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LOGISTICS EDUCATIONAL NEEDS OF MALAYSIA: A CONCEPTUAL STUDY

Dazmin Daud
Faculty of Business and Information Science,
UCSI University,
MALAYSIA.
dazmindaud@ucsi.edu.my

ABSTRACT

This paper presents a conceptual framework on the Malaysian logistics educational needs. To explore the Malaysian logistics educational needs (LEN), this paper emphasizes the need to conduct a research to gain the thoughts of local logistician practitioners on logistics and the supply chain management issues to provide salient inputs. The components of the LEN to be explored in this paper are courses offered by the Malaysian higher education institutions (MHEIs), knowledge, and the competency required by students in a logistics programme. Three propositions were derived from previous literature review. Conclusions from the literature are drawn that states that knowledge, competency and courses offered play a key role in how they contribute to Malaysian LEN.

Keywords: logistics educational needs, knowledge, competency, courses

INTRODUCTION

The "educational needs" is a condition of the necessity for education on a specific topic identified by a gap in professional or working practice (Lai, 2010; Collins, Hannon & Smith, 2004; Pun & Chin, 1999). In relation to logistics, it is a situation that refers to the discrepancy or gap between what the logistics industry expects of a competent logistician and what actually occurs at present. Studies regarding the relationship between logistics programmes offered by higher education institutions (HEIs) and logistics educational needs (LEN) have received considerable attention in the logistics education literature (for examples see Gravier & Farris, 2008; Wu, 2007). Such interest might be attributed to the belief that logistics programmes facilitate logistics graduates' knowledge of logistics, non-logistics and related competencies.

Importance of Logistics Educational Needs

Thoughts on LEN have evolved from transportation to logistics and the supply chain management. To explore the Malaysian LEN, this paper emphasizes the need to conduct a research to gain the thoughts of local logistician practitioners on logistics and the supply chain management issues to provide salient inputs. The components of the LEN to be explored in this paper are courses offered by the Malaysian HEIs, knowledge, and the competency required by students in a logistics programme. Educators and higher education institutions need to collaborate with the logistics practitioners to design effective logistics programmes. An effective and competent curriculum in logistics can be achieved if these two parties collaborate in designing courses or subjects that would produce competent logisticians for the 21st century. As mentioned in Oliva's curriculum design, evaluation and feedback from various parties are essential for curriculum development and design (Oliva, 2009).

Failure to acquire accurate LEN will lead to deficiency as competent logisticians and therefore it will make them dysfunctional in an organization. It emphasizes logistics graduates' necessity, urgency and inevitability to have effective and accurate logistics programs, knowledge and competency to become efficient and effective logisticians. Failure to fulfill the gap will affect logistics organization performance and productivity as a whole. According to Marzo-Navarro (2007), the gap will result in the imbalance between the trained workforce and

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the needs of the labor world. The importance of developing an effective curriculum in pace with 21st century workforce issues can be re-traced from the views by Berkovski & Gottschalk (1997) who emphasized the importance for current higher education institutions to revise their curriculum to produce graduates with the knowledge and skills to meet the challenges and demands of the 21st century.

Studies on logistics emphasize the lack of relevancy between actual work practices, applications, and the curriculum on academic logistics programmes (Pteffer & Fong, 2002; Bennis & O'Toole, 2005). The logistics programmes offered by higher education institutions must match the development of logistics itself. From the logistics practitioners' perspective, they prefer applied logistics programmes over the traditional comprehensive university logistics programmes (van Hoek, 2000; Lancioni, Forman & Smith, 2001a). Thus, the findings of this study will show that precise and reliable LEN components are required in designing a logistics programme curriculum for the Malaysian HEIs.

Literature on Logistics Educational Needs

Specific LEN items include: knowledge of logistics functions, knowledge of non logistics functions, logistician competency, working experience, courses in logistics program, interdependence skills, group management skills, integrity, and communication skills. Studies from Dazmin (2011), Gravier & Farris (2008), Golicic *et al.* (2004), Myres *et al.* (2004), Knemeyer & Murphy (2001; 2004), Pryor, Sloan & Amobi (2007), Wu (2007), Cherington & Schneider (1967), Stock (2002), Christopher, Magrill & Wills (1998), van Hoek (2000), Murphy & Poist (2007), Novack, Rinehart & Langley (1994), Lancioni *et al.* (2001a & 2001b), La Londe *et al.* (2007) provide a foundation for the LEN.

