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The Influence of Monitoring and Incentives on Inter-Regional Bus Drivers' Performance in Tanzania: The Moderating Role of Road and Bus Conditions

Patrick C. Singogo¹ & Gerald Z.P. Tinali²

ABSTRACT

The study aimed at investigating factors influencing inter-regional bus drivers' performance in Tanzania under bus owners'–drivers' dyadic relationships. The bus drivers' performance as applied in this study refers to reducing road accidents/enhancing road driving safety. Using agency theory supported by empirical evidence, the study developed a model which specifically aimed at examining the influence of monitoring and incentives on inter-regional bus drivers' performance in Tanzania. Furthermore, the study aimed at examining the moderating role of road condition on the relationship between monitoring and inter-regional bus drivers' performance in Tanzania. Additionally, the study focused at examining the moderating role of bus condition on the relationship between incentives and inter-regional bus drivers' performance in Tanzania. The study employed cross-sectional research design with data collected using a structured questionnaire from 326 inter-regional bus drivers at Ubungu Bus Terminal in Dar es Salaam. Data was analyzed using partial least square structural equation modeling supported by SmartPLS3. The study revealed that monitoring has a positive influence on inter-regional bus drivers' performance and its influence increases in the presence of good road condition. Similarly, the study revealed that incentives have a positive influence on inter-regional bus drivers' performance in Tanzania and its influence increases in the presence of good bus condition. Active involvement of bus owners (principals) in managing inter-regional bus drivers by exercising monitoring such as using ICT for tracking bus drivers' speed and incentives such as performance-based remuneration of drivers enhances inter-regional bus drivers' performance and the strengths are more reinforced in the presence of good road condition and good bus condition respectively.

Key words: *Performance, Monitoring, Incentives, Bus Condition and Road Condition*

INTRODUCTION

Globally, road transport is one of the major modes of transport that is widely used by people around the world.(Ngallaba et al. 2014) . It involves transportation by interregional buses, cargo transportation, private vehicles, commercial in-town buses, taxis, motorcycles. In developing countries, road accidents are cited as one of the a critical issues to be tackled seriously due to their negative consequences such as deaths and injuries (Mueller et al., 2017; Zimmerman et al., 2015). Additionally, road accidents is one of the major sources of injuries that contribute to disabilities and chaos in developing countries (Ngallaba et al. 2014). It is estimated that more than one million of global traffic accidents related deaths and injuries are from developing countries that lead to huge losses of manpower and the effect is projected to double time by time (Boniface et al., 2016; Lamont, 2012; Moshi et al., 2017; Msese, 2015; Reardon et al., 2017). Furthermore, the occurrence of road accidents is associated with substantial costs such as police costs, medical costs, work/productivity loss costs and quality of life costs (Mueller et al., 2017; SUMATRA, 2017;

¹ Patrick C. Singongo-Lecturer - University of Dar es Salaam, Tanzania, singogop@yahoo.com

² Gerald Z.P. Tinali- Lecturer - University of Dar es Salaam, Tanzania, geraldpaga@yahoo.com

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Zimmerman et al., 2015). For example, in Tanzania consumption of health resources that in turn are paid by injurers and hence increasing unnecessary expenditure to people as well as substantial loss of people is accounted to be more than 2400 billion Tanzania Shillings (Boniface et al., 2016; Reardon et al., 2017; SUMATRA, 2017). The number of traffic accidents related deaths that occurred in Tanzania is declining over time; from 4,002 in 2013, and 3,760 in 2014, to 3,468 in 2015 (SUMATRA, 2017).

The declining rate of road accidents in developed countries is higher than that in developing countries, particularly Africa (Msese, 2015; Ngallaba et al., 2014; Reardon et al., 2017; Zimmerman et al., 2015). Tanzania is cited as one of developing countries vulnerable to road accidents (Msese, 2015). In the past, road accidents and their resulting losses in Tanzania were considered as things that could not be controlled (Msese, 2015; Nyamawe and Mbosso, 2014; Wahlstrom et al., 2017).

An increasing number of road transport vehicles, and hence the number of drivers has been associated with the rate of occurrence of traffic accidents (Ngallaba et al., 2014). According to Ngallaba et al. (2014) most traffic accident related deaths occurring in Tanzania result from careless driving and some of them are not even recorded or reported. Therefore, this study is tailored to examine the best ways of minimizing road transport accidents by focusing on the role of monitoring and incentives in the dyadic relationship of bus owner (principal) and bus driver (agent). According to Msese (2015); Mueller et al. (2017) and Zimmerman et al. (2015) it is estimated that globally, road accidents cause 1 million deaths and 10 million injuries each year.. The World Health Organization reported that road accidents are mainly from vehicle collisions which accounts sixth position of the factors causing road transport accidents with the average of 21 people for every one thousand people (Haulle and Kisiri, 2016; Msese, 2015).

The leading countries with the highest rate of road accidents due to poor drivers' performance in the world include Saudi Arabia and Egypt (Msese, 2015). In the eastern African region, Tanzania has the most road accident deaths (Haulle and Kisiri, 2016). In developing countries, a rapid increase in urbanization and hence the number of road operators has increased the occurrence of road accidents thus poor drivers performance (Msese, 2015; Kircher and Andersson, 2013; SUMATRA, 2017).

The key stakeholders involved in bus transportation are passengers, bus owners, bus operators (drivers), and the government. The government of Tanzania through its Police Force plays a great role in monitoring bus drivers performance (Msese, 2015; Boniface et al., 2016; Ngallaba et al., 2014; SUMATRA, 2017). The role of bus owners on monitoring bus drivers' performance has not been significantly seen rather than being attributed to poor bus drivers performance on accidents as most of bus drivers lack permanent contracts (Samwel, 2019). Engagement of bus owners in monitoring bus drivers' performance will enhance positive performance of inter-regional bus drivers. To improve bus drivers performance bus owners can monitor drivers on aspects such as carelessness, driving while drunk, driving on poor road conditions and regular vehicle maintenance(Haulle and Kisiri, 2016). To ensure proper monitoring of bus drivers' performance, bus owners should be actively engaged (Haulle and Kisiri, 2016; Msese, 2015).

