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Maritime Transport Logistics Service Capabilities Impact On Customer Service And Financial Performance: An Application In The Turkish Maritime Sector[1]

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Abstract

Due to the globalization of economy, Maritime logistics play a very important role in the field of logistics. The reason for working in this framework is to determine the service capabilities of maritime logistics and to identify the relationships between these capabilities and the company's performance. For these purposes, research models and hypotheses have been developed based on the literature of business managment, logistics and maritime business managment. The research model and hypotheses have been analyzed using the data obtained from the survey of 377 managers of maritime transport companies, who operate freight forwarders in Turkey.

According to the research findings, it was found that there is a significant relationship between maritime logistics service capabilities and financial and customer service performance. In addition, it has been revealed that the ability of information intergration from maritime logistics service capabilities has the greatest influence on financial and customer service performance, and also it has become clear that the speed and reliability of maritime logistics service capabilities have no effect on financial and customer service performance.

Keywords: Maritime Logistics, Maritime Business, Maritime Logistics Service Capabilities

1. Introductıon

Logistics managment aims at delivering goods and services that people need at the right time and place without any damage. In this sense, transportation services are the most important part of the logistics system, they ensure that the products are avialable at the right time, place and at the right cost. Therefore, logistics managment are among the factors that create competitive advantage in businesses.

[1] This article is produced from Murat YORULMAZ's PhD thesis.

Logistics services, gain functionality with transportation providing location and time, thus transportation plays an essential role in the success of the entire logistics process. Under the influence of international trade and global economy, transportation especially the most preffered maritime transportation, is an important logistic and transportation type in the global supply chain managment.

Out of the modes of transportation, according to sea transportation characteristics, sea transportation connects international markets. It is a type of transportation that does not have an alternative in terms of transportation costs, ensuring that industrtial raw meterials and cargo of all volume can be transported from one place to another in one voyage. In this context, sea transportation has made important contributions to the development of logistics and continues to do so.

Maritime transport arranges the transportation network between the sender and the sent cargo, as they are responsible for the handling, protecting and transportation of the cargo. At the same time, it serves as a bridge between all the units in the logistics network (for example: customers, suppliers and other channels). If maritime transport is not well intergrated into the entire logistics stream, this may result in additional costs, uncertainty and unecessary waiting. For this reason, from a strategic point of view maritime transportation is considered as an important part of the logistics system.

Maritime transport intergrated in to the logistics process, together with effective logistics flow, brings out the concept of maritime logistics. Maritime logistics has become a matter of attention to the global logistics sector, as it is seen as the most important factor in delivering raw materials, semifinished products or materials to the desired point.

In summary, as commerical activity increases in international markets, demand for maritime logistics services will increase. Thus the maritime logistics service capabilities and sector will develop. Developments in the maritime logistics sector are making international trade easier as well as increasing commercial activity. For this reason, it is important to determine the maritime logistics service capabilities.

The purpose of this study is to determine the maritime logistics service capabilities and to reveal the relationships between these capabilities and the firm performance. For this purpose, an area survey has been carried out on the maritime transport enterprises operating in Turkey.

2. Literature Review

Logistics is defined in the millitary terminology as the movement of vehicles, equipment, ammunation and units. In this sense, logistics is the planning, implementation and organization of a plan or operation in detail. Logistics was first used in effectively and quickly planning and implementing multifaceted services such as roads, communications, weapons, medical supplies, food, beverages, and other materials needed by the armed forces in war time and peace (Sutherland, 2008,p. 1). Maritime logistics can be defined as the planning, implementation and managment of the entire transportation process (maritime transport, port operations and transport organization), including the transportation on oceans. Maritime logistics physical distribution plays a strategically important role in the logistics integration system by prioritizing its role in global logistics.

Maritime transport has a very complex economic structure due to its international activity and being a capital intesive sector (Mitroussi, 2013, p. 229). The development conditions of maritime transport vary according to the economic development stages of each country. These differences include the countries policies, objectives and issues in thier maritime transport sector (Jung and Kim, 2012, p. 135). Maritime logistics plays an important role in the logistics network because of the demand for frieght transport among countries and especially for the global economy.The maritime transport sector has a global logistic network integrator structure and from the operators within this sector, maritime transport operators, port operators and transport operators organizers, which are suppliers of each other, produce maritime transport logistic values according to their location in the logistics network. Maritime logistics was first defined by Panayides (2006) as the process of planning, implementing and managing the information flow of cargo. The concept of integration was heavily emphasized.

Within the scope of Yang, Marlow and Lu (2009) resource-based theory, in 19 maritime transport operators, 30 container ship agents and 74 forwarder companies operating in the container transportation sector in Taiwan, they have studied the relationship between logistics resources, logistics service capabilities, innovation capability and company performance. According to the factor analysis logistics, service capabilities, dimension as a service ability, service reliability ability, information integration through relationship building ability and flexibility ability study reported that logistic resources (information technology system, network resources, company image) influenced positively on both logistics and innovation abilities. Further more logistics resources and innovation abilities have no impact on companies' performance but logistic services capabilities are a positive effect on the companies' performance in addition, maritime transport companies that produce transportation services, forwarders that act as intermediaries for maritime transport operations and shipping agencies have been evaluated together.

