

THE ASSESSMENT OF FACTORS AFFECTING LOGISTICS SERVICE COMPETENCIES OF ENTERPRISES IN DONG NAI PROVINCE

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ABSTRACT

Vietnam became a member of the World Trade Organization (WTO) and Trans-Pacific Partnership (TPP). Vietnam has trade goods and rapid growth, resulting in the development of some service sectors concerned. Along with the development of the productive forces and the invaluable support of the revolution in science and technology in the world, the volume of goods and products produced material date more. Due to the gap in the traditional field of competition as the quality of goods or shrinking prices, manufacturers have switched to competing on inventory management, speed of delivery; streamline process material and energy flows and semi-finished products.

This paper conducted during the period from June 2015 to June 2016. Besides, the research results showed that there were 300 enterprises that interviewed and answered about 18 questions (but 285 samples processed). The researchers had analyzed Cronbach's Alpha test, the result of KMO analysis used for multiple regression analysis. The results showed that there were three factors, which included of factors following enterprises' process (EP), training and reward policy (TRP), distribution support (DS); information and communication technology (ICT) affecting the logistics service competencies of enterprises in Dong Nai province with significance level 5 %.

Keywords: Logistics, Logistics service, competency and LHU.

Introduction

Logistics services include many elements and these elements form the logistics chain (logistics chain). Specifically we can give some basic elements required for logistics services as follows: (1) Transport factors: In the logistics chain elements, the forwarding is the most important factor and often accounts for more than 1/3 of the total cost of logistics operations; (2) Marketing elements; (3) Distribution factor; (4) Managing element and (5) Other factors: warehouse, workshop, spare parts and repairs, technical documentation, test equipment and support, technical documentation Group "Friends of Logistics" in the WTO classification of weak basic elements of logistics services including: (1) The main logistics (logistics service core): essential services in logistics operations and need to conduct liberalization to promote mobility services include: translation cargo services, warehousing services, transport agency services and other support services. (2) Service related to transportation: the relevant services to provide efficient integrated logistics services where as well as providing an enabling environment for the operation of 3rd party logistics development includes freight (sea, inland waterway, air, rail, road and vehicle rental no operation) and other services related to logistics services including analytical services and technical testing, delivery services, commission agents' services, wholesale services and retail. (3) The service secondary or complementary nature (non-core logistics service): consists of computer services and related to computers, packaged services and management consulting services. Within the framework of ASEAN economic cooperation, the countries of members agreed to build fast Integration Roadmap logistics services in ASEAN for signature at the informal Meeting of the ASEAN economic Ministers (AEM Retreat).

According to the logistics markets in Vietnam and the Southeast Asian region boast great potential, and Dong Nai's stable investment climate makes it an ideal base for the group. The center's operation will help create many jobs for local workers, and develop the province's service industry. From the above, the authors researched subject "*THE ASSESSMENT OF FACTORS AFFECTING LOGISTICS SERVICE COMPETENCIES OF ENTERPRISES IN DONG NAI PROVINCE*". It is a paper for the development of logistics services in the future.

Literature review

The concept of logistics: Logistics is generally the detailed organization and implementation of a complex operation. In a general business sense, logistics is the management of the flow of things between the point of origin and the point of consumption in order to meet requirements of customers or corporations. The resources managed in logistics can include physical items such as food, materials, animals, equipment, and liquids; as well as abstract items, such as time and information. The logistics of physical items usually involves the integration of information flow, material handling, production, packaging, inventory, transportation, warehousing, and often security.

In military science, logistics is concerned with maintaining army supply lines while disrupting those of the enemy, since an armed force without resources and transportation is defenseless. Military logistics was already practiced in the ancient world and as modern military have a significant need for logistics solutions, advanced implementations have been developed. In military logistics, logistics officers manage how and when to move resources to the places they are needed.

Service is an economic activity where an immaterial exchange of value occurs. When a service such as labor is performed the buyer does not take exclusive ownership of that which is purchased, unless agreed

upon by buyer and seller. The benefits of such a service, if priced, are held to be self-evident in the buyer's willingness to pay for it. Public services are those that society (nation state, fiscal union, regional) as a whole pays for, through taxes and other means.

Using resources, skill, ingenuity, and experience, service providers' effect benefit to service consumers. Thereby, service providers participate in an economy without the restrictions of carrying inventory (stock) or the need to concern themselves with bulky raw materials. Furthermore, their investment in expertise does require consistent service marketing and upgrading in the face of competition.

