

# Malaysian Logisticians Competency for Low Level Manager: An Exploratory Study

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## Abstract

The present study is to pursue and enumerates the importance of competency for low level manager amongst Malaysian logisticians. The present study drives to cluster the measurements of competency variable among logisticians in Malaysia. Self-administered questionnaire were employed for data collection process. A quantitative study employed to the present study. Self-administered questionnaire distributed to 223 logisticians representing the organization involving upper management to lower management. The present paper provides and introduction to low level manager of the Malaysian logisticians competency. Study also supported by literature review emphasizing on the needs of logisticians to be competent. Analyses including T-Test and Exploratory factor analysis (EFA) were employed to explore the similarities and differences between demographical factors and logisticians competency. Present study concluded that "management knowledge and skills" and "logistics-and-business knowledge and skills" are the two groups developed amongst the low level managers. Findings will contribute towards identifying the needs of logisticians' competency and furthermore will contribute towards the advancement of logistics curricula by Malaysian higher education institutions and aid to improve Malaysian logisticians in the future.

**Keywords:** Competency, knowledge, logisticians, Malaysia, skills

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## 1. Introduction

Malaysia is moving forward with Industrial Revolution 4.0. One of its core technologies of Industry 4.0 is Artificial Intelligence or well known as AI. Through AI, it created a system to learn from its environments and use created data to connect humans, physical tools and the digital world. Industry 4.0 referred as the "Fourth Industrial Revolution", also known as "smart manufacturing", "industrial internet" or

"integrated industry" (Hofmann & Rüsçh, 2017). Therefore, with the uprising of technology advancement, logistics sector in Malaysia confronted with challenges by developing competent staffs in industry, well-rounded staffs equipped with knowledge in logistics especially. Observations from Renugala, Chin, & Henga, (2018), detailed that competent and knowledgeable workforce are factors that contribute to the competitive advantage in

organizations. There is an essential to acquire competent logisticians in logistics sector to manage the increased activities in export and import. Many authors highlighted on the present issue pertaining to the supply of competent logisticians to meet organization demand nowadays (Choudhury, Raut, Gardas, Kharat&Ichake, 2018). Due to this, Malaysian government therefore constantly developed the necessary, strategic planning under the Third Industrial Master Plan (IMP3) 2006-2020 (Third Industrial Master Plan 2006-2020, 2006). Failure to offer suitable and competent future logistics employees will slow down the growth of economy in a country (de Almeida Vilela, Martins & Siegler, 2018). Therefore, competency plays an important role in ensuring productivity of a logistician. Evidence from Sun and Song (2018) indicated that competency is identified as one of the components in educational needs of logistics professionals.

Based on previous literature review. There are consistently findings that reveals not much studies has been done pertaining to what are suitable courses that fits Malaysian logisticians especially. However, few studies conducted that referring to similar problem addressed Razzaque & Sirat, 2001; Goh&Pinnakul, 1998). Razzaque and Sirat made aevaluation between two countries namely (1) Singapore and (2) Malaysia. Studies has been conducted to evaluate logisticians based on interpretations from top management and, however related courses in logistics programme is not highlighted. Furthermore, other researcher studied the need for higher education institutions in Thailand to resource competent logisticians. Therefore, slight information is known pertaining to competency for Malaysian logisticians. Due to this, present study attempts to address this issue. This has led to focused

objective which is to explore the amount to which competency presented in the literature are being highlighted among logisticians in Malaysia.

This article will focus on the competency requirement of logisticians. Logisticians must earned a broad range of competency in order to be successful. The present study will adopt competency paradigm from 29. Flöthmann, Hoberg, & Wieland (2018) effort and use it to examine logisticians competency requirements. This have helped an assists logistics companies in many ways. Main issue addressed in the present study is to explore items that emerge the most and least important to logisticians?. Secondly, the present study also will look forward on its significant relationships exist between competency requirements and selected demographical characteristics using multivariate analysis?

The present paper will be presented into four areas which starts with literature review to support the importance of logisticians competency based on previous research. This followed by method and results obtained from multivariate analysis and further discussed in the final parts of the present study for future directions and recommendations.

## **2. Literature Review**

Workers determine its highest level of competencies when they acquire carefulness and work in an environment that highlights a high humanistic culture, high leadership culture, and low doctrinaire. Criteria's such as humanistic culture for instance will allow individuals to perform their jobs. Therefore, minimum criteria has to be set in order to ensure competent logisticians in logistics workforce. In relation to this, knowledge and skills are perceived as crucial factors to ensure logistics firms as a

whole to stay competitive, especially in the most challenging 21st century (König, Caldwell, & Ghadge, 2019). Current knowledge and skills are required for 'specialized supply chain skills and knowledge' such as supplier relationship management and management, material management, metrics, and market knowledge (Ellram, and Murfield, 2019). In terms of relationships, Flöthmann, Hoberg, & Gammelgaard (2018) differentiated the terms skills, knowledge and competency as interdependent between experience-based and context-dependent knowledge.

