

**THE ROLE OF TANZANIA CENTRAL RAILWAY LINE IN
PROMOTING CARGO TRANSPORTATION**

ELINIKUNDA .A. NKYA

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THE REQUIREMENTS FOR THE DEGREE OF MASTARS OF
PROJECT MANAGEMENT OF THE OPEN UNIVERSITY OF
TANZANIA**

2015

CERTIFICATION

The undersigned certifies that he has read and here by recommends for acceptance by the Open University of Tanzania a dissertation paper entitled the role of Tanzania central railway line in promoting cargo transportation, in fulfillment of the requirements for the Masters of Project Management of Open University of Tanzania.

.....

Dr. Raphael Gwahula

Supervisor

.....

Date

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DECLARATION

I Elinikunda Andrew Nkya do hereby declare that, this dissertation is my own original work and has not been submitted in any form for an award at any other academic institution. Where material has been drawn from other sources, this has been fully acknowledged.

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Elinikunda Nkya

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ABSTRACT

This study conducted to examine the role of central railway line in promoting cargo transportation in Tanzania. The emphasis was placed particularly on the volume of cargo transported for five years aiming to comprehend transportation needs, limiting challenges facing railway transportation and promote cargo transportation. To achieve this descriptive method of data analysis with secondary and primary data were used to reveal the level of cargo transportation in central railway. Findings from the study indicated that there is a high need for cargo transport by central railway line as it showed that only forty five percent of all cargo was transported. It was also found that there are many challenges affecting railway transport including difficulties in getting train engines which are compatible with technology, infrastructure in-capacity and ability of most railway bridges to pass heavy cargo is low. Despite of these challenges in operations, it realized that, central railway line was able to transport a total of 1.066 million tons of cargo volume in past five years (2010 – 2014). Based on the findings, it is recommended that in order to overcome the problem in promoting cargo transportation, TRL should make a plan to rebuild existing engines and purchase new engines. Engineers should receive regular training on new technology in order to meet standards. TRL should also make complete repairs of the rail road and bridges as well as develop a plan that lay down strategies to overcome competition from road trucks, including proper marketing of TRL cargo transport services.

Key Words: *Transportation, Railway line, Cargo Promotion, Tanzania.*

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ABBREVIATIONS AND ACRONYMS

DRC	Democratic Republic of Congo
GDP	Gross Domestic Product.
POL	Petrol Oil and Liquid
SPSS	Statistical Package for Social Science
VAT	Value Added Tax
TRL	Tanzania Railway Line
TAZARA	Tanzania-Zambia Railway Authority

CHAPTER ONE

INTRODUCTON

1.1 Background of the Study

Transport system in Tanzania is categorized in five types of modes. These are air, roads, water, railway and pipelines. Tanzania's national development strategy stipulates the need for extensive and efficient transport infrastructure to support economic growth. With this context therefore, the government of Tanzania has formulated legal, regulatory and institutional framework to guide and regulate all transport sub sectors for sustainable operations in the transport system in the country (United Republic of Tanzania, 2011).

Railway transport has been discussed by many authors to be among most critical mode of transport for social and economic development. Kanuni (2012) explain that railway transport is unique and an important mode of transport of all times. This is because it is cost effective (requires less frequent maintenance), durable and stable.

Tanzania has two railway line systems; one passing through northern and central Tanzania from Dar es Salaam extending towards Tabora, Kigoma, Mwanza and Tanga/Moshi managed by Tanzania Railways Limited (TRL). The other line is managed by Tanzania Zambia Railway Authority (TAZARA). TAZARA is serving southern portion of the country extending from Dar es Salaam into Kapiri Mposhi in Zambia (Robinson, 2009).

Construction of major central railway line from Dar es Salaam to Tabora was completed in 1912 while Tabora to Kigoma was ready by 1914. The line connecting

Tabora and Mwanza was completed in 1928. The northern line from Tanga to Mombasa was built in 1905 and reached Moshi in 1911 and Arusha in 1929. TAZARA line was built from 1970 and completed in 1975 (Ramaer, 2009).

According to Willetts and Matheson (1986) the two railway systems cover a total of 3,676 kilometres of railway lines. Out of this length, the central railway which is managed by Tanzania Railway Limited (TRL) covers 2,706 kilometres. Tanzania Zambia Railway Authority (TAZARA) covers a total of 975 kilometres of length.

Railway transport is most ideal for moving bulky goods and large amount of passengers at one time. It is actually the cheapest mode of transport in Tanzania when considering heavy and bulky goods. Railway transport is considered to be among the key players and drivers of national economy in Tanzania. It serves to transport raw materials, finished goods and people from one point to another.

The central railway line runs from the city of Dar es Salaam to Tabora region. From Tabora the railway line makes two major branches. The first goes to Kigoma along Lake Tanganyika and the other branch goes to Mwanza along Lake Victoria. But the central line has another important branch which goes towards northern part of the country. This starts from Ruvu station in Coast region towards Korogwe, Tanga and Moshi. TAZARA connects Tanzania with Zambia and support neighbouring countries of Malawi and Democratic Republic of Congo (ibid).

There are a total of twelve regions in Tanzania that are served directly by the central railway line. These are Dar es Salaam, Coast, Morogoro, Dodoma, Singida, Tabora, Shinyanga, Mwanza, Kigoma and Katavi. Others on the northern part of the country

are Tanga and Kilimanjaro. But the railway moves cargo going to neighbouring countries of Rwanda, Burundi and the Democratic Republic of Congo (Kanuni, 2012).

There are many economic activities that are supported by the central railway line in Tanzania especially in the twelve regions that are served by the railway line. Most economic activities involve one or other type of commodities that are supplied from one end or another. It is therefore important to have railway transport that is capable of carrying heavy and bulky cargo covering longer distance (Mohamed, 2012).

The central line running westwards from Dar es Salaam through Dodoma improved substantially. The upgraded Tanzanian central line on standard gauge is expected to carry 35 million tons of freight annually to Rwanda, Burundi, Uganda and eastern DRC. Rwanda and Burundi have had to bear high transport costs ferrying goods from the ports of Mombasa and Dar es Salaam, which have increased the cost of doing business in the two countries. This will reduce time it takes to transport cargo from Dares Salaam, four days by road to just two days by railway. This is also important to the national economy and would increase efficiency of the railway line and reduce road dependency when transporting goods from the port of Dar es Salaam to upcountry regions and landlocked countries (The Guardian, 2014).

According to Igwe et al (2013) rail transport is much more potential than road and air transport due to its relative higher level of reliability, safety and its lower cost to the users. Railway transport is capable of transporting mass volumes of people and cargo covering longer distances. In this case therefore, railway transport is ideal for profitable investment and support to the economic growth.

The World Bank (2011) reports that the role of railway transports have been significant carrying both passengers and the cargo worldwide. Over a period of time, railway transport has recorded increase consistent in demand and performance. In 2010 for example, rail carried about 9.3 trillion tonnes of cargo and 2.8 trillion passengers worldwide. This was an increase of about 40 per cent compared with figures recorded in 2009.

The trend of railway transport performance varies across different regions. Asia has shown the most dynamic growth by achieving 74 percent in freight and 67 percent in passengers. America and Europe followed by an increase in freight transport of 25 and 40 percent in passengers. Africa has shown smallest increase of freight transport of only 7 percent and adrop of 7 percent in passenger services. Considering the robust increase of transport market worldwide during the last decade, the contrasting trend in Africa signals that the development of the railway system in Africa still faces serious barriers (Pfeiffer, 2011).

In cognizance that railways play a key role in the mass movement of goods and people over long distances, many governments in the world have initiated various strategies to improve and scale up railway services. In Nigeria for example, has begun to resuscitation of the previously moribund Nigerian Railway Corporation (NRC). It is laying a firm foundation for modernization of its railways. The plan is to link seaports, major airports, refineries, inland container terminals, economic zones like the steel plants, coal mines, tourism locations and state capitals by the railway network to facilitate travel, commerce, regional development, national integration and intermodal activities (Igwe et al, 2013).

