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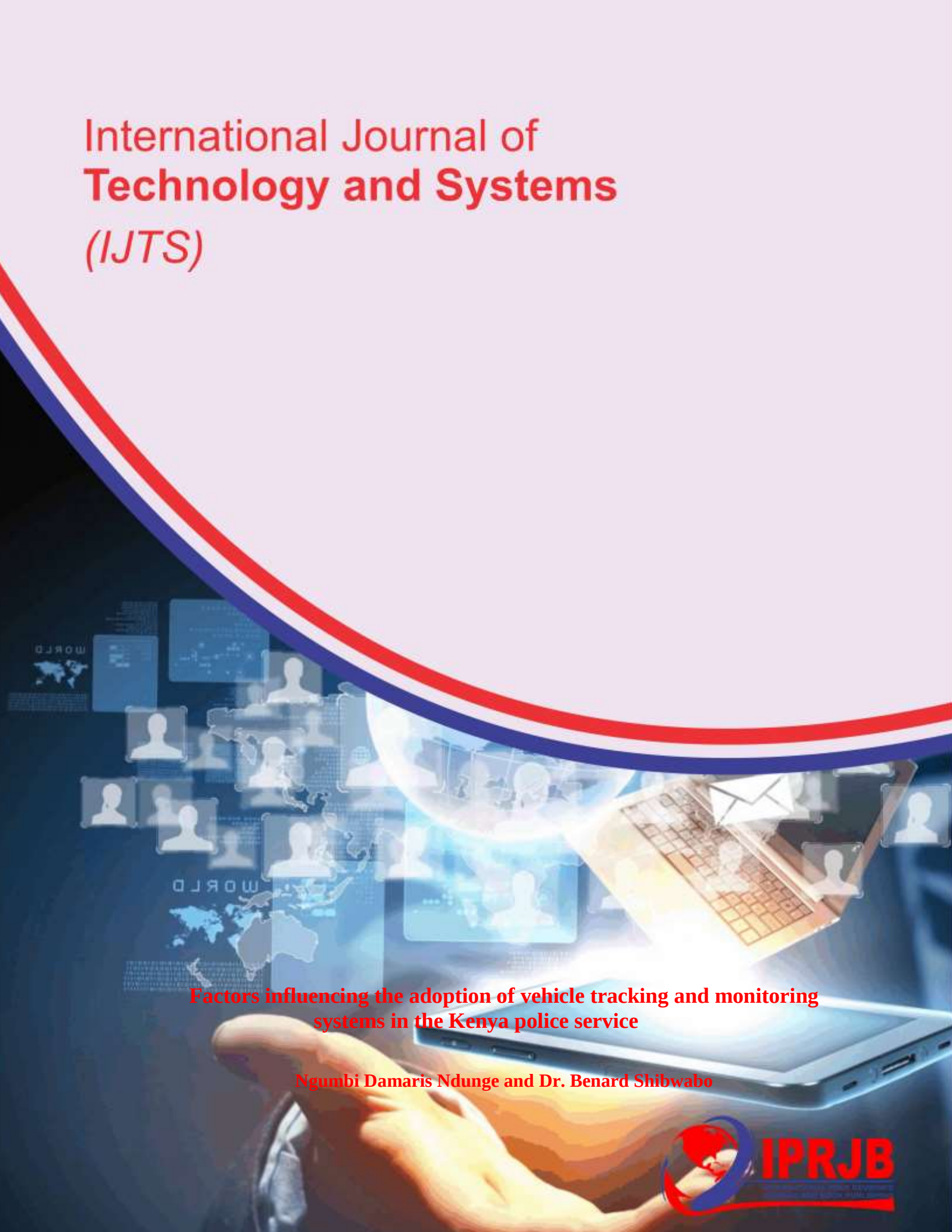

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Abstract

Purpose: The purpose of this study was to assess factors influencing the adoption of vehicle tracking and monitoring systems adoption in the Kenyan policy service

Methodology: This research used explanatory research design. The population of this research consisted of all the 110 police stations and police posts in Nairobi County. A sample of 57 police stations and police posts was selected. The research used primary data that was collected by use of questionnaires. The research used both descriptive statistics and inferential statistics in the analysis. The study further conducted structural modeling analysis using the partial least square to validate the proposed model. SPSS-Amos was used for data analysis.

