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Perceptions of Undergraduate Logistics Students on Knowledge of Logistics: A Case of Private University in Malaysia

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ABSTRACT

The demand for logistics is increasing rapidly these days, thus the knowledge of logistics plays an important role. There are many types of businesses involving logistic activities which require competent logisticians. Students who graduate from logistics or supply chain programmes are expected to have the knowledge of logistics when they work and later become competent. There is a gap where logistics programmes at higher education institutions need relevant curriculum so that the graduates excel not only in theory but also in practical subjects. This research paper aims to explore the perceptions of undergraduate students on the knowledge of logistics in a Malaysian private university. A Theory of Education Productivity is adopted as guidance in the study. Three independent factors are derived from the theory, namely aptitude, instruction and environment. Using non-probability sampling and regression analysis, these three factors have an influence on the knowledge of logistics for undergraduates. The findings show that all independent variables for this study have a significant impact on the knowledge of logistics. Implications from the findings are also discussed.

Keywords: *Aptitude, Environment, Instruction, Logistics Knowledge, Theory of Education Productivity*

INTRODUCTION

Logistics knowledge, in general, is an understanding of the management and processes of the flow of goods between the point of origin and the point of consumption in order to meet the requirements of consumers or corporations. It is crucial for the future development of students, who are pursuing logistics programmes, to focus on the understanding of courses being taught by higher education institutions as these are the knowledge that they will acquire in and out of the classroom. Students need and want guidance on how to attain logistics knowledge by their lecturers. The purpose of this research is to evaluate and identify the perceptions of undergraduate students on the knowledge of logistics in private universities. Problems and reasons are discussed, providing a framework for the objectives and questions of this project.

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BACKGROUND OF THE STUDY

In the present dynamic competitive environment, the knowledge of logistics has become more and more knowledge-intensive and complicated. The processes of logistics globalization, the growth of collaborative logistics partnership, the role of human resources and the processes of logistics digitalization are just some of the few trends that explain how logistics knowledge is absolutely a necessity for students in supporting the logistics field in the near future. Current logistics systems and processes are seen as increasingly complex in difficulty and by the need for worldwide networking to successfully deal with the growing varieties of problems about logistics. Because of this, knowledge of logistics is becoming an increasingly useful resource in the logistics field.

Malaysia, like other regions, has determined to concentrate on the logistics sector as one of its policies to address globalization difficulties (Daud, 2012). Moreover, this step is also needed to meet the needs of the business and stay up-to-date with worldwide development since various global corporations have chosen to adopt new business models. One of the difficulties focused by Malaysia is to create competent human resources, prepared with the right abilities as well as knowledge.

The syllabus of logistics provided by the higher education institution (HEI) usually would cover business communication, procurement, inventory distribution and strategic distribution management. Lecturers are a role model for students at any level of education (Mohammad, Abraham, & Singh, 2011). A lecturer instructs students at the graduate or undergraduate levels in higher education institutions or colleges. Usually, they are required to have remarkable working experience for the subject they are going to instruct, which provides them the information and knowledge to be capable of teaching specific subjects or courses. Lecturer effectiveness is one of the keys contributing to students' knowledge. The term effectiveness refers to the lecturer's ability to ensure students comprehension during the lecturer's classes. Teachers and lecturers play an important role at any level of education including nursery, primary, secondary and tertiary.

There are the issues where higher education systems were keen for quality resources and collaboration between industry and academia (Stevens, Mills & Kuchel, 2019). Collaboration plays an important role as logistic students not only can learn the theoretical aspect in universities, but logistic students also have the opportunity to learn practically as if they are learning in a real-life environment. According to Figure 1, it shows unemployment rate in Malaysia in 2017 due to the lack of exposure to the needs of the market. These graduates have academic qualifications, but they have poor knowledge of what is needed in the market (Dzulkifly, 2018).