Similarly, bus owners should be flexible on proposed developed systems to ensure monitoring. In some cases bus owners have been reported to be reluctant on digitalizing road transport sector by believing that as chance of monitoring speed by government authority through digitalization

increases leads to lower their earnings (Harun, 2018). In addition to that in 2009 more than 200 inter-regional bus drivers in Tanzania were reported lacking permanent contract from bus owners (Samwel, 2019). This situation demoralizes their performance. Working incentives are usually associated with good performance of drivers. This was revealed in the previous studies that performance is higher in the performance based payment schemes compared to the fixed-payment schemes (Dohmen & Falk, 2011).

Therefore, the general objective of this study was to explore factors influencing inter-regional bus drivers' performance in reducing accidents in the context of Tanzania by focusing the dyadic relationship of bus owners and drivers. Specifically, this study aimed at examining the influence of monitoring and incentives on inter-regional bus drivers' performance in Tanzania. Furthermore, the study aimed at examining the moderating role of road condition on the relationship between monitoring and inter-regional bus drivers' performance in Tanzania. Additionally, this study focused at examining the moderating role of bus condition on the relationship between incentives and inter-regional bus drivers' performance in Tanzania. Hence, in order to achieve the objectives of the study, this study was organized into different sections which are introduction, theoretical literature review, empirical literature review and hypotheses development, methodology, results and discussion, conclusion and implications for theory and practice.

LITERATURE REVIEW

Theoretical Literature Review

This study investigated the role of bus owners in improving inter-regional bus drivers' performance. Since the study looks at the dyadic relationship between the bus owners and bus drivers, the suitable theory to govern this study was Agency theory.

The agency theory has two dimensions; the principal - agent theory and the positivist agency theory (Eisenhardt, 1989). This study was based on principal – agent relationship since the positivist agency theory is more concerned with intra-organizational relationships and views agents' attitude as more of risk neutral than risk averse (Bergen et al., 1992). The agency theory acquired people's awareness as far back in 1960's from informational economics and is related with risk sharing among cooperating parties (Arrow 1971; Eisenhardt, 1989). The agency theory is suitable in assessing legal and social aspects of the contract signed by the principal and agent (Eisenhardt, 1989).

Jensen and Meckling (1976) viewed the principal-agent relationship as the situation where by the principal handles down authority to the agent to perform a certain work on his/her behalf. Delegation of authority means the agents are given power to make decisions on behalf of the principal. Several studies have pointed out that delegation of authority causes agency problems like goals conflict and information asymmetry (Eisenhardt, 1989; Jensen and Meckling, 1976; Barney and Ouchi, 1988).

According to Woodbine (2008), the agency problem is due to adverse selection and moral hazard. Adverse selection occurs as agents have private information which hinders principal from making right selection of agents. Moral hazard occurs as the result of the principal's inability to observe agent's actions as a result the agent is tempted divert from the principal's interests.

The theory offers a better platform for solving agency problems through different mechanisms like monitoring and rewarding/incentives systems (Jensen and Meckling, 1976). Incentives can be in different forms like bonus payment and rewarding based on performance. According to the agency theory, human beings entrusted with power to make decision face the problems of having limited cognitive capabilities and incomplete information and thus through monitoring and incentives for motivation proper performance can be enhanced. This limitation affects cooperating parties from writing and signing a comprehensive contract that takes into account all possible contingencies (Gulbrandsen, 1998). To sum up bounded rationality entails that it is difficult for people either to have complete information or even difficult to process all the information they may have.

Furthermore, the attitude of human behavior is explained by nature of seeking individual benefit at the expense of another party in the cooperation. In the absence of sanctions, each partner will strive to work to achieve his/her own interests (Logan, 2000). The performance of any collaboration/partnership is enhanced if all partners have common interests. The presence of asymmetrical information provides a room for opportunism for one partner to exploit benefits at the expense of another (Parker & Hartley, 2003). The situation can be resolved through behavior based contractual form.

Information asymmetry can be described as a situation where information available is not equally shared among the parties (principal and agent) in the relationship (Douma and Schreuder 2008). That is the situation that calls forth for problems in the relationship. Eisenhardt (1989) pointed out that information asymmetry leads to two problems, the adverse selection as well as moral hazards.

The presence of a well-established monitoring system is one of the means used in following up activities performed by agent (James & Singogo, 2013). Effective follow up by the principal reinforces the agent to perform the assigned work according to the principal's interest. The principal needs to follow up agent's behavior and output through time to time reports, unexpected visits, checkups and by using other people. Normally, it is expensive to use these monitoring means to control moral hazards and therefore, incentives system is opted as the best and cost effective method (Saam, 2007). According to Jensen and Meckling (1976), a well-designed incentive system can be opted to solve both adverse selection and moral hazards problems emanating from asymmetrical information. The presence of incentives systems put both principal and agent to fulfill common interest as both get rewarded according to their meeting the agreement.