Results: The results of this study showed that technology awareness, environmental factors, financial resources and technological complexity significantly affected both perceived usefulness and perceived ease of useof vehicle tracking and monitoring systems. The findings further showed that perceived usefulness had a positive and significant relationship with intention to use the vehicle tracking and monitoring systems.

Unique contribution to theory, practice and policy: The study also recommends that the Kenya police service should train their officers on the vehicle tracking and monitoring systems and also allocate funds in their budget to implement the installation and training on tracking and monitoring systems.

Keywords: *model adoption, vehicle tracking, monitoring systems, factors influencing adoption*

1.0 INTRODUCTION

Many companies are starting to realise the benefits of vehicle tracking systems. The benefits cross all industries and both the commercial and public sector. Tracking makes it easier to eliminate fleet inefficiencies such as journey duplication/overlap and unscheduled journeys. It also encourages a safer, more economic driving style among mobile employees and more efficient call placing. Other benefits include reduced vehicle wear and tear and reduced administration time associated with meeting health and safety policies (Marchet, Perego &Perotti, 2009).

The potential benefits of a vehicle tracking system can be immediate, with enhanced fleet reactivity and productivity making it possible to generate a fast return on investment and increase business capacity. It can also assist wth meeting the needs of government legislation and security for mobile employees (Ting, Wang & Ip, 2012).

Vehicle tracking is a way to improve company efficiency and in effect, increase profitability, especially in the business of large vehicle fleets (Hsieh, Yu, Chen & Hu, 2006). The tracking system is the enabling technology, and is the key to release the value trapped in asset management. By its non-contact, scan-based data reading characteristics, it automates the asset tracking and data acquisition that enables an enterprise to locate vehicles (cars, trucks, etc.) and even uses location information to optimize services. With the help of tracking information, the manager is able to access one or more driver locations and gets their status information on a real-time basis (for instance, checking if the drivers execute the order; if they follow the driving routes; if there is any traffic congestion (Roh, Kunnathur &Tarafdar, 2009).

Numerous studies suggest that Radio Frequency Identification (RFID) technology can provide improved container handling efficiency; however, there is a relative lack of research concerning adoption of tracking and monitoring systems of police vehicle movement in the security operations. This study therefore aims to formulate a model for the adoption of tracking and monitoring systems for police vehicles in the Kenyan police service.

The vehicle tracking systems that is applied to security and safety is rapidly being tested and piloted and it has remained a matter of several government reports and legislative responsibility (Bharath, 2013;Ripplinger & Brand-Sargent, 2010; Rahul, 2014).The vehicle industry has been adopting the use of vehicle tracking for a several reasons, particularly the efficiency achieved by better fleet management of both drivers and assets such as trucks or tractors) (Elshafee, EIMenshawi & Saeed, 2013).

Keeping track of all vehicle movements has been made possible and easier by vehicle tracking and monitoring systems. The motor tracking systems makes use of techniques such as the Geographical Positioning Software (GPS) and radio navigation system which function through satellites and ground based stations (Bharath, 2013; Ripplinger & Brand-Sargent, 2010; Rahul, 2014). There is widespread use of the motor tracking system in commercial operations such as fleet management (Elshafee, EIMenshawi & Saeed, 2013). Non commercial activities such as monitoring employee driving behavior and vehicle theft prevention also make use of the tracking system. This is made possible by following the signal emitted by the motor tracking system to locate the vehicle.

Transmissions from orbiting satellites are picked up by GPS which is then used by on-vehicle technology to calculate location (Ripplinger & Brand-Sargent, 2010). Other vehicle tracking and monitoring technologies include the Automatic Vehicle Location (AVL) and the Radio Frequency Identification (RFID).The origins of use of RFID technology date back to World War II, when it was used to detect friendly aircraft (Hasan, Rahman, Haque & Rasheed, 2009).

