

Online Education: An Exploratory Study among Working Adults in Logistics Industry

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Abstract

Online education is growing dramatically within adult learners. It enables learners to study without geographical or time constraints, providing benefits that may not be gained from classroom-based learning. This study aimed to investigate the working adults' perceptions of online learning. 116 face-to-face interviews were conducted to collect the data. Data were analysed via SPSS. Findings confirmed that age and level of education have significant relationship with perception of E-learning. In addition, cost effective was one of the main factor which influence working adults' intention to enrol in online education. The findings provide implications for education organisations to develop effective online education programs, attracting online learners.

Keywords

Working Adults, Logistics Industry, Perception

1. Introduction

Advances in internet and application of information technology has brought differences in the method of teaching and learning in the 21st century [22]. The conventional method through face-to-face interactions is slowly moving in reverse while virtual classrooms, e-learning and blended learning are slowly moving forward. These changes lead the online education method gaining momentum among the public and private institutes, colleges and universities in Malaysia. According to past study conducted by [16], working adults need continuous education throughout their working life as the market demand for updated knowledge and skills. In developed countries, professionals need training to become more qualified and adapt to changes in working environment [9]. Looking that the demands on education are rising up rapidly, e-learning creates an opportunity for many working adults who have been locked up with many commitments in life. Online learning become an excellent mode to foster the adult learners' to learn anytime and anywhere at their own convenience, without geographical or

physical constraints [6]. By the advancement of technology, the adult learners' enable to access easily, gather, analyse and transfer data and knowledge [22].

Malaysian logistics industry is blooming with magnificent world class and modern infrastructure as well as renowned logistics companies. Malaysia is ranked as the world's 24th largest trading nation, which makes logistics industry leading (Malaysia Global Business Forum, 2016). This is because logistics contributes to the country's economic growth. The Malaysian logistics industry is expected to grow RM203.71 billion in 2016 with an annual growth rate of 11.6% (see Figure 1). As this global Multi-Billion Dollar industry grows, the industry need to ensure there is sufficient number of competent workforce to meet the long term requirement of the industry. In the Industrial Master Plan 3 (2006-2010) stated that to boost the logistic industry, workforce needs re-training and long life learning to meet short and long term needs of the industry especially in specific areas such as technical, commercial and operation skills (MITI, 2006). [15] revealed that logisticians must be multi-talented with knowledge and skills. This is also supported by [1] who pointed out that logistics companies must have well-trained,

knowledgeable and skilled logisticians to gain competitive advantage. However, in related news published by The Star on 26th January 2011, the report claimed the industry are facing lack of professional which may hinder and depress the industry's growth (The Star, 26 January 2011). Since online learning has positive impact on learners, it has been noticed as potential for working adults in logistics industry for continuing education.

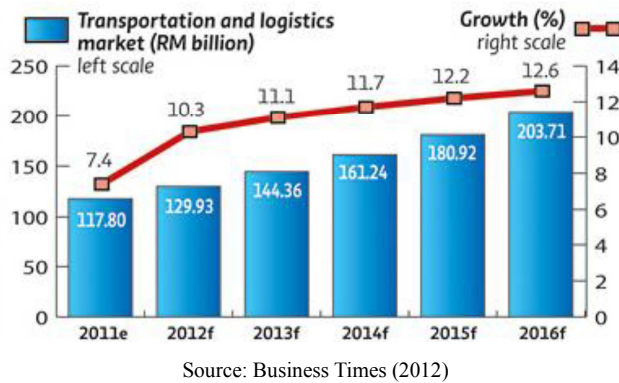


Figure 1. Market projection for Malaysian transportation and logistics market.

Many past researches' have found positive results of online education in terms of achievement, satisfaction, outlook and desire for learning. Past studies also proofed that academic achievement, socialization, and mentoring opportunities are improved by engaging in online education compare to traditional classroom experiences [10]. Therefore, this study focused on the working adults' perceptions on online continuing education. The research objectives that guided this study are:

- a. To identify relationship between working adults socio-demographic profiles and perception on online continuing education.
- b. To rank the working adults perception on online continuing education.