1.2 Statement of the Problem

The railway network in Africa is very small and does not display a density similar with that in other regions. On a global scale, the railway infrastructure is a very large network with more than one million km of tracks. With a length of around 54,000 kilometres, the network of railway lines in Africa represents only 5 percent of the worldwide railway network (Pfeiffer, 2011).

Furthermore, the performance of railway transport in Africa especially in carrying cargo and passengers has been indicated to be the lowest recording only 7 per cent compared to other regions of the world in 2010. In 2008 for example, the Tanzania Railways Limited (TRL) planned a target to transport one million tons of cargo but it ended up carrying 450,000 tons which is less than half. Few years back in 2006, TRL was able to carry 650,000 tons only (Msamba and Mamboleo, 2014).

Despite of the fact that the Tanzanian central railway line covering big coverage of about 11 regions, it has not been able to carry cargo and passengers to its own targets. This research is aiming to examining the volume of cargo transported for past five years if meet the targets and promoting cargo transportation in Tanzania.

1.3 Main Objective of the Study

The main objective of the study was to examine the role of central railway line in promoting cargo transportation in Tanzania

1.3.1 Specific Objectives

- i. To assess cargo transport needs by central railway line in Tanzania
- ii. To examine the actual volumes of cargo transported by the central railway line in the last five years (2010-2014)
- iii. To examine the challenges facing railway transport in Tanzania

1.3.2 Research Questions

The study was guided by the following research questions:

- i. Is the cargo transported by central railway line meet Tanzania needs?
- ii. What actual volume of cargo transported by central railway line in the last five years?
- iii. What are the challenges affecting railway transport in Tanzania?

1.4 Significance of the Study

The study will contribute towards understanding the role of Tanzanian central railway system in cargo transport. Findings from the study gives knowledge that compares actual needs for cargo transport and the actual performance in terms of cargo volumes transported. It also identifies the level of income generated through transportation of cargo. This will help to know the contribution of the central railway system in cargo transport in the country.

Information generated from this study helps managers of railway companies and the government as an overseer to acquire more inputs and information that may support decision making towards improving railway operations as far as cargo transport is

concerned. The study contributes to provide practical solutions to cargo freight through railway transport sector. The contribution of railway transport on social and national economy will be restored and pave the way for sustainability of railway transport in the country.

1.5 Scope of the Study

Despite the fact that there are many Other Railway line in Tanzania, this study covered only Central railway line. This study based on the role of railway line in promoting cargo transportation was limited in central railway line covering the volume of cargo transported in past five years, the study also covered Dar es Salaam TRL head office where located key respondents of the study including officers and Managers who are profession for the cargo transportation.

The researcher has confidence that the secondary data obtained by document review and primary data which were obtained by interview and questionnaires hence study findings will still be useful in terms of providing general information on the status of the transportation of Cargo in the country.

1.6 Limitation and Delimitation of the Study.

Time and financial resources, in the world of research and in our day to day life are never adequate. However, with careful planning, a sensible use of the same was possible and thus to eliminate the potential risk due to their significant deficiency. On the other hand, the transport network and access to participant for interviews were also a limiting factor for accomplish the intended portion of the research. However, efforts and patience made this possible without any risks.

CHAPTER TWO

LITERATURE REVIEW

2.1 Overview

This chapter presents literature review on the subject matter related to railway and transport in general. The chapter discusses some empirical studies from different authors. Theories that explain transport are referred to build more understanding of the topic. Conceptual framework is introduced to coordinate various ideas around the subject.

2.2 Definitions

It is worth to define key terms that will be used throughout this study to make them clear to the reader. The key terms here are transport and railway transport. According to Starkey (2002) transport means an act of moving people or goods or from one location to another. In this definition, specific distance is not mentioned but it means shifting of people or other commodity from original location to another.

Transport is the process of shipping or moving item from point A to point B. It is the movement of people, animals and goods from one location to another (Williams, 2005). Starkey (2002) defines public transport as a shared passenger transport service which is available for use by the general public as distinct from modes such as taxicab or hired buses.

Railway transport is explained by Schivelbusch (1986) as conveyance of goods or passengers by means of wheeled vehicle passing through a metal rail. The rail vehicles are guided by metal tracks through which the rail vehicles' wheels moves

on. Railway transport differs from road transport because on road transport, vehicles pass on a prepared surface on the ground.

2.4 Theoretical Framework

When planning for a change or an improvement, it is better applying some theories that provides some background and a starting point. In this case, theories of change might be suitable to rescue the situation of railway system in Tanzania. Theories are suitable when one needs to design an initiative that will bring success. It will also help to explain reasons for an initiative success and failures.

The Stage theory of Change

The stage theory of change is relevant for this study. The stage theory of change states that an adoption of an intervention usually involves several stages to complete. Each stage in a process requires some specific strategies that inform an organization stage of adoption, implementation activities and sustainability plan(Clark and Taplin, 2012). The stage theory of change is used as a means of informing, developing and evaluating interventions designed and used in a certain situation within an organization or individuals. In this case, a railway company for example might have put in place a plan that will be implemented. After implementation, it is required to collect information based on the implementation, evaluate the information during implementation and evaluate to know the status. The theory provides an integrated summary of constructs, procedures and methods for understanding the actions during implementation.

The stage theory has four stages as follows;

Awareness of challenges and possible solutions, decision to adopt new innovation

Implementation that includes redefining the innovation and modifying an organizational structures to accommodate the new innovation and Institutionalization and making new innovation part of the organization's activities

The researcher for this study feels that the stage theory of change is applicable in the subject under study. It requires railways authorities and stakeholders to be aware of the existing challenges and make decision to adopt new innovation or intervention. Then this is followed by implementation of activities related with the new innovation to bring desired improvement.

2.4 Empirical Literature Review

Hylton (2007); carried out a study on the factors for success of industrial revolution in some countries in Europe. His study was based on existing documents available in various government departments responsible for transport. The study discovered that railway transport was the key factor for industrial revolution. Railway lines played transport role to move raw materials and finished goods from one location to another. It connected the major cities, ports and mining areas, and linked to neighboring countries. The first railway in Belgium, running from northern Brussels to Mechelen was completed in May 1835, making it the first railway in continental Europe. The study concluded that railway transport saved time and money hence increased profitability and economic growth.

Another scholar Wolmar (2009); carried out a study on the cargo volumes carried by railway lines in North America. The study methodology included survey and literature review where existing cargo documents were reviewed. It was discovered that North American railroads operated 1,471,736 freight cars and 31,875 locomotives. It runs a total of 39.53 million carloads (averaging 63 tons each) and generated US Dollars 81.7 billion in freight revenue. The largest commodities were coal, chemicals, farm products, non-metallic minerals and intermodal. Coal alone was 43.3 per cent of tonnage and generated 24.7 per cent of revenue.

A study by Firzli and Nicolas (2013) in France examined the benefits of railway transport in France. The study methodology employed included observing railway activities, reviewing existing documents on railway operations and carried out focus group discussions with various groups of companies that access railway services in French. The objective of the study was to evaluate an existing notion which states that the benefits of railway transport can be measured through change in economic status of population that lives in areas served by railway lines. The study found out that people along railway line did not benefit much as expected. Railway operations were hampered by political ideologies such that it failed to operate commercially and based on actual needs of people and businesses.

Wittke (2011) examined railway transport needs in Brazil. Through interviews, the scholar involved both private and public clients of railway services in the country. The study discovered that the demand for railway transport for both cargo and passengers is growing at the rates of 9 to 12 per cent annually between 2010 and

2015. Such growth is caused by an improved cargo and passenger train system which include new speed trains in the country.

