

Transportation Management Challenges in Ghana: A Study of Three Selected Companies in the Sekondi-Takoradi Metropolis

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Abstract Effective transport systems are critical in the socio-economic development of nations. Globally, there is a wide recognition of the need to put in place adequate measures to achieve sustainable transport systems for the greater good of society. To do this, requires an awareness of the myriad of challenges faced by stakeholders in the transport sector. Against this background, the researchers sought to explore the transportation challenges companies in Ghana face using Sekondi-Takoradi Metropolis (STM) as a case. The study adopted the mixed methods approach with descriptive survey as the design. A total of 85 employees of three companies in the Metropolis was involved in the study through census data collection method. The research instruments used were questionnaire and interview guide whilst percentages, means, standard deviation and thematic analytical tools were employed for the study. The study discovered that the greatest transport management challenge in the Metropolis is the general lack of transport management experts. Other challenges include high cost of transport operations, poor vehicle maintenance, ineffective transport policies in organizations and weak transport infrastructure in the Metropolis. It is recommended that companies in STM should put in place proper training and development programs to address the skill gaps inherent in their transport management systems.

Keywords Transport, Transportation management, Challenges, Supply chain, Logistics

1. Introduction

While development programs and policies tend to pay increased attention to physical capital, there has been an increasing recognition of the need for a proper balance through the inclusion of human capital issues. Despite the relative importance of human and physical capital, development cannot take place without both interacting since infrastructures cannot become effective without proper operations and maintenance. Likewise, economic activities cannot occur without a sound infrastructure base. The vastly transactional and service-oriented roles of transport sector highlight the complex relationship which exists between its physical and human capital needs (Rodrigue and Notteboom) [1].

Transportation has been described as the movement of

animals, goods and persons from one place to another. Transportation is one of the oldest forms of human activities whose origin can be traced to the early days of creation. Men and animals, since creation, have moved from place to place for various reasons. Development of human civilization has resulted in a corresponding development in transportation (Stock and Lambert) [2]. Currently, there are several modes of transportation which can be employed by men for their movements as well as movement of goods and services from place to place. These forms of transport have been classified mainly into five namely: air, rail, road, water, and cable. Each of these forms of transport has its own advantages and disadvantages. However, the choice of a transport mode depends on such factors as quantity of cargo, nature of cargo, destination of cargo and expected time of arrival of the cargo. For example, water transport, especially maritime transport, has been identified as an efficient and effective means of moving very large quantities of bulk cargos from one continent to the other. Again, the delivery of perishable goods in a relatively shorter period of time will require the use of air transport while most inland movements of goods make use of land transports such as road and rail transport (Fair et al.) [3].

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According to Tseng, Yue and Taylor [4], the supply chain of any organizations can be broadly divided into three activities namely: purchasing, manufacturing, and transport. Transportation helps to connect the other two operations of supply chain management. Also, transportation ensures that decisions relating to materials to use, inventory levels, distribution network configuration, and production quantities are effectively carried out (Tseng et al.) [4]. In fact, international trade and globalization have been made possible in the world today due to the existence of efficient and effective transport systems in many nations. As a result, today's businesses and organizations have been given opportunities to achieve increased performances with improved transport systems as one critical tool (Stopford) [5].

The role of transportation in today's business management goes beyond the tradition definition of movement of animals, goods and persons. Essentially, transport management has now become a potent tool for competitive advantage. Thus, businesses are able to achieve a reduced cost of operation, increased customer satisfaction and loyalty by means of an improved and efficient transport management. Besides, suppliers of raw materials, producers and distributors of products cannot perform as expected without an effective transport system (Taniguchi and Thompson [6]; Tawiah [7]).

As a concept, transport management involves the process of planning, implementing, and controlling all the activities required for the movement of goods from one place to another. It is an activity which requires the input of several stakeholders. For example, an effective transport management in organizations requires the input of maintenance personnel, fleet planning officers and drivers. Each stakeholder in transport management plays a unique role that combine to result in an effective transport management (Younkin, as cited in Tawiah [7]). The over-arching goal of any transport management activities in organizations is to ensure that there is improved organizational performance. To achieve this requires effective transport management practices in areas such as carrier management, load planning and optimization, shipments, freight payment, among others (Liviu and Emil) [8]. Transport accounts for as much as 30% of the total cost of logistics operations which is almost as much as warehousing and inventory management cost put together. This heightens the need for an economic transport network to promote an effective management of the cost associated with the movement of goods and persons in business organizations (Tawiah) [7].