Meanwhile, Fernie and Sparks (2018) originate future excellence amongst the logisticians can be achieved by closing the gap between current capabilities (managerial skills and competencies for logistics and SCM managers) are required. Training and qualifications are important in producing a quality and competent workforce. These training are ranging from vocational, executive, undergraduate and up to post graduate levels. Besides, managing global business issues and specifically in logistics firms are crucial. Therefore, courses in the logistics programs need to be executed in practical more compared to theoretical. Their findings by Chepchirchir, Omillo, & Munyua (2018) indicated that the most general training or courses received by logistics low level managers were from vocational, colleges and universities.

Researchers in logistics education have conducted a longitudinal study regarding the needs for logisticians competency based on the Business-Logistics-Management (BLM) Model (Murphy & Poist, 2000). The model which originates by Poist 1984 however it was limited skills that are required by logistics managers in ranges of business, logistics and management functions. In human resource management, Way

(2002) pointed out that there is a dire need to probe the demand side of the labour market in order to unveil the knowledge, skills, and competencies needed.

### 3. Methodology

The present study will be conducted quantitatively. Questionnaire has been distributed to 750 randomly low level managers who are currently working in Malaysian logistics firms. However, there are only 223 valid questionnaires were received, representing a response rate of 25.1 percent. A study from Way (2002) provided items for competency. There were 13 attributes from the Way (2002) study. These 13 attributes were measured using a five-point Likert scale. Point 1 was used to measure extremely unimportant while Point 5 was used to measure extremely important.

In addition, information about the demographic profile is shown in Table 1. Referring to the Table, the average of working experience was 11.5 years. In term of age and qualification, majority of respondents were in the range between 25 and 35 years old and hold a first degree which was 46.2 percent. There were more than 37.2 percent of the respondents who worked in a company size of 500 and above employees. Lastly, majority of the respondents worked in local logistics organizations (71.3 percent).

Table 1: Profiles of Respondents (n=223)

Characteristics	Frequency	Percentage
Company category		
Multinational	64	28.7
Local	159	71.3
Company Size		
1-10	18	8.1
11-50	28	12.6
51-100	19	8.5
101-300	43	19.3
301-500	32	14.3

500 and above	83	37.2
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Age Group		
Below 25	81	36.3
25-35	127	57.0
36-45	12	5.4
Above 45	3	1.3
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Education		
High School	22	9.8
Diploma	98	44.0
Degree	103	46.2

Descriptive statistics was employed to answer research question pertaining on items influenced the most and the least importance for logistician who were low level manager. Mean and standard deviation were used for assessing the most and the least importance. Exploratory factor analysis (EFA), using principal components analysis and varimax rotation as described by Hair, Black, Babin and Anderson (2010) was performed on these 13 items. Items later were grouped in factor analysis, and further analyzed in for determining any statistically significant relationship which existed between the items and the selected demographic variables. The selected demographic variables were respondent's working experience, company size and company category. This was done using t-tests.

#### 4. Findings

Table 2: Mean Score in Descending 13 items competency

Items	Mean	SD
Logistics Skill	4.40	0.63
Understanding logistics Industry	4.39	0.67
Innovation and creativity	4.32	0.63
Negotiations Skills	4.30	0.62
Ability to work effectively	4.28	0.66
Prevention of problems	4.26	0.65
Strategic Focus	4.24	0.67
Organizational awareness	4.23	0.67
Ability to approach problems	4.23	0.64
Global management knowledge	4.23	0.69
General knowledge	4.16	0.66

Sensitivity and consciousness on	4.06	0.70
logistics professional image		
Leading and mobilizing others	4.05	0.72

Table 2 presents the mean scores for the 13 attributes in descending order from highest to lowest. Respondents rated all the 13 attributes as "important" (maximum mean= 4.40; minimum mean = 4.05). According to respondents, the most important competency for the low level manager was logistics skills, with a mean score of 4.40. The next important competency was an ability to understand the logistics industry itself (mean = 4.39). The third highest rated item, with an average rating of 4.32, was innovation and creativity.

The least important of the 13 competency attributes was leading and mobilizing others with a vision of the direction for the logistics function (mean = 4.05). However, this finding was contrast when compared to other study. A study from Way (2002) indicated that this item had the highest mean score among all the competency attributes. The argument was that respondents from Way (2002) were all top managers. In addition to that, there were previous studies that indicated the role as top managers was to lead and mobilize subordinates (for examples see Martin et al., 2005; Cable & Judge, 2003). Respondents in the present study focused only for the low lever managers which perceived item 13 differently (Table 1).

Sensitivity and consciousness about one's image was ranked next-to-last (mean = 4.06). Again, when compared with the Way's study, respondents perceived this item as very important. Furthermore, the present study also showed contrast findings from Bove, Pervan, Beatty and Shiu (2009). Bove et al. (2009) showed that an image of a worker was significantly influences customer satisfaction in services industry.

