

Assessing Dar es Salaam port logistics chain players' service delivery factors and level of their integration for port efficiency and competitiveness

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Abstract

Port competitiveness is judged not only by the amount of cargo it handles, but cargo clearance speed, delivery reliability, and logistics visibility (Slack *et al.*, 2016). Poorly performing ports in terms of logistics efficiency substantially reduce trade volume and has greater damping impact on port competitiveness (David, 2015). Cargo movement in seaport faces stiff competition because each port strives to increase its share of global sea throughput. The objective of this paper is to assess the role of Dar es Salaam port logistics chain players' service provision and integration in promoting logistic efficiency and competitiveness. Specifically, the study aimed at assessing and rating the factors affecting the performance of port service providers and their degree of integration in providing logistic services. Logistics efficiency for port competitiveness depends on the player's service provision and how they are integrated in service delivery. The study examined the level of technology in place among logistics players and the way they integrate documentation process and inter process communication. Survey method was used where questionnaires were distributed to 126 logistics chain service providers and users. Descriptive statistics, was used in data analysis. The findings of the study are that the port needs to synchronize the clearance process, improve inter process communication and harmonise the processes to improve logistics efficiency and competitiveness. The problem of high duties and logistics charges, lack of single clearance window and many agencies handling cargo clearance need to be addressed as they have an influence on the efficiency and effectiveness of the port.

Theme: Logistics Efficiency for Port Competitiveness

Keywords: Port Logistics chain, Efficiency, Competitiveness

INTRODUCTION

In today's world, port competitiveness is not judged by the amount of cargo it handles alone, but also by cargo clearance speed, cargo delivery reliability, and logistics visibility (Slack *et al.*, 2016). As clearing houses for a major portion of the world increase international flow, port logistics efficiency frontier becomes an important issue (Baluch and Edward, 2010). Poorly performing port in terms of logistics efficiency substantially reduce trade volume and has greater damping impact on port competitiveness (David, 2015). Cargo movement in seaport faces stiff competition as most of the ports strive to increase their share of global sea throughput. Ports continue to face increased pressure to be more time and cost efficient to maintain their market share and acquire more cargo (Baluch and Edward, 2010). Thus the debate on port logistics efficiency in seaport currently dominates maritime transport studies worldwide (Hirimba, 2015). Ports with high logistics efficiency such as Singapore, Hong Kong, and Rotterdam have increased their cargo and market share while ports with logistics inefficiency such as Dar es Salaam, Mombasa and Lagos continue to lose their market share (World bank, 2016). An international port handling cargo flow needs to be efficient in order to attract more volume, improve country competitiveness and efficiency in port operations as well as reduction in logistics costs, barriers to international trade and cost of doing business to the economy in order to attract global investment (Jasmine and liz, 2013)

A port is only as good as a visionary area if its logistics chain has not efficiently executed its service (Baluch and Edwards, 2010). Inefficiencies in port logistics culminates into the problem of port congestion, high cargo dwell time, and excessive high logistics costs causing it to lose its competitiveness and market share. Considering the perspective of the consumer, logistics inefficiency causes the delay in supply, cost associated with capital tied up, and keeping the cargo in port, extra machine movement for stacking the cargo and cargo security problem (David, 2015). Worldwide ports are focusing on improving logistics efficiency although ports in most developing countries are finding it challenging to be efficient in their daily operations. The issue as to what determines logistics inefficiencies at ports is still debatable (Moon, 2013). A review of literature reveal

poor service quality of its logistics chain players dealing with logistics efficiency or low integration of those players in providing service ((Slack *et al.*, 2016, Obed, 2013) or both. Studies on the cause of port logistics chain efficiency require an examination of how the logistics chain players offer their services (Baluch, 2005).