The transport sector in Ghana accounts for more than 80% of the movement of goods and persons on daily basis. Despite the strong dominance of the road sector in Ghana, other modes of transport such as air, railway and inland water transport also play significant role in the economic development of the nation (Aghazadeh [9]; Tawiah [7]). The Government of Ghana largely owns and operates railway and inland water transport in the nation while private individuals almost completely dominate the air transport industry. With

regard to the road transport sector, both public and private own and control it though private entities and individuals own the largest share of fleet on the roads in Ghana (Osei and Kumah [10]; Tawiah) [7].

Generally, the transport sector in Ghana is characterized by a limited regulatory and institutional effectiveness and lack of a clear and comprehensive policy. In particular, although the road sector is the dominant transport sector, there are no standard regulations on area of coverage, standards of operation, maintenance of vehicles and related emissions. This has resulted in an industry which is characterized by no entrance and exit restrictions resulting in unreliable, uncomfortable and unsafe services (Aghazadeh [9]; Tawiah) [7]. Finance is a limiting factor due to the capital intensive nature of public transport operations. Financing of vehicles in the Ghanaian road transport industry is left completely in the hands of the individuals who have the ability to raise the needed capital to afford vehicles. There is also the problem of foreign exchange which affects transport management in Ghana. The cost of most transport inputs including fuel, spare parts and tyres are all tied with foreign exchange rate (Tawiah) [7]. This means that an increase in the rate of current exchange results in increases in prices of these items, hence increased cost of transporting goods and persons in the nation. What is more, the prevailing situation has made it very difficult for transport owners in the nation to easily replace vehicles or vehicle parts which have outlived their usefulness. Therefore, vehicles get older, cost of operations and maintenance soar up, eventually operations grind to a halt (Osei and Kumah [10]; Tawiah) [7].

In spite of the enormous contributions of transport management to organizational performance and the overall economy, Stopford [5] and Tawiah [7] maintain that the sector is faced with several challenges. Stopford [5] further identifies truck break down, over carriage and short landing as some of the transport management challenges affecting businesses and organizations around the globe. According to Stopford [5], most businesses and organizations encounter various forms of challenges with respect to their transportation operations which hamper smooth organizational goal attainment. The Sekondi-Takoradi Metropolis (STM) is one of the areas of Ghana facing various forms of transport management challenges which affect their performance. However, literature on the subject of transport management challenges among businesses within the Metropolis is sparse (Tawiah) [7], hence this study.

2. Literature Review

2.1. The Concept of Transportation

As a term, transportation has received different conceptualizations among scholars. For example, Chopra and Meindl [11] defined transportation as the movement of goods and persons from one location to another in a supply chain. This definition points to the basic function of transport

operations which is to enable goods and persons to be able to move from one point to another. Webster [12] also sees transportation as a commercial activity whose focus is on conveying persons and goods from one place to another. Clearly, Webster's definition goes beyond the basic function of transport which is conveyance of goods and persons to indicate that transportation is a commercial enterprise or operation. Carter and Price, as cited in Tawiah [7] go a step further from that of Webster by highlighting the product of transport operation as a commercial activity. The authors described transport operations as a commercial enterprise whose product is the safe, secure and timely delivery or conveyance of goods and persons from a source to a destination. From the above, it can be said that transportation refers to the movement of persons and goods from one location to another. Transport operation also can be viewed as a commercial enterprise which ensures that goods and persons needed at different points in the supply chain of businesses are conveyed in a safe, secure and timely manner.

2.2. Forms of Transportation

Motor or road, rail, air, water, and pipeline are some of the main forms of transport. Road or Motor transportation which is the movement of goods and services by road is the most frequently used and flexible form of transport among the rest (Stock and Lambert [2]; Tawiah) [7]. Özovaci [14] described road transport as the commonest and the most preferred form of transport because of its ability to ensure that goods and persons are conveyed to places that the other forms of transport cannot reach. Pipeline transport on the other is the movement of good mostly liquid bulk commodities or compressed gases from one point to another by means of connected pipelines (Tawiah) [7]. Özovaci [13] described pipelines as most economic and environmentally safe means of transporting liquid product. This is because the use of pipelines requires gravity to convey the product and also it is mostly constructed at places where human habitation is minimal (Taniguchi and Thompson [6]; Tawiah) [7].

Water transport exists in two main forms namely; maritime transport which is the use of the sea for the movement of goods and persons and inland water transport which is the use of rivers, canals and other inland navigable waters to move goods from place to place (Tawiah) [7]. While most developing nations have not been able to develop their inland waters into navigable waters, the European Union has successfully developed this form of transport and made it one of the most important means of moving persons and goods from different places (Stock and Lambert [2]; Tawiah) [7].