Despite of having many positive roles of railway transport, Igwe et al (2013) studied challenges that affect railway systems. The scholar examined public railway system in Nigeria through face to face interviews with railway authorities and observation visits in railway networks and destinations. The study concluded that railway system in Nigeria is facing many critical operational challenges. These include poor communications within the railway company, government interference with management structure, lack of freedom to set tariffs, underfunding, technical problems and inflexible bureaucracy

Table 2.1 Summary of Reviewed Studies

Author	Country	variable	Methodology	Findings	Recommendation
Hylton (2007)	Europe	Factors for success of industrial revolution	Review existing document in various government transport department	Railway Transport was the key factor in industrial revolution, railway played big role in transport raw material from one point to another	Concluded that railway transport is the key factor for economy growth
Wolmar (2009)	North America	Cargo volumes carried by railway line	Survey and documents review	He reveals how the rise of the train stimulating the rapid movement of people and goods around the world. How the railways played a vital role in civil conflict, as well as in two world wars	Show the way railway were a catalyst of a whole range of other change, and how railway create the world we live and stimulated development and change in virtually every country
Firzli and Nicolas (2013)	France	Examine the benefit of railway transport	Railway observation document review, and group discussion	Found that people along the railway line did not benefit much as expected. Railway operation were hampered by political ideologies and fail to meet need of people and business	To give full attention and support on railway operation
Wittke (2011)	Brazil	Examine railway Transport need	Interview both private and public clients of railway services	The demand for railway transport is growing at a rate of 9 to 12 percent annually between 2010 & 2015	Effective assessment of railway transport needs before setting up target for passenger or cargo freight
Igwe et al(2013)	Nigeria	Challenges affecting railway system	Face to face interview, observation of railway network	Poor communication with the railway company, government interference with management structure, lack of freedom to set tariffs, underfunding and technical problem	Reconstruct of the rail transport network to move a major part of its estimated million tons of freight per annum, before construction of new line.

2.5 Conceptual Framework

Railway transport has been reported to play critical role in economic development through moving people and cargo from one point to another. Railway transport connects cities, production sites and markets at a considerable low cost compared with other modes of transport. For example, the central railway line in Tanzania supports to handle cargo to other land locked countries such as the Democratic Republic of Congo, Rwanda and Burundi (Issa, 2013).

An effective assessment of railway transport needs is important before setting up targets for passenger or cargo freight. Wittke (2011) explain that growth of railway transport sector is determined by amount of cargo and passengers being carried by railway system in a given country. More demand for huge volumes of cargo and passengers is translated into growth of railway sector.

But again deliberate efforts to assess challenges affecting railway transport is important in evaluating railway performance and profitability. Information generated during such assessment will inform strategies to improve operations and decisions to invest. Sustainable review of railway services will support improved cargo and passenger transport and finally railway transport contribution to the economic growth (Firzli and Nicolas, 2013)

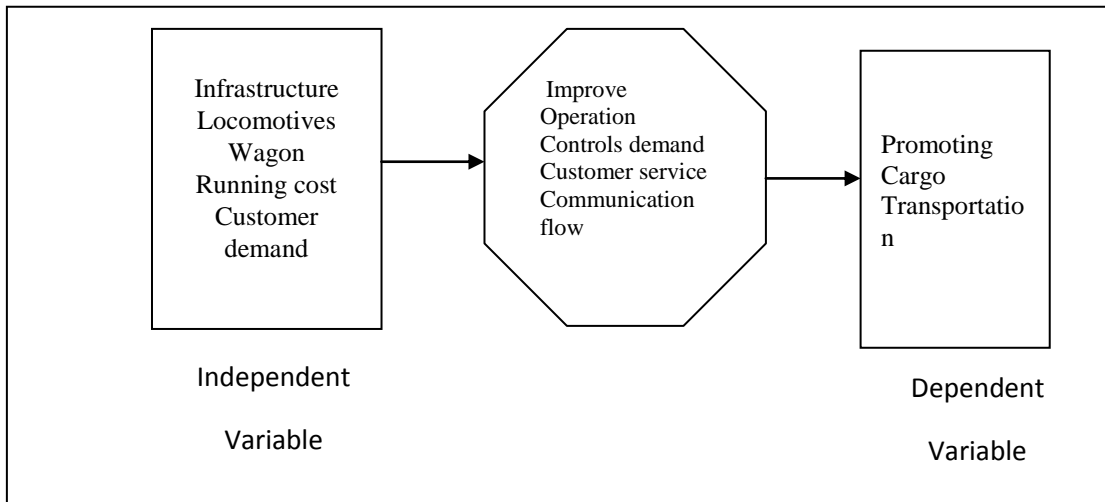


Figure 2.1: Conceptual Diagram.

Own creation generated from literature review

For any Railway to have high promotion in cargo Transportation it depend on the main things that can succeed to take either Cargo or passenger from one point to another. The rail transport should have a stable infrastructure which will manage train to move smoothly from source to destination, and at arranged schedule without any delay. The train should be capable of travel in long distance with bulk delivery of goods; this can be done if there is enough standard and Morden locomotives with capacity of pulling 20 to 25 wagons.

Not only that but also the rail company need to have enough running cost, good communication with customers, planned schedule and strong management with clear policies and procedures that will guide the whole operation to ensure the service are well conducted, this will encourage more customer to use the service and hence to Promotion of the cargo transportation.

2.6 Research Gap

From the literature review in this paper the roles of railway transport are clear. Many literatures that have been reviewed such as Mamboleo (2014), Wittke (2011) and Pfeiffer (2011) indicated critical role of railway transport in cargo and passenger movements in relation to social and economic development. However they did not able to show the actual level and volume of the cargo transported for the period of time, as well as difficulties affecting and impeding railway operations from promoting cargo transportation, In this study the researcher was eager to observe the actual volume of cargo transported and the challenges faced by the railway company to attained the goal.

CHAPTER THREE

RESEARCH METHODOLOGY

3.1 Overview

This chapter presents research methodology for the study. The chapter explains the type of research design that was used, area of study, sample and sampling process and stipulates data collection methods. The chapter also presents data analysis plan that was used to analyse data.

3.2 Research Philosophy

This study assumed a realist approach, because this is an approach that retains many of the ambitions of positivism but recognizes, and comes to terms with, the subjective nature of research and the inevitable role of values in it. (Colin 2010). The researcher believes that this approach was useful in this study because the study focused on realistic information. The approach was influenced by the fact that the subjects being investigated were independent from the researcher believes and views.

3.3 Research Design and Source of Information.

The study based on the role of central railway in promoting cargo transportation It is descriptive and exploitive convey on qualitative analysis using both primary and secondary data where by primary data were obtained through interviews, questionnaires and secondary data obtained through document reviews at TRL office

The interview was directed to 5 TRL Managers from different departments and questionnaire was administers to managers and officers from different department concerning with cargo transportation.

3.4 Area of Study

Orodho and Kombo (2002) define an area of study as a place or location where the study is carried out. The study based on the role of central railway in promoting cargo transportation. It is descriptive and exploitive convey on qualitative analysis using both primary and secondary data where by primary data were obtained through interviews, questionnaires and secondary data obtained through document reviews at TRL office

The interview was directed to 5 TRL Managers from different departments and questionnaire was administers to managers and officers from different department concerning with cargo transportation.

3.4.1 Study Population

The study extracted sample from the population of TRL employees. The population for this study is head of department, Managers and officers who are working at TRL, 100 employees, the selection of these people is targeting the officials responsible for the cargo and passengers transport.

3.4.2 Sample and Sample Size

According to Pfeiffer (1994) in statistics and quantitative research methodology, sample means a portion or part of the population under study which represents the whole population in a study. Population for the study are the officials working in the TRL at various departments. For this study therefore the sample was drawn from the head office of TRL. The researcher requested for a list of available departments in TRL from the Public Relations Officer. It is from each of those departments that are

responsible for transporting cargo and passengers that the researcher involved at least one official.