Despite the importance of logistics efficiency in ports, empirical evidence shows that the theoretical benefits of speed logistics efficiency in developing countries are limited (Baluch and Edwards, 2010). Further, empirical evidence shows that most of ports logistics efficiency in developing countries are barriers to trade (Baluch., 2005). The debate exists as to why there is logistics inefficiency in developing countries ports (Vinh *et al.*, 2014). Ports in developing countries experience numerous incidences of logistics efficiency that are not well explained by existing theories of port performance. Among the available port performance theories are dwell time theories (Baluch and Edwards, 2010), port productivity theories, and key productivity theories (Ali and Hasssan, 2015). These theories were formulated before the transitions in developing countries ports thus failing to explain better why cargo delay in developing countries. ports. □

Hebel, (2012) explains that logistics efficiency in ports allows scholars to test the applicability of existing theories that were developed in other countries and to identify hidden issues. Dwell time figures are the major commercial instrument used to attract cargo, therefore, the incentives for ports is to lower them in order to attract more cargo (Refas and Thomas., 2011). Dwell time explain how long the cargo stay in the port from the date entered to the date exit. It is one of the variables for measuring port efficiency in moving cargo. It is not surprising that cargo dwell time, port congestion and high logistics costs are an illustration of the more general problem in African development. Average cargo dwell time in African ports is about 14 days compared with 3 days in most of the international ports, yet neither of the solutions seems to be working (World Bank, 2015). Increasing port charges tariffs, adding additional berths and increasing port infrastructure and superstructures, as the previous port performance theories suggest, have not brought down the dwell time figures to the acceptable level (Baluch and Edward, 2010).

Dwell time in Sub Saharan African ports have abnormal dispersion, with evidence that clearance chain discretionary behaviors increase logistics inefficiencies and rise in total logistics costs (TICTS, 2014; Baluch and Edwards, 2010; Ali and Hassan, 2015). Cargo clearance time in most of Sub Saharan countries was estimated to be five times higher than in developed countries (Samwel, 2014). Some scholars believe that inefficiency of port logistics chain player are the major causes of high dwell time in Sub Saharan Africa ports but still, there is information gap on the effects of logistic firm involved in cargo movement process (Refas and Thomas, 2011)

Despite the crucial role played by the port to Tanzania economy which handles about 80% of the country's inward and outward cargo, Tanzania port is rated among the most costly and inefficient port in East African region (Hebel, 2012). There still a research gap on what lead to delays in cargo clearance at ports in Tanzania. The application of superstructure and infrastructure theories by improving the Dar es Salaam port cargo handling equipment and port space fail to explain the determinants of logistics inefficiency in Dar es Salaam port. Most of those aspects can be improved through the studies of how the players integrate into cargo clearance.

STATEMENT OF THE PROBLEM

Dar es Salaam port has experienced port congestion, high cargo dwells time and high logistic cost and has lost its market share to Mombasa port on handling transit cargo for Uganda, Rwanda, and Burundi (World Bank, 2016). The World Bank report indicates that Tanzania loses USD 1.8 billion annually due to inefficient logistic services at the Dar es Salaam port and this loss is approximately 7 percent of the country's total GDP. If Dar es Salaam port could perform as Mombasa port, Tanzania and its neighboring countries could earn up to USD 2.6 billion more a year (World Bank, 2016).

Studies focused on why cargo stay in weeks in Sub –Saharan African ports and indicated areas for further research as the logistics chain service provision in terms of how each player provide its service and how they are integrated as single process (Refas and Thomas, 2011, Rabolland *et al.*, (2012). The current study intends to fill the gap by focusing on logististic chain players service provision and how the players integrate to ascertain Dar es salaam port logisticts efficiency and port competitiveness

RESEARCH OBJECTIVES

The main objective of this research is to assess Dar es Salaam port logistics chain players' service provision for efficiency and competitiveness

Specific objectives are:

1. To ascertain factors affecting the performance of different logistics service providers in Dar es salaam port
2. To assess the degree of logistics chain players integration in providing logistics services.
3. To rank factors affecting logistics efficiency and competitiveness

