Competency Based Curriculum Development Model of Operations Managers in Indonesian Logistics Industry

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Abstract: Indonesia's robust economic growth after struggling from financial crisis during last decade is having a progressive effect on its logistics industry. But, the deficiency of competency development programs and training for operations managers in this sector generates a static improvement if compared to the other nations. Calibrating competencies and skills of operations manager in this industry along its education curriculum is critical to make a standpoint in Indonesian economy. This study is outlined to fill the gap of competencies' necessity in this area and try to formulate the adaptive approach and understanding. Engaging an intensive literature review and collaborated with the analytic hierarchy process (AHP), this study identified several critical competencies that need to strengthen to establish national competency standard that could be employed for training and education curriculum development.

1 INTRODUCTION

The rapid growth of Indonesia economy has impacted on the logistics sector which has continued to grow in recent years. But this result is not yet followed by the logistics performance quality as a whole. As a parameter, Indonesia's 2014 Logistic Performance Index (LPI) is in 53rd (Bank, 2014). It was a big leap, while it was in 43rd in 2007; in 75th in 2010 and 59th in 2012. However, Indonesia's ranking is currently the lowest in the six largest ASEAN economies, and remains above the average performance of the group of lower middle income economies (Bank, 2012). Detailed score for each criterion in LPI compared with the first rank (Singapore) and the nearest country (Malaysia).

Over the last decade, the growth of Indonesia industry and logistics business has not been supported by the growth of professional human resources. There is a gap between the availability of education and training with demands in the logistics sector and the lack of competency and human resource development which has not been well planned (Gaol, 2013; Ministry of Economics, 2010). As stated by the Chairman of Indonesian Logistics Association, the infrastructures such as education, training and policy framework are needed to be developed to leverage on the emerging opportunities in the logistics sector in Indonesia (Gopal, 2012). Since the capability and integrated logistics systems need the competent human resources, it is critical to take a consideration to improve the competency of supply chain operations managers in Indonesia in order to improve the quality of logistics performance (Melisa, 2012).

Although many technologies are involved in the wheel of the organization, the organization still needs human resources as the driving force of other resources owned by the organization in any form. One of the factors driving success in organisations is the capabilities and competencies of its managers. They represent a unique discipline responsible for supporting the global network of delivering products and services across the entire supply chain, from raw materials to end customers. It is crucial that all organisations understand that competency refers to the demonstrated ability including knowledge, skills, and attitudes, to perform a task successfully according to specified standards (Porasmaa & Kotonen, 2010).

2 LITERATURE REVIEW

2.1 Employed theory

This study adopt the resource-based view (RBV) theory to provide a better understanding of how the

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competency model for operations managers could be utilised to enhance companies' competitive advantage. This theory argues that an organisation's internal and external resources are a source of competitive advantage that leads to better performance (Barney, 1991). Resources can be either tangible or intangible. Tangible resources are financial resources, buildings and machinery; intangible resources are aspects of human capital such as organisational training, the culture of the organisation, intelligence, relationship such as collaboration and quality of employees. Firms' resources comprise all assets, capabilities, organisational processes, firm attributes, information, and knowledge controlled by an enterprise. All of these resources enable firms to conceive of and implement strategies aimed at improving their efficiency and effectiveness (Barney, 1991; Daft, 2010).

2.2 Competency definition

It is necessary to make clear what competence and competency mean in the discussion of the professionalization of evaluators. As defined earlier, competence is an abstract construct. It describes the quality of being competent. It is the "habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values and reflection in daily practice for the benefit of the individual and community being served" (Epstein & Hundert, 2002).

In contrast, competency is a more concrete concept that includes particular knowledge, a single skill or ability, and attitudes. It refers to the quality of being adequately or well qualified, physically and intellectually. There is misuse and/or cross-use of the terms competence and competency. For example, competence is used as a synonym for performance, a skill, or personality trait (Griffin, 2007). Not only is competence treated as performance, but it is also used indiscriminately to refer to either the observable performance or the underlying neural functions that support the observable behaviour (Trivellasa & Drimoussis, 2013). Furthermore, professional competence is more to addressing the upcoming task than to identify competencies (Griffin, 2007). In addition, professional competence suggested by Gooty et al. (2010) is more than a demonstration of isolated competencies.

Although there is no agreed-upon definition of competence, there are researchers and organisations that have sought to depict it. A review of literature finds that competence is often associated with knowledge, skills, or attitudes that enable one to effectively perform the activities of a given occupation or function to the standards expected by someone (Bartoska, Flegl, & Jarkovska, 2012). A comprehensive example of definitions of competence can be found in Chouhan & Srivastava (2014).