Empirical Literature Review and Hypotheses Development

Based on the principal-agent theory and empirical literature, the relationships (hypotheses) between independent variables (monitoring and incentives) and the dependent variable (inter-regional bus drivers' performance) as well as moderating variables (road condition and vehicle condition) were developed and presented. Monitoring occurs when principals (bus owners) govern the performance of agents (drivers) work in order to achieve the expected performance (Aka & Simwita, 2011; James & Singogo, 2013). The exercise of monitoring by principals enhance proper agents' performance (Eisenhardt, 1989) through compliance to principal's interests. The relationship between monitoring and agents' performance has been suggested to be positive (Aka & Simwita, 2011; James and Singogo, 2013). Therefore, effective monitoring is important for enhancing agents' (inter-regional bus drivers') performance in business relationships. Based on the perspectives of small holder farmers and buyers in the context of the Tanzania and Malawi agriculture industry, Aka and Simwita (2011) as well as James and Singogo (2013) suggested that

while in different sector with road transport monitoring is a significant determinant of performance for small holder farmers and buyers. This type of influence is limited to road transport sector in which bus owners and inter-regional bus drivers' relationships are ought to be an example of principal-agent relationships. Monitoring reflects the ability of bus owners to follow-up bus drivers' performances while on the way.

Since the performance of bus drivers (agents) can be affected by their interest and cause behaviors like high speed driving, then monitoring becomes essential. According to Saam (2007), effective monitoring by the principal reinforces the agent to perform the assigned work in line with principal's interests. This was supported by James and Singogo (2013) where monitoring by farmers' associations was found to have positive relationship with coffee farmers' performance on quality. Furthermore, Aka and Simwita (2011) on factors influencing tobacco buyers as agents from tobacco growers as principals also found that monitoring by principal has a positive relationship with agents' performance on marketing. Therefore, proper inter-regional bus drivers' performance (reduction on road accidents) is expected to improve under bus owner's monitoring. Hence, the hypothesis constructed is as follows:

H1: There is a positive influence of monitoring on inter-regional bus drivers' performance in Tanzania.

Similarly, incentives occur when principals (bus owners) remunerate their agents (inter-regional bus drivers) based on their work performance to achieve the expected performance (Aka and Simwita, 2011; James and Singogo, 2013). Remunerating agents based on their performance enhances proper agents' performance (Eisenhardt, 1989) to comply with the expectations of principals. The relationship between incentive and agents' performance has been suggested to be positive (Aka and Simwita, 2011; James and Singogo, 2013). Therefore, effective exercise of a performance-based reward system is important for enhancing agents' (inter-regional bus drivers') performance in business relationships. In the context of farming, Aka and Simwita (2011); James and Singogo (2013) found that incentives are a significant determinants of performance of crop buyers and sellers. This type of influence is limited in road transport sector in which bus owners and inter-regional bus driver's relationships are ought to be an example of principal-agent relationships. The common approach that is opposite to incentive that is sanctions have been normally implemented by traffic police to enhance proper drivers performance (Montoro et al., 2018). The provision of performance based incentives to drivers offers an opportunity for bus owners to participate in improving bus drivers' performance.

Since the interests of the drivers (agents) can influence their behavior into acts like high-speed driving, hence their performance, the performance-based rewards are essential. As suggested in the agency theory, incentive packages can be used in resolving both moral hazards and adverse selection problems (Jensen and Meckling, 1976). The study conducted by Frey and Reto (2001) revealed that the absence of incentive package system impede agent's performance as the agent tend to respond positively to external influence. Hence, when the bus owners impose incentive systems, proper bus drivers' performance (reduction on road accidents) is expected. The second hypothesis was constructed as follows:

H2: There is a positive influence of incentives on inter-regional bus drivers' performance in Tanzania.

The road condition has been commented by different scholars to facilitate the influence of monitoring on drivers performance (Montoro et al., 2018; Rydstedt et al., 1998; Wahlstrom et al., 2017). The inter-regional bus drivers are familiar with their routes and hence are expected to notice the conditions of the roads they drive on (Harms & Brookhuis, 2016). Thus, the road condition is expected to reinforce the relationship between monitoring and inter-regional bus drivers' performance. When the road is in good condition the effect of bus owners' monitoring on inter-regional bus drivers' performance is expected to be positively increased. Therefore, from this point hypothesis three was constructed and presented as follows:

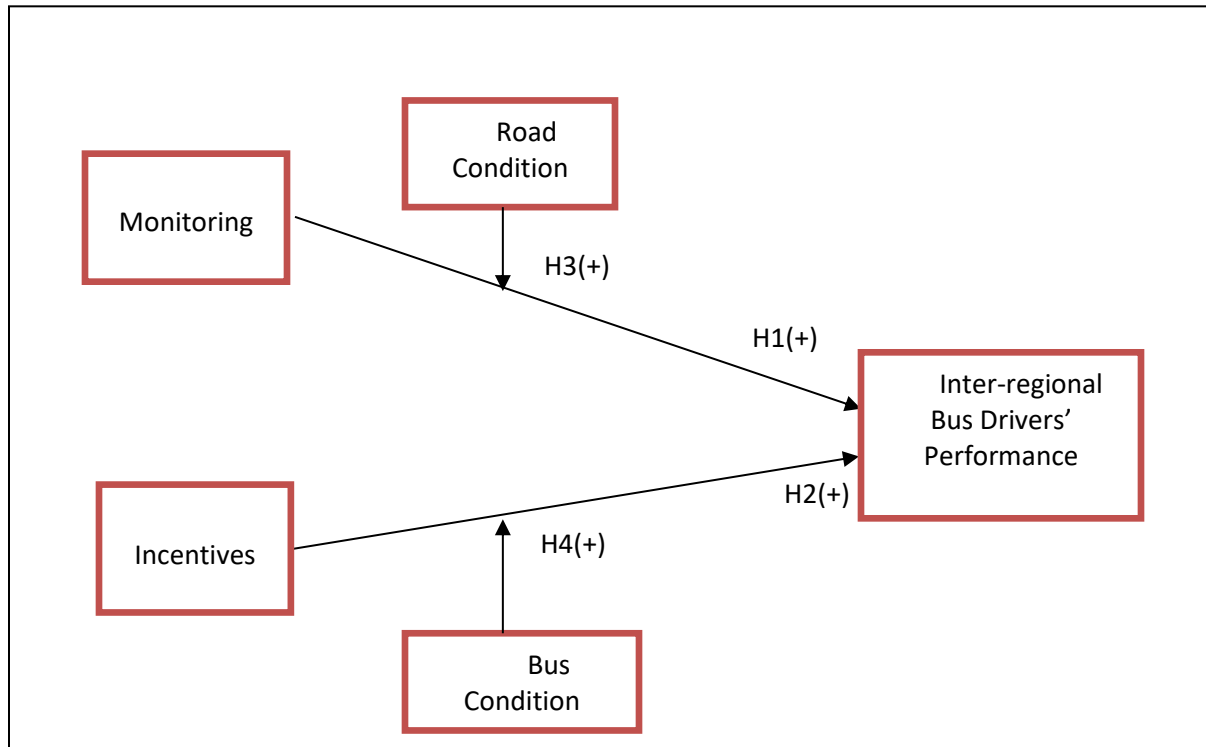
H3: Road condition moderates the positive influence of monitoring on inter-regional bus drivers' performance in Tanzania.