Air transport which has been described as the fastest mode of transport across continents is one of the most important and economic means of moving persons and goods from one continent to another. Even though air transport is employed for the movement of goods, it is more economical for the movement of persons across continent because of its speed. Even though air transport is accepted as one of the major

forms of transport, it has received several criticisms especially in terms of its negative impact on the environment (Fair et al. [3]; Tawiah) [7]. Also, rail transportation which is another form of land transport makes use of rails and coaches to convey goods and persons from one location to another. Developments in rail transport especially the use of electrical energy to power modern trains have made rail transport one of the acceptable forms of transport especially in developed nations (Stock and Lambert) [2].

Road/ Motor transport is the use of trucks and other road vehicles to convey goods and persons from one point to another by road. This form of transport is the oldest among the rest because of the fact that humans have depended on the use of roads whether fully constructed or not to move goods from one point to another (Humaianes, as cited in Tawiah) [7]. Road transport is described as a means of moving goods and personnel from one place to the other on roads (Economic Times, as cited in Tawiah) [7]. Road is a route between two destinations which has been either paved or worked on to enable transportation by way of motorized means and carriages. Road transport can be classified as transporting or movements of goods, materials or people (Neely [14]; Tawiah) [7].

In the submission of Neely [14], road transport has gained the widest form of acceptance among the other form of transport because of the fact that it enables goods to be delivered from door to door. Roads most often extend to remote locations where other forms of transport do not extend to. This door to door reach of road transport ensures that businesses are able to reduce cartage, loading and unloading and their associated costs. Another advantage of road transport is that it requires less capital relative to the other forms of transport. Ships, trains and planes are all expensive compared to trucks (Tawiah) [7]. Aside the relatively less capital cost for trucks, the cost of maintenance and operations of these trucks is also lesser than those of ships, trains and planes. It also has a lesser risk of damaging goods in transport and most suitable cheapest mode of transport for short distance in the delivery of goods and services (Collis and Hussey) [15]. In spite of its broad acceptance, road transport has not been without criticisms that the other forms of transport have been subjected to (Economic Times, as cited in Tawiah) [7]. Road accidents have been identified as one of the most dangerous risks associated with road transport especially for the movement of persons and goods. Again, unlike the other forms of transport, trucks and other vehicles which are used for transportation of goods by roads can only transport a limited quantity of goods (Collis and Hussey [15]; Tawiah) [7].

2.3. Role of Transportation in the Supply Chain

The role of transportation in the supply chain of business cannot be overstressed. As the supply chain of businesses develop from a localized concept to a global one, transportation becomes critical in improving the performance of businesses. Gupta et al. [16] noted that

factors such as increase in technology, and the global demand for resources and increase trading activities between countries led to a significant increase in the level of demand for transportation. Supply chain efficiency is synonymous with transportation efficiency (Möller and Törönen) [17]. This implies that in order for organizations to ensure an improvement in the level of performance of their supply chain there is the need for them to pay attention to the level of efficiency of their supply chain. Gupta et al. [16] further described supply chain as an amalgamation of transportation, logistics and distribution management activities in organizations. This shows that transport management is a major fulcrum which supports the success of supply chain management in organizations. On their part, Coyle et al. [18] opined that the overall efficiency of the supply chain of business is based in the level of effectiveness of transport activities. This is because transportation is the main activity which connects an enterprise with its suppliers and with its customers through the flow of materials. A combination of the various forms of transport results in such innovations as intermodal and multimodal transport systems. Intermodal transportation involves the use of two or more modes of transports to transport goods from the source to the destination. In this approach of transportation all entities involved in the transportation process bear responsibility for their leg of the journey under the control. The transporter who is responsible for that stage of the journey bears cost of that damage. Multimodal transport on the other hand consists of the use of different forms of transport for the movement of goods from source to destination with the just one transporter (the multimodal transporter) bearing responsibility for the entire journey of the cargo (Möller and Törönen [17]; Tawiah) [7].

2.4. Key Factors in Selecting a Transport Mode

A number of factors affect the choice of transportation mode in different organizations. Some of the factors affecting the choice of a mode of transport in organizations include: speed, accessibility, safety, reliability, capacity, fuel efficiency, privacy and comfort (Vaddadi) [19]. Accessibility is another factor which businesses need to consider when making a decision on the mode of transport to use (Coyle et al. [18]; Tawiah) [7]. Aside accessibility, Coyle et al. [18] itemized transport cost and quantity of cargo to transport as the other factors which are considered when choosing a mode of transport. The choice of a given mode of transport depends on factors such as cost-benefit analysis and also the capacity to convey the quantity of goods needed to be conveyed (Tawiah) [7].