Based on Figure 1, it presents the unemployment rate in Malaysia in 2017 where there are around 336,400 Bumiputera, 77,100 Chinese, 43,300 Indians and 6,800 unemployed persons in Malaysia. According to Dzulkifly (2018), the main reason was mainly due to these unemployed individuals being unable to meet the market needs such as language proficiency, competency and knowledge.

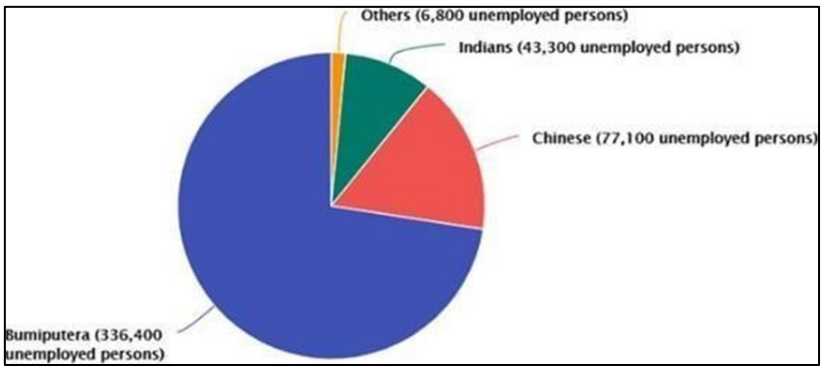

Figure 1: Unemployment rate in Malaysia in 2017
(Source: Dzulkifly, 2018)

Industries in Malaysia are improving from time to time but there are no right people to fit the jobs (Stevens, Mills & Kuchel, 2019). With this being said, effective lecturers are relatively important in contributing to the knowledge of students in order for them to be more capable of applying the knowledge to the real working environment. The Malaysian Ministry of Higher Education (MOHE) is constantly evolving with new skills, new knowledge and expertise in order to meet the market demands. Students' academic performance and their knowledge of logistics are very much related to the useful methods of teaching and the quality of educators (Adunola, 2011). Traditionally, lecturers have used teacher-centered methods to provide knowledge to students as compared to more student-centered methods. Questions in relation to effectiveness of teaching methods have consistently been raised in the thematic field of educational research (Hightower, et al., 2011).

Higher education institutions in Malaysia have to stress on offering a logistic curriculum that is in line with the current industrial demand to students who study logistics programmes. Unfortunately, this research does not include industry perspectives on the knowledge that shall be learned in class. Knowledge and skills are vital in contributing to internships. However, it does not highlight the importance of employers in imparting the knowledge through the accurate job scopes (Hynie, et al., 2011).

On top of that, different universities have different library resources, and these may affect students on the knowledge of logistics. Academic libraries play an important role to take initiative to satisfy students (Chinnaraj & Tamilselvan, 2016) and they should provide open-source software so that students can access more e-journals and gain more knowledge (Gangadhar, Nagaraja & Vasanthakumar, 2017). Nevertheless, this research does not focus on academic libraries perspectives and it does not mention the importance of libraries for logistic programmes.

Throughout the above discussion, it does not provide possible explanations for the discrepancy gap between students and employers. The content of this paper is mainly from students' perspectives from a private university in Malaysia instead of the perspectives from industry staff and lecturers as they are responsible in imparting logistics knowledge to undergraduate students.

Therefore, the objective of this paper is to emphasize on the importance of logistics knowledge and the need for undergraduate students in private universities which are supervised by the Malaysian Ministry of Higher Education, as well as to acquire concrete perspectives from logistics specialists, bodies of professionals and agencies related to the government for the advancement of logistics programmes in Malaysia. These logistics specialists, bodies of professionals and agencies related to the government are going to set a benchmark to determine and identify logistics services quality. This is due to the fact that they have had a rich experience in the logistics sector which provides sufficient knowledge to keep up with the rapid movement of the current trends.