In this paper, a conceptual framework is developed to study relationship between the determinants and the perception towards online g programme, particularly among the logisticians. Accordingly, the paper discusses the literature review especially on e-learning related topics and logistics industry. Then it is followed by methodology and analysis of data. The discussions and conclusions end the paper.

2. Literature Review

i. Education in Malaysia

Higher education in Malaysia has grown tremendously to meet the demand for quality education. The Ministry of Education (MOE) has developed two education plans, the NHESP beyond 2020 and the NHEAP 2007-2010. The aim of the plans are to produce sufficient graduates to meet the manpower requirements and to portray Malaysia as an education hub especially in South East Asia. With an

objective to provide a platform for all qualified students to enrol in tertiary education, the government, through MOE has standardized higher education and encourages the emerge of private colleges and universities.

Malaysia has 20 public universities, a total of 44 private universities and university colleges, 5 foreign university branch campuses and more than 300 private colleges. There are various programs and courses offered in public and private higher learning institution in Malaysia. Among the various programs and courses, the field of logistics and supply chain also become popular choices both in undergraduate and postgraduate level [13]. This is consistent with the study of [15]. They also claimed that logistics programs in colleges and universities around the world are upward trends and increasing in demand.

In fact, logistics and transportation higher education program in Malaysia was establish more than 40 years ago, when Institut Teknologi MARA (now known as Universiti Teknologi MARA, UiTM) introduced Advance Diploma in Business Administration (Transport) under the Faculty of Business Management and collaboration with the Chartered Institute of Transport (CIT). As per year 2013, 24 higher learning institutions offers undergraduates program in logistics and transport related field. There are 22 diplomas, 15 bachelor degree and one professional degree in logistics and transport related programs. Additionally, Chartered Institute of Logistics and Transport (CILT), the international professional body for all sectors of the transport and logistics industry has collaboration with higher learning institutions (CILT Malaysia, 2012). This reflects Malaysia's strength and reputation in providing reputable and high quality logistics and transport related higher education programs. However, according to [11], there are still insufficient supplies of qualified logisticians by higher learning institutions.

ii. Online Education

The Malaysian government through the 9th challenges in Vision 2020 that must be achieved in order to be well-developed, advanced and higher income country in 2020 had stated through the 6th challenge that Malaysian must try to adapt with technology and must also contribute to the science and technologies advancement [21]. At same time, Malaysian Prime Minister also stated the Information Communication Technology (ICT) and education service are two main keys of the National Key Economic Area (NKEA). [20] stresses out that ICT need to put in practice very well in our daily life scenario to ensure the higher income economically and productivity country objectives can be achieved. Therefore, as a rapid developing country, Malaysia really need to explore the potentials of these NKEA especially in higher leaning institution in order response to the Prime Minister's call.

In line with Malaysian plan, textbooks and blackboards elements are slowly going backward in the effective teaching and learning system. Both elements are no longer considered as necessary in the process of acquiring knowledge through teaching and learning. The formal education becomes out-of-style [29] with the advancement of information and

communication technology (ICT) where learning activities are conducted through electronic media. Research finding also points towards the influence of ICT on students' learning behaviour. The evolution of ICT has switch content-centered curricular to competency-based curricular and form teacher-centered to student-centered forms of delivery. Traditionally, students were very comfortable with transmissive learning environment where students have been trained to listen and capture information from others. However, the growing use of ICT has changed the culture and hence encourage students to take responsibility for their own learning. It has been conclusively shown that ICT which act as an instructional medium is changing and will likely continue to change many of the strategies employed by both teachers and students in the learning process.

A part from that, the advancement of ICT also create a channel for the development of lifelong learning which enable the students to learn online. [5] reported in his study that institutions of higher educations are join together with industry to make the learning experience more meaningful and relevant. In fact, the programs are designed to deliver knowledge for working adults. The students are enable to study through online the field of their own choice as well focus on few specialised areas in order to increase their market value.