More so, Möller and Törönen [17] identified speed and cargo security as vital in any decisions on the mode of transport to convey goods. Businesses keep their customers satisfied when goods are delivered on time and since the delivery of goods is dependent on the transport the need for speed is considered as a vital factor when selecting a transport mode. Aside speed, businesses also need to ensure

that cargo transported reach the destination or customer in an acceptable condition. When cargos reach their destination in a damaged or deformed condition, it leads to various forms of losses such as loss of customers and financials loss. Cargo damages also lead to various forms of disputes and their associated consequences, hence the need to ensure that cargo is securely transported (Möller and Törönen [17]; Tawiah) [7].

Another factor considered by organizations in this era of environmental sustainability is carbon emission. Transport management decisions in business organizations especially in the developed nations now takes into consideration the mode of transport which has the least damaging effect on the environment. Green businesses as they are to ensure that as much as possible, they avoid the use of any mode of transport which pollutes the environment (Coyle et al.) [18]. Vaddadi [19] noted that factors such as comfort, safety and privacy are the ones which are most often considered. Passengers travelling over long distances need to do so in comfort. They want to reach their destination without undue aches and pains (Tawiah) [7].

2.5. Factors Affecting Transport Management Practices

The choice of a carrier mode and how to effectively manage it is one of the most important transport management practices in organizations. Factors such as delivery time and form of transportation are considered when planning the choice of carrier to employ for the conveyance of goods from a point of origin to the point of destination (Meixell and Norbis [20]; Tawiah) [7]. Also, performance variables such as selecting mode of transport and carrier, negotiating rates and service levels, and evaluating carrier performance (Monczka, Trent and Handfield) [21]. Based on these variables, businesses are able to decide which carrier or transport operator is more efficient and which one is not (Tawiah) [7].

In the views of Jahre and Hatteland [24], one of the most important factors to consider in transport management is the need to ensure that the cargo arrives safely and also make the most of the cargo spaces which have been booked. Safe cargo delivery depends on such factors as secure stowage of cargo. This calls for the usage of the appropriate stowage equipment and effective planning cargo stowage (Tawiah) [7]. Businesses decision making regarding load optimization involves making decision making regarding less than container load (LCL) into full container loads (FCL). Where business will have to make decisions on whether to consolidate the cargo and use LCL or make use of the entire cargo space as FCL (Jahre and Hatteland) [22]. Another factor which is considered as part of the load planning and optimization is the use of appropriate packaging. There is the need to ensure that the cargo been transported is properly packaged to improve its safety during its transport (Prendergast) [23].

Transport management requires specific instructions delivered to the transport operator. The need to ensure that goods arrive at a specific destination leads to businesses to

issue specific set of instructions to the transporter. These instructions form the basis of the activities of the shipping service provider (Tawiah [7]; Tseng *et al.*) [4]. Besides, businesses which have placed their goods on any vehicle desire to be able to know the location and condition of the cargo at any given point time. Cargo tracking has therefore become a critical aspect of shipment planning and execution in organizations which often move their goods from place to place (Younkin, as cited in Tawiah [7]).

Shipping service providers are expected to provide notification to shippers regarding issues such as bill of lading, mates receipt and other similar documents. There is the need for businesses and shipping service providers exchange information on the status of the cargo at different times of the journey (Tawiah) [7]. When cargoes are transshipped, stored in a temporary location or even transited through over locations, there is the need for shipping lines to be able to inform the cargo owner appropriately. Such notifications are done in the form of emails and other forms of electronic messaging (Grant *et al.*) [26]. Proactive notifications are provided by leading carriers routinely whenever shipment delivery or pickup is in jeopardy for any reasons for instances stoppage by customs for inspection (Kovačič and Spens [24]; Tawiah) [7]. Transport services are provided at a cost which is also referred to as freight. Payment of freight in shipping is affected by such factor as the place of payment; the payee and the currency of payment. These factors and more make the payment for transport services on the international stage a very complex task. There is a growing recognition of the fact that the existence of large shipper's scale and technological advances now drives efficiencies in freight payment processes (Chopra and Meindl [11]; Tawiah) [7]. Effective cost management also helps to support the ability to generate revenue from transportation operations (Naim, Potter, Mason and Bateman [25]; Tawiah) [7].

Regarding transport infrastructure, Davids [26] contends that poorly constructed and poorly maintained roads are common in most developed nations. This situation hinders the ability of the transport sector to develop to its full potential. Aside the poor state of infrastructural development, there are weak institutional mechanisms for regulating the transport sector especially in most developing nations which has impeded the performance of the transport sector. Although several policies and conventions have been developed in developing nations to ensure efficiency in the transport sector, there is a general lack of effective implementation leading to poor results of such policies and conventions (Davids [26]; Tawiah) [7].