Previous studies have shown varies in their findings. Lancioni, Forman & Smith (2001b) argued that logistics programs which fail in designing the curriculum tend to reflect the international setting and the multi-disciplinary nature in logistics and supply chain management. Internationally, the distribution of logistics programs, types of programs, types of courses (logistics functions and non logistics functions) varied between one nation compared to another (Wu, 2007). Wu also indicated that there was a strong relationship between higher education institutions offering degrees in logistics programs and higher rate of employability. In another study, van Hoek (2001) argue that rapid changes in practice and further developments in research into logistics are the challenging factors for educators to upgrade their courses and programs. To meet the changing demands of industry, a substantial change in logistics and supply chain education is necessary (Gammelgaard & Larson, 2001).

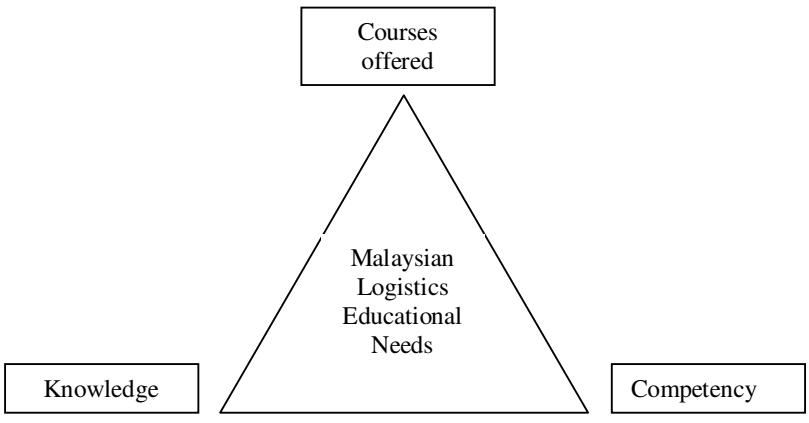

Figure 1. A Conceptual Framework on Malaysian Logistics Educational Needs

A concept pertaining to Malaysian LEN is based on Diagram 1. Here, knowledge, competency and courses offered at the Malaysian HEIs are believed to influence the Malaysian LEN. This concept supports a view that failure to provide competent logistics graduates will affect the economy of a country (Amuna, 2003). Previous literature have discussed the components of knowledge, competency and courses separately with LEN (see Larson, Poist & Halldórsson, 2007; Wu, 2007; Crook et al., 2008; Aquino & Draper, 2008). This paper proposes to what extend that the knowledge, competency and courses influence Malaysian LEN. Views from logisticians as well as academicians are required from future study to demonstrate any similarities or differences about the concept.

Knowledge and Logistics Educational Needs

Knowledge is perceived as one of the important factors for logistics firms in order to stay competitive in the 21st century (Chapman & Soosay, 2003; Chapman, Soosay & Kandampully, 2002). In the 21st century, employees are forced to equip themselves with knowledge management through the process of continuous learning, knowledge generation and sharing, innovativeness, and it becomes part of performance evaluation (Stone, 2008). In relation to logistics, the scope of knowledge is based on its content, context and process related to logistics activities (*Arlbjørn &* Halldórsson*, 2002).* Thus, knowledge can develop workers to demostrate efficient and effective performance in their tasks and works. For example, a manager in a shipping firm adopts the application of knowledge in a vessel purchased through a decision-making process (Kim, Lim & Mitchell, 2004).

A number of studies has been previously conducted which are related to logistics functions. For example, the study of a relationship between logistics functions and a country's economic growth (Bloomen & Petrov, 1994); of external environments that attribute to logistics functions (Zacharia & Mentzer, 2004); of a relationship between logistics functions and SCM based on four approaches (traditionalist, unionist, re-labeling and intersectionist) (Larson, Poist & Halldórsson, 2007); of servicing demand in logistics functions (Tamilia, 2000); of quality management in logistics functions (Rahman, 2006); of outsourcing in logistics functions (Jarzemskis, 2006); of performance in logistics functions (Poist, Scheraga & Semeijin, 1999); of the salient knowledge that attribute to the 21st century logisticians (La Londe & Powers, 1993) and of a positive relationship between logistics functions and a new product development (Zacharia & Mentzer, 2007).

A proposition from the above literature is therefore:

Knowledge factor contributes to Malaysian logistics educational needs.

Competency and Logistics Educational Needs

In relation between skills, knowledge and competency, logisticians' knowledge and skills are perceived as important factors for logistics firms to stay competitive in the 21st century (Chapman, Soosay & Kandampully, 2002; La Londe & Powers, 1993). New knowledge and skills required for 'broad skills and knowledge' (communication, computer, understanding end customer, and project management) and 'specialized supply chain skills and knowledge' (supplier relationship management and coordination, material management, metrics, and market knowledge) (Crook, Giunipero, Reus, Handfield & Williams, 2008) develop the needs for logisticians.