LITERATURE REVIEW

Jasmine and Liz (2013) distinguished between cargo movement in the port and storage coordination by claiming that the former is concerned with operations and coordination while the latter deals with how logistics players integrate. For the purpose of improving port efficiency, attention must be directed towards integrating all processes into a single cargo movement in the port. Cargo movement in the port is completed once the documents pass different logistics chain service providers processes in the port. Logistics efficiency depends on how those Port logistic chains provide their services and the fact that the communication system does not talk to each other forces documents to be transferred manually (Hebel, 2012). The ports of most African countries find it challenging to be efficient in their daily operations (Refas and Thomas, 2011). Cargo movement in the port logistics chain players is defined as private, public and government institutions involved in movement and storage of goods as an integrated process into single clearance process. The systems approach is a powerful theory for understanding the interrelationship or interactions between elements (Von Bertalaffy ,1956) The systems approach simply states that all functions or activities or elements need to be understood in terms of how they affect and are affected by other elements and activities with which they interact. By analyzing the actions in isolation, one will not understand the big picture or how such actions affect or is affected by other activities (Baluch, 2005). The theory explain better how logistics chain players are expected to perform at the port. The movement of cargo depends on the extent those players work as a system in processing the documents and moving the cargo at the port.

Cargo movement at the port involves different processes undertaken by different organizations. Freight forwarders need to make sure documents pass through all processes before cargo moves out of the port (Samwel, 2014). The processes are undertaken by different organizations and time to accomplish each process determines how long the cargo stays in port. Overall cargo movement at the port is concerned with operations and coordination while operations deal with strategic movement and storage, however, attention must be directed to integrating all service factors delivery into a single cargo clearance (Vihn *et al.*, 2014). There is a need to look into the cargo movement in the port service quality factors and how they affect cargo movement in terms of cost and speed (World Bank, 2015). Statistics show that despite some improvement in logistics efficiency over time in Dar es Salaam port the container dwells time still is very high (Figure1.1). The port has associated higher logistics cost with cargo storage, removal charges, demurrage and customs warehouse rent. Key determinant of dwell time is the efficiency of logistic service provider to process documents for cargo movement through the international trade requirements

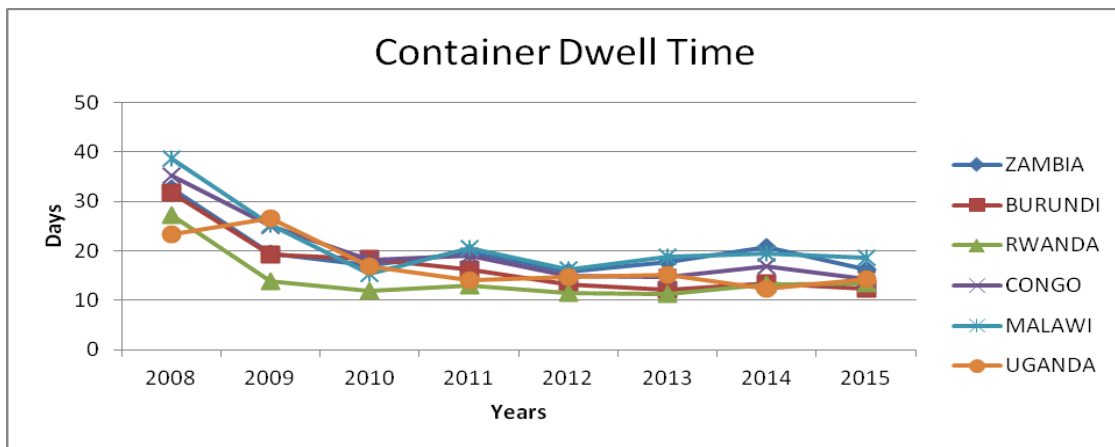


Figure 1.1: Dar es Salaam port Container Dwell time 2008 -2015 (SUMATRA, 2016)

Dar es Salaam port logistic chain involves different public and private organizations. The complexity of the chain rise on how those players operate as a single unit to enable cargo to move through the port (Baluch, 2005). Myang-Shitta (2015) associated the delays in port cargo movement with a number of factors including documentary requirements of all processes, lack of automation, out-dated procedures, insignificant use of information technology, lack of predictability, high charges in terms of customs duties, port charges and shipping line charges, corruption tendency, lack of transparency and cooperation of Other Government Department.