In an effort to deepen the debate, Lewis, as cited by Tawiah [7] opines that the general poor maintenance culture in most developing nations finds manifestation also in the transport sector. Transport vehicles in most developing nations are poorly maintained leading to frequent breakdown and accidents. Poor transport vehicles in developing nations have been blamed for the lack of cargo insecurity associated with transport management in those nations. The high level

of uncertainty associated with transport management in developing nations has resulted in the sector trailing its counterparts in the developed nations by a significant margin (Tawiah [7]; Weisbrod, Vary and Treyz) [27]. Lewis [28] argued that unstable economic conditions in most developing nations have led to the businesses requiring high level of capital which is also difficult to obtain before they can successfully take off. The capital requirement for setting up of transport businesses in most developing nations is so high that only a few businesses and individuals are able to establish such businesses. This has led to a low level of competition and ultimately pervasive inefficiencies in the delivery of transport services (Tawiah) [7]. The cost of experts in terms of maintenance culture to within the transport sector has also become a major concern. The high cost of maintenance has led to the usage of poorly maintained vehicles which are prone to frequent breakdowns and cargo damage. The lack of adequate number of transport experts coupled with the high labor cost for these persons have also affected transport management in developing nations such as Ghana (Tawiah [7]; Weisbrod *et al.*) [27].

On their part, Rodrigue, Comtois and Slack [29] argue that urbanization has created a high demand for transport services around the world. The implication is that as urbanization increases, the demand for transport services will also increase therefore the capacity of the transport sector must always be increased to meet the level of demand from the urbanization, its limitation will adversely affect urbanization and its associated economic development (Fawcett [30]; Tawiah) [7]. Underinvestment in transport infrastructure could have dire consequences on passengers' mobility, logistic system and the entire social and economic activities (Eddington) [31].

Furthermore, Rodrigue *et al.* [29] noted that transport management within developing nations is characterized by poor infrastructure, weak institutional mechanism for regulating the sector, poor maintenance, high initial capital requirement, lack of transport management expert and poorly trained operators. Harriet *et al.* [32] stated that product availability and price in a given market are often influenced by the existing state of transport operations in those organizations. Poorly managed transport operation with its associated challenges leads to such problems of short supply of products on the market and increased product prices. Therefore, efficient and effective transportation management is key for ensuring socio-economic development (Harriet *et al.*) [32].

3. Methodology

Research approaches are broadly classified into quantitative, qualitative methods and the mixed methods approaches. The study made use of the mixed methods to examine and make presentations on the subject matter which is challenges associated with transport management in organizations. Creswell, as cited in Tawiah [7], noted that the advantage of employing mixed research approach by

researchers is to ensure that the strengths of both quantitative and qualitative approaches are harnessed in a study. The rationale behind the study’s choice of mixed research approach is to ensure diversity in the views based on the perspectives of different research participants.

The study also employed descriptive survey design to solicit the views of respondents on the subject of transport management and the factors which are affecting it in their respective organizations. Saunders et al. [33] described a descriptive survey design as a research plan which enables researchers to make a presentation of the findings of a study based on the actual experience of the respondents. In descriptive studies, the research does not make an attempt to interpret the responses obtained by presents them exactly as the respondents provided. McMillan, as cited in Odoom, Opoku and Ntiakoh-Ayipah [34], states that descriptive design captures a report of the way things are, what is or what has been or has happened. Babbie, as cited in Odoom, Opoku and Ntiakoh-Ayipah [35], and Shuttleworth, as cited in Odoom, Fosu, Ankomah and Amofa [36], maintain that descriptive survey design has the advantage of helping the researchers obtain unbiased views about the issues under investigation. The study sought to examine the challenges of transport management in business organizations in Ghana. However, it focused on Ghacem, Ghana Bauxite Company Limited and Ghana Manganese Company Limited. Specifically, the Sekondi-Takoradi Metropolis Branches of these companies were the focus of investigation. The population therefore consisted of the employees and managers of these three organizations who are responsible for logistics and transport management. The entire population in each of the three organizations was considered as part of the study’s sample size by census. The employees of these three organizations all work within the same location. In addition, their population sizes are small enough for them to be covered within the time frame for completion and submission of the study. Table 1 presents the breakdown of the employees from the Sekondi-Takoradi Metropolis Branches of the three companies, apart from the managers. The total population was therefore 85 including the managers.