3.4.3 Sample Size

This study will consider 50 total sample size drawn from a population of 100 officers managers and head of departments of TRL. Yamane (1967:886) cited by Glenn D (2013) propose the use of simplified formula to calculate sample size of the study. Therefore, the formula $n = N / (1 + Ne^2)$ is adopted to get sample of this study. Where: n = number of sample, N = total population, e = error tolerance or level of confidence

Then: N = 100, e = 10%, n =?

From the formula: $n = 100 / (1+100*0.1^2) = 50$

Therefore: n = **50**

3.5 Sampling Procedure

Sampling procedure is the technique developed to ensure that the selected sample represents' the target population and must reflect the unit of analysis Katrina .A.K (2012) among of most common sampling procedure are such described below:

3.5.1 Simple Random Procedure

Simple random procedure is the technique where by every individual in a target population has an equal chance of being part of the sample. The sample is selected at random and systematically until the sample size is reached, Sounders et.al (2009). The set of random number obtained for the different sample must not be the same to avoid set of the number that is identical. Random is the technique that means the

selection made without aim reasons or patterns. This procedure is rarely used in educational studies.

3.5.2 Stratified Random Sampling

Katarina(2012) describe Stratified random sampling is modification of random sampling where the population divided into groups based on the relevant characteristics and significant strata means that the sample is likely to be representative as the researcher can ensure that each of the strata is represented proportionally within the sample.

3.5.3 Purposive Sampling.

Purposive or judgemental sampling is a procedure that enables researcher judgementally targets a group of people believed to be typically or specifically for some unique purpose that will best enable to answer the research questions and meet the research objectives. Saunders et al (2009).

Katarina (2012) argued that the researcher should consider factor that might influence the population such as social economic status, intelligence, access to education etc. This form of sample is often used when working with very small sample such as case study research.

3.5.4 Multi- Stage Sampling.

Kothari (2004); Described multistage sampling as a further development of an idea of cluster sampling. This technique meant for big inquiries extending to a considerably large geographical area like an entire country. The sample stage may be first to select large primary sampling units such as state, then district, town and lastly select same

families within the town. Multistage sampling rely on a series of different sampling frame, all need to insured are appropriate and available.

The study employed purposive sampling which enable researcher to selected officers and managers in different department concerning with cargo transportation such as transport department, planning and management department, finance department and information technology department this departments are the source of information regarding the operation of cargo and passenger transportation. A researcher also chose this procedure as the most useful technique in this study compare to the other techniques because based on its judgementally procedure enabled researcher to select official who specifically plays a vital role in the railway operations especially cargo and passenger transport.

3.6 Data Collection Techniques and Tools

Data collection methods or techniques depend on the data sources including primary and secondary source of data. In this study the primary data were collected through face to face interview and for the most usage through questionnaire while the secondary data were collected through document reviews especially the relevant documents from TRL that documents information on cargo transport and income realized on cargo transport service by railway

Data at hand are inadequately while dealing with the real life problem, therefore it become necessary to collect data that are appropriate, Kothari (2004). In the following first primary data and then secondary data sources expressed as followed:

3.6.1 Primary Data

Primary data were collected through face to face interview administered by researcher and through questionnaire with questions formulated based on the roles of the railway in promoting cargo transportation.

3.6.2 Interview

Through interview, literature review utilized the interview method and enabled researcher to pose many questions, and possibility to ask additional questions to get a real understanding of the problem under the study through interview from participate managers and officers at TRL.

3.6.3 Questionnaires

A questionnaire was the most important method where by primary data was collected. Through this method the researcher list the required information based on the objectives of the study, followed by questions which formed based research required information.

3.6.4 Secondary Data

Secondary data was obtained through reviewing of relevant TRL documented information's based on the volume of cargo transported in past five years and income realized for the cargo transported. Literature review was chosen because it helped to access records for railway performance in various periods. Data from these documents were summarized in note books and formed part of analysis.

3.7 Data Cleaning

Data cleaning process done prior data analysis, where by the use of SPSS software researcher able to detect and remove all major errors and unwanted data that appears between variables, unwanted data was cleared in order to have quality data and results. The procedure done by checking on the variables frequencies and percent's, as well as cross tabulation for variables, below are data cleaning test processed on the cargo promotion. The variable go under test shows that the data is clean.

Table 3.1: Frequency and Percent Test for Data Cleaning

Cargo promotion				
Valid	Frequency	Percent	Valid Percent	Cumulative Percent
Strongly disagree	13	26.0	26.0	26.0
Agree	33	66.0	66.0	92.0
Strong agree	4	8.0	8.0	100.0
Total	50	100.0	100.0	

Research findings

3.8 Reliability and Validity of Data

Phelan and Wren(2006) defines reliability as the degree to which an assessment tool produces stable and consistent results and validity as how well a test measures what it is purported to measure.

The reliability of data measured by ensures that the selected respondents are the key and proficiency one with cargo and passenger transportation. The researcher test the results consistency by run the alpha test using reliability command in statistical package for social science (SPSS).

Table 3.2: Reliability Test Result

<i>Reliability Statistics</i>			
Cronbach's Alpha	Cronbach's Alpha Standardized Items	Based on	on N of Items
.842	.846		10

Source: Research findings

The result from the table 3.1 above with alpha (α .842) indicated that the consistency of reliability of questionnaire is good.

3.9 Data Analysis Plan

Data were analysed and summarized in relation to specific objectives of the study using statistical package for social science (SPSS), which made cross tabulation of variable easy. Microsoft excels and histogram has been used to generate tables and graphs.

Table 3.3: Results for Variable Cross Tabulation

			Improving economy		
			A	SA	Total
Cargo promotion	SA	Count	1	3	4
		% within Cargo promotion	25.0%	75.0%	100.0%
		% within Improving economy	10.0%	7.5%	8.0%
		% of Total	2.0%	6.0%	8.0%
	A	Count	0	33	33
		% within Cargo promotion	0.0%	100.0%	100.0%
		% within Improving economy	0.0%	82.5%	66.0%
		% of Total	0.0%	66.0%	66.0%
	SD	Count	9	4	13
		% within Cargo promotion	69.2%	30.8%	100.0%
		% within Improving economy	90.0%	10.0%	26.0%
		% of Total	18.0%	8.0%	26.0%
Total	Count	10	40	50	
	% within Cargo promotion	20.0%	80.0%	100.0%	
	% within Improving economy	100.0%	100.0%	100.0%	
	% of Total	20.0%	80.0%	100.0%	

From the table 3:2 the result obtain in SPSS by cross tabs two variables explaining and showing the percentage and relationship between two variables which are cargo promotion and economy improvements.

The percentages within cargo promotion represented by row percentage, improving economy are represented by column percentage and total percent are overall percent.

From the row percentage out of 4 participants who strongly agree TRL promote cargo transportation, 3 of them strongly agree that TRL improving economy which is equal to 75 percent. From the column percentage out of 40 participants who strongly agree TRL improving economy strongly that TRL promote cargo transportation, equal to 7.5 percent. On overall row percentage out of all 50 participants, 40 of them strongly agree TRL promote cargo transportation equal to 8 percent. While on overall column percentage out of all 50 participants, only 40 of all participant strongly agree that TRL improving economy equal to 80 percent, lastly on cell percentage out of all 50 participant, only 3 of them strongly agree that TRL promote cargo transportation and improve economy.

CHAPTER FOUR

RESULT AND FINDINGS

4.1 Overview

This chapter presents the findings of the study based on the answers from questionnaires and from reviewing documents from TRL.

4.2 Respondent's Profile

In this subsection, respondents were asked to indicate their gender, education, their job position within TRL and departments in which they work.

4.2.1 Gender

In order to capture the respondents' gender, they were asked to indicate whether their gender represent male or female. The responses were as presented on the table below:

Table 4.1 Respondents' Gender

		Frequency	Percent	Cumulative Percent
Valid	Male	32	64	64
	Female	18	36	36
Total		50	100	100

Table 4.1 above shows that among the study respondents, male represented a bigger number than female. A total number of respondents were 50 but females were 36 per cent while male were 64 per cent. There was no gender bias in the selection of

respondents. The difference in numbers came in as a result of available Managers and Officers within TRL head office.