Two research objectives are derived from the above discussion:

1. To determine whether there is any significant impact of aptitude, instruction, and environment on the knowledge of logistics based on the perceptions from undergraduate students at a private university; and
2. To identify the most significant relationship among aptitude, instruction, and environment on the knowledge of logistics based on the perceptions from undergraduate students at a private university

This paper gains some insights about the importance of logistics education in Malaysia from the perspective of undergraduate students. It will not only contribute to the improvement of logistics education in this institution but also in other private universities in Malaysia. It is hoped that this paper will help to encourage undergraduate students as well as the teachers to focus more on the learning outcomes for the knowledge of logistics. Moreover, the results will provide students a thorough development and better understanding of logistics programmes that are taught in the universities. It will

provide students details about this certain subject. Furthermore, it provides inputs to help students improve competence academically, develop skills of employability, and understand the importance of logistics knowledge for their future careers.

For the academicians, the given data in this paper will help to guide them to have a deeper understanding of adopting effective teaching and learning approaches in order to improve the knowledge of students. Last but not least, the findings from this paper will also lead to the benefit of the community considering that logistics plays a major role in today's economic sector. This will minimize the scarcity of skilled labours in the logistics industry in the future as fresh graduates are better prepared with up-to-date logistics knowledge and information.

LITERATURE REVIEW

The study in this paper applies the theory of Education Productivity as guidance. Previous research about educational productivity is conventionally carried out by economists who adopted a method of production function to the production of education and academic outcomes of students. The approach of production function to educational productivity correlates with inputs, for example expenses per student, to outcomes such as student academic achievement (Castro et.al., 2015).

After investigating and checking on education studies that have been conducted in the past, the key factors that influence the perspectives of undergraduate students are aptitude, instruction, and environment. These elements are straightforwardly identified with the idea of logistics and supply chain knowledge and there is adequate research on the viewpoint of chosen factors in the perspective of this paper. These elements are thus used to develop the conceptual framework for the study (see Figure 2).

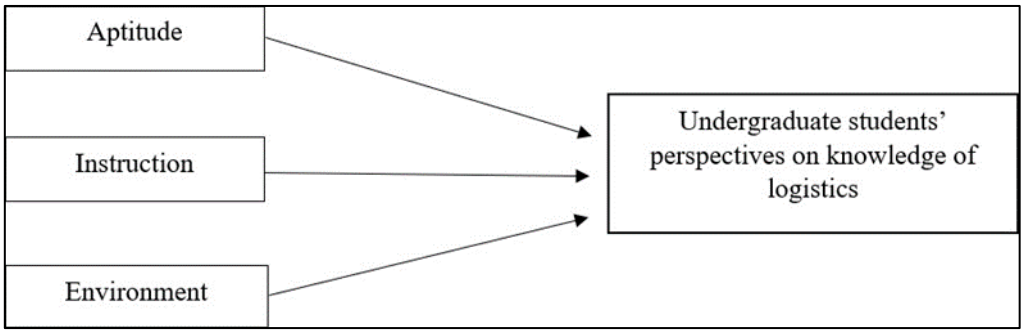

Figure 2: Conceptual Framework

Knowledge Of Logistics

Knowledge can be defined as knowing something with familiarity that a person absorbs through experience or association. In order to stay competitive in this era of globalization, knowledge is one of the significant factors for logistics firms. Higher education institutions should provide quality education for logistics students to equip them with knowledge and skills that can be applied in the working environment. Students shall focus on the long-term development such as mastering the skills and knowledge so that these can be utilized in the working environment. A previous study has proven that an older group of students perceived long term development is important as compared to a younger group of students (Nasser-Abu Alhija, 2017).

Education plays an important role in developing soft skills such as the ability to handle complicated cases, critical thinking and communication skills. With these soft skills, students are well prepared to enter into the logistics industry (Munkácsi & Kazai-Ónodi, 2018). The education industry is becoming more challenging and diverse nowadays. Therefore, to survive and stay competitive in this

21st century, the higher education institutions have to move towards innovation. The responsibility of higher education institutions is to offer competent and marketable logistics and supply chain programmes.

