education [27].

RQ 3: What is the trend in demand for technical and vocational education before and after 1995?

Table 6 : Trend in demand for technical and vocational institutions before and after 1995

Technical & Vocational Institutions	N	Mean	Df	T	sig.p
Community Colleges before 1995	288	3.91	287		
Community Colleges after 1995	288	5.23		-15.45	0.000*
Polytechnics before 1995	288	4.84			
Polytechnics after 1995	288	5.44	287	-7.29	0.000*

Skills Training Centers before 1995	288	4.67			
Skills Training Centers after 1995	288	5.36	287	-9.10	0.000*

Sig at p<0.05

Table 6 shows that the demand for technical and vocational institutions before and after 1995, which includes community colleges, polytechnics and skill training centers, such as GIAT MARA and National Youth Training Institutes, showed positive trend after 1995. Community colleges obtained $t(287) = -15.45$ at $p < 0.05$, polytechnics obtained $t(287) = -7.29$, $p < 0.05$ and skills training centers obtained $t(287) = -9.10$, $p < 0.05$. Table 7 summarizes the mean score difference among all these items.

Table 7 Mean difference for trend in demand for technical and vocational institutions of higher education

Item	Mean before 1995	Mean after 1995	Difference in mean (after-before)
Community colleges	3.91	5.23	+1.32
Polytechnics	4.84	5.44	+0.60
Skills Training Centers	4.67	5.36	+0.69
Total mean	4.47	5.34	+0.87

Table 7 gives the findings of the mean difference between after 1995 with before 1995 obtained for all three items for the construct of technical and vocational institutions of higher education. Community colleges showed the most difference in mean with a positive trend, at the difference of +1.32. This is followed by the demand for skills training centers, with a positive difference of 0.69. Polytechnics too showed a positive difference of 0.60. The overall mean difference for all three items show a positive increase after 1995 when compared to before 1995, at the difference of +0.87.

Positive trend for all these three different types of institutions which focuses on technical and vocational education are due to the demand for skilled labours in globalization era. It is reported in 10th Malaysia plan that 22% of school-leavers join the labour force immediately after completing 11 years of schooling. This group youths are said to be more keen toward technical fields, therefore, steps have been taken by the government to widen and mainstreaming technical and vocational education, to fulfill the needs of highly or semi- skilled workers [21]. In Malaysia, other than tertiary university education, polytechnics, community colleges and skills institutes are established to meet the growing demand for skilled and semi-skilled manpower.

These technical and vocational institutions, such as polytechnics cater school-leavers by providing certificate or diploma in the duration of two to three years, specializing in

technical skills such as electrical and electronics, civil engineering, mechanical engineering, IT, building maintenance, automotive, air-conditioning, hospitality, fashion and designing, bakery and food industry, tourism, health services as well as business related programs such as banking, business and accountancy [28]- [3]. As an emerging economy, skills and training, are essential in developing its human capital especially in the field of entrepreneurship, which is one of the sector for development for an emerging economy [12] such as Malaysia.

To answer the research question 3, which is “ what is the trend in demand for technical and vocational education before and after 1995, it can concluded that there is a positive trend in the demand for technical and vocational institutions, which are community colleges, polytechnics and skills training centers.

Based on the findings made, it can be summarized that globalization has increased the demand for pre-university education, institutions of higher education and technical and vocational institutions. The highest increment is seen in the demand for private HEIs, followed by community colleges. The increment in demand for private HEIs can further be strengthened with the findings that the demand for twinning programs, as well as community colleges seem to increase too. Therefore, globalization has given an impact in the demand for higher education, the idea of developing human capital through education is right on its track.

V. IMPLICATIONS

One important implication of this study is the discovery that there is a negative trend in the demand for HSC offered in public schools, therefore giving an indication that school leavers prefer to enroll institutions of higher education such as public and private HEIs, community colleges, polytechnics and skill institution centers. The significance of public universities of institutions after 1995 too doesn't seem to differ much, however the importance of public institutions is still there as this item obtained the highest mean score compared to all other 10 items, with the mean score obtained before 1995 is 6.00 and the mean score for after 1995 6.03. This gives the implication that public HEIs has always remain as an important institution of education in Malaysia. The demand for private HEIs and community colleges showed the biggest difference between before and after 1995. This gives the implication that many Malaysians has started to rely on private HEIs. Community college too has gained importance as it is an alternative for school leavers who are low or medium achievers, to obtain skills to enable them to join the workforce.