In this study, we used the definition given by Porasmaa and Kotonen (2010) that stated competency as a demonstrated ability including knowledge, skills, and attitudes to perform a task successfully according to the standards. The definition above show that competencies are a combination of knowledge, skills and attitudes required to do a job successfully.

2.3 Competency Model

The development and application of a competency model is a proven approach to investing in human resources in order to achieve a more effective and productive workforce. The functioning of an organisation largely depends upon several distinctive components, with the talented employee occupying the central role in the accomplishment of organisational goals. In the present economic scenario, the need for a forward-looking and proactive approach to competency modelling is driven by the increasing pace of change in the business environment (Chouhan & Srivastava, 2014; Thai, Ibrahim, Ramani, & Huang, 2012).

Broader competencies that should be included in the logistics competency model were broken down into several competencies and skills. Logistics competency indicates dimensions within strategic management skills, business knowledge, and effective leadership skills. These dimensions provide outstanding inputs for the Malaysian higher education sector and also for logistics managers for integrating competency into logistics programs, recruitment, and development functions (Daud, Ahmad, Ling, & Keoy, 2011).

We conducted an extensive literature review on the determinants of competency for operations managers in the context of logistics providers. And found four dimension contained of fifteen competencies related to the specific domain of operations managers. Those are: first, Business dimension (leadership, people management, teamwork and communication, negotiation and change management competency); second, Logistics dimension (transportation and distribution management, warehouse and inventory management, and project management

competency); third, Management dimension (analytical, managing result, continuous improvement, creating and managing CSR, and cultural awareness competency); and the last dimension is Information and Communication Technology (hardware and software handling and information handling).

From the identified competencies above, we made the hierarchical (conceptual) model as shown in Figure. 1 below:

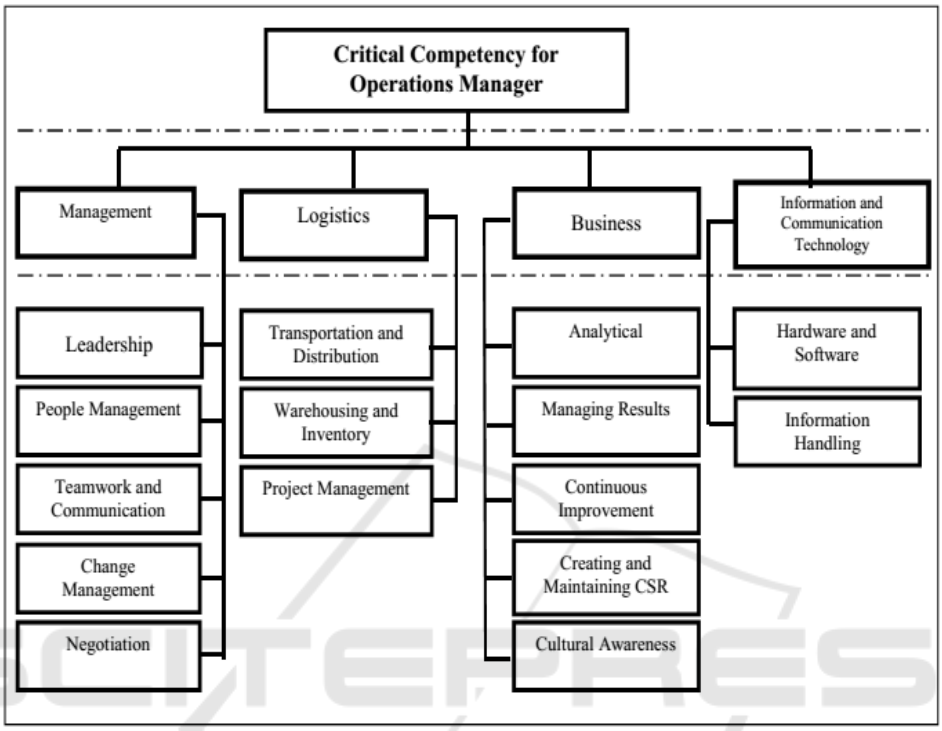


Figure 1: Hierarchical competency for operation manager in logistics industry

2.4 Analytic Hierarchy Process

Numerous studies in logistics domain have been conducted using the analytic hierarchy process (AHP) approach, as it is a simple but powerful method used in the decision-making process which integrates qualitative and quantitative information simultaneously, and for prioritising alternatives when facing multi criteria that need to be considered. As expressed by Radnor and Barnes (2007), the single decision-making criterion is oriented with cost minimization (i.e., to produce as efficiently as possible) in the early days. Later, consideration is given to several criteria such as quality, flexibility, timeliness, service delivery and innovation. Hence, the use of the Multi-Criteria Decision Making (MCDM) method enables effective decisions to be made in order to meet all relevant criteria at various levels and for different purposes.