Table 1. Population of the Study

Organization	Population
GHACEM	14
Ghana Bauxite Company Limited	36
Ghana Manganese Company Limited	32
Total	85

Source: Field Survey (2019)

The purposive sampling technique was used to involve the transport managers through key informant interviews. The study made use of both questionnaires and interview guide. The employees were given a set of questionnaire to share their views on the subject matter under investigation while the managers were interviewed as a means of obtaining an

in-depth information on the subject matter. The questionnaire consisted of both closed and open ended questions based on the likert scale. The questionnaire as research instrument according to Malholtra, as cited by Tawiah [7], is suitable for collecting information from a large population and also when there is the need to ensure a speedy means of data collection. The quantitative data was analyzed using descriptive statistical including frequencies, percentages, mean and standard deviation. In addition, the interview data was analyzed thematically. The response rate for the quantitative data was 81.7 percent.

4. Results and Discussion

The results and discussion section is presented in two ways. The first part is devoted to the demographic data of results whilst the second part looks at the key issues which informed this study. To start with, the responses on the sex distribution of respondents indicated that the majority (81%) of the employees who work in the transport management sections of the selected companies and were males while a relatively small proportion (19%) were females. Table 2 presents the results on educational level of respondents. The study showed that 18.0 percent of the respondents had obtained Senior High School as their educational qualification whilst 31.3 percent had obtained HND/diploma as their qualification. On the whole, it can be seen that majority (68.6%) of the respondents from the study organizations had between HND/Diploma and 1st degree as their educational qualification. With respect to the educational background of the respondents, the responses obtained indicated that (49%) had first degree them while 30% had diploma in various fields of study with the remaining 21% also indicating that they had completed their master’s degree.

Table 2. Educational background of respondents

Qualification	Frequency	Percent
SHS	12	18.0
HND/Diploma	21	31.3
1 st degree	25	37.3
2 nd degree	9	13.4
Total	67	100.0

Source: Field Survey (2019)

4.1. Number of working years

With respect to the number of working years, the responses obtained indicated that the majority (57%) of the participants had worked in their respective organizations for a period of 6-10 years while those who had been with their companies for over 10 years constituted 30%. The remaining 13% of the respondents had been with the company for a period of 1-5 years. This information is also presented in Table 3.

Table 3. Number of working years

Year	Frequency	Percentage
1-5	9	13.4
6-10	38	56.7
Above 10	20	29.9
Total	67	100.0

Source: Field Survey (2019)

4.2. Transport Management Practices in STM

The first part of the study was to examine the transport management practices employed by businesses in the Sekondi-Takoradi Metropolis. Means were calculated on a scale of 1 to 5; 1 representing very lowly agree, 2 representing lowly agree, 3 representing moderately agree, 4 representing strongly agree, and 5 representing very strongly agree. The results obtained in this regard are presented in Table 4. With respect to carrier management practices, the mean score of 4.33 shows that the respondents strongly agreed that cost is one of the most important factors considered before selecting a carrier. However, with a mean score of 2.10 the respondents lowly agreed that businesses pay attention to transit time for cargo and consider the

performance of a carrier when making a choice for a carrier. The average response of 2.9 suggests that respondents moderately believed that in the Sekondi-Takoradi Metropolis, businesses pay little attention to issues relating to carrier management. The results of this study depart from the findings of Meixell and Norbis [20] and Monczka, Trent and Handfield [21]. The authors observed in their studies that carrier management is one of the factors businesses considered to ensure an effective transport management.

On the issue of load planning and optimization, the study found that businesses lowly ensured that goods are consolidated before transport ($M=2.22$). On the contrary, the respondents strongly agreed with a mean score of 3.57 that cargoes are properly prepared before transported and also strongly agreed with a mean of 4.60 that businesses in the metropolis ensures that cargoes are properly packaged before transported. An overall average score of 3.46 indicates that the study organizations moderately considered of load planning and optimization whenever businesses in STM need to transport cargo from one point to another. The present study mirrors Jahre and Hatteland [22] who stated that transport management requires an effective load planning and optimization.

Table 4. Transport management practices among businesses in STM

Transport management practice	Mean	Std. Dev.	Mean score ranking
Carrier management practices			
Management of my organizations consider cost in selecting a particular mode of transport	4.33	.473	2 nd
Management of my organizations consider the transit time as a factor for selecting a mode of transport	2.10	.800	12 th
The performance of a transport carrier is considered when choosing a mode of carrier	2.27	.479	9 th
Average response	2.9		
Load planning and optimization practices			
My organization ensures that shipment are consolidated	2.22	.517	11 th
My organization ensures that cargoes are place on the appropriate dunnages such as pallet for easy loading.	3.57	.557	8 th
Goods transport by my organization are properly packaged before transported	4.60	.494	1 st
Average response	3.46		
Documentation for shipment practices			
The appropriate booking and instructions for transportation are employed in my organization	3.87	.776	5 th
My organizations insists on the right document before cargoes are transported	2.64	.513	10 th
My organizations make use of ICT for executing shipping practices	4.30	.461	3 rd
Average response	3.60		
Shipment monitoring			
Goods in transit are monitored with real time update	3.81	.633	6 th
My organization receive periodic notifications about the locations of goods in transit	1.84	.412	13 th
My organizations insist on proof of delivery any time goods are handed over to transporters.	4.30	.493	3 rd
Average response	3.32		
Freight payment and audit practices			
There is the use of ICT in the payment system for transport operations	1.79	.410	14 th
Transport cost are effectively negotiated in order to ensure that it and be paid	3.66	.565	7 th
Average response	2.75		
Weighted mean	2.9		