4.2.2 Respondents' Levels of Education

To understand the respondents' education status, they were asked to choose from four options given on the questionnaire. The options were certificate, diploma, bachelors' degree and masters' degree. The responses were as presented on the following table:

Table 4.2 Respondents' Level of Education

		Frequency	Percent	Cumulative Percent
	Certificate	0	0	0
	Diploma	0	0	0
Valid	Bachelors'	38	76	76
	Masters	12	24	24
Total		50	100	100

Information presented on table 4.2 above indicates that 76 per cent of all respondents who participated in the study attained bachelors' degree while 24 per cent attained masters' degree. None of the respondents indicated having a certificate or diploma.

4.2.3 Respondents' Occupation

It was ideal to know the respondents' occupation. The researcher asked them to mention their job titles on the questionnaire. The titles were summarized and are presented on the table below:

Table 4.3 Respondents' Occupation

		Frequency	Percent	Cumulative Percent
	Manager	5	10	10
Valid	Ass Manager	8	16	16
	Accountant	2	4	4
	Officers	35	70	70
Total		50	100	100

The 4.3 above shows that the number of TRL Officers who participated in the study was bigger than Managers and Assistant Managers. The Officers were 70 per cent. According to Ulrich (1997), in an organization junior staff represent a bigger number than senior members of staff. This was true for TRL because there are more than five Assistant Managers and Officers who work under one Manager.

4.3 Respondents' Departments

The researcher wanted to know departments in which the respondents are working. Each TRL employee who participated in the study mentioned the department in which he or she works. The responses were summarized on the table below:

Table 4.4 Respondents' Departments

		Frequency	Percent	Cumulative Percent
	Transport	5	10	10
Valid	Finance	8	16	16
	IT	2	4	4
	Plan & Management service	35	70	70
Total		50	100	100

Information presented on table 4.4 above indicates that out of 50 TRL employees who participated in the study, 41 (equal to 82 per cent) were drawn from transport department. This department is the main department as it implements the core business of TRL. Other departments are supporting the duties of Transport Department.

4.4 The Roles of Tanzanian Central Railway Line

The researcher wanted to assess the role of Tanzanian railway line in cargo transportation, employment and economic development of the country. Respondents were asked to give their opinion through scoring some statements that are focusing on assessing the role of the central railway line. Four rating scales were given for making a choice. The scales are 1) strongly disagreeing = SD, 2) neutral=N, 3) agree = A, and 4) strongly agree = SD. The scores were as presented on the table below:

Table 4.5 Roles of Tanzanian Central Railway Line

Statistics	Frequency				Percent			
	SD	N	A	SA	SD	N	A	SA
Cargo promotion	13	0	33	4	26%	0%	66%	8%
Volume transported are reasonable	33	0	11	6	66%	0%	22%	12%
Improving economy	0	0	10	40	0%	0%	20%	80%
TRL pay attention on its Operations	8	0	36	6	16%	0%	72%	12%
Safety of transported cargo	0	0	48	2	0%	0%	96%	4%
TRL renovate infrastructure	1	4	39	6	2%	8%	78%	12%
No profit in transporting cargo	47	1	1	1	94%	2%	2%	2%
No overcharge	9	0	40	1	18%	0%	80%	2%
Not delude the customer	26	1	23	0	52%	2%	46%	0%
Reduce unemployment	0	0	28	22	0%	0%	56%	44%

Key: "SA" stands for strongly Agree, "A" stands for Agree, "N" stands for Neutral and "SD" stands for strongly Agreed.

The findings presented on Table 4.5 above indicate that 66 per cent of TRL employees who participated in the study agree that the central railway line promotes cargo transportation in the country. Other 8 per cent of respondents strongly agree with TRL promotion of cargo transportation. However 26 per cent of respondents disagreed. From these responses therefore, the researcher concludes that the TRL plays a significant role in promoting cargo transportation in the country.

In assessing the cargo volume transported by TRL, 66 per cent of TRL employees who participated in the study said that the volume of cargo transported is not reasonable. This means that TRL do not carry amount of cargo volume as expected.

This was confirmed by the Transport Manager who said that in the last five years (2010 to 2014) TRL transported a total of 1,065,891 tons of cargo which is 45 per cent of actual capacity of TRL to carry cargo. Transport Manager was quoted saying that “the volume of cargos transported by central railway line for past five years was not satisfactory. The engines and the infrastructure used at the time were not in good order. However the volume decreases and starts picking up again depending on the conditions of engines and the infrastructure. But when remanufacture of engine start effectively at Morogoro workshop and maintenance of railway then the volume of cargo required per year will start to gain”.

Other employees had different opinion. A total of 11 out of 50 employees (equal to 22 per cent) who participated in the study agreed that TRL carry enough cargo volume. Another group of 6 out of 50 (equal to 12 per cent) said they strongly agree. When the three groups are compared it is obvious that TRL does not transport enough cargo volume to its full capacity. TRL is involved in transporting various forms of cargo from one point to another most of cargo transported are:

Transit goods – imported goods at Dar es Salaam port transported to neighboring country through Central Railway line Domestic goods – Goods transported from one region to another along the region served by central railway line. POL (Petrol, Oil and Liquids) i.e. Petrol and Diesel. Not only that but Central railway transport also raw materials such as Cotton, Tobaccos, coffee which used in our industries and out of countries. General goods also transported such as construction materials etc.

From recent TRL report (December 2014), the researcher had an opportunity to verify some information related to volume of cargo transported in the last five years.

The table below indicates the cargo volume covering the last five years:

4.5 Volume of Cargo Transported for Past Five Years

The volume of cargo transported for the past five years (2010 to 2014) was one of the objective of the study, and the researcher want to examine the volume of cargo transported for the mention period, The total number of tons transported was obtained from TRL documentation, and below is the table showing the tons of cargo transported in past five years.

Table 4.6 Volume of Cargo in Tons for Year 2010-2014

Types of Cargos	2010	2011	2012	2013	2014	Total
Domestic goods	255,710	237,564	166,042	141,836	185,350	989,500
Transit Goods	480	29,444	31,982	12,505	4,978	79,389
Total	256,190	267,008	198,024	154,341	190,328	1,065,891

Information on table 4.6 above is presented in the diagram below for further analysis and comparisons:

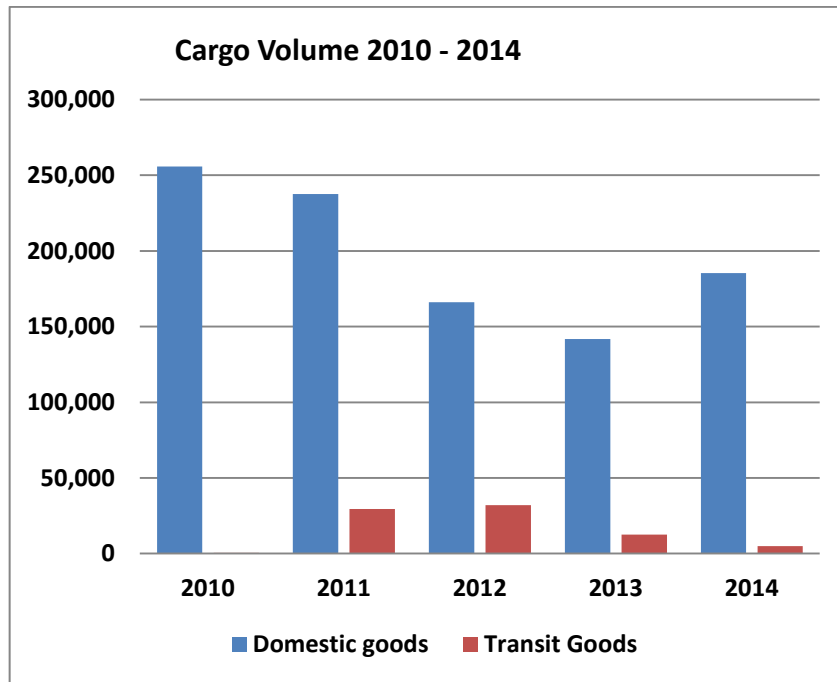


Fig. 4.1 Volume of Cargo Transported by TRL for Past Five Years

Data presented on table 4.6 and figure 4.2 above indicates the following observations:

More domestic than transit cargo has been transported by TRL in the last five years by a difference of 907,113 tons

There was a decreasing volume of domestic cargo transported by TRL instead of increasing. This is seen from the fact that in 2010 TRL transported 255,710 tons of domestic cargo but went down to 185,350 tons in 2014. This is a fall by 27.5 per cent of cargo volume

With regard to transit cargo, TRL started very low in 2010, where the volume of cargo transported was 480 tons. But significant achievement was realized in the

following two years 2011 and 2012 where a total of 29,444 and 31,982 tons were transported to other countries. But in 2013 and 2014, transit cargo volume went down again reaching 12,505 and 4,978 respectively

About the contribution of central railway line in the national economic development, 80 per cent of TRL employees agreed that the railway contributed to the national economy. The Finance Manager confirmed this information by saying that the central line is potential and capable of generating large amount of income within a short time. For example in a period of one year from January to December 2014, the railway generated a total of TZS. 28.2 billion, from its normal operations that includes cargo and passenger transportation. Furthermore, the TRL Transport Manager reported that:

The rail network continues to be important tools in achieving the government's plan of lifting the economy and reduce poverty by making sure that the transportation policies are implemented well

The rail network has contribute to the government's effort to achieve the millennium goals as the network able to pass even to the rural areas where it make easy for the farmers to get fertilizers and agriculture tools which are the back bone of the nations, railway network has also helped the various farm, and industrials products to be sold cheaply at rural areas

Train has capacity of carrying bulky goods and different types of cargoes at the same time with affordable transport cost, as also shown on table 4.5 that 80 percent of

employee agreed that the cargo transported at affordable cost. This allows traders to reach market for their products at affordable costs

The employment of the railway workers has contributed to the promotion of capital in social security funds by using the parts of their contribution to invest in various development projects

TRL contribute to increasing GPD as the businessmen and farmer transport and sell their goods and products that are subjected to value added tax (VAT)

The researcher wanted to know the feelings of the TRL employees who participated in the study about the level of TRL attention to its operations. Findings revealed that 36 out of 50 employees who participated in the study (equal to 72 per cent) agreed that TRL pays reasonable attention to its operations. One example of TRL attention to its operation was given by Transport Manager who reported that maintenance of engines and the railway line itself is done continuously. He also said that cargo acceptance by TRL is done every day from 8 a.m. to 8 p.m. while the shipment is done 24 hours as per TRL shipment schedule.

But there were some employees with different feelings about TRL attention to its operations. A total of 6 out of 50 TRL employees who participated in the study (equal to 12 per cent) strongly agreed that TRL pays attention to its operations. But 8 others (equal to 16 per cent) strongly disagreed. It means to them that TRL is not paying full attention to its operations.

On cargo safety, a total of 48 out of 50 TRL employees (equal to 96 per cent) who participated in the study agree that TRL assures cargo safety. Other 2 TRL

employees who participated in the study (equal to 4 per cent) strongly agreed that TRL assures cargo safety. Cargo safety was reported by TRL Transport Manager to be among TRL top priority because it helps to win cargo owners confidence. Proper handling of cargo starts from the point of receiving cargo, storage, loading to the train vehicles and during offloading. There are employees with specialized skills on handling different types of cargo.

The researcher wanted to assess TRL employees' feelings about maintenance of infrastructure. A total of 39 out of 50 TRL employees (equal to 78 per cent) agreed that TRL makes regular maintenance of its infrastructure. But 6 out of 50 TRL employees (equal to 12 per cent) who participated in the study strongly agreed that TRL makes regular maintenance of its infrastructure. Other 4 employees out of 50 who participated in the study (equal to 8 per cent) were neutral. They did not have any comment about TRL infrastructure renovation or maintenance.

The Transport Manager reported that in the last five years, the central railway line faced difficulties in operations due to the use of outdated engines and old infrastructure. This prevented them from reaching their goals. But from 2014 TRL started to maintain the engines and renovate the central railway line. Now TRL started to reach the planned goals.

TRL is making significant profit from cargo and passenger transportation. This was reported by 47 out of 50 TRL employees equal to 94 per cent. This is because railway transport is economical. It moves large volumes of cargo and passengers at one time. It is more economical for large volumes of cargo and passengers travelling long distance. The Assistant Transport Manager said that "cargo transported through

central railway line take an average of 3 days from Dar es Salaam to Kigoma and Mwanza. The time is actually shorter compared with the time taken by long road vehicle.

The researcher wanted to get TRL employees' opinion about how they view the cost of cargo transportation. A total of 40 out of 50 employees (equal to 80 per cent) agree that the cost of cargo transport charged by TRL is reasonable. Other 1 out of 50 (equal to 2 per cent) respondents strongly agreed but other 9 out of 50 respondents (equal to 18 per cent) said they strongly disagree. The researcher thinks that this question needs can be answered better by companies or individuals who use TRL to transport their cargo. Further study may also be needed to know cargo transport charges charged by lorry owners who use road transport.

In assessing whether TRL delude customers, 26 out of 50 respondents (equal to 52 per cent) said that TRL does not delude customers by saying they strongly disagree. Another group of 23 out of 50 respondents (equal to 46 per cent) agreed that TRL does not delude customers. 1 respondent out of 50 (equal to 2 per cent) neither agree nor disagree that TRL does not delude customers. From these findings, it shows that TRL is transparent in handling customers with their needs.

TRL as an important player in the transport sector is expected to contribute towards employment creation. 28 respondents (56 per cent) agree that TRL contributes towards employment creation in the country. Another 22 (44 per cent) said they strongly agree to TRL contribution to employment. There were none of respondents strongly disagreed or being neutral. It is generally seen from these findings that TRL contributes towards employment.

4.6 Challenges Faced by TRL in Cargo Transportation

TRL as many other companies conducting service businesses, faces challenges in their operations. Researcher of this study was eager to examine the challenge facing Tanzania central railway in promoting cargo transportation, below is the table show some challenges TRL facing in their operation.

Table 4.7 Challenges Faced by TRL in Cargo Transportation

Challenges	Mentioned out of 50 respondent	Percent
Shortage of Engineer's	33	66%
Lack of Modern Technology	32	64%
Outdated Engine and Wagons	40	80%
Poor infrastructure	36	90%
Lack of Operating Fund	35	70%
Shortage of experience Stuffs	39	78%
Shortage of Locomotive and wagon	48	96%
Competition from road Track	31	62%

It was learned from the Responded Department, that TRL is experiencing many challenged in the entire operations of cargo transportation in central railway line. Among of the common challenges are the difficulties of getting train locomotives and wagons, which are compatible with technology and infrastructure capacity of an existing railway line. Where by 96 percent of the participants mentioned the same. While the 90 percent of participants mentioned that the existing railway line is below railway standard, which is 80 pound per yard. Not only below standard but it has

many bridges that has low ability of passing heavy load, This is because there is no continuous maintenance done on bridges.

The other challenge TRL facing is outdated of equipment used as shown in table 4.7 above 80 percent of participant mentioned. It becomes difficult to obtain spare parts needed for maintenance. Even when the parts are available, it takes longer time to repair the equipment.

Not only that but also there is shortage of Engineers and experience staffs in the entire operation who are proportional with modern technology as see on the table above more than half of the participants claim the same. Technical problem and shortage of engineers is the other challenges claimed where are needed to travel from one location to another to fix problem whenever arise.