The research by Yang, Marlow and Lu (2009) has contributed to the literature because it is the first study to examine the relationships between logistics service capabilities in maritime transport, dimensioning, and firm performance. However in this study, only container transport service providers were considered in the maritime logistics. In addition to this, maritime transport companies that produce transportation services for-business forays that are engaged in maritime transport operations have been evaluated together with forwarding companies and shipping agents. Therefore, it is not clear to which activity area the logistics service capabilities belong to. Business skills can also be differentiated in terms of sectors, according to areas of activity in the same sector and even companies in the same sector with different resources. For this reason, in this study, only maritime logistics service capabilities which produce transportation logistics services, have been evaluated.

According to Yang (2012), it is reported that the most valuable logistic service capability for maritime transport organizers is the reliability, followed by fthe flexibility, value and information service capabilities. It is also important for this study to found out that the dimensions of critical service logistics capabilities are determined in terms of container ship operation and that these capabilities affect company's performance. However, since the sample is made only on forbearer businesses that act as intermediaries in container ship operation and with a small number of subjects, it may not be appropriate to generalize the results in terms of maritime transport logistics.

Capability is a capacity to use financial and non-financial assets of an operator in a coordinated manner and to carry out an activity suitable for the purpose of the enterprise (Ülgen and Mirze, 2010, p.118)Business skills described as the use of the firm's concrete and abstract resources to achieve a specified activity in order to enhance the performance of the operator (Grant, 1991) to have an ability to perform tasks coordinated using organizational resources to achieve the results specified by an operator and the goals they have set out (Helfat and Peteraf, 2003), There are many different approaches to the classification of business capabilities. The most common of these approaches are the functional areas of business and the value chain.

Based on literature, business skills can be classified according to business function as Global, Management, Production, Sales-Marketing, Information System, Learning, Partnership and Logistics Capabilities (Acar and Zehir, 2008). Business skills are the ability of the company to perform better than their competitors in a specified activity or to use resources more effectively (Seviçin, 2006). There for the ability to use resources that an operator has to perform logistics activities can also be defined as logistics capabilities. If a logistic ability is in a logistics operation organization "logistics service capability" if the main field of activity is in the context of a non-logistics operation organization it can generally be expressed as "logisticscapability".

Logistics capability is an attitude, ability, process, knowledge and skill necessary for well performance and competitive advantage in business for the company (Morash, Droge and Vickery, 1996). Logistics capabilities within the business play a key role in integrating businesses in to the global supply chain (Wiengarten et al., 2014). Logistics capabilities are seen as critical capabilities for successful implementation of competitive strategies because of their ability to provide fluidity and lower costs (Daugherty and Pittman, 1995). Logistics capabilities have a significant impact on the competitive advantage of businesses (Li and Dingti, 2010). One of the most important factors creating sustainable competitive advantage in business in global competitive environment is effective logistics management. Improved logistics skills are also needed for effective logistics management. Competitive advantage can be achieved when resources that affect the performance of businesses and people with skills to use them combine at an appropriate level. A company's success is closely related to its ability to turn resources and talents in to higher values than their competitors.

The maritime transport logistics service capability is defined as the ability of maritime transportation companies to organize for physical, economic and organizational integration that reveals maritime transport logistics, the ability to use the resources they have in order to carry out national or international activities in the oceans, seas or inland waters, carrying goods by trade vessels. They are the basic skills that maritime transport companies have developed to provide transportation services. In this study, maritime transportation logistics service capabilities were gathered in for groups from the perspective of carrier. These are; innovation ability, flexibility ability, speed and reliability ability, information integration ability.

Innovation is the ability to make useful idea or practice in logistics services different from the company's current practice (Grawe, 2009). Innovation in logistics services are particularly technology-based (Chapman, Soosay and Kandampully, 2002) and innovations that logistics service providers make in business processes and operations are an important concept in creating customer value and providing customer

satisfaction. Innovation is the development of ability or the adoption of something new from another source (Dougherty, Chen and Ferrin, 2011). Innovation in maritime transport logistics services is the ability to develop new logistics solutions and applications against the rapidly changing customer expectations and wishes, which is a precondition for creating a permanent competitive advantage that cannot be imitated in real terms.

Flexibility ability is the trait to respond to changes in customers` needs and expectations (Mason and Nair, 2013).Flexibility capability expressed as the ability to meet needs arise from customers and customers unanticipated demands (Yang, 2012) provides the company advantage with competitors Flexibility in maritime transport logistics can be defined as the ability to transport, load, unload, or respond to request that were not specified previously or to produce customer-specific solutions for owners or freight forwarders.