Logistics service providers (LSPs) routinely engage in a large array of operations. These routinized operations are socially complex, causally ambiguous, and woven into the fabric of organizations. They are a potent source of rent-generating mechanisms, which form the backbone of flexible and agile practices vital to effective logistics and supply chain (L&SC) service operations.

Logistics activities and fields:

Procurement logistics consists of activities such as market research, requirements planning, make-or-buy decisions, supplier management, ordering, and order controlling. The targets in procurement logistics might be contradictory: maximizing efficiency by concentrating on core competences, outsourcing while maintaining the autonomy of the company, or minimizing procurement costs while maximizing security within the supply process.

Distribution logistics has, as main tasks, the delivery of the finished products to the customer. It consists of order processing, warehousing, and transportation. Distribution logistics is necessary because the time, place, and quantity of production differs with the time, place, and quantity of consumption.

Disposal logistics has as its main function to reduce logistics cost(s) and enhance service(s) related to the disposal of waste produced during the operation of a business.

Reverse logistics denotes all those operations related to the reuse of products and materials. The reverse logistics process includes the management and the sale of surpluses, as well as products being returned to vendors from buyers. Reverse logistics stands for all operations related to the reuse of products and materials. It is "the process of planning, implementing, and controlling the efficient, cost effective flow of raw materials, in-process inventory, finished goods and related information from the point of consumption to the point of origin for the purpose of recapturing value or proper disposal. More precisely, reverse logistics is the process of moving goods from their typical final destination for the purpose of capturing value, or proper disposal. The opposite of reverse logistics is forward logistics."

Methods of research

This paper had been used two methods: (1) Quantitative research methods to survey enterprises in selected the enterprises of logistics services in Dong Nai province. The results obtained from quantitative research processed by SPSS statistical software version 20.0. (2) Quantitative research is the collection of numerical data and exhibiting the view of relationship between theory and research as deductive, a predilection for natural science approach, and as having an objectivist conception of social reality. Therefore, this specific form of research uses the quantitative data to analysis. In addition, preliminary investigations, formal research is done by using quantitative methods questionnaire survey of 300

enterprises of logistics services in Dong Nai province who interviewed and answered about 18 questions. The reason tested measurement models, model and test research hypotheses.

This paper had been used reliability test: Bryman and Cramer (1990) suggested that, it is just fine when Cronbach's alpha is 0.8 or above 0.8, while Nunnally (1978) stated that it is still acceptable with the value of 0.6, especially for initial investigation like in this research. Therefore, in this research, the value is confirmed when it is greater than 0.7. besides, Data collected were tested by the reliability index excluding variables with correlation coefficients lower < 0.30 and variable coefficient Cronbach's alpha < 0.60 , factor analysis explored remove the variable low load factor < 0.50 . The hypothesis was tested through multiple regression analysis with linear Enter method.