The other challenge which also is main reason for the delay was the shortage of engines that are needed to pull the cargo vehicle up to the area of offloading the cargo. An average consumption of the engine was 220 kilometer per day compare to the target of 460 kilometer par day.

These challenges causes serious consequences including the fact that the cargo train takes as much as twice the time on the way as well as failure to resist commercial competition with road freight trucks as it takes shorter time than cargo train.

4.7 Cargo Transport Needs by Central Railway Line in Tanzania

Tanzania central railway line is an important link to connect all regions in Tanzania with Dar es Salaam harbor as reported by Transport Manager. The railway is also potential to support cargo transport for six neighboring landlocked countries of

Zambia, Malawi, Burundi, Rwanda, Democratic Republic of Congo and Uganda. Arrangement can be made to have points where cargo can be offloaded and moved by road or sea to those countries.

Amount of revenue gained through cargo transport is evidence that the central railway line is highly needed. The researcher was able to access financial information for 2014 indicating cargo transport revenue. The table below presents TRL financial revenue generated through cargo transport in 2014:

Table 4.8 Revenue Collected by TRL through Cargo Transport in 2014 (in Billions)

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sept	Oct	Nov	Dec	T
												TSZ
0.71	0.64	0.71	0.82	1.50	1.13	0.79	1.23	1.09	0.80	1.24	1.20	11.86

Information presented on table 4.7 above indicates that TRL generated more than 13 billion in one year. This means that if the TRL address most of the challenges faced, it will make more revenue in a year. Such revenue was earned through transporting both domestic and transit goods going to neighboring countries or from neighboring countries to the Dar es Salaam harbor.

According to TRL annual report for 2014, the company transported a total of 1,065,891 tons of cargo for five years from 2010 to 2014. But the TRL Transport Manager said that this volume is just 45 per cent of central railway line capacity to transport cargo. The researcher asked TRL members of staff who participated in the study on whether or not this amount of cargo is reasonable. Reasonability of cargo

transport in this case means a comparison between actual needs for cargo transport by the central railway line and the actual volume of cargo that have actually been transported.

Responses from TRL members of staff presented on table 4.5 show that 66 per cent strongly disagree with the statement that says the cargo volume transported by central railway line is reasonable. This means that there is more demand for cargo to be transported by the central railway line. The central railway line is potential to transport more volumes of cargo because there is high demand.

It observed from table 4.5 that the study respondents who said the cargo volume transported by TRL is reasonable are less than half of those who strongly disagreed. This concludes that there is high demand for cargo transportation by the central railway line. The railway has a unique advantage to transport domestic and transit goods, finished goods and raw materials.

CHAPTER FIVE

DISCUSSION OF THE FINDINGS

5.1 Introduction

This chapter presents discussion of the study findings. It makes reference to some authors who contributed to the theories and empirical evidence for this study. Discussion of findings is presented based on the specific objectives of the study.

5.2 Cargo Transport Needs by Central Railway Line in Tanzania

The study revealed that the central railway line is able to transport 45 per cent of cargo compared to its full capacity. This means that there is more cargo available for transportation by the railway. It was also learned from the TRL staff that the central railway line is not transporting reasonable volume of domestic and transit cargo.

As learned from Issa (2013), railway transport is critical to transport from one point to another. Transporting cargo by rail is considerably cheaper than other modes of transport. This is why companies such as Bakhresa Group, Mohamed Enterprises and Gapco in Tanzania are using TRL to transport their cargo. The central railway line in Tanzania is potentially situated to handle and transport cargo to other land locked countries of Zambia, Malawi, Uganda, Rwanda, Burundi and the Democratic Republic of Congo.

5.2.1 The Actual Volumes of Cargo Transported by the Central Railway Line in the Last Five Years

Information obtained from TRL Transport Manager indicated that cargo volume transported in the last five years (2010 to 2014) amounted to 1,065,891 tons. This amount of cargo sounds to be high but TRL Accountant and the Transport Manager said that this volume is below TRL capacity by 55 per cent. This is in line with Wittke (2011) who argue that it is necessary to assess an effectiveness of railway transport needs before setting up targets for passenger or cargo transportation. The researcher for this study is also agreeing with this author that the growth of railway transport sector is partly determined by amount of cargo transported over a defined period of time. The higher the amount of cargo transported, the higher the revenue earned hence high profitability of Railway Company.

5.3 Challenges Facing Railway Transport in Tanzania

Findings from the study indicate that railway transport is facing some challenges that negatively affect its operations. The challenges include tear and wear of the railway line itself, old engines which are losing its normal capacity and factors associated with railway line width. The width is reported by TRL Transport Manager to be smaller than the current international standards.

The challenges that are faced by TRL are different in nature from the challenges faced by railway system in Nigeria. An empirical study by Igwe et al (2013) indicates that public railway system in Nigeria is affected by poor communications within the railway company, government interference with management structure,

lack of freedom to set tariffs, underfunding, technical problems and inflexible bureaucracy

For a railway company to be effective and profitable, it has to critically examine its internal and external challenges and establish a clear plan to address them. This statement correlates with scholars Firzli and Nicolas (2013) who explain that information generated during such assessment will inform strategies to improve operations and decisions to invest within the railway company. A continuous review of railway operations and the infrastructure services will give room for an improved cargo and passenger transport.

CHAPTER SIX

CONCLUSIONS, IMPLICATIONS AND RECOMMENDATIONS

6.2 Overview

This chapter presents conclusion and recommendations for the study. They are presented based on the specific objectives of the study.

6.2 Conclusion

6.2.1 Cargo Transport Needs by Central Railway Line in Tanzania

This specific objective was set up in order to guide the study to assess the actual needs of cargo transportation through central railway line managed by TRL. It was not possible to get a straight forward figure of cargo that needs to be transported by central railway line. But it was possible to get an estimate through assessing the actual capacity of TRL to transport cargo to both domestic and international destinations.

In the last five years, 2010 to 2014, TRL transported a total of 1.065 million tons of cargo to both domestic and international destinations. This was reported by TRL Manager to be under TRL capacity. It was just 45 per cent of full capacity. Through normal calculations, full capacity here will be 2.368 million tons of cargo. The researcher for this study takes this cargo volume as cargo transport needs for the central railway line. The most reliable information about the needs for cargo transport by central railway line could have been obtained through reaching out to owners of cargo who want to move them to various destinations. This was out of scope for this study.

6.2.2 Volume of Cargo Transported by Central Railway Line in the Last Five Years

It was one of specific objectives of this study to examine the actual volume of cargo transported through central railway line in Tanzania. Data extracted from various documents and through interview with the TRL Transport Manager revealed that TRL transported cargo to both domestic and international destinations. A total of 986,502 tons of domestic cargo were transported in the last five years. For transit goods, TRL transported 79,389 tons of cargo. In total, TRL transported 1,065,891 tons of cargo in the last five years from 2010 to 2014 to both domestic and international destinations.

6.2.3 Challenges Affecting Railway Transport in Tanzania

Under this specific objective of the study, the idea was to learn the challenges that affect railway transport in Tanzania. But it was not the scope of this study to reach out to another railway company in Tanzania by name of Tanzania Railways Authority (TAZARA). But through learning from the central railway line under TRL, the researcher is able to present the following challenges that affect railway transport in Tanzania particularly the central railway line:

It is difficult to get train engines that are compatible with technology and infrastructure capacity of an existing railway line. The existing railway line is below 80 pound per yard. This is outdated and it is an old fashion.

The ability of most railway bridges to pass heavy loads is low. This is because of low repair work done on bridges. The construction of Tanzanian central railway line

started in 1905 and reached Kigoma in 1914. This means that it is old and its infrastructure including the bridges are also old.

Much equipment used is outdated such that it becomes difficult to obtain spare parts needed for maintenance. Even when the parts are available, it takes longer time to repair the equipment.