The speed and reliability capability is related to the delivery of the logistics products on time, without damage and without any loss (Morash, Droge and Vikery, 1996). The speed and reliability of maritime transport logistics is particularly concerned with the fast loading and unloading, correct documentation of the load, undamaged delivery of loads (Yang, Marlow and Lu, 2009) and ready availability of loading or unloading.

The ability to integrate information enables information to be communicated and shared among all stake holders within and outside the enterprise (Sumner, 2000) and used in joint operations. Information integration refers to the sharing of critical information provided by information technologies throughout the supply chain. The main purpose of information integration is to provide the necessary information to the network members in the supply chain in a timely manner (Lee, So and Tang, 2000). Information integration capability improves logistics performance and contributes to the supply chain by facilitating logistics integration (Li and Dingti, 2010). In maritime transport logistics, the integration information, especially the carrier is legally committed to its customers. For this reason, the ability to integrate information is of particular importance to maritime transport operators.

3. Research Method And Scale

In the study, descriptive scanning methods were used. As a result of a broad survey conducted by descriptive scanning, the research hypotheses were tested in the context of the research model.

Analysis of the research data was made using the SPSS 20 statistical package program. Firstly, demographhic characteristics of firms and managers were revealed through descriptive analyzes. Correlation and Multiple Linear Regression Analyzes were performed to determine the relationships between variables and their effects on each other.

The survey which was used as a data collection tool in the research consists of personal characteristics of the respondent, information about the firm, maritime transportation logistics service capabilities and variables related to firm performance.

The speed and reliability capability measures of the logistics service capabilities included in the survey were first used by Lu (2000) to determine the logistics services

provided by shipping businesses in Taiwan. Then, Yang, Marlow and Lu (2009) compiled the variables used by the container ship management enterprises in Taiwan to analyze the relationship between logistics resources, logistics service capabilities and firm performance. The variables that they have used and developed in their studies have been compiled and a scale consisting of 6 questions has been introduced. As a measure of flexibility capability, Mason and Nair (2013) used a 5-question scale developed in the study of strategic flexibility in the container ship management sector. As an innovation capability scale, Daugherty, Chen and Ferrin (2011) used a 7-item innovation ability scale in their study of the impact of different organizational structures on innovation performance and firm performance in logistics services. As the ability of information integration, Li and Dingti (2010) developed a 6-question information integration capability by compiling the scales they used in their research, which they used in their research on logistics capabilities and their relationship with information integration and logistics integration of Prajogo and Olhager (2011).

Figure 1 shows a detailed survey model that symbolizes the relationship between maritime transport logistics service capabilities and firm performance.

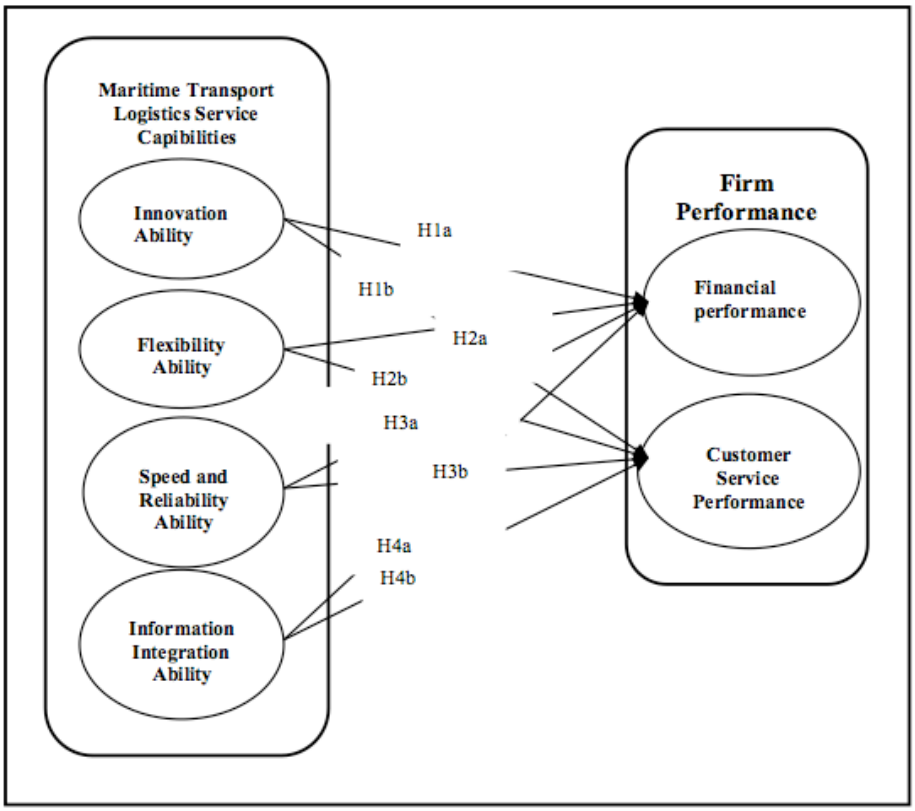


Figure 1 Research Model

The research model in figure 1 shows the relationship among all the conceptual variables in the study. The data obtained from the managers of the maritime transport enterprises are evaluated within the scope of this model.