Source: Field Survey (2019)

With respect to documentation for transportation of goods, based on a mean score of 3.87 the respondents stated strongly that suitable documents are employed for booking and issuing of instructions. Nevertheless, with a mean score of 2.64 they moderately agreed that businesses insist on the right documentation before cargoes are carried from their locations for transport. Also, the respondents also strongly agreed with a mean score of 4.30 that businesses in the metropolis make use of ICT when preparing to execute the shipment of cargoes. An overall average score of 3.60 indicates that there are strong considerations made in relation to documentations for transport of cargo. This result converges with Tseng et al. [4] who saw documentation as one of the requirements for cargo transportation.

In terms of the actual shipment, a mean score of 3.81 suggests that the respondents strongly agreed that businesses in the Metropolis monitor goods in transit. However, the companies do not receive periodic notification of the locations of goods in transit but they agreed that businesses always demand a proof of delivery anytime they give their goods to carriers to transport (M=1.81). The overall mean score of 3.32 implies that businesses make moderate considerations regarding their goods in transit. This accentuates the position of Grant et al., as cited by Tawiah [7], who contended that shipment monitoring is one of the most important factors considered during transport management in business organizations.

On the transport management practices, a mean score of 1.79 obtained shows that businesses do not make use of ICT in the payment processes for cargo transport. Nonetheless, respondents moderately believed that transport costs are negotiated effectively before cargoes are transported. A grand mean score of 2.75 indicates that payment issues are lowly considered by businesses in the Metropolis during transport management. This study is a deviation from the findings of Chopra and Meindle [11]. The authors observed that transport management in business organizations involves considerations regarding freight payment.

Beyond the results from the qualitative data, the researchers found mixed results based on the key informant interviews. For instance, on carrier management practices the informants generally stated that they were effective in their organizations. In the words of one interviewee, "We as management of this organization usually consider cost in selecting a particular mode of transport". Another informant said, "Management of this company always consider the transit time as a factor for selecting a mode of transport". Thus, the unlike the quantitative results, the qualitative aspect of this study shows that carrier management practices the informants generally stated that they were effective in the study organizations. Besides, on the issue of load planning and optimization practices the interviewees generally said that they were consolidated in the organizations. One key informant remarked, "My organization often ensures that activities involving shipment are consolidated". Another informant stated, "Goods transported by my organization are properly packaged before they are transported". Based on the

interviews conducted, it can be said that the companies pay some attention to load planning and optimization which is not very different from the quantitative results.

On documentation practices, the interviewees believed that the companies are doing relatively well. The informants indicated that booking and instructions for transportation are employed in their organizations even though they could not tell the level of appropriateness of this effort. The key informants added that their organizations often insist on the right documentations before cargoes are transported. However, they admitted that the companies poorly make use of ICTs in executing shipping practices. Besides, on shipment monitoring, the interviewees said that the companies receive periodic notifications about the locations of goods in transit. In addition, the key informant interviews showed that there are inspections and verification of various documents before transporters are allowed to load the cargo for delivery. The reason given for such inspections and verifications was that the businesses needed to ensure that the cargo will be safely transported and also the vehicles and drivers were all road worthy. Similarly, regarding freight payment and audit practices, the informants said that though ICTs are used in the payment system for transport operations, not much attention is given to the use of ICTs.

4.3. Challenges Associated with Transport Management in the Metropolis

The second objective of the study sought to explore the challenges associated with transport management in business organizations in the metropolis (Table 5).

Table 5. Challenges of transport management

Challenge	Mean	Std. Dev.	Mean score ranking
Poor maintenance of vehicles	3.90	.394	4 th
Poor application of ICTs	4.15		2 nd
Lack of transport management experts	4.43	.499	1 st
Ineffective transport policies	3.87	.423	5 th
Weak institutional transport mechanisms	3.90	.581	6 th
High transport cost	4.09	.514	3 rd
Poor transport planning and management	2.10	.431	7 th

Source: Field Survey (2019)

In calculating the means based on a scale of 1 to 5; 1 representing very lowly agree, and 5 representing very strongly agree, with 3 as the middle range. With respect to the challenges businesses in the Sekondi-Takoradi Metropolis face in managing their transport operations, the respondents strongly stated that vehicles used for the transportation of cargo are poorly maintained (M=3.90). The result of this study validates that of Eddington [31] who also identified poor vehicle maintenance especially in developing nations as one of the factors which affect transport management.