There should be a partnership between higher education and logistics experts to provide logistics students with knowledge and skills. Raised remarks from academician and logistics experts have included how logistics students are unable to work in the working environment (Trautrims, Defee & Farris, 2016). Therefore, academicians and instructional designers should engage in curriculum to develop a high-quality education for logistics students to excel in the industry.

Aptitude

Ability, age, and motivation are encompassed in the Theory of Education Productivity which can be viewed as internal attributes to the aptitude of a student or learner (Walberg, Fraser & Welch, 1986). Aptitude is defined as an individual's theoretical potential or capacity for obtaining certain less or more well-defined behaviour patterns associated with the performance of a specific task in regards to which the person has hardly had little or no training previously (Barmola, 2013).

In another study, Kuterbach (2013) stated that aptitude is attributed by ability or prior achievement. It can be assessed by "the usual standardized test". Academic outcomes can be influenced by a student's ability as it reveals the student's skill and quality for being capable of performing both physically and mentally in education institutions. This is a major factor that will determine the success in achieving an excellent education performance of a student. A student may acquire abilities such as thinking, perceiving, solving problems, and remembering which has an incredible contribution towards their accomplishment in school. All these abilities are advantageous in specific circumstances or certain tasks that could enable a student to attain extraordinary performance in school (Kubina & Morrison, 2000).

Age consists of chronological periodical timeline that describes the maturation and development of a learner. In the Theory of Education Productivity, personality tests' scores of the willingness of the learner to persist intensively on learning or executing new tasks (Kuterbach, 2013). Motivation is closely related to how much a student learns. Motivation is needed by students as it helps to influence them to execute or attain tasks willingly. In this case, students will have a tendency to have a reason to react and respond rapidly on one's own initiative and to work hard contemplating about what is the thing that motivates them. As observed by Kubina and Morrison (2000), students who are generally the most motivated tend to excel and learn better in classroom activities and end up as the highest accomplishers.

Students with a higher aptitude will require less time to obtain a certain task or acquire a unit of instruction. On the other hand, students with a lower aptitude will somehow need additional time in executing the same task. These three factors in the first set of Theory of Education Productivity serve as a major role in the students' learning process. It also has an influence on the academic outcomes of post-secondary students. From the above discussion, the first hypothesis is developed:

H1: There is a positive relationship between aptitude and undergraduate students' perspectives on the knowledge of logistics.

Instruction

In theory of educational productivity, instruction is divided into two parts which are quality instruction and quantity instruction. The objective of every higher education is to ensure education will lead students to a brighter future in terms of employment and continuous growth over a lifespan (Alhija, 2017). The most significant element in ensuring the quality of higher education is quality instructors.

Previous research has viewed good instructors as students' ability to good quality learning and effectiveness in learning (Hénard & Rosereare, 2012). Different students would have different opinions towards their lecturers which may turn out to be positive or negative. It is known that lecturers and students have a direct relationship on students' achievement (Peklaj, 2015). Positive relationships help to increase the students' knowledge as students are not afraid to ask questions and they would have the ability to find their own solutions. By searching solutions on their own, it definitely can strengthen their memory capabilities. Teaching methods are perceived as one of the factors that contribute to the logistics students' knowledge and skills in the industry (Gravier & Farris, 2008). Thus, the quality and quantity of instructors are able to affect the knowledge students will learn throughout their studies.

Quality instruction refers to satisfaction with programmes or subjects in logistics courses and the teaching skills (Brouwer, et al., 2016). Education in Malaysia still uses the traditional teaching method which focuses on teacher-centered methods including logistics lecturers. With that being said, the outcome and the learning process of students are highly reliant on instructors (Ibrahim, et al., 2017). The most active role using this method is instructors as they are responsible to deliver new knowledge to students during a lecture (Al- Zu'be, 2013). However, this method is less effective to students as it focuses less on the development of schema. Schema is vital for students as it contributes to a knowledge structure in the long-run. This enables students to discover the problems and comes out with the most suitable methods to solve the problems (Jalani & Sern, 2015). In a logistics programme, it is equally important for students to master the basic knowledge of logistics, identify the modern logistics and/or the latest technologies used in the logistics industry. As a student of logistics programme, it is their responsibility to comprehend the overall management of material, information and fund flows (Fu, 2017). In return, students might face difficulty in understanding the flow of operation in logistics and it does not meet the real employment practices as the teaching method (teacher-centered method) is disconnected.