Early study by [7] reported that in the year 1971, the first local university offered "off campus studies" to working adults was Universiti Sains Malaysia (USM), followed by Raffles College, Malaysia Correspondence College (MCC), Maktab Adabi and Maktab Federal. The objective was to target working adult as their student. In mid of 90's, more universities were springing up as the number of adult learners in continuing education rise up. The universities which provide distance education program for adult learners were UPSI (Universiti Perguruan Sultan Idris), UKM (Universiti Kebangsaan Malaysia), UPM (Universiti Putra Malaysia) and UiTM (Universiti Teknologi MARA). According to Mokhtar et al., (2003), in year 2000, there were 20,000 adult learners compared to 17,756 adult learners in year 1996. This figure keeps increasing as OUM (Open University Malaysia) was established in the year 2000 with innovation of technology. The huge advancement in the field of technology which allows for more access to online education courses, communication and exchange of information positively showed that the number of OUM students alone increased from 1000 to 12,000 within 3 years [17]. In line with positive growth in online education, Malaysia targeted to have 60,000 distance learners annually (8th Malaysian Plan 2001-2005). Though, in Malaysia, the concept of lifelong learning process may not be new but the practice is still at initiatory stage.

iii. Perception on Online Educations

There are five factors that contribute to online learning. Particularly, working adults' needs and perceptions should be considered in designing online learning program. It is very difficult to understand ones needs and wants which satisfies them. Thus, it is important to understand working adults' perceptions. The next section discussed in detail each of the

determinants of the perceptions.

Cost effective

Cost of learning is the essential component of both online and face-to-face instruction. Besides that, reasonable cost can be considered as a value added component in education industry. Many colleges and universities over the world have begun accept credits earned via free massive open online program which is the most recent advance in online education. This action helps students to gain education requirements with little or even no cost. Online program is a cost effective platform for learning due to cut down the cost of building buildings, recruiting staff, equipment etc [23]. Also, online program is money saving for students because they may save money by not necessary attending physically class. Online programs help individuals eliminate transportation cost, parking cost, petrol cost and others expenses incurred in traditional face-to-face classes. For instance, there are no textbook required since most of the web-based classes use E-textbook and other online resources such as e-library helping students to save money [18]. It can be concluded that most of the course contents and information are "paperless".

Convenience and flexibility

Online program can provide convenience and flexibility for learners [2]. By providing flexible schedule, ease of accessibility, and range of options enables them to control the study time. Students can access their course at anytime and anywhere. If the learner is a working adult, parents, and a professional can attend to the classes no matter their work schedule. They only need a computer and internet access to take online classes.

Learners do not need to attend the classes also can get the learning materials from web and discuss school work among learners or lecturer [2]. Learners can discuss or explain the school work in a discussion board. It can let them comment on the discussion board if they any questions or answer. Moreover, if they miss one of the classes can review the lectures on the internet. All the learning materials will upload on the internet can be easily access.

Further, online program can let the learners control their study time [2]. Basically, on-campus courses' schedule to a class need to has 50 minutes or longer than 50 minutes. Online classes do not have the time constraints. Some of the people will not choose to enroll full time on-campus courses but might choose to enroll night classes after they finished the work. The time of the night class may need to take 3 hours. Learners might feel tired after they finish work still need to attend to the class. One of the benefits is to let learners to enroll in a program which does not need to sit in the physical classroom. They may browse the website to obtain the knowledge on the internet as well access to teaching materials uploaded by the lecturer.

Comfortable learning environment

As early 1981, [25] have found a relationship between characteristics of academic environment and approaches to learning. Online programs have transformed the learning and teaching environment. Online program eliminates the

learning barriers and provides convenience, flexibility and customized learning. Online program also has the ability to deliver messages to students no matter where students are yet precondition is must have Wi-Fi available [4].