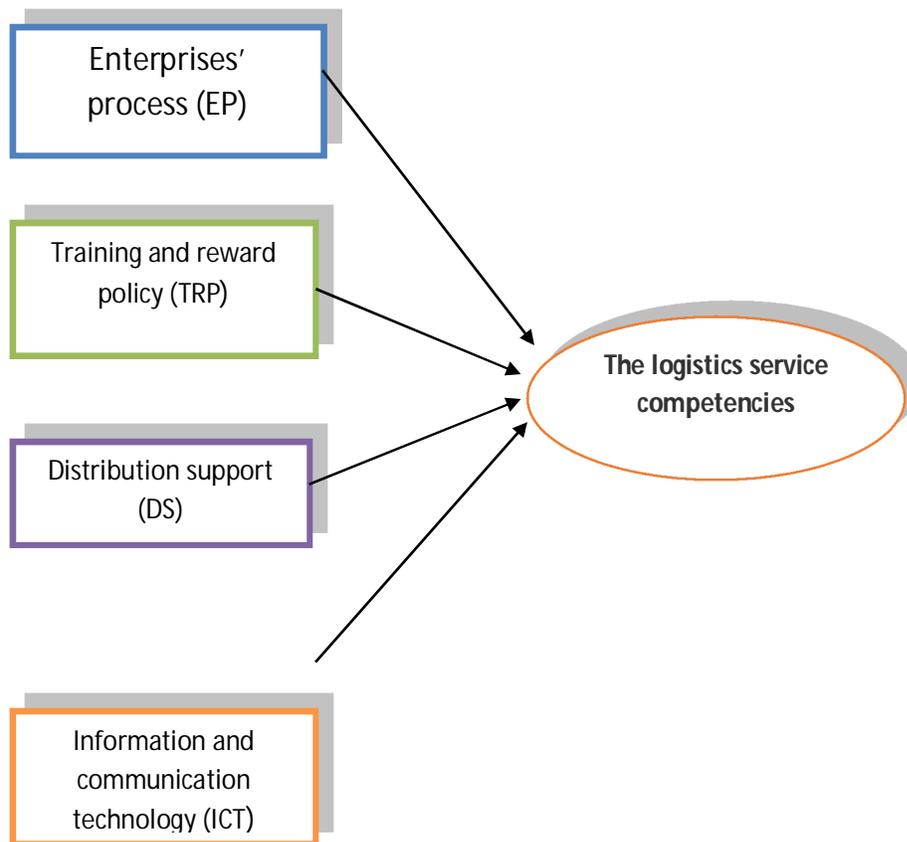


Figure 01: Proposed research model for factors affecting the logistics service competencies

Hypothesis

- H₁:** There is a positive relationship between enterprises' process (EP) and the logistics service competencies.
- H₂:** There is a positive relationship between Training and reward policy (TRP) and the logistics service competencies.
- H₃:** There is a positive relationship between Distribution support (DS) and the logistics service competencies.
- H₄:** There is a positive relationship between Information and communication technology (ICT) and the logistics service competencies.

Research results

Table 1: Cronbach's Alpha test for factors affecting the logistics service competencies

1. ENTERPRISES' PROCESS (EP)	Mean	Std. Deviation	Cronbach's Alpha
EP1: Dong Nai Enterprises utilize time-based logistics solutions like continuous replenishment, quick response and Just-in-time to support customers	3.94	.959	0.935
EP2: Dong Nai Enterprises are capable of providing shorter or smaller lot size shipments wherever possible	3.89	.972	
EP3: Dong Nai Enterprises have in place operation procedures to provide customers with door-to-door delivery services	3.39	1.100	
EP4: Dong Nai Enterprises have in place processes to support flexible scheduling solutions needed by our clients	3.66	1.297	
EP5: Dong Nai Enterprises have in place processes to meet changing customer requirements at short Notice and have in place operation procedures for express deliveries	3.34	1.351	
2. TRAINING AND REWARD POLICY (TRP)	Mean	Std. Deviation	Cronbach's Alpha
TRP1: Dong Nai Enterprises provide induction programs to new employees	3.53	.866	0.898
TRP2: Dong Nai Enterprises provide job-related training to employees	3.60	.893	
TRP3: Dong Nai Enterprises provide career development opportunities to employees	3.54	.902	
TRP4: Dong Nai Enterprises offer attractive salaries to our employees and Dong Nai Enterprises offer attractive welfare packages to our employees	3.49	.883	
3. DISTRIBUTION SUPPORT (DS)	Mean	Std. Deviation	Cronbach's Alpha
DS1: Dong Nai Enterprises are capable of providing customers with widespread or extensive distribution coverage	3.01	.876	0.833
DS2: Dong Nai Enterprises supply the transport and distribution network has helped customers achieve cost saving	2.86	1.558	
DS3: Dong Nai Enterprises are capable of providing customers with global distribution coverage	2.76	1.453	
4. INFORMATION AND COMMUNICATION TECHNOLOGY (ICT)	Mean	Std. Deviation	Cronbach's Alpha
ICT1: Dong Nai Enterprises use advanced computerized documentation systems to manage order processing	3.05	1.049	0.879
ICT2: Dong Nai Enterprises use state-of-the-art software to forecast and organize delivery schedules	3.04	1.017	
ICT3: Dong Nai Enterprises compared to our competitors, we invest more on computer hardware and software	3.04	1.031	
5. LOGISTICS SERVICE COMPETENCY (LSC)	Mean	Std. Deviation	Cronbach's Alpha
LSC1: Dong Nai Enterprises are capable of delivering expedited shipments to meet customer needs	3.37	.551	0.943
LSC2: Dong Nai Enterprises are capable of providing rapid response to customer requests	2.37	.552	
LSC3: Dong Nai Enterprises are capable of arranging a flexible delivery schedule to fit with customer's production schedule	4.31	.662	

(Source: The researchers's collecting data and SPSS)

Table 1 showed that there are 18 items and also there were 300 enterprises interviewed (but 285 samples processed): all of variables surveyed Corrected Item-Total Correlation greater than 0.3 and Cronbach's Alpha if Item deleted greater than 0.6 and Cronbach's Alpha is very reliability. Such

observations make it eligible for the survey variables after testing scale. This showed that data was suitable and reliability for researching.