Several limitations of AHP that need to be considered for research purposes are: first, its assumption of independency among various decision-making criteria which makes it difficult to assess the correlation between criteria. Secondly, AHP uses crisp judgements for pair-wise comparison of criteria, as the traditional AHP employs a scale with exact whole numbers between 1-9 (Saaty, 1990). Research conducted by Ho (2008) reviews the application of AHP when integrated with other techniques. We consider this as a significant gap in the literature and aim to provide an updated review of the application of AHP in this area.

Number of studies have shown the results and prospective implications for many of the parties involved in the field of logistics. Logistics managers, employers, students, educators, and professional organisations can all benefit from the perspectives and recommendations of executive placement specialists. Executive recruiters should prove insightful for career development in terms of planning and selecting their continuing education

and executive development activities not only for managers but also for employers. Furthermore, it is critical to prove the usefulness of identifying the educational preparation set that might be expected and/or required for potential candidates.

3 METHODS

Employed a mixed research method, a three parts of questionnaire been used for interviews and data collection. Part 1 contains general questions about the firm and respondents' background, while, Part 2 contains fifteen open-ended questions designed to capture respondents' opinions on the importance of fifteen competencies of the proposed competency model. Part 3 contains pair-wise comparisons questions between fifteen competencies to determine the level of importance and the priorities among individual competencies.

The critical case sampling method has been used to identify the potential cases for this study. Critical case sampling is a type of purposive sampling (Neuman, 1991) that looks for cases that are 'particularly information rich' in relationship to the questions under consideration (Yin, 2003). Then, respondents compare a pair of competencies in a level importance respecting to a competency in the level above in a hierarchical manner, referring to their importance in terms of a particular measure, and make a judgement alternative on a scale of 1 to 9. Score of 1 represents indifference between two competencies, while score of 9 represents overwhelming dominance of a row component over a column component. When scoring is conducted for a pair, a reciprocal value is automatically assigned to the reverse comparison within the matrix. For that result, score of 1/9 represents overwhelming dominance of a column component over a row component within the pair-wise comparison matrix (Saaty, 2004). The set of questionnaires are distributed to five multinational logistics providers, and five large local logistics providers operating in Indonesia. Respondents will be assured that their answers would be kept confidential. These questionnaires were distribute to ten high profile third party logistics companies (5 locals ownership and 5 multinational ownership) whom operate in Indonesia for more than 20 years. List of the respondent with their main serviced area is presented in table 1 as follow:

Table 1: Surveyed serving area

Firm	Industry served area
MNC1	Aerospace, automotive, chemical, consumer, fashion, industrial and engineering
MNC2	Mail, parcel, chemical, consumer, fashion, industrial and engineering
MNC3	Electronics, fashions, healthcare, chemical, oil and gas, minerals.
MNC4	High technology, oil & gas, retail and industrial, medical equipment, chemical, fashion.
MNC5	Electronics, automotive, chemical, healthcare, consumer goods, fashion.
LOC1	Documents, printed materials, books, electronics, telecommunication.
LOC2	Automotive, machinery, chemical, consumer, fashion, industrial and engineering, life sciences and healthcare, retail and technology, fashion
LOC3	Pharmaceuticals
LOC4	Fashion, retails, healthcare, consumer goods, electronics, technology, palm oil, petroleum.
LOC5	Retails, consumer goods, pharmaceutical, automotive, machinery, fashion, minerals, oils and gas.

Collected data were analysed using the Analytic Hierarchy Process (AHP) approach to assess the critical determinants for operations managers' competency model of logistics providers. This method is a systematic approach using comparison concepts in a hierarchical structure analysis. In this research data will be analysed using softwares such as Expert Choice ver.12.