The complex nature of services and the mixed diverse service setting together with service quality expectations are difficult to apply in measuring the efficiency and effectiveness of the port (Vinh, *et al.*, 2014). Service factors used to measure business to customers' services do not automatically fit into a complex cargo movement in the port. There is a need to ascertain factors affecting service quality in various logistics service provider in Dar es Salaam port

RESEARCH METHODOLOGY

Primary data was collected through sample survey. Data were analysed using SPSS where the factor analysis was used and both descriptive statistics and communalities conducted using a principal component method was used to arrive at the findings. An equamax rotation was used to determine the factor loadings and communalities. A communality is the extent to which items correlates with all other items. The higher the communality the better and it is since it indicates that larger amount of the variance in the variable has been extracted by the factor solution. For better measurement of factor analysis communalities should be 0.4 or greater (MacCallum *et al.*, 2001).. A summated scale or score was calculated for each factor to determine which factor had the greatest influence. The KMO and Bartlett's Test was used. It indicates the proportion of variance in the variables that might be caused by the underlying factors. Higher values close to 1.0 (i.e greater than .50) generally indicate that a factor analysis may be useful with the data. Factor loading using the rotated component matrix was also used.

PRESENTATION AND DISCUSSION OF FINDINGS

The reliability of the survey instrument was deemed satisfactory since the Cronbach Alpha and Guttman split-half coefficients were relatively high for all the items. The Cronbachs Alpha and the split-half coefficient were 0.858 and 0.854, respectively. The study was conducted at the Dar Es Salaam Port Authority. The findings were analyzed and discussed in the context of the objectives of the study.

Demographic Profile

The demographic profile of the respondents are presented in tables 1.1 to 1.3. The majority of the firms were purely locally owned with the minority comprising of very few pure foreign owned, joint venture between foreign and local investor and Multinational company operating in Tanzania.

Table 1.1. Firm Identification

		Frequency	Percent
Valid	Government institution	1	0.8
	Private firms Purely local owned	111	88.1
	Private firms Purely foreign owned but based in Tanzania	3	2.4
	A joint venture between foreign and local investors	1	0.8
	Multinational company operating in Tanzania	10	7.9
	Total	126	100.0

The findings also indicated that the majority of the firms had experience in port logistic operations for a period between 10 and 20 years (Table 6.2)

Table 1.2 : Experience in Port Logistics Operation

Experience in Cargo clearance operation					
		Frequency	Percent	Valid Percent	Cumulative Percent
Valid	Over 5 to 10 years	15	11.9	11.9	11.9
	Over 10 to 20 years	86	68.3	68.3	80.2
	Over 20 years	25	19.8	19.8	100.0
	Total	126	100.0	100.0	

In terms of educational level, a majority of the respondents had at least a Diploma level of education as shown in Table 1.3

Table 1.3: Level of Education of the respondents

		Frequency	Percent
Valid	O level	3	2.4
	A level	15	11.9
	Diploma	26	20.6
	Degree	37	29.4
	Postgraduate	32	25.4
	6.00	13	10.3
	Total	126	100.0

Findings on study objectives

The objectives are first to ascertain factors affecting different logistics service providers in Dar es salaam port, second to assess the degree of logistics chain players integration in providing logistics services and third to rank factors affecting logistics efficiency and competitiveness in Dar es salaam port

Factors affecting different logistics service providers in Dar es salaam port

The research objective one was to ascertain factors affecting different logistics service providers in Dar es salaam port . The discussion focus on factors affecting different logistics service providers grouped in six categories namely Freight forwarding, Customs Authority, Other Government Department, Shipping line agencies, Terminal and ICDs and , Consolidator. Respondents were asked to indicate the extent to which they agree or disagree with the statements by applying a tick (√) using a 5 point Likert scale represented by 1= Strongly Disagree, 2=disagree 3= Neutral, 4 = Agree, 5 = Strongly agree. The responses were obtained using factor analysis as follows;

Factors affecting Freight forwarding service

Respondents were asked to indicate their level of agreement or disagreement on the independent variables. Table 1.4 presents the factor loadings, mean, standard deviation and the communalities.

Table 1.4: Factor loading, Mean Scores, Standard Deviation and Communalities for freight forwarding.