Simulation technologies method will attract logistics students in learning and it helps to contribute to knowledge structure in the long-term memory. By implementing simulation technologies in logistics programmes, it will satisfy both employers and students in terms of the knowledge and skills. There are some fields that have begun to apply simulation technology such as commerce, economics, management and transportation (Ruan, et al., 2017). In logistics programme, simulation technologies can be used in subjects such as warehousing, inventory and distribution center (Beinke, Alla, & Freitag, 2017).

Quantity instructors are referring to the number of hours spent in self-learning and/or total credit hours in a programme (Lei, 2010). In Malaysia, there is a minimum graduating credit hour which refers to the total student's learning time (SLT). The purpose in setting the credit hours is to ensure students are able to achieve the identified learning outcomes and maintain the quality of the higher education system. The term credit indicates the quantitative methods that represent the volume of learning or academic load to achieve the set learning outcomes. In a semester, it includes the lecturers' weeks, midterm examination, study break, final examination week and semester break. Students are required to attend lectures, participate in tutorials, conduct self-study, do midterm, complete assignments, engage in seminars, undergo practical and sit for the final examination.

The relationship between time spent and knowledge is connected (Opdecam, et al., 2014). Previous studies have discovered that student-related factors are one of the key factors that influenced the way instructors engaged in the teaching process (Bennett, Agostinho & Lockyer, 2015). Every student, including logistics students, are responsible in managing their time wisely as it will affect their knowledge and academic performance. Instructors deliver new knowledge to students through classes and students are responsible for managing their time to revise back the contents of the lectures (Doumen, Broeckmans & Masui, 2014). The above review of the literature produces the second hypothesis:

H2: There is a positive relationship between instruction and undergraduate students' perspectives on the knowledge of logistics.

Environment

Previous research has indicated that education environments have a contribution that will benefit the abilities, attitudes and interests of students (Hussain & Tamuri, 2019). Environment thus will influence both professional and also personal self-conceptions, attitudes, competencies, values as well as interests in education. Academic performance will be enhanced if both school and home environments are in harmony with each other.

Class environment, including classroom attitude and morale, alludes to the classroom acting as a social environment and has been assessed through access to classroom study materials as well as the student's percentage who continue to pursue studying a bachelor's degree or take extra science classes. Nonetheless, the classroom environment was also assessed by students' responses to whether or not they experience being belittled by their educators or classmates.

Besides classroom environment, internship environment provides an opportunity to students with first hands-on experience in the workplace. It helps students to develop problem solving skills and engage with the business environment. However, internships sometimes will lead to negative outcomes as they may encounter uncooperative mentors (Chu, et.al. 2019). Therefore, an internship must be in an appropriate environment. Some students choose to work a part time job outside rather than taking a full-time unpaid internship in order to support their daily expenses.

H3: There is a positive relationship between environment and undergraduate students' perspective on the knowledge of logistics.

METHODOLOGY

The purpose of this study was to investigate the relationship between the perception of undergraduate students on the knowledge of logistics based on the three independent variables namely aptitude, instruction and environment. A quantitative exploratory descriptive design is applied for the methodology. Surveys are used in order to collect data from undergraduate students who are taking logistics or supply chain programmes in a private university. Online-based survey is used as it is considered more cost effective; and it helps to save up both resources and time of respondents and researchers (Etter, 2015). This technique is easy to execute, and it helps to determine the target respondents better and easier. However, it must be noted that the findings using this convenience sampling method cannot be generalized for the population of entire undergraduate logistics students.