Vehicle tracking holds the promise of reducing risks created by unsafe driving practices and by terrorist attacks. Insurance companies that are looking at available methods and technologies as well as commercial best practices no doubt will increasingly factor vehicle tracking into their appraisal of each company's overall posture, which will in turn influence insurance rates (Rahul, 2014).Vehicle tracking results in higher efficiency and productivity (Rahul, 2014). There are various reasons for low adoption of these vehicle tracking and monitoring softwares in Kenya including criticisms of invasion of privacy by GPS and that the cost of implementing RFID is high and this poses a hindrance to its implementation (Lai, Ngai & Cheng, 2005).

In the past decade, the service has come under scrutiny over rampant corruption, high crime rates and abuse of office by senior officers (Auerbach, 2003; Cheng, 2005; Rahul, 2014). In an effort to improve accountability in the force, this study discusses the factors influencing adoption of vehicle tracking and monitoring system in the Kenyan police service.

1.2 Statement of the Problem

In the past decade, the Kenyan Police service has come under scrutiny over rampant corruption, high crime rates and abuse of office by senior officers (Auerbach, 2003; Cheng, 2005; Rahul, 2014).Recently, the Police service issued a warning on the Police vehicle stolen during Lamu terror attack. The Police Inspector General warned the public to be vigilant, cautioning that the police vehicle stolen with registration number GKB 595J could be used by criminals or terrorists to commit crime in any part of the country (Ombati, 2015). This is an indicator of the poor vehicle tracking and monitoring measures by the police service.

A spot-check on the Kenya police revealed that presence of patrol cars in the streets has not increased as was expected, in the wake of the leasing of hundreds of emergency response vehicles to the police in 2014. Juniors on routine easily drive away from areas they are supposed to patrol and move to other zones dotted with bars and night clubs, as well as matatu termini with the aim of collecting bribes. Rogue officers also ensure the fuel consumed while the cars are used for personal errands is paid for by the taxpayer. The cars are fuelled at stations authorized by the service on the pretext the car is on official duty (Ombati, 2015).

Effective use of the existing resources is likely to better service delivery. It is therefore imperative to discuss the factors influencing the adoption of tracking and monitoring systems in the Kenyan police service.

1.3 Objectives of the Study

i. To investigate the extent to which vehicle tracking and monitoring systems has been adopted in the Kenya police service.

ii. To assess the factors influencing adoption of vehicle tracking and monitoring systems in the Kenya police service.

iii. To formulatean adoption model for vehicle tracking and monitoring systems in the Kenya police service.

2.0 LITERATURE REVIEW

2.1 The Technology Acceptance Model

The Technology Acceptance Model (TAM) was developed by Fred Davisin 1989. The model advances two aspects which influence the level of technology acceptance which are Perceived Usefulness and Perceived Ease of Use (PEOU). Perceived usefulness (PU) is the level to which the user perceives the technology in terms of efficiency while perceived ease of use (PEOU) is the user's relating technology to ease of work (Davis, 1989). The theory argues that the consumers' attitude towards using new technology is influenced by perceived usefulness and perceived ease of use. The theory uses psychometric scales to measure perceived ease of use and usefulness.

Perceived usefulness is measured on scales of whether work is done more quickly, job performance, increased productivity, effectiveness and usefulness. Perceived ease of use scales included whether the technology is easy to learn, clear and understandable, easy to become skillful easy to use, controllable and easy to remember. Apart from the two aspects identified above, the model also considers external factors as a factor that influences the intention to use and the actual use of technology (Davis, 1989).One of the criticisms for studies that adopt TAM model is that self reported use data are used to measure system use instead of real actual use data. Self reported use data is a subjective measure, and is thus unreliable in measuring actual use of a system (Auerbach, 2003; Cheng, 2005; Rahul, 2014).