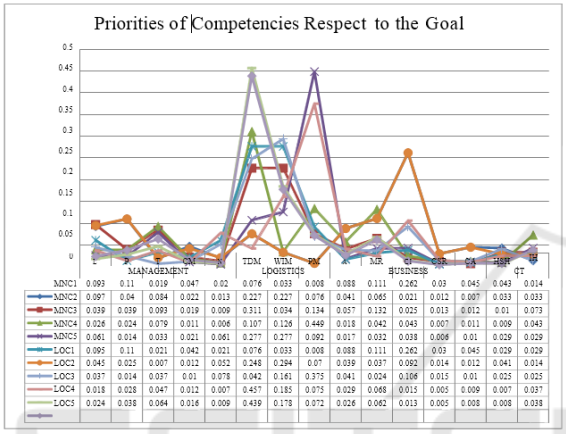
4 RESULTS AND DISCUSSION

All respondent from put logistics dimension as the most important for succeed operations managers in logistics providers industry. While the transportation and distribution came in the first priority, that's mean this competency have to be maintain and even improved regarding to company success. We can say for Indonesian logistics business, an operations manager has to master the transportation and distribution knowledge as the first step to achieve bigger success. Although the operations managers in each surveyed companies have different education background, but they're able to manage and emphasize their subordinates to find company excellences.

The warehouse and inventory management and project management competency can be a leading factor for company success as well as the transportation and distribution, since the almost all of respondents have the specific service such as

providing warehouse and managing the customers' inventory.

After 3 highly important competencies, the priorities are slightly different between MNCs and local. For MNC, Managing result (business dimension) combine with Leadership (management dimension) came to accompany the competencies under logistics dimension. While in local's perspective, continuous improvement, managing result (business dimension) came after the first three competencies. Figure 2 shows the detailed prioritisation result which respect to the goal.



	L	P	T	CM	N	TDM	WIM	PM	A	MR	CI	CSR	CA	HSH	IH
MNC1	0.093	0.11	0.019	0.047	0.02	0.076	0.033	0.008	0.088	0.111	0.262	0.03	0.045	0.043	0.014
MNC2	0.097	0.04	0.084	0.022	0.013	0.227	0.227	0.076	0.041	0.065	0.021	0.012	0.007	0.033	0.033
MNC3	0.039	0.039	0.093	0.019	0.009	0.311	0.034	0.134	0.057	0.132	0.025	0.013	0.012	0.01	0.073
MNC4	0.026	0.024	0.079	0.011	0.006	0.107	0.126	0.449	0.018	0.042	0.043	0.007	0.011	0.009	0.043
MNC5	0.061	0.014	0.033	0.021	0.061	0.277	0.277	0.092	0.017	0.032	0.038	0.006	0.01	0.029	0.029
LOC1	0.095	0.11	0.021	0.042	0.021	0.076	0.033	0.008	0.088	0.111	0.262	0.03	0.045	0.029	0.029
LOC2	0.045	0.025	0.007	0.012	0.052	0.248	0.294	0.07	0.039	0.037	0.092	0.014	0.012	0.041	0.014
LOC3	0.037	0.014	0.037	0.01	0.078	0.042	0.161	0.375	0.041	0.024	0.108	0.015	0.01	0.025	0.025
LOC4	0.018	0.028	0.047	0.012	0.007	0.457	0.185	0.075	0.029	0.068	0.015	0.005	0.009	0.007	0.037
LOC5	0.024	0.038	0.064	0.016	0.009	0.439	0.178	0.072	0.026	0.062	0.013	0.005	0.008	0.008	0.038

Figure 2. Priorities of competencies respect to goal

Since the various educations' background of operations managers, these five competencies have to upgraded, maintained and improved according to the industry situation. The most important thing in this situation is develop a comprehensive logistics education and training program for the existing logistics providers' operations managers and future's competent logistics providers' operations managers.

For MNCs logistics providers, Teamwork (management dimension), Continuous improvement, People management, Analytical (business dimension), Information handling (ICT dimension) came on the second layer of prioritization. The combination of these competencies for logistics providers Operations Managers suggested as the art of managing business. Including how to deal with people, managing and accommodate them into to challenge the market. Information handling also important according to the rapid growth of information, the MNCs realized that the winner of the competition is not only because of how they run the core business (logistics) but also in how they manage the information from others (Figure 3).