An online questionnaire is developed based on the adapted approach. Instruments from previous related studies are adopted and modified into a suitable set of questions. This particular set of questions is structured and developed into appropriate questions for respondents to answer online. It is very important for the questionnaire to contain relevant questions to the research (Creswell, 2003). A 5-Likert scale is used for every item in the instrument that represent the independent and dependent variables.

RESULT/FINDINGS

The Statistical Package for Social Science (SPSS) version 20 was used for the questionnaire data analysis. Aptitude, Institution and Environment were regressed against Knowledge of Logistics. The regression analyses confirmed for significance of the independent and dependent variables. The reliability coefficients of each dimension were as follows: Aptitude (.94); Instruction (.91); and Environment (.92) (see Table 1). The reliability coefficients of all the variables were adequately meeting the standards for such research. For the descriptive statistical analysis, respondents perceived Aptitude

(M = 4.06, SD = .51) to be the most influenced independent variable. Instruction (M = 3.67, SD = .54) was identified as the lowest mean score.

Table 1: Reliability of Aptitude, Instruction, Environment and Knowledge of Logistics

Variables	N	Number of Items in Questionnaire	Reliability	Mean	SD
Aptitude	184	7	.94	4.06	.51
Instruction	184	6	.91	3.67	.54
Environment	184	8	.92	3.78	.72
Knowledge of Logistics	184	5	.86	3.89	.61

A total of 184 respondents participated in the survey using convenience sampling. A simple regression analysis was conducted to examine the significance of the causal relationship between independent and dependent variables. As shown in Table 2, the independent variables of Aptitude, Instruction and Environment are significantly accounted for .71 (i.e. R Square) of the variance in Knowledge of Logistics. The F statistics yielded for 13.29 in Knowledge of Logistics intention at the 95% confidence level. The results of regression analysis supported all hypotheses H1, H2 and H3. HI, H2 and H3 posited a positive causal relationship (H1: $\beta = .18$, $p < .05$; H2: $\beta = .21$, $p < .05$; H3: $\beta = .32$, $p < .001$).

Table 2: Results of Regression Analysis

	Sum of Squares	df	Mean Square	F	Sig.
Regression	12.34	3	4.11	13.29	< .001
Residual	55.40	179	.31		
Total	67.74	182			
R Square = .71; Adjusted R Square = .70					
Independent Variables		Standardized Coefficients		t	Sig.
Aptitude		.23		2.79	< .05
Instruction		.24		2.71	< .05
Environment		.41		5.16	< .001

DISCUSSION

The knowledge of logistics refers to the understanding of the management and processes of the movement of goods between the point of origin to the point of consumption in order to meet the demand of consumers or an organization. The knowledge and skills of a logistician is perceived as a significant driver for logistics firms to stay competitive. With the right curriculum, higher education institutions can cultivate students to become great logisticians. To better prepare students for the work environment and apply knowledge as well as skills, the university should work closely with the factors affecting the perception of undergraduates' students on knowledge of logistics namely aptitude, instructions and environment. The discussion of this section aims to prove and verify the reliability and accuracy of the three hypotheses as well as the research objectives.

Referring to Table 2, the P-value of aptitude is 0.006. The value is less than 0.05 in the multiple linear regression tests. It indicates that the independent variable of aptitude is directly influencing the perception of undergraduate students on knowledge of logistics. Hence, aptitude has a positive and significant relationship with the perception of undergraduate students on knowledge of logistics.

Results from the respondents show that aptitude such as personal abilities and self-condition can influence undergraduate students' perception on the knowledge of logistics. People with correct aptitude are more willingly to handle tasks when motivated and has a tendency to learn more as they grow and mature.