Factors	Factort1	Factor2	Mean	Std. Deviation	communalities
Freight forwarding agents are always making correct declaration of cargo in the TANCIS	.790	-.117	4.2698	.66227	.638
Freight forwarders agents are trained with appropriate with appropriate cargo clearance skills	.901	.036	4.4921	.68988	.814
Freight forwarding agents are communicating in real time with all parties in cargo clearance	.877	.063	4.4683	.74497	.773
Freight forwarding agents understands well cargo clearance procedures	.781	.248	4.5714	.62519	.672
Freight forwarding agents have enough financial resources to undertake the cargo clearance in time	.175	-.888	2.7222	.80636	.820
Freight forwarding agents have sufficient equipments to undertake cargo clearance effectively	.475	.678	4.5794	.73051	.685

Communalities:

Extraction Method: Principal Component Analysis.

a. 2 components extracted.

The findings indicate that respondents agreed on the statements stated in table with exception of the fifth statement. Respondents disagreed that freight forwarding have no enough financial resources to undertake cargo clearance in time. The mean for this statement is below .3 ie 2.7222 while for other statement the mean is above .3. This basically means that freight forwarding agents are always making correct declaration of cargo in the TANCIS, are trained with appropriate with appropriate cargo clearance skills, are communicating in real time with all parties in cargo clearance, understands well cargo clearance procedures and have sufficient equipments to undertake cargo clearance effectively. All the communalities are greater than 0.4 with the highest being .820. The findings also indicate that the KMO is greater than .5 and the findings are statistically significant at 0.000. Refer to the KMO findings in the table below

Table 1.5: KMO and Bartlett's Test for freight forwaeding factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.787	
Bartlett's Test of Sphericity	Approx. Chi-Square	307.452
	Df	15
	Sig.	.000

Factors affecting Customs Authority Service

Respondents were asked to rate their level of agreement and disagreement on factors relating to customs authority.

The findings indicate that most of the respondents agreed that Customs authority have cumbersome free cargo clearance procedures, Customs authority have sufficient and reliable network service, Customs authority uses up to date cargo clearance technology, and Customs authority staff are trained and operate professionally. On the other hand few respondents disagreed and majorities were neutral on the statement that Taxes and duties are affordable, predictable and easy to pay. Also most respondents disagreed with the statement that Customs clearance processes are corruption free, and Customs clearance procedures and processes are not frequently changing. This means that the authority must have a close look at the imposed taxes, corruption and clearing procedures. All the communalities are above 0.4 with the highest being .778, the KMO is higher than .5 and the findings were also statistically significant at 0.000.

Table 1.6: Mean Score, factor loading and communalities for customs authority factors

Factors	Factor1	Factor2	Mean	Std. Deviation	Communalities
Customs authority have cumbersome free cargo clearance procedures	.273	.820	4.5952	.71754	.747
Customs authority have sufficient and reliable network service	.055	.881	4.6349	.69975	.778
Taxes and duties are affordable, predictable and easy to pay	.871	-.038	3.0079	.76416	.760
Customs authority uses up to date cargo clearance technology	-.194	.745	4.5159	.78724	.592
Customs clearance processes are corruption free	.795	.162	2.8810	.68827	.659
Customs clearance procedures and processes are not frequently changing	.721	.043	2.8889	.69538	.521
Customs authority staff are trained and operate professionally	-.627	.488	4.6508	.90613	.631

Table 1.7: KMO and Bartlett's Test for customs authority factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.600	
Bartlett's Test of Sphericity	Approx. Chi-Square	340.476
	Df	21
	Sig.	.000

Factors affecting Other Government Department service

The study considered other government department factors and how they affect business to business services. The findings are as presented below.

Table 1.8: Mean Score, factor loadings and communalities for other government department factors

Mean Score, factor loadings and communalities for other government department factors						
Factors	Factor1	Factor 2	N	Mean	Std. Deviation	Communality
OGDs cargo clearance procedures are cumbersome	.664	-.071	126	1.8016	.97996	.445
OGDs charges are affordable, predictable and easy to pay	.773	.240	126	1.6032	.67028	.655
OGDs procedures and processes are frequently changing	.827	.175	126	1.6032	.83980	.714
OGDs clearance are corruption free	.754	.251	126	1.4841	.61624	.631
OGDs staff are correctly and accurately implement their procedures	.293	.686	126	1.5000	.57619	.556
OGDs provide its service electronically	.304	.752	126	1.6190	.77828	.658
OGDs offices are located in places easy to reach	-.120	.751	126	2.8175	1.46643	.578
Valid N (listwise)	.664	-.071	126			.445