As the firm performance, a variable consisting of 7 questions including 4 financial performance questions and 3 customer service performance questions were used by compiling the variables used by Kim (2006) in studying the effect of integration and competitive ability on firm performance in the supply chain management. Operating in

Turkey, registered under (IMEAK) maritime chambers; in Istanbul, Marmara, Aegean, Mediterranean and Black Sea regions; marine transport operators have been identified in a research consisting of container ships, tankers, dry cargo ships, bulk cargo ships and RO / RO ships. Face-to-face interviews or e-mail methods were used to collect data from a total of 300 sea transport operators, which are members of IMEAK. As a result, out of 300 companies, 195 companies returned 382 surveys. The return rate of the surveys obtained is 65%. Out of the 382 surveys returned, 5 were incomplete and therefore the variables in the survey model were tested on 377 surveys.

4. Results

4.1. Demographic Characteristics of Managers and Companies

The companies that responded to the survey have been examined in four chapters activity areas, duration of operation, number of employees, number of ships in their fleet. According to this; the fields of activity of the companies that participated in the survey are; dry bulk ship managment with 38.2%, bulk cargo operation with 14.9% and container ship operations with 13.8%. These are followed by tanker operations with 13.0%, RO-RO ship operations with 10.6% and mixed maritime transport operations with 9.5%. 12,2% of the companies participating in the survey were between 1-5 years, 19,9% 6-10 years, 15,6% 11-15 years, 21,8% 16-20, and 30.5% of which are in operation for 21 years or more. When the firms are examined in terms of the number of employees, it is seen that the ratio of firms that have 50 or less employees is 19.6% and the number of firms that have 51-100 employees is the greatest, the ratio of these firms being 35.3%. In addition, the proportion of firms with 101-200 employees is 15.4% and the proportion of firms with 201-300 employees is 15.1%. On the other hand, the number of firms with 301 or more employees is the lowest, while the ratio in the sample is 14.6%. In addition, the number of ships in the fleet of 24.9% of the companies participating in the survey ranged from 1-3, 19.6% 4-6, 18.6% 7-9, 14.9% 16 and above, 13,3% between 10-12, 8,8% varies between 13-15. Characteristics of the companies parcipating in the survey

4.2. Validity Analysis

Explanatory Factor analysis was conducted to test the structural validity. The number of samples is at least 200 (Kline, 1994) and some authors emphasize that the sample size must be five or ten times as large as the scale variables (Bryman and Cramer, 2001) in order to be able to perform the Descriptive Factor analysis. Because the size of the sample reached 377 in the research, it can be said that the researcher has the appropriate data for factor analysis.

Another criterion for testing the appropriateness of sample size and data structure for factor analysis is Kaiser-Meyer-Olkin (KMO) and Barlett Tests. The KMO takes values between 0 and 1, the value found in the KMO test result is compared with 0.5, if it is less than 0,5, it is decided that the variables considered are not enough to perform the factor analysis and the factor analysis is not to be continued. The Barlett test gives the hypothesis test result at 95% of whether the correlation matrix is a unit matrix and if there is (p) $<\alpha$ (0,05), the correlation matrix is not a unit matrix, in other words there is a relationship between the variables so the factor analysis can be done for this data. Otherwise, it is decided that the data is not suitable for factor analysis (Field, 2009, pp. 647-648).

The KMO coefficient obtained from the Kaiser-Meyer-Olkin (KMO) Test is 0,70 and above, indicating that the number of samples is good (Nakip, 2003, p. 403). Determination of whether the data related to maritime transport logistics service capability metrics are suitable for factor analysis was made by using Kaiser-Meyer-Olkin (KMO) and Barlett Globality Tests. The value of the Kaiser-Meyer-Olkin (KMO) test is 0,747.

Kaiser-Meyer-Olkin (KMO) value indicates that sample size is good and the data is sufficient to perform factor analysis. Since the Bartlett Test value is p (0,00) <α (0,01), it can be said that the data structure is suitable for factor analysis. Kaiser-Meyer-Olkin (KMO) Test and Bartletts Test data were found to be suitable for factor analysis (KMO: 0.,747; p: ,000< 0,01)

Varimax Axis Rotation Method was used for explaining structure validity and factor structure of the Scale, Explanatory Factor Analysis for Factor Analysis, Principal Components as factoring techniques.

Factor analysis were done on variables whose eigenvalues were 1 and factor loads were greater than 0,5. In the reconstructed analyzes, variables that were loaded on two factors, idle or at the same time, were excluded from analysis and the maritime logistics service capabilities were collected under four dimensions. The four factors described account for 66,73% of the total variance and as a result of the factor analysis the total variance of the conceptual variables obtained is sufficient for the explanatory ratios. These factors of maritime logistics service abilities are named as follows:

The first factor is "Innovation Capability" and includes four variables; The ability of the operator to follow and adapt to new technological opportunities, the importance given to innovations in logistics services, and the regular development of operational systems. The innovation ability factor accounts for 17,76% of the total variance.