Previous studies on road accidents have supported the role of bus condition on enhancing proper bus drivers' performance (Kircher and Andersson, 2013; Montoro et al., 2018). These studies did not consider its role as a moderator of the positive relationship between incentives and bus driver's performance. This study attempts to refill the above gap by employing bus condition as a moderator in improving inter-regional bus drivers' performance. It is articulated that bus condition is expected to reinforce the relationship between incentives and inter-regional bus drivers' performance. When the bus is in good condition, the role of bus owners' incentives on inter-regional bus drivers' performance is expected to be positive. Therefore, from this notion, hypothesis four was constructed.

H4: Bus condition moderates the positive influence of incentives on inter-regional bus drivers' performance in Tanzania.

Conceptual Model

Based on developed hypotheses the conceptual model that governed this study was constructed as presented in figure 1.

Figure 1: Conceptual Model

RESEARCH METHODOLOGY

Considering the nature of research problem, the conceptual model developed, time and cost constraints, this study employed a cross-sectional research design. The study was conducted in Tanzania specifically in Dar es Salaam whereby data was collected from inter-regional bus drivers. The choice of the study area was based on the relevance of the expected data and the convenience of the researcher.

Based on TABOA there are about three hundred (300) inter-regional buses operating per day. On average four (4) buses are owned by one company implying that there are about seventy-five (75) bus owners. Furthermore, each bus ought to have on average at least two drivers operating per route making a total number of inter-regional bus drivers to be six hundred (600).

All inter-regional bus drivers operating from/to Ubungo Bus Terminal to/from various regions of Tanzania were regarded as a population for this study. The sample ascribed were selected due to the fact that it cannot be easy to collect data for all inter-regional bus drivers who do not reach or start at Ubungo Bus Terminal in Dar es Salaam-Tanzania.

Since it was difficult to get all inter-regional bus drivers at Ubungo Bus Terminal at the same time then based on the total population of six hundred (600) inter-regional bus drivers the expected sample size was at least two hundred and thirty four (234) and for this study the sample size used was over the stated minimal that consisted three hundred and twenty six (326) cases as recommended by Krejcie & Morgan (1970) the more the sample the higher the normality. This study employed non probability sampling technique through snowball sampling approach as some of the respondents were reluctant to the unknown researcher. Moreover, snowball sampling method is extensively used when it is tough to choose subjects such as inter-regional bus drivers

as applied in this study to assemble them as samples for research. Then, once one respondent was approached, he recommended other respondents to be approached as well.

Before going for full data collection, a pilot study was conducted on the designed questionnaire by using 20 inter-regional bus drivers at Ubungo Bus Terminal in Dar es Salaam, Tanzania and it was found that responses followed the pattern and thus, the questionnaire was well understood to them and to be used for further data collection.

Conceptualization of the variables

For the purpose of ensuring isolation as laid down by Frankfort-Nachmias and Nachmias (1996), this study ensured that all items incorporated in questionnaire for each construct of this study was governed by the Agency theory and empirical studies as supported by Antonakis, Bendahan, Jacquart and Lalive (2010); Mitchell, (1985).

In this study, inter-regional bus drivers' performance (PERF) is a dependent construct and was measured using seven point Likert scale items as used in (Glavee-Geo, 2012); Aka & Simwita (2011) and James & Singogo (2013). The scales ranged from 1 strongly disagree to 7 strongly agree. The six (6) measurement items/statements are: I always deliver passengers to their required destination as per SUMATRA's schedule (PERF1), passengers are always very satisfied with my driving speed (PERF2), I always respond quickly on positive requirements of passengers (PERF3), I regularly respond quickly on positive requirements of bus owners (PERF4), when driving I ensure that my bus is in good condition (PERF5) and I rarely drive at an unacceptable speed to fulfill my interest (PERF6).

Monitoring as one of the independent constructs which was used in this study was measured by adopting items from previous studies such as from Aka and Simwita (2011) and James and Singogo (2013). These items were anchored with 7 point Likert scale measuring from 1 strongly disagree to 7 strongly agree. The five (5) measurement statements/items used are: My bus owner regularly makes personal visits at Ubungo Bus Terminal before I start the journey (MONIT1), I am regularly informed by bus owner on the dangers of high speed driving (MONIT2), I frequently receive reports from the bus owner, on how I drive (MONIT3), The bus owner frequently conducts physical inspection of the condition of the bus (MONIT4) and the bus owner frequently follow-up the driving schedule as set by SUMATRA (MONIT5).