Mangan and Christopher (2005) explored the challenges for a management development in order to bridge the gap between current capabilities (managerial skills and competencies for logistics and SCM managers) and those required for future success. This could be achieved by providing a range of courses and qualifications, ranging from vocational qualifications and

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executive educational programs to undergraduate and postgraduate degree level qualifications. Their findings supported a study from Mangan, Gregory and Lalwani (2001) where it showed the most common types of training received by logistics managers were from the formal college (highest order of frequency). Furthermore, Mangan and Christopher described two important issues (firstly, the specific logistics competencies such as managing global business issues and secondly, the courses in the logistics programs needed to be more practical). These two issues were being highlighted by academicians at higher education institutions in the study. As regards to the degree programs in logistics and SCM, Handfield (2004) noted that higher education institutions were required to provide fully integrated logistics and SCM programs that could take account of the integration-oriented skills. These integration-oriented skills were required for the logistics graduates.

From the above discussion, the proposition is:

Competency factor contributes to Malaysian logistics educational needs.

Logistics Courses and Logistics Educational Needs

Historically, Cherington and Schneider (1967) were the first proponents of the programs that lead to a knowledge relationship for transport and logistics graduates. Their findings relied heavily on interviews with and questionnaires from industry executives, Master of Business Administration (MBA) graduates and educators in transportation fields. They examined the probable demand for business managers in the transportation and logistics areas and the curriculum which might be best offered by graduate schools of business administration to meet that demand.

Aquino and Draper (2008) emphasized higher education institutions to design and offer accurate logistics curriculum in a logistics program that match with the current industrial needs to their logistics students. They believed that truly comprehensive programs in logistics and supply chain management would gain support from the logistics industry. Moreover, the partnership model (between higher education and logistics practitioners) would provide an access for logistics students to apply knowledge and skills in the real working environment. Thus, it is a starting point for reducing the talent gap.

Other researchers had indicated a relationship between logistics program and knowledge for non logistics. For examples, the needs for knowledge and skills in computer (Smith, Langley & Murphy, 1998; Rao, Stenger & Wu, 1998); marketing (Christopher, Margill & Wills, 1998); research methods (van Hoek, 2000); cross-cultural study (Canen & Canen, 2001); internship or industrial training (Cooper & Faris, 2003); and international business (Bess & Collison, 1987).

The proposition is:

Logistics courses offered by the Malaysian HEIs contribute to Malaysian logistics educational needs.

The Need and Future Research on Logistics Educational Needs

There is still a drawback from previous studies with relation to LEN. A majority of research on logistics educational needs is limited to a geographical area (Christopher, Magrill & Wills, 1998; Gammelgaard, 2001; Grant, 2001; Rutner & Fawcett, 2005) and is largely a case study-based or survey-based study (Rao, Stenger & Wu, 1998; Alvarstein & Johannesen, 2001; Ferrin, Landeros & Reck, 2001; Gudmundsson & Nijhuis, 2001; Rutner and Fawcett, 2005).

In addition, the research into the current status of logistics programs at the college level has been found still to be limited (Lancioni, Forman & Smith, 2001a; 2001b).

According to Lancioni, Forman and Smith, (2001b), some barriers encountered in the development and planning of logistics programs and course included a lack of trained faculty to teach logistics; difficulty in integrating a logistics major in the current curriculum; general lack of student interest in logistics/SCM as a major; resistance of faculty in other departments as to the merit of logistics as a respectable area in business, resistance to the development of a logistics program by certain departments within the school such as marketing, operations management, finance, accounting, management, economics, and statistics; and general lack of fit of logistics/SCM into the overall curriculum core of the undergraduate and graduate programs. Gravier and Farris (2008) added that logistics and SCM existed as a fragmented discipline, and housed in university departments as diverse as production management, marketing, supply management, industrial engineering, management science, or in its own department.

In a related issue, a cross-cultural survey of Singapore and Malaysia by Razzaque and Sirat (2001) on the skill requirements of senior-level logisticians revealed that Singapore logisticians viewed all the three categories of skills, involving business/logistics/management knowledge and skills, as equally important, whereas to their Malaysian counterparts the importance of managerial skills/knowledge outweighed those of the other two categories. In addition, logisticians in the two nations hold statistically significance different views on some skill requirements, suggesting the factor of geographic area which should be taken into account in curriculum analysis. Future research needs to identify which logistics/SCM programs of study would satisfy an industry's diverse needs (Gravier & Farris, 2008). They further emphasized that academicians in logistics need to be proactive to project the future evolution of logistics educational needs.

CONCLUSION

Dimensions of Malaysian LEN need to be developed in accordance with the need of local and global trends in logistics industry. Logistics graduates must be able to apply logistics knowledge they acquired from higher education institutions in the working environment. Competency can be achieved by these graduates when they are able to transform logistics knowledge into meaningful performance that match with the logistics needs. Understanding the dimensions of Malaysian LEN will ensure holistic and marketable logistics programmes. In addition to that, it will be able to meet the workforce demand in the logistics industry.

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