The second factor is "Flexibility Capability" and includes four variables; The ability of the operator to provide different modes of transport, the ability to provide different types of vessels for different loads, the ability to adapt to different routes, and the ability to adapt to changes in customer requirements. The flexibility factor accounts for 17,28% of the total variance.

The third factor is "Speed and Reliability" and includes three variables; The ability to respond quickly to customer complaints, the ability to deliver goods quickly, and the ability to deliver freight without damage and without any loss. The speed and reliability ability factor accounts for 16,14% of the total variance.

The fourth factor is "Information Integration Capability" and includes three variables; The ability of the operator to share information about all operations with customers and suppliers, the sharing of information from customers and suppliers within the enterprise, and the ability to develop computer-based communication channels established with stake holders. The information integration ability factor accounts for 15,54% of the total variance.

It is understood that the variables related to firm performance are appropriate output for factor analysis (KMO: 0,750; p: ,000< 0,01).

Varimax Axis Rotation Method was used for explaining structure validity and factor structure of the Scale, Explanatory Factor Analysis for Factor Analysis, Principal

Components as factoring techniques, factor of related variables as a factor for interpreting the obtained factors better. Factor analysis were done on variables whose eigenvalues were 1 and factor loads were greater than 0,5.

Factor analysis results were collected under 7 variables with 2 factors. These factors explain 63,73% of the total variance. The first factor is called "Financial Performance" because it is composed of variables such as the profitability ratio of the business, the return of investments, market share and costs, and explains 32,69% of the total variance. The second factor is called "Customer Service Performance" because it is composed of variables such as service quality, customer satisfaction and customers' loyalty to the company and explains 31,03% of the total variance.

4.3. Reliability and Correlation Analysis

The most commonly used method for measuring reliability is the alpha coefficient, also known as Cronbach's Alpha (α), which takes values between 0 and 1. Accordingly, it is desirable that Cronbach's alpha value is at least 0,6 in order for the scale to be acceptable (Kayış, 2014, p. 405).

According to the Cronbach Alpha reliability analysis resuls of the realibity analysis conducted separately for the 6 factors obtained by the factor analysis, the innovation ability from maritime transportation logistics service capabilities is composed of 4 questions and because Cronbach Alpha value is (,785) it can be said that this scale is very reliable. The flexibility ability is composed of 4 questions and it can be said that this scale is also very reliable since it has Cronbach alpha value (,785). The ability to integrate information with speed and reliability and the ability to integrate information consist of three questions, and the reliability of these scales is high because Cronbach's alpha values are (,809) and (,810), respectively. Financial (,756) and customer service performance (,744) scales were also found to be highly reliable scales.

Prior to performing the correlation analysis, the graphs were plotted for the variables and it was determined that there was a linear relationship between the variables. In addition, between the maritime transportation logistics service capabilities, which are indipandent variables and financial performance and customer service performance which are dependent variables a simple linear regration analysis is performed and it has been found that for each model the coefficient of determination (R^2) is found to be greater than 0, so there is a linear relationship between dependent and independent variables. Apart from these, it is assumed that the data shows normal distribution. To determine normal distribution the skewness and kurtosis coefficients are taken into account. The fact that the coefficients of skewness and kurtosis remain within the limits of ± 1 can be interpreted as proof that the distribution does not show a significant deviation from normal (Çokluk, Şekercioğlu and Büyüköztürk, 2014: 16). Factor analysis results showed that the coefficients of Keyness and Skewness were within ± 1 for the six conceptual variables identified. In addition, the data obtained from the groups with a large number of samples can be regarded as being close to normal distribution and the appropriate analysis methods can be selected (Büyüköztürk, Çokluk ve Köklü, 2012: 150). As the number of samples increases, the data is assumed to approach normal. If the sample size is greater than 200, the effect of non-normal distributions on the test is reduced (Hair, et al., 2006). According to these findings, it is accepted that the research data has a normal distribution.

One of the parametric test conditions is the other equilibrium (homogeneity). Co-variance is equal between the groups and the dependent variables can be found by plotting the scatter diagram. If error terms occur in a pattern and randomly distribute in a fixed range, the variance is covariance and the regression analysis is valid (Durmuş, Yurtkoru and Zinko, 2013: 157-158). It has been observed that the error terms are scattered randomly in the fixed range by plotting the scattering diagram between the standardized estimated values of the maritime logistics service capabilities and the standardized error values of the dependent variable firm performance. Hence, it can be said that the variances between the variables are equal.

There was a significant and positive relationship between maritime logistics service capability and innovativeness ability (,349), flexibility ability and firm performance (,262), p (0,00) <,01. Furthermore, it was found that value is significant and positively related to maritime transport logistics service capabilities between speed and reliability capability and firm performance (,211) and between information integration ability and firm performance (,466), p (0,00) < ,01

In other words, it can be said that these variables are statistically significant. However, the relationships between these variables are not cause-effect relationships but can be interpreted as the ability of information integration to have the strongest relationship with company performance, and the ability to have speed and reliability as the lowest.