Again, the study identified poor application of ICT in the management of transport in the Metropolis ($M=4.15$). This shows that the study organizations have not paid increased attention to the involvement of ICT in their transportation management. Besides, with a mean score of 4.43 the respondents strongly stated that there is a general lack of transport management experts who can effectively plan and control cargo transport within the Sekondi-Takoradi Metropolis. This finding is in line with that of Fawcett [30] who noted that lack of expert adversely affects transport management in organizations. Sheingold and Hadley, as cited in Odoom *et al.* [34], highlight the importance of the use of ICTs towards organizational goal attainment.

Additionally, respondents strongly agreed that there are businesses in the Metropolis have ineffective transport management policies ($M=3.87$). This result conforms to that of Davids [26] who found that transport management in organizations are affected by ineffective transport management policies.

Furthermore, based on a mean score of 3.90, the respondents strongly agreed that institutional mechanisms regarding transport operations in STM are generally weak. This tends to hamper the ability of businesses to effectively manage the transportation of their cargoes. The present study reinforces the findings of Rodingue *et al.* [29]. The authors identified in their study that weak institutional policies and infrastructure as some of the major factors affecting transport management in organizations.

Nonetheless, the respondents strongly agreed that high cost of transport ($M=4.09$) which is caused by increasing prices of fuel is another factor which affects transport management in organizations. This result corroborates previous studies done by scholars such as Lewis [28] who observed high transport costs inhibit the level of effectiveness of transport management in businesses.

Based on the mean score ranking of the responses, it can be stated that the greatest challenge confronting transport management in the Metropolis is the general lack of transport management experts, followed by high cost of transport operations, with poor planning and management of transport operations as the lowest ranked challenge.

More so, the interview results in relation to the challenges confronting transport management in the selected companies in STM are similar to the results from the quantitative data. The key informants generally indicated that transport management in the Metropolis is very challenging venture due to a number of factors. One challenge mentioned is the lack of well-qualified personnel for managing transport in STM. One manager commented, "Most often transport owners in the Metropolis are either persons with low level of education or lacked the required technical know-how to effectively manage the fleet as well as the cargoes in their care". Another informant said, "Though many people are into transport services in the Metropolis very few of them have some knowledge about the sector. Many of the operators lack the requisite skills to manage their operations".

Other challenges identified by the interviewees include high costs of transport of goods to and from the Metropolis, as well as the poor maintenance of vehicles. One informant stated, "High cost of transporting goods in the Metropolis hinders effective transport management. Another manager commented that maintaining vehicles is a huge challenge due to the cost involved. Also, weak institutional framework was seen as a challenge to the effective management of transport in the Metropolis. Again, poor road was found to be a big challenge to the companies. Here, the informants unanimously said that successive governments have failed to invest hugely in the development of road network especially in the rural parts of the Metropolis. All these challenges tend to complicate efforts to effectively manage transport for the greater good of STM. However, unlike in the case of the quantitative results, the qualitative results showed that poor roads was seen to be the biggest challenge in ensuring effective transport management in the Metropolis. Scholars including Davids [26] and Rodingue *et al.* [29] mentioned poor roads as one major challenge hampering transport management especially in developing nations.

5. Conclusions and Recommendations

The study sought to examine the transport management practices employed by companies in the STM. Based on the findings, it is concluded that the main transport management practices are: carrier management, load planning, documentation, monitoring and payments. However, more attention is paid to load optimization, documentation issues and monitoring of cargo in transit with less attention on carrier management issue and payment related issues. The greatest challenge confronting transport management in the Metropolis is the general lack of transport management experts, followed by high cost of transport operations, poor vehicle maintenance and ineffective transport policies in organizations. Other challenges include weak institutional mechanisms and poorly planned transport operations. Besides, cost of transport and poor road networks are crucial factors hindering transport management within the Metropolis. Again, there is a very low application of ICT in transport management in STM. It is therefore recommended that companies in STM should endeavor to give their personnel managing their transport operations sufficient training in order to improve their level of performance and ultimately the performance of the entire organization. Therefore, it is recommended that companies in the Metropolis should design clear strategies to effectively manage their transport costs. Also, the government is called upon to fashion out innovative ways of addressing deficits in road networks especially in the rural part of the Metropolis. Finally, the study recommends that Management of companies within the Metropolis should train their employees on the use of ICTs and also procure suitable software for the management of their transport operations.

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