An incentive as another independent construct which was used in this study was measured by adopting items from previous studies (i.e. Aka & Simwita, 2011; James & Singogo 2013). The items were anchored with 7 point Likert scale measuring from 1 strongly disagree to 7 strongly agree. The following are the six (6) measuring statements/items : the bus owner usually pays me based on my driving performance (INCE1), the bus owner occasionally pays me unexpected bonus based on my driving performance (INCE2), the bus owner usually pays driving training fees for me to improve my driving performance (INCE3), the bus owner always provides driving experts to me to impart me with new driving skills (INCE4), the bus owner usually provides cash bonuses to me based on my driving performance (INCE5) and the bus owner always allocates advanced driving experts to me based on my driving performance (INCE6).

Road condition as one of the moderating variables on the relationship between monitoring and inter-regional bus drivers' performance was a dummy variable that aimed at capturing inter-regional bus drivers' perception whether the roads, they are using are in good condition (1 = good)

or bad condition (0 = bad). Similarly, the bus condition as another moderating variable on the relationship between incentives and inter-regional bus drivers' performance was a dummy variable that aimed at capturing inter-regional bus drivers' perception on whether the buses, they are using are in good conditions (1 = good) or bad conditions (0 = bad).

DATA ANALYSIS

Respondents' Profile

This study incorporated three hundred and twenty-six (326) inter-regional bus drivers whose age and experience mean were 25.5429 years and 7.54 years respectively. Also, it was further noted that most bus drivers that were incorporated in this study belonged to 21 years old (14%) while most inter-regional bus drivers had experience of 3 years (14%).

Descriptive Statistics

Table 1 presents the descriptive statistics/ statistical summaries reporting the minimum and maximum, mean, and standard deviation of variables.

Table 1: Descriptive Statistics

	Mean	Std. Deviation
PERF1	3.69	1.985
PERF2	3.02	1.872
PERF3	2.52	1.669
PERF4	3.44	1.901
PERF5	3.10	1.972
PERF6	2.88	1.918
MONIT1	4.18	2.126
MONIT2	4.46	2.069
MONIT3	4.23	1.988
MONIT4	4.09	1.899
MONIT5	3.06	1.925
INCE1	4.11	2.132
INCE2	4.84	1.923
INCE3	4.72	1.995
INCE4	4.45	2.076
INCE5	4.58	2.027
INCE6	3.25	2.031

Assessment of Measurement Model

For analysis with the aid of SmartPLS3 the study assessed both the measurement model and structural model. The evaluation of measurement model that is presented in the discussion below focused on calculating the indicators reliability (Items outer loading), internal consistency reliability and the validity of constructs that were measured by a pool of different items (Ho, 2013). Testing the consistency focused on each item forming the construct while in assessing construct validity for this study both convergent validity and discriminant validity were used (Hair et al., 2012).

Items Outer Loadings

The essence of consistency testing by using standardized outer loadings aims at determining the variance of each item from the construct (Götz et al., 2010). In addition to INCE3 and INCE4 as

items of incentives construct that loaded 0.687 and 0.666 and rounded to 0.7 respectively, each item of the constructs that were incorporated in this study as revealed in table 2 loaded at least 0.7 and thus, all items used for each construct were considered to be good (Hair et al., 2012; Chin, 1998).

Internal Consistency /Reliability

In assessing internal consistency, this study employed both Cronbach Alpha as well as Composite Reliability. Of the two employed internal consistency assessment methods, composite reliability outweighs Cronbach Alpha as it tends to retain standardized outer loadings values of each item in the construct (Fornell and Larcker, 1981). From table 2, it can be noted that for this study, both Cronbach's Alpha and Composite Reliability scored above 0.7 and thus, confirmed existence of internal consistency.

Table 2: Construct Reliability and Validity

Main Constructs	Items	Loadings	Cronbach's Alpha	Composite Reliability	AVE
Incentives	INCE1	0.827	0.835	0.878	0.548
	INCE2	0.777			
	INCE3	0.687			
	INCE4	0.666			
	INCE5	0.722			
	INCE6	0.749			
Monitoring	MONIT1	0.834	0.869	0.905	0.657
	MONIT2	0.828			
	MONIT3	0.860			
	MONIT4	0.799			
	MONIT5	0.726			
Inter-regional Drivers' Performance	PERF1	0.761	0.904	0.926	0.677
	PERF2	0.898			
	PERF3	0.823			
	PERF4	0.773			
	PERF5	0.847			
	PERF6	0.825			

Convergent Validity

Furthermore, in this study, the Average Variance Extracted (AVE) was used in testing convergent validity. Based on table 2, it can be noted that each construct that was used in this study had the AVE above 0.5 that confirmed the existence of convergent validity as laid down by Hair, Hollingsworth, Randolph and Chong (2017).

Discriminant Validity

Moreover, the testing of discriminant validity employed all constructs that were used in this study to assess how well each item in one construct differs from other constructs. This study employed three approaches in assessing the discriminant validity which are: Cross-loadings, Fornell and Larcker Criterion and Heterotrait Monotrait Ratio that are discussed below as follows:

Cross-loadings

Based on cross-loadings as one of the approach used in assessing the discriminant validity, all items used in this study for a particular construct were different from other items in other

constructs due to higher cross loadings of items for one construct compared to other constructs as presented in table 3 (Henseler et al., 2015).