The findings indicate that most of the respondents disagreed with all the variables concerning other government department factors. Respondents disagreed that OGDs cargo clearance procedures are cumbersome, OGDs charges are affordable, predictable and easy to pay, OGDs procedures and processes are frequently changing, OGDs clearance are corruption free, OGDs staff are correctly and accurately implementing their procedures, OGDs provide its service electronically, and OGDs offices are located in places easy to reach. With respect to these OGD factors, the mean is below .3 and therefore the authority and policy implementers must real concentrate on these OGD factors in order to improve business to business services. All the communalities are above 0.4 with the highest being .714, the KMO is above .6 and the findings were also statistically significant at 0.000. Consider the KMO test results below

Table 1.9: KMO and Bartlett's Test for OGD factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.701	
Bartlett's Test of Sphericity	Approx. Chi-Square	268.051
	Df	21
	Sig.	.000

Factors affecting Shipping line agency services

Shipping line factors were also considered to influence business to business. The findings on these factors were as follows;

Table 1.10: Mean Score, factor loading and communalities for shipping line agency factors

Mean Score, factor loading and communalities for shipping line agency factors							
Factors	Factor1	Factor 2	Factor 3	N	Mean	Std. Deviation	Communalities
Shipping line procedures are cumbersome free	.881	-.057	-.001	126	4.1984	.92104	.780
Shipping line charges and deposits are affordable, predictable and easy to pay	.061	-.124	.890	126	3.1984	.86736	.812
Shipping line procedures are understandable	.790	.247	-.159	126	4.4841	.77701	.710
Shipping line systems are well automated	.153	.794	.165	126	4.3016	.82239	.681
Shipping line services are corruption free	-.429	.180	.702	126	3.2302	.85942	.709
Shipping line officers are located near to other cargo clearance service providers and are ease to reach	-.032	.847	-.176	126	3.2222	1.00311	.750
Valid N (listwise)				126			

The findings as indicated in the table above shows that most respondents agreed on the statement that Shipping line procedures are cumbersome free, Shipping line procedures are understandable and Shipping line systems are well automated. The mean for these variables is above .3 while some respondents were neutral and most of them disagreed with the statements that Shipping line charges and deposits are affordable, predictable and easy to pay, Shipping line services are corruption free, and Shipping line officers are located near to other cargo clearance service providers and are ease to reach. These factors are very crucial to business to business services, it is therefore important for the authority to consider improving each of these factors. All the communalities were above 0.4 with the highest being .812 and the KMO test confirm that was useful and the findings were statistically significant at 0.000. Consider the table below,

Table 1.11: KMO and Bartlett's Test shipping line factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.541
Bartlett's Test of Sphericity	Approx. Chi-Square	109.599
	Df	15
	Sig.	.000

Factors affecting Terminal and ICDs service

Terminal and ICD factors influence business to business services. Respondents were asked to indicate their level of agreement or disagreement on the determined factors. The findings of the study are as indicated in the table below.

Table 1.12: Mean Score, factor loadings and communalities for terminal and ICD factors

Mean Score, factor loadings and communalities for terminal and ICD factors							
Factors	Factor 1	Factor 2	Factor 3	N	Mean	Std. Deviation	Communalities
Terminal and ICDs procedures are cumbersome free	.607	.239	-.074	126	4.1032	.82781	.435
Terminal and ICDs have sufficient and appropriate cargo handling equipment for cargo	.202	.866	.129	126	4.2063	.92362	.802
Terminal and ICDs process are corruption fee	-.325	.103	.896	125	3.3440	.96807	.919
Terminal and ICDs charges are affordable , predictable and easy to pay	.260	-.622	.659	126	3.3492	.97421	.887
Terminal and ICDs have sufficient space for cargo storage	.835	-.046	-.098	126	4.4444	.87229	.710
Terminal and ICDs process are well automated	.648	.256	-.055	126	4.4365	.80495	.484
Terminal and ICDs staff are well trained and offer service professionally	.445	.699	-.182	126	4.4603	.93510	.720
Valid N (listwise)				125			

The findings indicate that most of the respondents agreed that Terminal and ICDs procedures are cumbersome free, Terminal and ICDs have sufficient and appropriate cargo handling equipment for cargo, Terminal and ICDs have sufficient space for cargo storage, Terminal and ICDs process are well automated and Terminal and ICDs staff are well trained and offer service professionally. On the other hand some respondents disagreed and other were neutral on the statement that Terminal and ICDs process are corruption fee, and Terminal and ICDs charges are affordable, predictable and easy to pay. The issue of corruption and terminal charges needs to be considered when improving business to business services. All the communalities were higher above 0.4 with the highest being .919. The KMO test indicates was useful at .536 and the findings were statistically significant at 0.000.