Online learners are more intrinsic motivated than on-campus learners [28]. In 2015, [4] realized that the intrinsic motivation of online learners lead them to positively effect on learning performance. In the context of massive open online courses which is an open and free learning environment through internet, students are allow to choose the segments of the learning environment based on their personal preference and goals [12]. In addition, online program provide a very good platform for students especially working adults who have the option do not leave work early for class. Students such as working adults can avoid traffic jam since already jam to work every week day and also not necessary to find parking for attend face to face classes. Hence students have the sufficient time to spend with family even though is on learning through online program.

Besides, online learning also create a platform for both instructors and students to interact and participate in class through the Internet. The students were encouraged to involve in class discussion and attend Seminars via online during the weekend. In a way to encourage the students to take part in class activity especially on Saturday and Sunday, marks will be provided to those who participate. This new way of interaction override the temporal and spatial rigidity of office hours.

Career advancement

Working adults are enrolling an online programs to improve their career opportunities. Most of the professional careers require updated knowledge in market. Due to their busy life style, enroll an online program more suitable to them. It does not conflict with the time schedule of working hours. It requires the learners have the ability to manage their time, independent, and high level of reading on their courses works. Some of the careers do not require the working adult to continue on their education, but as a learners take the online program can offer additional training and skills development. It possibly increases the salary and advances their career.

Besides, online program also help the working adults remain competitive in the job market. Online program can provide the opportunity to apply the knowledge and skill while working. It can improve the performance of work and show an employer that working adults are dedicated on their work. In addition, online program allows the working adult apply the skill and knowledge to prove the ability of them can manage their work, course works and personal obligation. It can add-value on the job and improve the image of them. The employer can trust to them because they can bear more responsibilities and increase the capability through advance their knowledge and skill from the online program.

Skills Enhancement

Online program as a tool for students to communicate through many ways such as e-mail, discussion board, social media and etc. These elements increase the participation and motivation of students in discussions and projects. Students

are more willing to participate because they feel empowered when learning in online program.

Apart from that, online learning increases the respond skills of students. This is because online program provide a stage for individual to experience sense of equality so that they have the opportunities to voice out through posting the message on discussion board without any typical distraction such as gender bias, volume of students and attention of students during voice out in traditional classroom. Online program provides a very comfortable learning environment to individual to express their ideas through posting messages instead of face to face classroom provided shy and anxious environment which caused that many individuals will just silent when lecturer asking questions.

Research finding by Open Education Database also points towards online program improve technical skill. Even the basic computer skill is possessed by every individuals yet student still need to navigate different learning management system and software. The skills student learn to apply in online program including many professions which encompasses creating and sharing file, searching skills, insert audio and video resources in assignments, editing skills and etc.

3. Methodology

Basically, the research is carried out through quantitative method. Hundred fifteen working adults in logistics industry located in Klang Valley were selected randomly as the respondents for this study. Klang Valley was chosen as the research location because it is known as main hub of logistics industry within West Malaysia. The list of logistics companies was obtained from the Malaysia Logistics Directory 2016 (msialogistics.com). A face-to-face interview was conducted with the working adults in the companies. The respondents were asked to answer the questions related to their experiences with online environment as well perception on online education. A structured questionnaire was developed based on some relevant studies. The questionnaire used for this study comprised three sections. The first section was designed to capture the socio-demographic profiles of the respondents while the second section was designed to obtain information on experiences with online environment. Lastly, the third section was designed to determine the factors that influence about the perception of the respondents towards online program. There were 25 Likert-type statements used to measure the perception of the respondents where 1 is 'strongly disagree', and 5 is 'strongly agree'. The respondents were asked to indicate their agreement or disagreement on each statement.

The data was analyzed using Descriptive analysis, Correlation analysis and Factor Analysis. Descriptive analysis was used to analyze the results from the survey by converting all numerical data into pictorial form. Frequency distribution was drawn to describe the demographic profiles of the respondents. In addition, correlation analysis was conducted to measure the strength of the relationship

between independent and dependent variables taking into consideration the two-tailed significance with error-level ($\alpha=0.05$) (Dabaj and Basak, 2008). While factor analysis was carried out to determine the factors that influence working adults perception in online learning.