Table 3: Cross-Loadings

	INCE	MONIT	PERF
INCE1	0.827	0.463	0.479
INCE2	0.777	0.277	0.401
INCE3	0.687	0.280	0.333
INCE4	0.666	0.344	0.325
INCE5	0.722	0.347	0.300
INCE6	0.749	0.494	0.491
MONIT1	0.486	0.834	0.414
MONIT2	0.392	0.828	0.390
MONIT3	0.409	0.860	0.419
MONIT4	0.386	0.799	0.439
MONIT5	0.391	0.726	0.349
PERF1	0.437	0.359	0.761
PERF2	0.485	0.443	0.898
PERF3	0.443	0.488	0.823
PERF4	0.356	0.346	0.773
PERF5	0.485	0.408	0.847
PERF6	0.444	0.397	0.825

Fornell and Larcker Criterion

Fornell and Larcker criterion as another approach for assessing the discriminant validity compares squared correlations of one construct to squared correlations of other constructs. Based on Fornell and Larcker approach, the AVE of one construct should not be the same as the AVE of another construct. Based on table 4 the AVE of each construct that was employed in this study was different from others as all AVE for each construct were above 0.5 which is the requirement as laid down by Hair et al. (2017).

Table 4: Fornell-Larcker Criterion

	INCE	MONIT	PERF
INCE	0.740		
MONIT	0.509	0.811	
PERF	0.540	0.498	0.823

Heterotrait Monotrait Ratio (HTMT)

Furthermore, in order to be confident enough on the presence of the discriminant validity, this study employed Heterotrait Monotrait Ratio (HTMT) and from table 5 it was found that discriminant validity prevailed as all HTMT values were less than 0.85 and aligned with what was proposed by Hair et al. (2017) and Henseler et al. (2015) for the constructs that are not the same as per this study.

Table 5: Heterotrait-Monotrait Ratio (HTMT)

	INCE	MONIT	PERF
INCE			
MONIT	0.584		
PERF	0.601	0.557	

Assessment of the Inner Structural Model

Based on outer evaluation model outcomes, it can be concluded that the model was fit to be used in this study. Therefore, in order to gain more acceptability, evaluation of the inner structural model based on fitness of the model in predicting as well as determining how well constructs in the model relate were performed. To attain this evaluation, the study employed the coefficient of determination (R^2), (β -values) and their associated p-values that assessed the path coefficients, f^2 that evaluated effect size, and Q^2 that evaluated the predictive relevance of the model.

Assessment of Coefficient of Determination

The coefficient of determination (R^2) was used in assessing the accuracy of the model in predicting changes or variations in dependent construct by measuring the overall effect size and variance in the dependent construct for the structural model. The R^2 of 0.359 for this study ranged between 0 and 1 as laid down by Hair et al. (2017). The R^2 of 0.359 entailed that 35.9% of variation in the inter-regional bus drivers' performance can be explained by monitoring and incentives.

Estimation of Main Effect Path Coefficients

The main effect path coefficients were estimated by using β -values and p-values were used in determining the significance level of such path coefficients. By using bootstrapping procedures of 5000 subsamples with no sign changes then standardized coefficients, t-statistics as well as p-values were calculated as presented in table 6.

Table 6: Path coefficients, T-Statistics and p-Values

Hypothesized Main Effect Path	Standardized β	t- statistic	p- values
INCE -> PERF	0.386	7.874	0.000
MONIT -> PERF	0.301	5.343	0.000

From table 6, it can be noted that all two main effect path coefficients were highly significant at 1% level. The two coefficients are positive implying that both incentives and monitoring have independent positive influence on inter-regional bus drivers' performance. Thus, the researcher has failed to reject both hypotheses for a positive association of both monitoring and incentives with inter-regional bus drivers' performance in Tanzania at 1% significance level. The standardized β for monitoring can be interpreted as 1-unit increase in monitoring improves inter-regional bus drivers' performance by 0.301 units. Also, the standardized β for incentives can be interpreted as 1-unit increase in incentives improves inter-regional bus drivers' performance by 0.386 units.

Assessment of the Effect Size

Effect size of each independent construct on the dependent construct was assessed by using f^2 . It assesses the influence of removing one independent construct on the dependent construct by observing changes on the coefficient of determination (R^2). This can explain the importance of one independent construct in the structural model if changes on the dependent construct occur when

one independent variable is removed. From table 7 it can be portrayed that incentives had moderate total effect on interregional bus drivers’ performance whereas monitoring had weak effect in line with guidelines that specify that f^2 of 0.35 stands for strong effect, f^2 of 0.15 stands for the moderate effect and f^2 of 0.02 stands for weak effect (Cohen, 1988).

Table 7: Effect Size

Independent Constructs	Effect Size (F^2)	Total Effect
INCE -> PERF	0.173	Moderate
MONIT -> PERF	0.105	Weak

Assessment of the Predictive Relevance of the Model

The Q^2 statistic was used to assess the quality of the path on the employed SmartPLS structural model for this study. The Q^2 describes the power of the research model in causing changes on the dependent construct. Based on the results that were found after conducting blindfolding procedures the Q^2 value was 0.224 and thus, has met the criterion that was laid down by Tenenhaus et al. (2005) which requires Q^2 to be above zero to guarantee good quality of path in the SmartPLS structural model.

Estimation of Moderating Path Coefficients (β -Values) and p-values

The moderating path coefficients were estimated after incorporating moderating variables in the main model. As in the main path coefficients estimates, the moderating path coefficients were estimated by using β -values and p-values determining the significance level of the moderating variables. By using bootstrapping procedures of 5000 subsamples with no sign changes then standardized coefficients, t-Statistics as well as p-values were calculated as presented in table 8.

