The Role of Human Resource Competency in Improving Logistic Performance

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Abstract. This study discusses the extent of the role of human resource competencies in improving logistics performance. Along with intense competition in the business world and the emergence of technology, customer demands are also increasingly high. Customers demand responsiveness, innovation and flexibility. Aside from that, human resource competency is seen from the variables of knowledge, skills and attitude whether it gives a high response to the improvement of logistics performance. Data analysis was performed using the structural equation model (SEM) in the model and testing the hypothesis. The results showed that the independent/exogenous variables had contributed to the improvement of logistics performance.

1. Introduction

Logistics in general is part of the supply chain process that functions to plan, implement, and control effectively and efficiently the process of storing, managing the flow of goods, and all related information from the starting point (point of origin) to the point of consumption (point of consumption) for can meet customer demand at the lowest cost [1]. Logistics according [2] to get the right goods, at the right time, with the right amount, the right conditions, at a reasonable cost. In a company and customer relationship must send goods in accordance with the wishes of consumers to the right place, the right time and the right circumstances. Since logistics always involves elements of suppliers, manufacturers, distributors and customers, logistics distribution includes the efficient delivery of goods needed by customers.

Logistics issues have been reviewed by several previous researchers stating that HR has a significant negative effect on business development [3] states that improving logistics performance needs to pay attention to the level of competence and quality because competence and quality greatly affect delivery time and work processes. However, the researcher suggests that logistical competence is not enough to measure performance only from skill competency but other competencies related to logistics need to be developed and are needed in each work unit so that it can affect company performance. Thus further research whether by developing HR competency indicators apart from skills competency can improve logistics performance.

Overcoming logistical problems needs to improve the timeliness of delivery, namely the cooperation and integration of the logistics manager. The potential that has been greatly developed is supported by the birth of the electronic-based industry era 4.0, which is an effort to accelerate and optimize e-commerce to reduce the low on time delivery. The 2017-2019 e-commerce roadmap provides direction and steps for preparation and implementation based on a series of electronic devices and procedures [4]. In this case, the implications of globalization of human resources are apparently still not given proportional attention. The role of humans in supporting the implementation functionally is very important so that many companies conduct training and human resource development programs in response to anticipating a rapid environmental change. In connection with the problems above this study discusses the extent of the role of HR in improving logistics performance.
Competence is a combination of knowledge, skills, attitudes, and other personal characteristics needed to achieve success in a job, which can be measured using agreed standards, and which can be improved through training and development [5]. Competence is an ability to carry out or carry out a job or task based on skills and knowledge and is supported by the work attitude required by the job. Competence shows the skills or knowledge that are characterized by professionalism in a particular field as the most important and superior in certain fields [6].

From the definition above it can be concluded that Competence is a combination of knowledge, skills, attitudes, and personal characteristics needed to achieve success in a job, which can be measured using agreed standards. Porter [7] main goal in logistics highlights the improvement and innovation to produce the nation’s competitiveness. To measure logistics performance is one of the highest priorities so that it brings challenges for every company.

2. Materials and Method
The study was conducted at the SMEs of the city of Dumai which were registered with the Department of Cooperatives from 7 districts namely Dumai Kota, West Dumai, East Dumai, South Dumai, Sembilan River, Kampung Pinang and Bukit limur. Based on the population of the study where the population of 171 MSMEs, the population will be sampled by 171 respondents. Data processing using the help of the Amos v.24 program with the aim to calculate the magnitude of influence between the free latent variable (exogenous) against the latent dependent variable (endogenous). SEM is useful for examining the size of direct and indirect effects as well as the total effect of exogenous variables on endogenous variables.

2.1. Human Resource Competencies
Knowledge of human resource competence is knowledge that must be possessed by someone to create a competitive advantage in winning competition in the company. Competence can be interpreted as a basic characteristic of someone who influences the way of thinking and acting, which can make generalizations in facing the system and can last long enough in the sense of the human self. According to Ref. [8], characteristics of competencies are:

1. Skills
   The ability to be able to carry out certain physical and mental tasks
2. Knowledge
   An information that a person has, especially in a specific field. Knowledge is a very complex competency.
3. Self Concepts (Self Concepts)
   The concept of self is the attitude or value, or self image of people. Self-concept that is all ideas, thoughts, beliefs and convictions that individuals know about themselves and influence individuals in dealing with others.
4. Motive
   What is consistently thought or desires that cause action. What drives behavior that leads and is chosen towards certain activities or goals.
5. Traits
   Physical characteristics and reflections that are consistent with the

Knowledge and skill competencies tend to be more visible and relatively on the surface as one of the characteristics possessed by humans. Components of Self-Concepts and trait, and motives are more hidden and are at the central point of someone’s personality. The core competencies are motives and attitudes that are difficult to value and develop. While self-concept is between motives and attitudes.