4.4. The Impact of Maritime Logistics Service Capabilities on Financial Performance

The findings of the Multiple Linear Regression analysis to investigate the impact of maritime transport logistics service capabilities on financial performance are presented in Table 1.

Multicollinearity is particularly important for multiple linear regression analysis and should be examined in regression models. This problem occurs when there is a high correlation between the independent variables. In this sense, correlation coefficients were first investigated and no suspicious cases (r<0,80) were encountered. When we look at the VIF values, which is a second criterion used to detect the multiple connection problems, it can be said that the VIF values are less than 2 for all the independent variables, and therefore less than 10, so there are no multiple connection problems.

Table 1. The Impact of Maritime Transportation Logistics Service Capabilities on Financial Performance

Independent Variables	Std. Beta	t -value	p-value	VIF
Innovation Capability	,164	3,235	,001**	1,167
Flexibility	,171	3,473	,001**	1,106
Speed and Reliability	,052	1,049	,295	1,115
Knowledge-Integration Capability	,246	4,812	,000**	1,195
	R^2 =,185 F= 21,109 p=,000			

Dependent variable= Financial Performance; ** p <,01

The model constructed according to the results of the Multiple Linear Regression analysis in Table 1 is meaningful as a whole [(F= 21,109); p (0,00) <α (0,01)]. In other words, it is statistically possible to predict the financial performance variable by maritime transport logistics service capabilities and that maritime transport logistics service capabilities in the regression model explain 18,5% of the variation in financial performance, and it is seen that the relationships among these variables are statistically significant. In other words, it is understood that 18,5% of financial performance depends on maritime transport logistics service capabilities.

When the maritime transportation logistics are examined in terms of their service capabilities;

• It is understood that innovation ability has a positive affect on financial performance variable at the level of significance of 0,01[(β =,164); α (0,01)> p (0,001)]. **Accordingly, Hypothesis1a: innovation ability from maritime transportation logistics service capabilities affects financial performance positively**, supported.

• It is understood that flexibility ability has a positive affect on financial performance variable at the level os significance of 0,01 [(β =,171); α (0,01)> p (0,001)]. **Accordingly, Hypothesis 2a: flexibility ability from maritime transportation logistics service capabilities affect financial performance positively**, supported.

• The speed and reliability ability seems to have no significant affect on financial performance [(β =,052); α (0,01) <p (0,295)]. **Therefore, Hypothesis 3a: speed and reliability ability from maritime transportation logistics service capabilities affect financial performance positively**, not supported.

• As a result, comes to conclusion of information and integration ability has a positive affect on the financial performance at a level of 0,01 significance [(β =,246); α (0,01)> p (0,000)]. **Accordingly, Hypothesis 4a information and integration ability from maritime transportation logistics service capabilities affect financial performance**, supported.

Table 1 also shows that the ability of speed and reliability does not contribute to financial performance; however, it is observed that information integration has the most

explanatory effect on financial performance. Followed by flexibility and innovation abilities.

4.5. The Effect of Maritime Logistics Service Capabilities on Customer Service Performance

The findings of the Multiple Linear Regression analysis to investigate the impact of maritime transport logistics service capabilities on customer service performance are presented in Table 2.

The model constructed according to the results of the Multiple Linear Regression analysis in Table 2 is meaningful as a whole [(F = 32,678); p (0,00) < α (0,01)]. Accordingly, it is statistically possible to estimate the variance of customer service performance with maritime transport logistics service capabilities.

In the regression model in Table 2, it is understood that 26% of the change in customer service performance depends on maritime transport logistics service capabilities. When the maritime transportation logistics are examined in terms of their service capabilities;

• It is understood that positive affect of innovation ability on the customer service performance variable at the level of 0,01 significance [(β =,112); α (0,01)> p (0,001)]. **Accordingly, Hypothesis 1b: innovation ability from maritime transportation logistics service capabilities affect customer service performance positively**, supported.

• It is understood that flexibility ability on the customer service performance variable has no affect [(β =,022); (0,05) < p (0,641)]. Similarly, the ability of speed and reliability does not have a significant affect on customer service performance [(β =,068); α (0,05) < p (0,150)]. **Therefore, Hypothesis 2b: flexibility ability from maritime transportation logistics service capabilities affects customer service performance positively** and **Hypothesis 3b: speed and reliability ability from maritime transportation logistics service capabilities affect customer service performance positively**, not supported.