6.2.4 General Conclusion

Despite of some significant challenges that affect the central railway line, the study realized that the central railway plays a big role in improving cargo transportation in Tanzania based on the TRL performance of five past years (2010 – 2014). It contributes towards economic activities through transporting goods from one point to another.

6.3 Implications of Research Findings

Based on the data and conclusion draws, these findings have several significant implications in the following observations and suggestions

TRL should make a plan to rebuild existing engines, purchase new engines and provide regular training to engineers on new technology in order to meet new standards and move parallel to the technology changes.

TRL should make complete repairs of the rail road and bridges. This will increase the bridge ability of passing heavy loads. Improved rail road infrastructure reduces the chances of accident while increasing train speed

TRL should also increase numbers of wagon to make sure that the available wagons are compatible to transport demand. This will satisfy customer and improve volume of cargo to be transported.

6.3.1 Further Studies

This study, naturally, could not address all the aspects related to role of railway in promoting cargo transportation. Although a number of valid and critical issues were seen in due course of the study and are worth to be considered for a better understanding of cargo transportation and its improvements. This being the case, the study proposes the following areas that need to be ventured on future researches

It would be worthy investigating the symmetry between daily customer demand and railway transportation capabilities. This could not be fully accomplished by this research because among of 274 wagons planned to be purchased for covering daily demand, only 124wagons have received.

Similarly it would be worthy investigating the exact incomes accumulated in passenger's transportation as a result of income generated by railway transportation, the amount obtained and how it is a supplement to the TRL revenue would be interesting to comprehend.

6.3 Policy Recommendations

TRL with support from the government should consider upgrading railway line to standard gauge which is internationally recognized and give desired priority to the landlocked countries to use port to import and export their goods so that the benefits occurred is enhanced and sustained.

This will ensure that the desired improvement in cargo promotion is accurately.

TRL should develop a plan that lay down strategies to overcome competition from road trucks. One of the strategies may include proper marketing of TRL cargo transport services and reach out the companies and individuals who need to transport their cargos but they are not aware of TRL transport service.

Similarly it is recommended that legal institution and framework needs to be revised to ensure that political motives have limit interference on the efficiency and sustainability of the cargo transportation.

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Appendix I

Appendix 1: Questionnaire

My name is Elinikunda Andrew Nkya I am currently in the process of writing my dissertation for the completion of a Master Degree in Project Management of the Open University of Tanzania. My research topic based on “The Role of Tanzania Central Railway line in promoting cargo Transportation. Your assistance in filling and returning the questionnaire is greatly valued. The responses are completely anonymous and confidential and are for academic purposes only.

SECTION A: RESPONDENT’S PROFILE

Please tick in the boxes provided

Personal data

1. Gender of the respondents

a) Male

b) Female

2. Respondents level of education

a) Certificate

b) Diploma

c) Degree

d) Masters

3. Occupation.....

4. Department.....

SECTION B: Contribution of Tanzania central railway line in stimulating cargo transportation and develop economic in Tanzania.

Expectations

Give a Score to Each Expectation Out of 4 Points

The following set statements relate to your expectations about economy. For each statement, please show the extent to which you expect your company to show on each statement.

DIRECTIONS: Indicate your true expectations by choosing a score from ‘1’ strongly disagree to ‘4’ strongly agree.

Scale: (1 = strongly disagree, 2= neither disagree nor agree, 3 = Agree, 4 = strongly agree).

S/N	Question/Item	Ranking			
		1	2	3	4
1	Central railway line promoted cargo transportation from last 5yrs				
2	The volume transported by central railway line are reasonable				
3	Central railway line builds an interest in improving economy				
4	Central railway line builds an interest in improving economy				
5	TRL pays attention to its operation				
6	TRL looks after the safety of transported Cargo				
7	TRL pay attention in renovating infrastructure				
8	Central railway line did not gain profits in transporting cargo				
9	TRL not overcharge their goods or services				
10	TRL does not delude the customers				
11	Central railway line reduces unemployment in the country				

12: What others approach do you consider as most critical to influence the improvement of cargo transport by central railway line

- a).....
- b).....
- c).....
- d).....
- e).....

What challenges faced by TRL promoting Cargo Transportation?

- a).....
- b).....
- c).....
- d).....
- e).....

Thank you for your Cooperation

Appendix II

TRL TRAFFIC PERFORMANCE FOR 2010 - 2014					
COMMODITIES	2010	2011	2012	2013	2014
Domestic Traffic:					
Cement	22,600	8,560	9,720	8,360	16,120
Coffee	0	764	0	0	0
Cotton	48	0	0	0	0
Cotton Cake	1,422	1,400	225	0	0
Fertilizer	39,180	15,680	9,364	2,278	5,440
General Cargo	35,510	49,602	19,919	31,628	26,192
Grains	8,725	21,296	37,052	18,793	49,403
Gypsum	1,119	3,680	2,521	5,490	1,800
Livestock	223	171	0	157	460
Maize	20,460	50,116	40,369	25,340	17,080
POL	23,743	32,036	12,454	20,272	21,803
Salt	4,080	8,000	6,160	6,000	4,440
Sugar	760	760	1,800	1,640	1,960
Timber and Logs	2,014	1,408	2,351	1,620	4,082
Tobacco and Cigarettes	0	6,635	5,210	1,747	2,545
Parcels	1,540	1,896	3,377	3,151	2,105
Total Domestic	161,424	202,004	150,522	126,476	153,430
Transit Traffic:					
General Cargo Up		28,684	31,682	10,905	4,469
Containers	480	720	300	1,520	509
Total transit Up	480	29,404	31,982	12,425	4,978
Transit Down	0	40	0	80	0
Total Transit	480	29,444	31,982	12,505	4,978
Total invoiced Traffic	221,030	239,208	184,264	138,981	158,408
East Africa Rly Hauliers	35,160	27,800	13,760	15,360	31,920
Total TRL Commercial	256,190	267,008	198,024	154,341	190,328
Summary:					
Dry Cargo	231,744	234,081	185,270	132,382	167,556
Containers	480	720	300	1,520	509
POL	23,743	32,036	12,454	20,292	21,803
Livestock	223	171	0	157	460
Total Commercial	256,190	267,008	198,024	154,351	190,328

Appendix III

TRL PROVISIONAL REVENUE FOR THE PERIOD FROM 01/01/2014 - 31/12/2014

APENDIX 1

Figures in thousands "000"

S/N	DESCRIPTION	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEPT	OCT	NOV	DEC	AVERAGE	TOTAL FOR 2014	TOTAL FOR 2013
1	REVENUE															
	Freight Revenue	709,191	642,534	714,677	818,357	1,496,862	1,133,970	788,971	1,225,514	1,087,321	796,861	1,237,769	1,098,194	979,185	11,750,221	11,592,000
	Passenger Revenue	100,093	41,016	43,680	43,884	142,701	385,187	597,716	792,608	450,891	603,693	800,534	455,400	371,450	4,457,403	6,920,000
	Operating Revenue	809,284	683,550	758,357	862,241	1,639,563	1,519,157	1,386,687	2,018,122	1,538,212	1,400,554	2,038,303	1,553,594	1,350,635	16,207,624	18,510,000
	Other Income	0	0	0	0	3	20	286	68	3	290	69	4	62	743	240,000
	Sub Total	809,284	683,550	758,357	862,241	1,639,566	1,519,177	1,386,973	2,018,190	1,538,215	1,400,844	2,038,372	1,553,598	1,350,697	16,208,367	18,750,000
	Government Grant	1,00,648	1,000,648	1,00,648	1,00,648	1,00,648	1,00,648	1,000,648	1,000,648	1,000,648	1,000,648	1,000,648	1,000,648	1,000,648	12,007,776	12,000,000
	Total Revenue	1,809,932	1,684,198	1,759,005	1,862,889	2,640,214	2,519,825	2,387,621	3,018,838	2,538,863	2,401,492	2,401,492	2,554,246	2,351,345	28,216,143	30,750,000