2.2 The Technology Organisation and Environment Model

The (Technology Orgnaization and Environment) TOE was developed by Tornatzky and Fleischer (1990). It identifies three aspects of an enterprise's context that influence the process by which it adopts and implements a technological innovation: technological context, organizational context, and environmental context.

Organizational context includes company's business scope, senior management support, culture, centralization of managerial structure, vertical differentiation and formalization, among other factors (Jeyaraj, Rottman & Lacity, 2006; Sab-herwal, Jeyaraj, &Chowa, 2006). Environmental context is the arena in which a firm conducts its business its industry, competitors, and dealings with the government (Tornatzky & Fleischer, 1990). It has been used widely in IT adoption studies at the organizational level (Hart, 2012). In Lipert's (Lipert *et al*, 2006) study of TOE antecedents to web services adoption, he noted that a many empirical studies (Chau & Tam, 1997; Gibbs & Kraemer, 2004; Thong, 1999; Zhu, 2004; Zhu, 2003; Zhu & Kraemer, 2005) have used the TOE model as a theoretical foundation for investigating organizational adoption of new technologies.

Moore's Technology Adoption Life cycle theory posits that there are different motivations for adoption of innovations. According to the Moore's Technology Adoption Life Cycle (Moore &Benbasat, 1991), the sum influence of population choices as outlined by the S curve develops distinct patterns of technology enabled markets (Mazhelis, Luoma& Ojala, 2012).

Discovering the phase or stage a product is not a simple task. Sometimes adoption is not a linear process and therefore one cannot clearly say which stage of adoption a product is. The relevance of this theory to the adoption of vehicle tracking systems is that it is not easy to tell the level of

adoption of the vehicle tracking systems. In addition you are not able to tell whether the police service is early adopters or late adopters of technology.

Recently, the lower costs and the increasing capabilities of the vehicle tracking systems attract attention in keeping track and monitoring the containers in the terminal (Hsu, Shih & Wang, 2009; Park, Dragovic & Kim, 2009; Ngai et al., 2010). Woo, Choi, Kwak and Kim (2009) proposed an activity product state tracking system architecture which is able to track products even when they are in a box or a container.

2.2 Empirical Review

Ripplinger and Brand-Sargent (2010) analyzed the adoption of transit technology used by small firms. The study used categorical response models such as logit models. The study results indicated that the size of the transit agencies was one of the major contributors to the adoption of Computer-Aided Scheduling and Dispatch Software. The study recommended that transit agencies ought to employ economies of scale as this led to an increase in the adoption rate of transit technology. The study differs significantly from the current study since the current study focuses on adoption of vehicle tracking software in the police service in Kenya. This is a gap that the current study wishes to address.

Nzomoi *et al.* (2007) sought to establish the factors influencing technology adoption in the horticultural sector in Kenya. The study concluded that the level of education, low and inconsistent participation of the government, poor credit access and enrollment into membership association influenced technology adoption. It was recommended that more education and training to be given to farmers, increased government participation, increasing ease of accessing credit for the farmers. The study is different from the current study in that it focused on horticulture farming while current study will be on the police service in Kenya.

Ting and Wang (2012) investigated the extent of adoption Radio Frequency Identification technology in container terminal in China. Results revealed that the adoption of RFID was poor in many areas. The study differs from the current study since it was done in China while the current study was done in Kenya, a country that is less developed than China.The study also differs because it did not focus on vehicle tacking adoption in the police service.

Nyamawe (2014) also studied the adoption of ICT in tracking over speeding vehicles in Tanzania.The study also proposed the model for tracking in real time vehicleover-speeding in Tanzania. According to the study,to reduce road accidents and for better performance, the existing measures needed to be supplemented by more sophisticated ways. The proposed model for tracking vehicle over-speeding was expected to deliver the ability to track buses in real time. The system would constantly update the law enforcers (traffic police) on what is going on in the roads and take prompt action in case of misbehaving. The successful implementation of the model was anticipated to offer positive results and contributes to road safety.