4. Results and Discussion

Respondents Socio-Demographic Profiles

As shown in Table 1, the socio-demographic of the research is nearly 58.6% were female while 41.4% were male. From the ethnic point of view, Chinese comprised 58.6%, followed by Malays and Indian that composed 29.3% and 12.1% respectively. The frequency distribution profile indicates that majority of the respondents fall in the age range

between 18 years old to 28 years old and obtained bachelor degree education (31.9%). The findings also indicated that most of the working adults were hold administrative position (45.7%), followed by 25.9% were in clerical and lower level management, 13.8% were attached in middle management, 10.3% were supervisors and only 4.3% were involved in top management position. They were from various logistics sectors such as shipping and port (23.3%), warehousing (22.4%), transportation (18.1%), storage (16.4%), purchasing/inventory (10.3%) and finally 3PL (9.5%). Whereby, most them have longer working experiences in the logistics sectors (Refer to Table 1). In terms of income distribution, 44.8% were categorized as a group of middle income who earn between RM1,000-RM2,000 per month.

Table 1. Socio-Demographic Profiles.

Demographic		Frequency (n)	Percentage (%)
Gender	Male	48	41.4
	Female	68	58.6
	Total	116	100
Ethnicity	Malay	34	29.3
	Chinese	68	58.6
	Indian	14	12.1
	Total	116	100
Age	18 – 28	68	58.6
	29 – 38	31	26.7
	39 – 48	14	12.1
	49 and above	3	2.6
	Total	116	100
	Primary/ Secondary	36	31.0
Education level	Diploma	34	29.3
	Degree	37	31.9
	Postgraduate	3	2.6
	Others	6	5.2
	Total	116	100
Level of position	Administrative	53	45.7
	Supervisory	12	10.3
	Middle Management	16	13.8
	Top Management	5	4.3
	Others	30	25.9
	Total	116	100
	Warehouse	26	22.4
	Inventory	12	10.3
Industry area of specialization	Port/ Shipping	27	23.3
	3PL	11	9.5
	Transportation	21	18.1
	Others	19	16.4
	Total	116	100
	1 – 10 years	100	86.2
	11 – 20 years	11	9.5
	21 – 30 years	3	2.6
Working experience	31 and above	2	1.7
	Total	116	100
Income level	RM1000 – RM2000	52	44.8
	RM2100 – RM3000	32	27.6
	RM3100 – RM4000	17	14.7
	RM4100 – RM5000	9	7.8
	RM5100 and above	6	5.2
	Total	116	100

Regarding the number of hours spent per day on computers as shown in Table 2, most of the working adults (75 respondents) spent about 6 hours and more per day. Around 21 respondents

spent more than 4 hours and 15 respondents spent for 2 to 4 hours respectively. While only a minority of respondents (5 respondents) spent less between 1-2 hours per day.

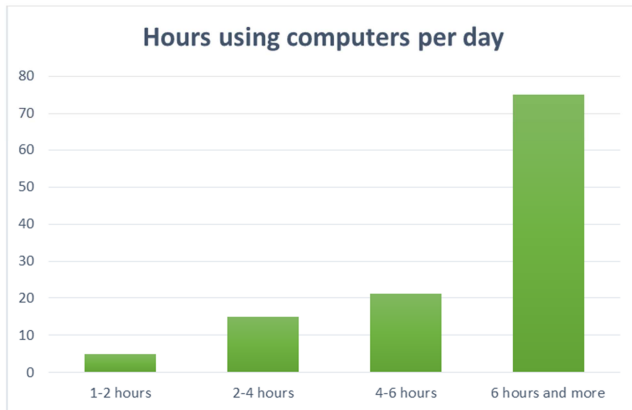


Figure 2. Hours using computers per day.