Table 3: Exploratory Factor Analysis for 13 Items

Factor 1	Factor 2
Problem Solving	Logistics skills
Professional Image	Global management knowledge
Ability to approach problem professionally	Understanding business
Teamwork	
Negotiations	Understanding the logistics Industry
Strategic Focus	General knowledge- Finance, Sales, Marketing and information systems
Innovation and Creativity	Leading and mobilizing subordinates

The EFA results were shown in Table 3. In this study, the EFA was conducted by assigning a theme to each and every factor. This method was based on the study from Murphy and Poist (1998). The Kaiser-Meyer-Olkin measure of sampling adequacy for all items was .90, which indicated a good variable selection for factor analysis. From this analysis, there were two factors emerged. Factor 1 grouped the “management knowledge and skills” while Factor 2 pooled the combination of “logistics-and-business knowledge and skills”. These two groups appeared in the previous studies done by Murphy and Poist (1998; 2007). Table 3 showed the EFA results for this study. Item problem solving in Factor 1 was clearly similar with items problem-solving ability in Murphy and Poist (2007) study. However, the respondents used in the Murphy and Poist (2007) study were logisticians without segregating the managerial level. However, item global management knowledge in Factor 2 did not match with any items from the Murphy and Poist study. This finding was also against with the studies (see Dischinger et al., 2006; Mangan & Christopher, 2005). These previous studies had indicated the

importance of logisticians to acquire knowledge in global management perspective.

The results from EFA indicated that 43 percent of variance were explained for “knowledge and skills of management” dimension compared to only 9 percent of variance were explained for “knowledge and skills of business and logistics” dimension. Meaning, respondents perceived their knowledge and skills were inclined towards management rather than the business itself. This suggests that respondents from the low level manager position perceived knowledge and skills benefited them to plan, organize, lead and control their areas of supervision.

In an effort to explore whether the respondents can be differentiated by the above factors (Factor 1 = management knowledge and skills; Factor 2 = logistics- and-business knowledge and skills), factor scores were used as inputs for t-tests across selected demographic variables (respondent’s working experience, position, company size, and company category). The results indicate a statistically significant difference between Factor 1 and company category while others are not. The results suggest that the respondents from multinational and local companies perceived Factor 1 (management knowledge and skills) items differently ( $t = 2.65$ ;  $p$  value = .01, significant at .05 level). Percentage variance explained by 52 percent of the above two factors (Factor 1 = 43 percent and Factor 2 = 9 percent)

## 5. Discussion and Conclusion

Main two findings that develop from this study are the important elements of competency for Malaysian logisticians. The present study t-tests and ANOVA did not show any indication statistically on significant mean differences excluding the t-tests for company category.

Demographical factor such as respondent's company category do influence the importance of competency in logistics operation. Chatman, Polzer, Barsade and Neale (1998) argued that there is a need to focus on specific differences in how demographically diverse organizational members work. In the case of mean ranking, item "leading and mobilizing others" was indicated as the lowest ranking. However it was still perceived as important (mean= 4.05) attributes to competency.

Secondly, respondents as logistics practitioners perceived that a competent logistician must acquire knowledge and skills of management, business and logistics. These knowledge and skills are grouped into two dimensions: i) "knowledge and skills of management", and ii) "knowledge and skills of business and logistics". Previous studies have indicated the importance of these two dimensions in a Business-Logistics-Management (BLM) Model (Murphy & Poist, 2007; 2000; 1993). The present study, the dimension of "knowledge and skills of management" emerged as the primary dimension for competency.

The third highest rated item was innovation and creativity. According to Flint, Larson, Gammelgaard and Mentzer (2005), employees do practice innovation in order to create a work value which would lead to customer satisfaction in logistics operation.

This study provides some directions to the above stakeholders in identifying where they should be concentrating their efforts in terms of preparing as well as developing future competent logisticians. The findings in this study have implications for stakeholders in Malaysian logistics industry. Dazmin (2009) pointed out that logistics practitioners, higher education institutions which offer logistics programmes,

logistics professional associations, and Malaysian government are the main stakeholders.

For instance, higher education institutions offers logistics programme must include modules and courses that able to provide knowledge and skills for management, business and logistics learning outcomes. The present study also suggests for higher education ministry to design curricular that offers exposure in the area of knowledge and skill management, logistics and business. The present study also explored new problem arise with lack of training and suitable courses provided to future logisticians.

As for employers, the present study can be used as a benchmark in terms to its recruitment and development of logisticians. For instance, knowledge and skills relating to management, logistics and business will be tested among the candidates to ensure competent logisticians obtained during recruitment. Logisticians hired must have ability to demonstrate their competency for effective and efficient work (Sangka, Rahman, & Jie, 2018).

Furthermore, it is highly recommend for future researcher to adopt more sophisticated multivariate analysis such as (1) Structural Equation Modeling (SEM) or Confirmatory Factor Analysis (CFA) to obtained greater fitness subjective evidence.

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