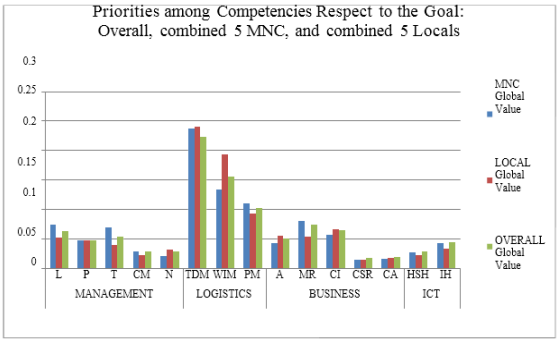


Figure 3: Priorities among MNC and Locals

Continuous improvement usually related to the vision of the company, empowerment the people in company, sharing learning and knowledge, and coaching subsidiaries. It's become very important while the connected to the next competencies that an operations managers should have, such as change management and negotiation.

Even the value of change management is far below the first important competency, but the manager should able to achieve personal change to be more successful by entails thoughtful planning and sensitive implementation, consultation with, and involvement of, the people affected by the changes. Regarding all the respective competencies, operating supporting software and hardware is a must. An operations manager has to show their ability to operate the tools as good as their subsidiaries.

As negotiation for MNCs might be not as important as for Locals, since usually they only receive and process order from the head quarter. The negotiation for new customers are relatively hard, since there is a unofficial agreement – to protect locals providers - MNCs could only deal with MNCs principals while the locals could deal with both MNCs and locals' principal.

Cultural awareness and creating corporate social responsibility will be a big issue in the future, company trend to give more attention to their community and constituents. The cultural awareness probably can be named as the greatest complexity, and the challenge is how to reduce the mistakes. Since the nature of Indonesian which can be said as "take it for granted" this not become a big issue (yet). While the CSR regulation is not settled yet, the logistics providers companies feel that they don't need to put a big attention in this area. They better put attention and underlined the critical areas that they have to improve most.

5 CONCLUSIONS

Certification of competencies is needed to recognize the right man with the right competencies in order to accomplish their duties and responsibilities. In the field of employment or certain professions in accordance with the demands of the company and the business environment. Certification of competencies is necessary to face global competition. In the ASEAN Economic Community (AEC), for instance, foreign professionals are free enter Indonesia job market which is very limited of skilled person in this area.

Job competence certification is the process of granting a certificate of competence are carried out systematically and objectively through competency test standard refers to the work of national and international competence. Indonesian National Competence System (SKKNI) is a formulation of workability covers aspects of knowledge, skills, expertise, and work attitudes that are relevant to the duties and terms of office are set in accordance with the provisions of Law No. 13 of 2003 on Labor and PP 23 of 2004 on the National Professional Certification Board (BNSP) and Regulation 31 of 2006 on the National Vocational Training System.

Furthermore there are lack of national and international networks, and multinational companies are dominating the logistics industry in Indonesia. In addition, in terms of human resources management, local logisticians have poor training and education in their profession. In terms of regulatory policy, there is no integrated national policy for the logistics sector; regulations and policies are not comprehensive and specific, and any existing policies and regulations are not enforced. Coordination between educational institutions and government or industry organisations is still poor. The human resources field of national logistics needs to implement a national certification system covering all levels of management. This will reduce the dependence on international certification; moreover, the relevant organisations can ensure that such training and education takes into account Indonesia's characteristics.

It imply that educators, professional organisations and government can use the findings to enhance their roles in the development of such programs. More specifically, the results may prove insightful for planning annual conferences and educational tracks, regional roundtable/chapter meetings, Internet seminars, and distance learning programs.

In addition, it is critical to establish collaboration and cooperation between government, academia, entrepreneurs and logistics associations to develop a comprehensive logistics curriculum based on the competencies for every managerial level. Accommodating logistics associations that are concerned about national logistics certification in the field of human resources is a must. Also, companies which already provide logistics training for their employees can be motivated to collaborate. Under the supervision of the Ministry of Education, vocational high schools and tertiary institutions should devise and deliver courses specifically for logistics, and offer qualifications at all levels from diplomas to doctoral degrees.

It is crucial to establish and implement a competency-based curriculum tailored specifically for the needs of the logistics profession. To achieve a strong competitiveness in logistics, there needs to be logistics competence, professional and reliable performance at the operational managerial and strategic levels, and standards that meet national needs to achieve efficiency and effectiveness in the performance of the national logistics system itself.

The certification of competencies ensures that the right man with the right competencies is given an appropriate role and can successfully undertake the tasks and responsibilities associated with certain professions, in accordance with company demands and the business environment. Employing different variations under analytic hierarchy process approach such as by accommodating fuzzy and also increase bigger respondent for the future research, suggested will improve the deeper understanding and result a crispier policy making process at this area.

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