• It is understood that the information and integration ability has a positive affect on customer service performance at the level of significance of 0,01 [(β =,438); α (0,01) > p (0.00)]. **Accordingly, Hypothesis 4b: information and integration ability from maritime transportation logistics service capabilities affect customer service positively**, supported**.**

Table2. The Impact of Sea Transport Logistics Service Capabilities on Customer Service Performance

Independent Variables	Std. Beta	t-value	p-value	VIF

Innovation Capability	,155	3,222	,001**	1,167
Flexibility	,074	1,580	,115	1,106
Speed and Reliability	,069	1,461	,145	1,115
Knowledge-Integration Capability	,389	7, 971	,000**	1,195
	R^2=,26 F= 32,678 p=,000			

Dependent variable = Customer Service Performance; ** p <,01

Also, Table 2 shows that flexibility and speed and reliability do not contribute to customer service performance, however the ability to integrate information has the greatest impact and clarity in customer service performance, it can be said that innovation ability follows this.

5. Conclusıons And Recommendatıons

In order to reach the objectives of the research and to solve the research problems, the data obtained by face-to-face and email methods from 377 executives in the 195 maritime transport operations participating in the survey were used for analysis. Based on the maritime transport logistics service capabilities explanatory factor analysis four dimensions have been achieved that consist of; innovation, flexibility, speed and reliability and information integration capabilities as a result. The performance of the company consists of on financial and customer service performance dimensions.

In order to reveal the effect of the maritime transport logistics service capabilities, which are independent variables on the sub-dimensions of the dependent variable firm performance, multi linear regression analysis was performed .According to this, it is revealed that speed and reliability ability do not directly affect both performance, flexibility ability does not have a direct effect on customer service performance but also ability of information integration effect both performance the most and innovation ability comes after. According to these findings, while **H_{1a}, H_{1b}, H_{2a}, H_{4a} and H_{4b}** hypothesis were supported **H_{2b}, H_{3a}, H_{3b}** hypothesis were not supported.

The above findings; parallel with studies in the literature (Zhao, Dröge and Stank, 2001; Shang and Marlow, 2005; Panayides, 2006; Yang, Marlow and Lu, 2009; Li and Dingti, 2010) in terms of innovation, flexibility and information integration capabilities. Findings from this perspective show a strong link between business capabilities and company performance because the capabilities that a company have are the main determinants of company performance. this is remarkable in terms of demonstrating the importance of maritime transport logistics service capabilities for company performance in maritime transport enterprises. According to these findings, it has been proved statistically that maritime transportation enterprises, especially maritime transportation logistics service development, allocating the business resources necessary to strengthen these capabilities and investing on these capabilities will positively contribute to

company performance. Therefore, it has been revealed that maritime transport logistics service capabilities are critical abilities in terms of business management.

The ability to integrate information can be defined as to share information in a timely and right manner and creation of common information with all stake-holders among the operators involved in logistics network in the context of maritime logistics. In this study in maritime transportation field the importance of information integration, mainly about the cargo which is concerned, during in port, transport, evacuation, the whereabouts of the ship, the technical and commercial management information of the ship timely and periodically with customers, suppliers, agencies and ports as a logistics information it supports that integration ability is found to have greatest effect on the sub-dimensions of company performance.

According to the transport contract between the maritime transport operators and customer, it is obligatory for carrier to inform customer about the ship and cargo it carries and according to rental contract the registration information, transport capabilities, dimensions, ships speed and fuel status. The obligation is also regarded as legal guarantees' given by the bearer at the same time. Likewise, the sharing of information about the ship and its cargo with other maritime transport logistics ports, or with the shipping agencies that are supplier of maritime transport operators and the establishment of common information and its use in all relevant operations are closely related to the success of maritime transport logistics. Due to these structural characteristics of the maritime transportation logistics, the managers participating in the research seem to have developed and have emphasized the ability to integrate information primarily in order to improve company performance.

Innovation capability is ability with critical pressure that will provide competitive advantage in both maritime transport operation and customers. Statistically proven that innovativeness has a positive effect on company performance, it is understood that managers who participate in the research have a special importance to innovative ideas, follow new technologies and adapt their business progress regularly in order to increase company performance. Innovative or innovative activities in maritime transport logistics service are technology based and maritime transportation enterprises operating in global competitive environment are expected to reflect on the rapid changes in information and transportation technologies and to all operators such as chartering of ships, ship navigation, loading and unloading and organization structures and in this sense, they have to produce appropriate logistics solutions. The main purpose of innovation or innovative activities in maritime transportation logistics services can be explained as increasing the company performance.

Flexibility capability is expressed in terms of responding and adapting to the changing needs of customers in general. Flexibility in maritime transport logistics can be defined in the direction of the request of the customer, to provide different rota compliance, to supply different types of ship for different cargo or to provide different modes of transport. In this study, it was found that although the ability of flexibility has a direct and positive effect on financial performance, there is no effect on customer performance. These findings can be explained within the context of the transport contract between the transporter and the customer and the structural difference of maritime transport operators.

In maritime transport logistics, transport contract are usually standard contracts and prepared between the parties before the transportation is done. After that if the customer request different logistics solution from transporter, for example when the designated loading or unloading port is changed, wanting the loading or unloading of the cargo done by using ship equipments and the ability of the transporter to provide these solution means precaution and this means more freight for the maritime operation. As a result, the business can increase its freight revenue with its flexibility capability. The increase in freight revenue with its flexibility ability improves financial performance and company performance as expected. Therefore, this reality overlaps with research findings.