Table 2: KMO and Bartlett's Test the for factors affecting the logistics service competencies

KMO and Bartlett's Test

Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.749
Approx. Chi-Square	3553.448
Bartlett's Test of Sphericity	df
	105
	Sig.
	.000

Total Variance Explained

Com.	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings ^a
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total
1	4.631	30.876	30.876	4.631	30.876	30.876	4.271
2	2.928	19.519	50.395	2.928	19.519	50.395	3.251
3	2.276	15.172	65.566	2.276	15.172	65.566	2.606
4	2.070	13.797	79.363	2.070	13.797	79.363	2.468
5	.745	4.968	84.332				
6	.528	3.518	87.849				
7	.369	2.460	90.310				
8	.327	2.179	92.489				
9	.287	1.913	94.402				
10	.269	1.795	96.197				
11	.186	1.240	97.437				
12	.148	.986	98.423				
13	.104	.692	99.114				
14	.080	.530	99.645				
15	.053	.355	100.000				

(Source: The researchers's collecting data and SPSS)

Table 2 showed that Kaiser-Meyer-Olkin Measure of Sampling Adequacy was statistically significant and high data reliability (KMO = 0.749 > 0.6). This result is very good for data analysis. Table 2 showed that cumulative percentage was statistically significant and high data reliability is 79.363 % (> 60 percentage).

Table 3: Structure Matrix for factors affecting the logistics service competencies

Code	Component			
	1	2	3	4
EP1	.960			
EP2	.937			
EP5	.886			
EP4	.881			
EP3	.839			
TRP1		.891		
TRP2		.878		
TRP4		.877		
TRP3		.855		
ICT3			.906	
ICT1			.898	
ICT2			.885	
DS2				.933
DS3				.876
DS1				.814

(Source: The researchers's collecting data and SPSS)

Table 3 showed that the Structure Matrix for the logistics service competencies had four Components. Component 1 is enterprises' process (X1), Component 2 is training and reward policy (X2), Component 3 is distribution support (X3) and Component 4 is information and communication technology (X4). The logistics service competencies are (Y).

Table 4: Regression Model Summary analysis about the development of logistics services

Model Summary^b

Model	R	R Square	Adjusted Square	R	Std. Error of the Estimate	Durbin-Watson
1	.731	.534	.528		.68721022	2.081

a. Predictors: (Constant), X4, X3, X1, X2

b. Dependent Variable: Y

ANOVA^a

Model	Sum of Squares	df	Mean Square	F	Sig.
1 Regression	151.768	4	37.942	80.342	.000
Residual	132.232	280	.472		
Total	284.000	284			

Coefficients^a

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.	Collinearity Statistics	
	B	Std. Error	Beta			Tolerance	VIF
(Constant)	4.216E-016	.041		.000	1.000		
X1	.398	.042	.398	9.451	.000	.936	1.069
X2	.556	.042	.556	13.349	.000	.958	1.044
X3	.081	.042	.081	1.934	.054	.959	1.043
X4	.362	.042	.362	8.706	.000	.961	1.040

(Source: The researchers's collecting data and SPSS)

Table 4 showed that Adjusted R Square was statistically significant and high data reliability. In addition, Adjusted R Square reached 52.8 %. Results showed that all t value > 2 (Sig < 0.00) was statistically significant and high data reliability. Besides, the regression coefficients were positive. This means that the effects of independent variables in the same direction with the logistics service competencies.