From the literature review, it has mentioned that the ability of a student, aptitude, IQ and prior achievement will have an impact on the students' academic performance (Kuterbach, 2013). Referring to the data collected, personal abilities such as thinking, remembering, perceiving and problem solving will affect respondents' perception towards knowledge of logistics. According to Kubina and Morrison (2000), students who are motivated have higher percentages to comprehend better. With some motivations given, students tend to be more willing to act and respond without being asked to complete the task. Students' learning ability is highly related to motivation. Therefore, factors such as motivation, parental involvement and teacher support should not be underrated as it will directly impact the academic achievement positively or negatively. Motivation can help a student to excel and learn in the classroom activities effectively. This has been proven with evidence collected from the questionnaire which most of the respondents agree that motivation is able to drive them to the pathway of knowledge. Previous researchers discovered that as the age of students increases, they tend to have the ability to learn more knowledge by exploring things around them (Walberg, et al., 1986).

It can be concluded that there is a significant relationship between aptitude and knowledge of logistics. This is because the data shows that the correlation for aptitude is in between 0.5 to 1.0 which proves that it has a strong relationship between aptitude and knowledge of logistics. Personal abilities have the most significant relationship towards the knowledge of logistics. Personal abilities refer to the ability to solve problems and the ability to perceive information. In order to have a good perception towards knowledge of logistics, personal abilities play a significant role.

Based on Table 2, the P-value for knowledge of logistics is 0.448 which is larger than 0.05 and the P-value for aptitude is 0.604 which is larger than 0.05 as well. This is proven by the fact that P-value is larger than 0.05. P-value for knowledge of logistics is 0.707 and P-value for aptitude is 0.477. However, various studies have demonstrated the effect of relative age in education. According to Nasser-Abu Alhija (2017), there is a significant difference in different age groups because the findings showed that the older group of students perceived long-term development is significant compared to younger groups. In a particular class of people or cohort, relatively younger students are bound to have different academic performances as compared to students who are relatively older (Pellizzari & Billari, 2012).

The P-value of aptitude is 0.007 which the P-value is less than 0.05 in the multiple linear regression analysis. It indicates that the instruction is influencing the perception of undergraduate students on knowledge of logistics directly. It can be stated that instruction has a positive and strong relationship with the perception of undergraduate students on the knowledge of logistics. The P-value of instruction is the highest value among the three independent variables in this study. Respondents perceived instruction on quality of the education and number of hours in study. These two points were being perceived as they will affect undergraduate students on knowledge of logistics. Furthermore, the teacher-centered approach, short-lecture classes and duration spent on e-learning are the highest mean value which represent instruction. A study from Doumen et al. (2014) stated that the specific teaching approach such as tutorial, assignment and mode of assessment play an important role in affecting students' perception towards a course. In addition, students are responsible to schedule their time wisely in order to understand instructions given by their instructor.

Teaching method play an important role as it will contribute to students' knowledge and interest accordingly (Gravier & Farris, 2008). In addition to that, teaching method will determine the outcome and learning process of a student (Ibrahim, et al., 2017). From the findings, a majority of the respondents agreed with the importance of a teacher-centered approach. The mean is 4.0450 which is higher among other variables. From the literature review, it shows that the total time spent, and knowledge have a direct effect on knowledge (Opdecam, et al., 2014). From the findings, respondents would prefer short-

lecture classes and assume it has an impact towards the knowledge of logistics. Some studies verified that technology implemented such as logistics simulation technologies, problem-based learning and work-based learning has a vital positive impact in students' academics. Furthermore, simulation software or implementation of technologies in logistics programmes is an effective teaching method.

The findings reveal that instruction and knowledge of logistics has a positive significant relationship. Respondents tend to believe that assignment, tutorial and assessment are able to affect their perception towards the knowledge (Backer, Van Keer & Valcke, 2012). Bal-Tastan et al. (2018) pointed out that teacher self-efficacy is vital in contributing to students' academic performance instead of gender as teacher may lead students to discover meaning and purposes in their academic purposes. In terms of age maturity, older group of students perceived long-term development is important to them compared to the younger groups (Nasser-Abu Alhija, 2017). Furthermore, there is a tendency that younger students during the school year are likely to encounter more challenges or obstacles than older students (Russell & Startup, 1986). For the younger age group of students, they will gain more exposure in the academic environment once they pursue their degree at higher education institutions. This is proven by the fact that P-value is larger than 0.05. P-value for knowledge of logistics is 0.707 and P-value for instruction is 0.605.