Based on the result obtained, the realization among the public that education is the key towards a developed country and to produce manpower who can compete and be resilient towards the challenges of globalization, can be seen. Education, especially higher education, can provide the country with innovative and creative human capital. Through the support given by government, such as encouraging the

establishment of private HEIs as well providing funds or loans through National Higher Education Fund Corporation for students to further their study in tertiary education [21], are moves made to increase the awareness of importance of producing human capital through education.

The positive trend in demand for technical and vocational institutions too is a sign of the influence of globalization to produce more skilled workers. Malaysia has promoted technical and vocational education to promote skills training to support Malaysia's technological and economic development needs. Recently, the trend in foreign direct investment in Malaysia is shifting towards countries such as Middle East, China and Vietnam [29]. Malaysia needs to be able to compete with such nations through achieving the knowledge-based workforce. In a study conducted by Rusmawati and Zakaria in 2001, it has been found that labours expertise in Malaysia are more inclined towards certain sectors, lacking in diversity (in 29). Thus, the move taken by the government, through 10th Malaysia plan, in mainstreaming and widening the access for technical and vocational education is on time, if not long overdue. Besides promoting technical and vocational education, it also essential to promote students' skills in acquiring knowledge using latest technology, such as through m-Learning [30]. This skill is essential in making sure that human capital can continuously develop themselves to be able to compete in the market [30].

One of the important implication of the finding in this study about the positive trend in the demand for vocational and technical education, is there is a need for higher education institutions in integrating curricula, qualifications, professional standards and labour markets' requirements, as suggested by [27], especially in the field of technical and vocational education. Technical and vocational education requires a partnership between the individual, the education institutions as well as the industry in order to address any gaps between their existing knowledge and skills status and the requirements of industry [31].

This integration seem to be lacking in institutions of higher education in Malaysia between individuals, i.e. students, education institution and the industry. A partnership between these three entities will strengthen the overall higher education in Malaysia, which then increase human capital competitiveness through knowledge and skill as well as practical abilities. Some of the challenges needed to be overcome in ensuring a successful partnership includes curriculum development, entrepreneurship skills, continuing education, knowledge transfer as well as the mobility development of students, researchers and staffs [13]. This will enable higher education institutions in Malaysia to produce high skilled human capitals who can endure the challenges of globalization.

The theory of human capital by [16] too can be supported with findings made in this study whereby the demand of higher education has enabled individuals to gain more returns over time. Employment for people with higher education is much

higher when compare to population with medium income [21], who also claims that education improves knowledge and skills baggage of individuals. This is to enable them to find better jobs according to their schooling as well as providing better income [21]. A study conducted by [32], on household expenditure on education in Malaysia, shows that a substantial 55-77 percentage of households allocate 1-25 percent of their monthly income on education expenditures for their children. The study too found that parents with secondary education qualification spend the most for their children's education in Malaysia. It was also found that the awareness towards globalization among household in Malaysia is statistically significant and positively correlated with the education expenditures, which means that the higher the awareness towards globalization the larger expenses of education expenditures [32]. The study too found that parents are conscious on the soft skills and generic skills which are essential for their children to be more capable and competitive, which will then enable them to get better jobs.

Again, all these gives an implication that globalization has affected the demand of education in Malaysia, especially the demand for private institutions as well as technical and vocational education. The awareness among educators and households over the challenges brought by globalization to the future of the country depends very much on education and skills of its citizens, their resilience and competitiveness.

VI. CONCLUSION

This study was conducted with the aim to identify trends in demand for higher education before 1995 and after 1995. 1995 is chosen as the benchmark for globalization due to Malaysia's participation in WTO and the signing of GATT, which has intensified liberalization of trade. This study is based on the perception of administrators in public and private HEIs. The result indicates that there is a positive trend in demand for education after 1995, except for the demand of HSC, which showed a decreasing trend, and the demand for public HEIs, showed that there is no significant changes in its demand. One of the limitation of this study is data are gathered from the perspective of administrators in HEIs. To further strengthen the findings, perception of parents or households, as well as perception of students should also be viewed. This will allow comparison to be made. Perception of employers should also be taken into consideration, on what they think are current trend in demand for higher education should be.

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