From table 8, it can be deduced that when there is one-point increase of road condition, the role of monitoring on improving inter-regional bus driver’s performance increases more by 0.142 points ($\beta = 0.142$, t-Statistics = 2.434, $p \leq 0.05$). From the estimates, it can be noted that hypothesis three which stated that road condition moderates the positive association. between monitoring and inter-regional bus drivers’ performance was statistically supported at 5% significance level

Table 8: Path coefficients, T-Statistics and p-Values

Hypothesized Moderating Effect Path	Standardized β	T-Statistics	p-Values
BUSCONDITION*INCE -> PERF	0.078	1.742	0.082
ROADCONDITION*MONIT -> PERF	0.142	2.434	0.015

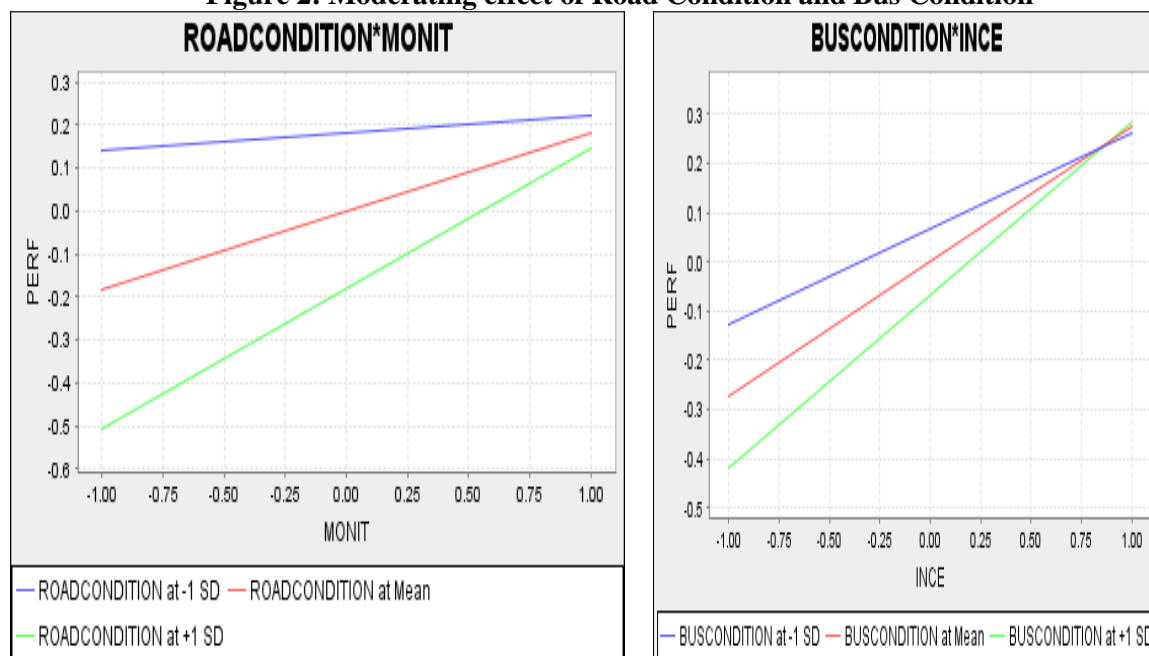
Furthermore, from table 8, it can be deduced that when there is one-point increase of bus condition, the role of incentives on improving inter-regional bus driver’s performance increases more by 0.078 points ($\beta = 0.078$, t-Statistics = 1.742, $p \leq 0.10$). From the estimates, it can be noted that hypothesis four which stated that bus condition moderates the positive association between incentives and inter-regional bus drivers’ performance was statistically supported at 10% significance level.

Post Hoc Analysis of Moderating Effect Path

Since the moderating effects were statistically significant as revealed above, then it was worth conducting a post hoc analysis of moderating effects. In order to attain the post hoc moderating effect path coefficients analysis for each used moderating variable, graphs were employed as presented in figure 2.

Figure 2 presents the simple effect of monitoring at different levels of road conditions, that is when the road condition is at mean level (ROADCONDITION=0), at standard deviation above mean (ROADCONDITION=+1) and at standard deviation below mean (ROADCONDITION= - 1). It can be noted that, a positive variation of road condition from the mean road condition improves inter-regional bus drivers' performance while negative variation of road condition from the mean road condition decreases inter-regional bus drivers' performance. In the same vein, figure 2 presents the simple effect of incentives at different levels of bus conditions, that is when the bus condition is at mean level (BUSCONDITION=0), at standard deviation above mean (BUSCONDITION=+1) and at standard deviation below mean (BUSCONDITION= -1). It can be further noted that positive variation of bus condition from the mean bus condition improves inter-regional bus drivers' performance while negative variation of bus condition from the mean bus condition decreases inter-regional bus drivers' performance.

Figure 2: Moderating effect of Road Condition and Bus Condition



DISCUSSION

According to the agency theory, the presence of monitoring and incentives from the principal would enhance the performance of an agent. Effective monitoring of agent's activities helps the principal to reduce internal uncertainty. When the agent is rewarded based on his/her performance, he/she can be exposed to more improvement on performance. Though in different sector, the findings of this study aligned with the findings of Parrish et al. (2005) who found that monitoring and incentives have an influence on agents' performance. Moreover, the more use of roads and buses that are in good conditions would enhance the influence of monitoring and incentives on inter-regional bus drivers' performance respectively. Thus, the moderating role of road condition on the relationship between monitoring and inter-regional bus drivers' performance is consistent with the study conducted by Rokkan and Buvik (2009) who argued that monitoring is not effective unless is supported by other variables. Based on this notation and the findings of this study, it can

be argued that when effective monitoring is supported by good road condition would enhance inter-regional bus drivers' performance.

This study has found that incentives and monitoring are influential on improving the performance of the inter-regional bus drivers. Bus owners who have been ignored for quite long time in managing inter-regional bus drivers' performance have found to have significant influence on inter-regional bus drivers' performance through exercising monitoring and incentives. In order for monitoring to be effective on managing inter-regional bus drivers' performance, then bus owners are recommended to take the following actions: Firstly, to make regular personal visits at the bus terminal before drivers start driving. Secondly, they should institute the communication system for regular sharing of information with their bus drivers on aspects that endangers their driving performance. Thirdly, they should frequently make mechanism to receive reports on how inter-regional bus drivers are driving and fourthly they should frequently conduct physical inspection of the conditions of their buses. Fifthly and lastly, they should follow-up the driving schedule as set by the government authority.