Table 1.13: KMO and Bartlett's Test for terminal and ICD factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.536
Bartlett's Test of Sphericity	Approx. Chi-Square	222.909
	Df	21
	Sig.	.000

Factors affecting Consolidation service

Consolidator factors are important in influencing business to business services. Respondents were asked to indicate their level of agreement and disagreement on the stated factors. The findings are as indicated in the table below;

Table 1.14: Mean Score, factor loadings and communalities for consolidator factors

Mean Score, factor loadings and communalities for consolidator factors							
Factors	Factor 1	Factor 2	Factor 3	N	Mean	Std. Deviation	Communalities
Consolidators procedures are cumbersome free	.117	-.081	.904	126	4.1190	3.70212	.838
consolidators charges are affordable, predictable and ease to pay	-.300	.746	.020	126	3.1429	.96924	.648
Consolidators' procedures are understandable	.637	-.345	.127	126	4.1032	1.06455	.541
Consolidators' systems are well automated	.728	.385	.235	126	3.6825	1.07071	.734
Consolidators' services are corruption free	.139	.777	-.065	126	3.0635	.90108	.627
Consolidators' officers are located near to other cargo clearance service providers and are easy to reach	.666	-.128	-.492	126	2.9921	.86252	.702
Valid N (listwise)				126			

The findings above indicate that most of the respondents were neutral and some agreed with the statement that Consolidators procedures are cumbersome free and Consolidators' procedures are understandable. The findings further indicate that most of the respondents were neutral and some disagreed with the statement that consolidators charges are affordable, predictable and ease to pay, Consolidators' systems are well automated, and Consolidators' services are corruption free. The communalities were also high above 0.4 with the highest being .838. The findings show that the KMO was above .5 and were also statistically significant at 0.000. Consider the KMO test results below.

Table 1.15: KMO and Bartlett's Test for consolidators factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.514
Bartlett's Test of Sphericity	Approx. Chi-Square	59.058
	df	15
	Sig.	.000

Assessing the degree of logistics chain intergration

The second specific objective of the study was to assess the degree of logistics chain players integration in providing logistics services in Dar es salaam port. The logistic service providers intergration factors shown in table below and how those factors affect efficiency and competitiveness of port of Dar es salaam. The factors are based on cargo clearance integration variables commonly used in cargo clearance. Respondents were

asked to indicate their level of agreement or disagreement basing on the 5 Likert scales. The mean of their respondents on the factors are as presented in the table below

Table 1.16: Mean Score, factor laoding and communalities for degree of logistics chain integration factors

Mean Score, factor laoding and communalities for degree of logistics chain integration factors						
Factors	Factor 1	Factor 2	N	Mean	Std. Deviation	Communalities
Cargo clearance are concurrent and not sequentially	.328	.724	126	1.6667	.92087	.632
Cargo clearance service providers effective communication between each others	.757	.289	126	1.4683	.85498	.657
Cargo clearance service providers are electronically connected	.854	.026	126	1.4603	.84523	.730
Cargo clearance service providers have harmonised procedures	.827	-.147	126	1.5794	.96626	.705
Cargo clearance service provider has one clearance platform	.198	-.796	126	3.1667	1.43527	.673
Valid N (listwise)	.328	.724	126			.632

The findings indicate that most of the respondents disagreed with the statements relating to service provider factors. Respondents disagreed with the statements that Cargo clearance are concurrent and not sequentially, Cargo clearance service providers effective communication between each others, Cargo clearance service providers are electronically connected and Cargo clearance service providers have harmonized procedures. However, few respondents were neutral and some agreed with the statement that Cargo clearance service provider has one clearance platform. The findings imply that service provider factors need to be improved in order to improve business to business services. All the communalities were above 0.4 with the highest being .730. On the other side the KMO is above .5 and the findings were statistically significant at 0.000. Consider the KMO test results below.