It is interesting that maritime transport operations flexibility ability can explain the change in financial performance and not explain the change in customer service performance. This can be explained by the variables used to measure customer service performance in the survey and the structural differences of maritime transport enterprises participating in the survey. The variables used to measure customer service performance are related to customer royalty and customer satisfaction. The majority (65%) of the maritime transport enterprises participating in the survey are tramp (irregular) transport operators. The essence of tramp transport is that they work where ever they find work. Therefore; ships do not operate in certain routes or ports. It is difficult and unpredictable to create customer loyalty as there is no specific customer profile in tramp shipping. On the other hand, as other maritime transport logistics services such as liner transport, container and RO/RO transportation, vessels are scheduled between certain ports and dates, therefore ensuring customers loyalty to their operators is a goal for liner operations as opposed to tramp operations for customers using certain lines for their cargo. For this reason, participants, mostly managers of tramp carries, many have thought that flexibility might not explain the change in customer service performance.

Apart from the above, micro-level customer loyalty may not be important for managers in tramp operations, but for customers having their cargo transported, in micro-level may create a negative perception against the ships registered flag state of the maritime trade fleet. Therefore, although customer loyalty is not a particularly important in tramp maritime transport operation, it may be an important reflection on the Turkish maritime trade fleet. Naturally, the managers of maritime transport operators should not ignore this fact. There are many different ways that managers can implement to improve company performance, one of which is to adapt to the changes in their demands, to create value in the eyes of the customer, which is about flexibility of the business.

The ability of speed and reliability has no impact on financially performance and customer service performance is determined by the perspective of the managers involved in this study. These findings can be explained by the relationship between the characteristics of the variables that make up the speed and reliability ability and the environment in which the maritime transport logistics takes place and the structural differences of this ability from other capabilities, which are variables related to timely, undamaged and lossless transport of cargoes. The environment in which maritime transport logisrtics operates is the sea and the oceans, where natural conditions(wave, storm, fog, iceberg, etc...) and environmental uncertainty (technical, administrative and commercial structure of ports) dominate in maritime transport logistics operations

carried out in the sea and in the oceans, the ability of maritime transport operations to deliver the cargoes to the customer in a timely, rapidly, undamaged and without any loss is largely dependent on the weather conditions and the technical conditions of the port on which the cargo is loaded or unloaded. For these reasons, the above-mentioned factors are influential in the formation and of speed and reliability of the operator, whereas the emergence and development of information integration, innovation and flexibility skills are in the hands of maritime transportation enterprises and they are in the extent of the resources owned by the enterprises. In other words, while maritime transport operators can control information integration, innovation and flexibility with its own resources, it may not be able to fully control its speed and reliability capability with its own resources. Therefore, the company expects its customer to act in accordance with the conditions maritime transport logistics operate in and to protect themselves from the risks of the sea. This phenomenon is an indication that maritime trade cannot be done without insurance guarantee.

Maritime transport logistics activities cannot be carried out without bearer liability and boat insurance and customer having cargo insurance. In the speed and reliability ability, managers of maritime transport operators may have thought that speed and reliability capability is not a direct influence on company performance because of environmental uncertainty and natural conditions that are not under control of the operator, and because of the structural nature of speed and reliability ability separated from other capabilities. However, the cargoes carried by the ship, the speed and reliability capability that expresses skills related to fast loading/unloading, timely, undamaged and without any loss is very important and critical capability for customer satisfaction, managers in maritime transport businesses therefore have to allocate the necessary resources in order to develop and strengthen their respective capabilities.

Based on the research findings, some suggestions are given below for managers of maritime transport operators and researchers working in maritime operations and transport logistics areas. This research is done with registered in Istanbul and Marmara, Aegean, Mediterranean and Black sea region (IMEAK) Maritime Chambers operating in Turkey; survey was conducted using face-to-face and e-mail methods from container ships, tankers, dry cargo ships, bulk carriers and maritime transport operators operating RO/RO ships. 65% of maritime transportation companies operating in Turkey are reached. As is the case for this study, the most important problem of other application researches is that the objectivity can be achieved. Because people working in these businesses tend to pretend that their business is successful even do it is not, assessing the maritime transport logistics capabilities with diversity and with more participants, comparing findings with this study, can lead to more accurate conclusion about these capabilities. Therefore, this must be considered in future researches.

In addition, ‘‘Maritime Logistics Service Capabilities” conceptualized for the first time by this work can be examined separately for the maritime transportation enterprises activity areas, for example; container transportation or bulk cargo transportation. Apart from this maritime transportation companies can be evaluated and compared separately by dividing them as liner or tramp transportation according to service types. Because maritime logistics service capabilities are closely related to the fulfilment of different logistics activities according to the resources they have in the company.

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