Correlation Analysis

To determine if there was a relationship between age and education level and computer usage (in hours). According to past study carried by KL (2006), it is believed that individual who used computers more, they tend have positive perception towards online learning. The findings of correlation coefficient revealed that, age and education level have significance value.

Relationship between age and perceptions of online continuing education

Age positively related to computer usage relationship with a Person coefficient of $r = 0.224$ and the significance value is less than 0.05. The significance value ($p = 0.016$) tells that

there is a relationship with age and computer usage (in hours). The result indicated that working adult's ages affected their perception in online learning. Those younger age used computers for longer hours compared to older age workers who relatively less use computers or technology. Gilbert (1996) supported that older people have relatively slower perceptual learning than younger ones. In this study, middle aged workers account for the great part of the online learning education approach's, with around 80% of the polled respondents belonging to the lower than 40 years old.

Relationship between level of education and perceptions of online continuing education

Level of education also positively related to duration of computer usage (in hours) with a Pearson correlation coefficient $r = 0.337$ and the significance value is 0.000. As revealed by Most of the working adults who have a relatively high degree of academic continue studying while in the office. [14] has pointed out that e-learning foster for people who have obtained high degree of academic and professional education.

Factor Analysis

Factor analysis was conducted to reduce or summarize data using a smaller set of factors. The KMO test indicted that the sampling data were 70.7% adequate for the research and the Bartlett's test of sphericity showed the overall correlations matrix was significant at 0.000 probability level. The Cronbach's alpha value for all the variables applied in this study were more than 0.60, so all were at acceptable level. The results of the factor analysis are summarised in Table 2.

Table 2. Factors that Influence Working Adults Perception towards Online Learning.

Items	Factor Loadings	Reliability Cronbach's (α)
Factor 1: Cost Effective		
Saved travelling cost to campus	0.879	0.89
Saved reading materials resources cost (textbook, notes,etc)	0.861	
Lower tuition fee	0.845	
Avoid paying any additional costs that might incurred through on-campus enrolment	0.712	
All course contents/information in the website - paperless	0.711	
Variance (% of explained)	25.81	
Factor 2: Skills Enhancement		
Develop computer skills (typing, receiving and sending response)	0.946	0.85
Develop communication skills (students interact and participate in class through internet	0.943	
Instructor explained how to use the website	0.904	
Variance (% of explained)	16.62	
Factor 3: Career Advancement		
Could not afford to lose job to further study	0.834	0.79
Able to apply the concepts to realistic problem solving situations	0.805	
Attempt to increase market value	0.787	
To produce quality skilled workers who can compete in global market place	0.743	
Variance (% of explained)	10.64	
Factor 4: Convenience and flexibility		
I prefer to learn through computer	0.835	0.73
I can logged in at any time during day and night	0.762	
Did not experience problems while browsing	0.670	
Learning materials are easy to access	0.540	
Variance (% of explained)	9.53	
Factor 5: Comfortable learning environment		
I interact easily with peers in the online	0.752	0.65
I can easily contact the instructor	0.709	
I feel comfortable engaging in the online environment	0.703	
Variance (% of explained)	8.12	
Total variance	70.72	

5. Conclusion

The results of this exploratory study found that online learning is an effective tool in education. By enrolling in online learning, the working adults gain additional and updated knowledge that may not be gained from classroom-based instruction. Online learning provides many benefits for workers. It offers flexibility since anytime and anywhere it can easily accessed. Besides, continuing study through online also brings an improved motivation and engagement through the new things learned. Apart from that, though online learning, workers can easily access, monitor and record their learning progress. Thus, they will keep updated their strengths and weakness they have. It will be very important for the workers to improve their career background.

6. Recommendation and Limitation

Practically, computers and its applications helps in various ways in understanding the lessons and solving numbers related problems. Thus, it is necessary that workers especially in logistics industry are computer-literate to take advantage of the updated information that can be obtained online. This will lead the workers to be competitive individuals in the workplace. This study recommended to study in other sectors as well studies about its impact on the empowerment.

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