Similarly, for the bus owners to be effective in managing inter-regional bus drivers' performance through incentives they have to consider the following: Firstly, they should pay inter-regional bus drivers based on the quality of driving performance rather than basing on number of routes. Secondly, they should occasionally pay unexpected bonus based on inter-regional bus drivers' performance, and thirdly they should invest on paying training fees for inter-regional bus drivers to improve their performance. Fourthly, they should seek for driving experts to impart inter-regional bus drivers with new driving skills. Fifthly, they should usually provide cash bonuses based on inter-regional bus drivers' performance. Sixthly, they should allocate advanced driving experts to inter-regional bus drivers based on their driving performance.

Furthermore, bus owners should strive at ensuring that buses are at good condition all the time. This can be ensured by establishing policies and procedures that requires drivers to do fully inspection before starting an inter-regional journey. Prerequisite of drivers to provide a fully bus inspection report on bus condition to bus owners from a well-known expertise garage that is equipped with professional mechanists ensures bus to be at good condition. Alternatively, bus owners can opt to establish their own garage to make inspection of their own buses before commencement of the trip. During inspection many defaults of buses can be detected. For example, Smith (1998) stipulated that braking performance is crucial in the prevention of accident and frequently each of a single accident includes the use of the bus brakes. Moreover, Strandberg (1998) highlighted that for safety purpose a vehicle/bus with poorer brakes and tires is necessary to be driven at a reasonable safety distance behind superior vehicles on roads the issue that cannot be sustained.

The government of Tanzania should continue investing in improving the quality of transportation infrastructures, hence improve the roads conditions. From the economic point of view, roads are public goods and the major producer and provider of this good is the government, for the welfare of the public. Government investment on roads construction offer many benefits to improve bus drivers and other vehicles drivers.

CONCLUSISON

This study examined the influence of bus owners monitoring and incentives on the inter-regional bus drivers' performance in Tanzania. It also examined the moderating role of road condition and

bus condition in the influence of monitoring and incentives on drivers' performance. The results obtained from this study were targeted to review managerial practices and policies for purpose of improving road transportation industry performance in Tanzania. Also, the study was interested in knowing how agency theory could be useful in improving inter-regional bus drivers' performance and contributing more insights to the theory from the results that are obtained.

From the results, the researcher failed to reject all the four hypotheses with statistical significance. The results show that monitoring has a positive influence on the inter-regional bus drivers' performance. Also, incentives were found to have a positive influence on inter-regional bus drivers' performance. The study further found that road condition moderates the positive association of monitoring on inter-regional bus drivers' performance. Finally, the bus condition was found to moderate the positive influence of incentives on inter-regional bus drivers' performance.

Therefore, it can be concluded that the presence of good road condition as well as good bus condition helps to reinforce the influence of monitoring and incentives on inter-regional bus drivers' performance respectively. As pointed out by scholars, negative external influence strongly reduces performance of an agent when there are no motivations/incentives (Bruno and Reto, 2001). As there is no sound established incentives system (on areas of permanent written contracts and performance based remunerations) and deliberate monitoring by bus owners, then bus drivers would seem to not perform well. Therefore, bus owners should opt to introduce well established incentive systems while exercising effective monitoring and always ensuring their vehicles are in good conditions.

IMPLICATIONS FOR THEORY, PRACTICE AND POLICY

The study reinforced the use of the agency theory in road transportation sector. Monitoring and incentives as pinpointed out in the agency theory to be effective on managing agents' performance were statistically confirmed in this study. However, this study has found monitoring to be more effective in influencing bus drivers' performance when moderated by road condition. Also, it has found incentives to be more effective in influencing performance of bus drivers when moderated bus condition. Therefore, more studies on the agency theory should focus on finding other variables that can be used as moderators in different sectors. In particular, more such studies are needed in the agricultural sector and in public procurement where the theory has been widely used.

The study has laid down implications for practice. It has found that good road condition has a significant impact on moderating the influence of monitoring on inter-regional bus drivers' performance. Therefore, the government of Tanzania should continue investing on improving roads for the betterment of the welfare of its people. One of the benefits of good road condition is reduced road accidents and hence fewer injuries and fewer losses of lives.

To the bus owners, the study implied that good bus condition has a significant impact on moderating the positive influence of incentives on inter-regional bus drivers' performance. Therefore, the bus owners of Tanzania should continue in ensuring that their buses are in good conditions for the betterment the passengers. Similarly, one of the advantages of travelling in buses that are in good conditions is safety that minimizes road accidents, hence lower deaths and injuries.

To inter-regional bus drivers, the study provided fruitful results that will inform and improve their driving performance. Inter-regional bus drivers will be benefited if incentives and monitoring will

be taken seriously by bus owners as were found to be influencing inter-regional bus drivers' performance.

To the policymakers, the study implied that the involvement of bus owners has significant impact on improving inter-regional bus drivers' performance. Hence, policymakers have to find appropriate policies that will encourage bus owners to continue playing the role of well managing and hence improving the performance of their bus drivers.

To the future researchers, the study has contributed to the already existing empirical studies as well as on the agency theory while adding more knowledge on the usefulness of agency theory in real life. Thus, more researches in other industries as well as in other empirical settings should be conducted to gain more validity of the constructs in improving agents' performance while incorporating moderating variables in respective sector.

To the community, the study has provided solution suggestions to the problem of road accidents and thus assists in reducing the number of deaths and injuries in the society. This is achieved through the insights this study is providing to bus transportation stakeholders such as SUMATRA and TABOA in polishing policies based on the results based on this study.

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