In the case of environment-knowledge of logistics relationship, the findings show that it has a positive relationship. The P-value of the environment is less than 0.001. From the statement it can be elaborated that environment is directly affecting the perception of undergraduate students on the knowledge of logistics at a private university in Malaysia. Thus, there is a positive and significant relationship between environment and the perception of undergraduate students on knowledge of logistics.

The results of the questionnaire indicate that environments such as the layout of the classroom and the study environment will influence the perception of undergraduate students on knowledge of logistics. Respondents are more concerned about guidance and support from parents, peer group learning, and duration spent on leisure activities. This finding matches with the previous study about the impact of support group to student's success in education (Forster & van de Werfhorst, 2019).

Furthermore, Omodan (2022) has proven that parents play an important role in instilling and providing the best to their children as they have positive impacts on verbal ability, language, school-related knowledge, and achievement. According to Kuterbach (2013), peer group learning such as discussion and group study can improve students' understanding, knowledge and skills. In addition, it has proven from our findings that spending too much time in leisure activities will affect the learning progress and it brings negative effects towards the knowledge.

Guidance and support from parents have the most significant relationship between environment and knowledge of logistics. Parents have a positive impact on children's verbal ability, language, school-related knowledge and achievement in school subjects. It has the highest mean value which shows that respondents believed that guidance and support given by parents would affect the knowledge of logistics. The findings from previous studies have proved that academic achievement did not differ with respect with gender (Bal-Tastan et.al., 2018). The P-value for knowledge of logistics is 0.448 and P-value for environment is 0.154 from the regression analysis, which both of the values are greater than 0.05. When it relates to the previous studies, it reveals that the older group of students perceived long-term development is important to them compared to the younger groups (Nasser-Abu Alhija, 2017). In another study, matured students tend to manage their time effectively against their academic environment (Milun, Mardešić & Kovač, 2016).

CONCLUSION

The significance of logistics and supply chain to the modern world is getting more and more emphasized. It owns the ability to connect the world as it has the prominent privilege of gathering and bringing things from the whole world to individuals in the right time and at the right cost.

The three factors that have been discussed in this paper has influenced positively the perspectives of undergraduate students towards the knowledge of logistics. These three factors are aptitude, instruction, and environment. These factors will have a huge effect on their point of views which can be improved in logistics education. The results of the questionnaire have proven that the three variables of aptitude such as personal abilities, more willingly to handle tasks when motivated; instruction such as teacher-centered approach, short-lecture classes; environment such as peer group learning, guidance and support from parents have a significant impact towards how they learn the knowledge of logistics. Most of the respondents have shown their agreements on these factors would have an influence on their perspectives in learning logistics. Hence, as new knowledge of logistics will be increasing and is constantly evolving, both higher education institutions as well as logistics practitioners should participate and work together in the change of better education to ensure the logistics programmes offered by universities are able to meet the needs of the logistics industry. In this way, undergraduate students can better master the knowledge and skills that would be needed in their employment future.

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AUTHORS' CONTRIBUTION

Leow, J.M. and Liew, P.S. conceived and planned the whole process of research project with a close supervision from D. Daud. Annuar, N. took the lead in writing the manuscript. All authors provided critical feedback and helped shape the research, analysis and manuscript.

CONFLICT OF INTEREST DECLARATION

We certify that the article is the Authors' and Co-Authors' original work. The article has not received prior publication and is not under consideration for publication elsewhere. This research/manuscript has not been submitted for publication nor has it been published in whole or in part elsewhere. We testify to the fact that all Authors have contributed significantly to the work, validity and legitimacy of the data and its interpretation for submission to Jurnal Intelek.

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