Table 5: Bootstrap for Coefficients

Model	B	Bootstrap ^a				
		Bias	Std. Error	Sig. (2-tailed)	95% Confidence Interval	
					Lower	Upper
(Constant)	4.216E-016	.000	.041	1.000	-.080	.081
X1	.398	2.755E-006	.042	.001	.312	.478
X2	.556	-.001	.041	.001	.478	.642
X3	.081	.000	.038	.038	.003	.154
X4	.362	.003	.041	.001	.283	.441

a. Unless otherwise noted, bootstrap results are based on 1000 bootstrap samples

(Source: The researchers' s collecting data and SPSS)

Table 5 showed that bias of coefficients is very small, nearly 0.00. In statistics, the bias (or bias function) of an estimator is the difference between this estimator's expected value and the true value of the parameter being estimated. An estimator or decision rule with zero bias is called unbiased. Otherwise the estimator is said to be biased. In statistics, "bias" is an objective statement about a function, and while not a desired property, it is not pejorative, unlike the ordinary English use of the term "bias".

Bias can also be measured with respect to the median, rather than the mean (expected value), in which case one distinguishes median-unbiased from the usual mean-unbiasedness property. Bias is related to consistency in that consistent estimators are convergent and asymptotically unbiased (hence converge to the correct value), though individual estimators in a consistent sequence may be biased (so long as the bias converges to zero); see bias versus consistency.

Conclusions and recommendations

Conclusions

This paper conducted during the period from June 2015 to June 2016. Besides, the research results showed that there were 300 enterprises that interviewed and answered about 18 questions (but 285 samples processed). The researchers had analyzed Cronbach's Alpha test, the result of KMO analysis used for multiple regression analysis. The results showed that there were three factors, which included of factors following enterprises' process (EP), training and reward policy (TRP), distribution support (DS); information and communication technology (ICT) affecting the logistics service competencies of enterprises in Dong Nai province with significance level 5 %.

Recommendations

Recommendation 1: enterprises' process

Enterprises invest infrastructure elements and institutional framework is considered additional variables affect the development of a sector in general but for the logistics industry, the infrastructure and the institutional framework for logistics factor main, directly constitute direct logistics system and affect the development of the national logistics because it determines the speed, cost and capacity of logistics operations satisfy customer needs - those that primarily target logistics towards.

Recommendation 2: training and reward policy

During recent years, in many areas, Vietnam's human resources advantages only cheap but not really have the advantage of proficiency. Logistics is also a new industry in Vietnam and it has pretty strict requirements for manpower in the industry. The weaknesses of human resources Vietnam if viewed on demand for a logistics system is ground level is not high, discipline and working styles are very unprofessional, does not guarantee stability, health only physically inadequate. Therefore, when applying lessons of human development in Vietnam, in addition to raising the level of human resources, it is best Vietnam need skills training, discipline and working style fit practices of logistics.

The formation of the AEC in 2015 is both a goal and motivation for the perfect organization of the flow of goods, storage, transportation and transmission of relevant information through the supply contract logistics services. The implementation of the Roadmap for Integration of logistics will help Vietnam develop the logistics services industry catch up with other countries in the region, contributing to building ASEAN into a center of global logistics services, promote the formation of the common market ASEAN in 2015

Recommendation 3: distribution support

Enterprises continue to set up international subsidiary operations to find opportunities for growth. These subsidiary operations include sales and distribution offices, small operating divisions, customer service units, and joint ventures. They often need to develop their own logistics and distribution mechanisms to receive inbound shipments, store inventory and deliver orders to their customers.

Unlike larger operations, a vast majority of these subsidiaries still use manual methods such as spreadsheets and emails to manage their inbound logistics, warehousing, and distribution processes, which can be inefficient and lead to higher warehouse management and transport costs. Using manual methods also prevents these processes from being integrated with the organizations' order management and customer service processes, leading to potentially higher expediting and inventory carrying costs, and less effective shipment management, which affects customer delivery metrics.

Recommendation 4: information and communication technology

Enterprises invest the modern synchronization of infrastructure, development of the legal framework, the application of information technology is limited, must be resolved through the agent of foreign companies... also limited to the development of the logistics industry in Vietnam. Quality logistics services in Vietnam is still low. Vietnam No public enterprises capable of providing global logistics services in full or provide full service "Door to Door", primarily acting as an agent or acting supplier for satellite service foreign logistics enterprises such as customs declaration, rental vehicles, warehouses... very few business organizations manage the entire business process logistics by mode. Compared to Singapore, Malaysia and Thailand, Vietnam logistics needs the investment and pay more attention to improve the indicators, particularly on customs procedures.

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