Table 1.17: KMO and Bartlett's Test for logistics chain integration factors

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.647
Bartlett's Test of Sphericity	Approx. Chi-Square	127.503
	df	10
	Sig.	.000

Ranking factors affecting logistics efficiency and competitiveness

The study further rank factors affecting logistics efficiency and competitiveness in Dar es salaam port as its objective three. Respondents were asked to rank the factors affecting logistics efficiency and competitive in the port of Dar es Salaam with 1 being most affecting and 7 less affecting. The findings are as presented in the table below.

Table 1.18: Mean Score, factor laoding and communalities for Service ranking factor

Mean Score, factor laoding and communalities for Service ranking factor							
	Factor 1	Factor 2	Factor 3	N	Mean	Std. Deviation	Communalities
High level of duties , port , shipping and OGDs charges	.720	-.171	.001	126	1.8968	1.28268	.547
Long clearance processes and procedures	.150	.703	.297	126	2.1032	1.11592	.604
Lack of single clearance window and many agencies handling cargo clearance	.667	.306	.347	126	2.8492	1.22682	.658
Low technology and Unreliable internet system	-.801	-.153	.167	126	5.6587	1.46513	.694
Corruption tendencies and attitudes	.108	-.027	-.968	126	4.4365	1.11352	.950
Poor documentation by freight	.219	-.820	.193	126	6.3968	.77024	.758
Poor communication and networks	-.632	.342	.097	126	4.7302	1.24202	.526
Valid N (listwise)	.720	-.171	.001	126			

The findings indicate that High level of duties, port, shipping and OGDs charges, Long clearance processes and procedures and Lack of single clearance window and many agencies handling cargo clearance most affect the

speed of cargo clearance at the Dar es Salaam port. On the other hand most respondents stated that Low technology and Unreliable internet system, Poor documentation by freight and Poor communication and networks are less affecting the speed of cargo clearance at the Dar es Salaam port. Most respondents stated that Corruption tendencies and attitudes neither most affect nor less affects the speed of cargo clearance at the Dar es Salaam port. In general most of the respondents stated that this variable do not affect the speed of cargo clearance at the Dar es Salaam port. All the communalities were high above 0.4 with the highest being 0.950. The findings are similar to the suggestions of Ali and Hassan, 2015. On contrary, the KMO test indicated that the variables were useful for PCA since it was below .5 i.e 0.138 but the findings were statistically significant at 0.000. The KMO test confirms the results.

Table 1.19: KMO and Bartlett's Test for Service ranking factor

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.	.138	
Bartlett's Test of Sphericity	Approx. Chi-Square	281.956
	df	21
	Sig.	.000

CONCLUSIONS AND RECOMMENDATIONS

The objective of this research was to assess Dar es Salaam port logistics chain players' service provision for efficiency and competitiveness through ascertain factors affecting different logistics service providers in Dar es salaam port, assess the degree of logistics chain players integration in providing logistics services and rank factors affecting logistics efficiency and competitiveness.

The above results shows that each logistics service provider had issues to address in order to improve the port logistics efficiency and competitiveness. Each logistics chain players namely Freight forwarding, Customs Authority, Other Government Department, Shipping line agency, Terminal and ICDs, Consolidator had different factors to address as shown above. For the port logistics efficiency and competitiveness its paramount to address those factor affecting specific logistics service providers exaoustively.

For the issues of degree of logistics chain players intergration the study noted that the port need to address aspect of cargo clearance process to be concurrent, logistics service providers should effective communication between each other, improve logistics service providers electronically connecting and harmonized procedures in service provision.

Study further reveals that ,there is a need to address issue of high level of duties, port, shipping, and OGDs charges, long clearance processes and procedures, Lack of single clearance window and many agencies handling cargo clearance those factors most affect the overall logistic efficiency and competitiveness of the port of Dar es salaam.

Basing on the findings, it can be concluded that these factors should be addressed by both the players and the Ports Authority in order to ensure efficiency and effectiveness of the port..

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