Attitudes and values such as self-confidence can be changed through training or positive development. Because of the difficulty of assessing motives and attitudes and meditating on self-concepts [8] formed competencies with three characteristics namely knowledge, skills and personal self concepts. Based on the literature review relating to human resource competence so that there are three variables taken from the opinion of [6,8,9] are:

1. Knowledge, consisting of inventory, warehousing and procurement indicators
2. Skill, consisting of indicators of initiative, connectivity and control
3. Attitudes, commitment indicators, timely, communicative and trust
2.2. Logistics Performance Competencies

Logistics performance is the level of efficiency, effectiveness, and differentiation, level of service, flexibility, responsiveness, logistics costs and differentiation associated with achieving logistics performance activities. Through the dimensions of efficiency, effectiveness, service level, flexibility, responsiveness, logistics costs and differentiation are the first steps of the three dimensions developed by [3, 10]. In this author combines the seven dimensions used, namely efficiency, effectiveness, service level, flexibility, responsiveness, logistics costs and differentiation [11] as below:

1. Efficiency
Efficiency refers to how well the logistics resources are utilized. This dimension is to assess logistics performance in various logistics activities such as orders being sent on time, and order cycle times [10].

2. Effectiveness
Effectiveness is aimed at seeing the extent to which logistics can be achieved. This perception looks at the level of actual logistical costs that are budgeted whether it has matched their actual performance over the past year in various fields such as transportation, warehousing and inventory [10].

3. Service Level
Can build two-way communication in increasing customer satisfaction, reducing complication levels and improving memory (customer retention). Better and friendlier communication in practice must be promoted in logistics as better business relationships can be developed in encouraging better partners and long-term contracts.

4. Flexibility
The ability to meet customer demand at an agreed time in improving logistics performance. The time difference shows one of the flexible performance criteria. Able to adjust effective requests in various situations, and appreciate differences and views that conflict with an issue, and equate the opinions of different colleagues or groups [3].

5. Responsiveness
The ability and alertness in providing services in handling complaints and speed in handling transactions in the process of fulfilling the company's competitiveness.

6. Logistics Costs
Cost is one of the main dimensions assessed in logistical performance. Logistics costs include transportation costs and inventory costs. The level of efficiency is also influenced by variables such as costs, time spent providing services and the level of risk [3].

7. Differentiation
Perceived differences in logistics performance when evaluated against competitors. This perception of logistical performance can be known after being compared with competitors [10].

Based on the study of literature so the model is constructed as Figure 1.

**Fig. 1. Conceptual Thinking Development Model**
Hypothesis Formulation:
The hypothesis formulation is based on the concept model in Figure 1:
1. Knowledge Hypothesis Formulation with Human Resources Competence
   H1: Knowledge Factor has a positive effect on Human Resources Competence
2. Skill Hypothesis Formulation with Human Resources Competence
   H2: Knowledge Factor has a positive effect on Human Resources Competence
3. Formulation of the Attitudes Hypothesis with Human Resource Competencies
   H3: Human Resources Competency Factors have a positive effect on Logistics Performance
4. Formulation of Human Resources Competency Hypothesis with Logistics Performance
   H4: Human Resources Competency Factors have a positive effect on Logistics Performance

3. Results and Discussion
To find out the measuring instrument used is done by testing the validity. Each instrument question is said to be valid if the t-count is greater than or equal to the t-table, and vice versa. For validity calculations manually not done and the calculation is fully assisted by the Amos version 24 program. Based on the product moment r table, where the number of initial test data is 30, then the degree of freedom (dk = 30 - 2 = 28), with a confidence level of 95%, an r value of 0.362 (rcritical = 0.362) is obtained. All processed data are valid and reliable.

3.1. Match Analysis
Analysis of the level of compatibility of the data with the model is carried out through several stages:
   a. Match analysis of the whole model (overall model fit)
   b. Match analysis of measurement models (measurement model fit)
   c. Match analysis of structural models (structural model fit)
Recapitulation of calculation results in Table 1.

| GOF Measure                             | Level Agreement | Estimation Result | Statement  |
|-----------------------------------------|-----------------|-------------------|------------|
| Chi-square                              | Small Value     | 829.185           | good fit   |
| Goodness of Fit Index (GFI)             | ≥ 0.90          | 0.896             | Marginal fit |
| Probability                             | ≤ 0.05          | 0.000             | good fit   |
| Root Mean Square Error of Approximation (RMSEA) | ≤ 0.08        | 0.012             | good fit   |
| CMIN / DF                               | < 5             | 1.005             | good fit   |
|                                         | < 2             |                   |            |
| Non-Centrality Parameter (NCP)          | Small value< Chi-square | 224.436 | good fit   |

|                              | ≥ 0.90 | 0.901 | good fit   |
|------------------------------|--------|-------|------------|
| Adjusted Goodness of Fit Index (AGFI) | ≥ 0.90 | 0.900 | good fit   |
| Normed Fit Index (NFI)       | ≥ 0.90 | 0.920 | good fit   |
| Incremental Fit Index (IFI)  | ≥ 0.90 | 0.955 | good fit   |
| Comparative Fit Index (CFI)  | ≥ 0.90 | 0.928 | good fit   |
| Parsimonious Normed Fit Index (PNFI) | ≥ 0.90 | 0.884 | Marginal Fit |
| Parsimonious Goodness of Fit (PGFI) | ≥ 0.90 | 0.892 | Marginal Fit |

There are 10 GOF sizes showing good compatibility, 3 GOF sizes showing marginal fit. This condition indicates that although there are several GOF measurements that show marginal compatibility,
most GOF measurements show a good fit, so it can be concluded that the overall fit of the model is Good fit (Table 1).

3.2. *Match analysis of measurement models (measurement model fit)*

All loading factors are standard values of indicator variables (≥ 0.5). Based on the statement that the validity of all manifest variables to latent variables is good. After an analysis of the construct validity is carried out, then an analysis of the construct reliability is conducted. The results of calculations of the construct reliability (CR) and variance extracted (VE) that have been done.

| Measurement               | CR  | VE   | Conclusion |
|---------------------------|-----|------|------------|
| Knowledge                 | 0.875 | 0.566 | Good       |
| Skill                     | 0.884 | 0.537 | Good       |
| Attitudes                 | 0.912 | 0.512 | Good       |
| Logistics Performance     | 0.813 | 0.578 | Good       |

3.3. *Match Analysis of Structural Model Fit*

The results of the calculation of the latent variable parameter values in the structural model significantly have a positive influence on the endogenous latent variables. Table 3. summarizes the results of the evaluation of the structural model.

| Path         | t-count | Value Parameter | Probability | Conclusion               |
|--------------|---------|-----------------|-------------|--------------------------|
| KSDM→KNOW    | 2.847   | 0.587           | 0.016       | Positive and significant |
| KSDM→SKILL   | 2.625   | 0.549           | 0.009       | Positive and significant |
| KSDM→ATTID   | 2.572   | 0.569           | 0.021       | Positive and significant |
| KL→KSDM      | 2.421   | 0.583           | 0.017       | Positive and significant |

3.4. *Evaluation of Research Hypotheses*

Hypothesis 1: t-value (critical ratio value) = 2.847> 1.96 is in the region of acceptance and probability 0.016 <0.05, it can be stated that H1 is accepted, ie Knowledge has a positive and significant effect on the competence of human resources

Hypothesis 2: t-value (critical ratio value) = 2.625> 1.96 is in the region of acceptance and probability 0.009 <0.05, so it can be stated that H2 is accepted, ie Skill has a positive and significant effect on Source Competency human power

Hypothesis 3: t-value (critical ratio value) = 2.572> 1.96 is in the region of acceptance and probability 0.021 <0.05, then it can be stated that H1 is accepted, ie Infrastructure has a positive and significant effect on Hypothesis 3: The value of t-count (critical ratio value) = 2.431> 1.96 is in the region of acceptance and probability 0.019 <0.05, so it can be stated that H1 is accepted, that is the Atitudes has a positive and significant effect on Human Resources Competency
Hypothesis 3: t-value (critical ratio value) = 2.421 > 1.96 is in the region of acceptance and probability 0.017 < 0.05, then it can be stated that H1 is accepted, that is Human Resources Competency has a positive and significant effect on Logistics performance.

4. Conclusion

4.1. Conclusions
1. The most influential variable in improving logistics performance based on the results of analysis and evaluation is knowledge variable with a factor coefficient of 0.587, while Human Resources Competence with a factor coefficient of 0.583, and the hypothesis can be accepted and has a positive effect on logistics performance.
2. The results of the study indicate that the competence of human resources with variables of knowledge, skills and attitudes significantly influences the logistics performance. Based on the value of direct and indirect influence that human resource competence contributes knowledge of 0.875, skills of 884 and attitudes contribute 0.912 to logistical performance.
3. The role of human resource competencies in improving logistics performance is quite good from the level of analysis of the suitability of all data and the suitability of the measurement model.

4.2. Recommendation
1. The next researcher is expected to be able to develop logistical performance measurements by adding variables other than human resource competencies that can support facility use policies. Besides that, it can develop other indicators that affect logistics performance.
2. The results of this study still allow further research related to logistical performance to be implemented in an effort to improve company performance.

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