Wang and Potter (2007) assessed the introduction of tracking system in the shipping industry in the UK. Findings revealed that tracking system was still not well adopted but with possibility of higher levels of adoption in days to come. There exists a contextual gap as the study focused on the shipping industry and not the police service. The geographical scope also differs from the current study as it was not carried out in Kenya but in the UK.

Bett (2012) examined the adoption and impact of GPS technology on motor vehicle insurance in Kenya's insurance industry. The study revealed that the adoption of GPS tracking systems by insurance firms was low. This is because it focused on Lorries and trucks only. The study failed to address the factors that influence adoption of vehicle tracking systems by the police service in Kenya. This is a research gap that the current study wishes to address by focusing on factors of adoption such as ease of use, perceived usefulness, and availability of resources and awareness of vehicle tracking systems.

Karake (2014) investigated the factors affecting the adoption of electronic policing in the police service. The study found that the police service had adopted electronic identification, police-public interface, centralized information storehouse, radio frequency identification (RFID) and electronic transport (E-Transport) systems. Further, the service had adopted online verification and fingerprints reader, real-time Information access, closed circuit television (CCTV) and intelligent sensors systems in crime control in Nairobi County. The study concluded that the adoption of epolicing had significantly increased efficiency in crime control. The study mentioned that difficulties of integrating existing systems with electronic policing systems and perceived loss of control are some of the challenges in the adoption of e-policing.

3.0 RESEARCH METHODOLOGY

This study used explanatory research design. The population of this study consisted of all police stations and police posts in Nairobi County either having or not having a vehicle monitoring and tracking system. The number of police stations and police posts in Nairobi County is 110. A sample size of 57 police posts and police stations was used. This study utilized primary data in order to answer the stated research questions. Pilot test was carried on of 10 police posts in Nairobi. Validity of research instrument was checked by subjecting the questionnaire to experts. Structural modeling analysis was done using the partial least square to validate the proposed model. SPSS-Amos was used for data analysis.

4.0 RESEARCH FINDINGS AND DISCUSSION

4.1 Response Rate

The total number of questionnaires distributed for this study was 114. The study sampled 2 policemen/women for each 57 police stations sampled. Out of the total of 114, 105 were properly filled and returned which represents a response rate of 92.1%. According to Mugenda and Mugenda (2003) a response rate of above 50% is adequate for a descriptive study.

4.2 Demographic Characteristics

4.2.1 Gender of the Respondents

The findings indicate that majority of the respondents who participated in this study were male. This was represented by 78% of the respondents.

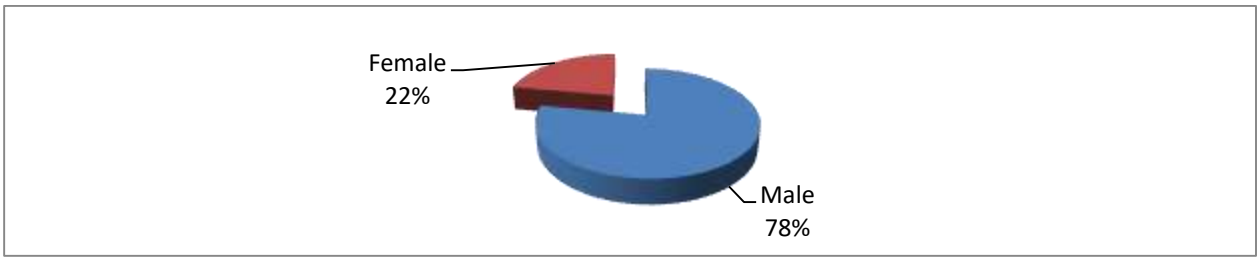

Figure 1 Gender of the Respondents

The female respondents were 22% of the total respondents. The gender of respondents may have influenced the level of adoption of vehicle tracking and monitoring software.

4.2.2 Rank of the Respondents

The study also sought to find out the rank of the respondents.

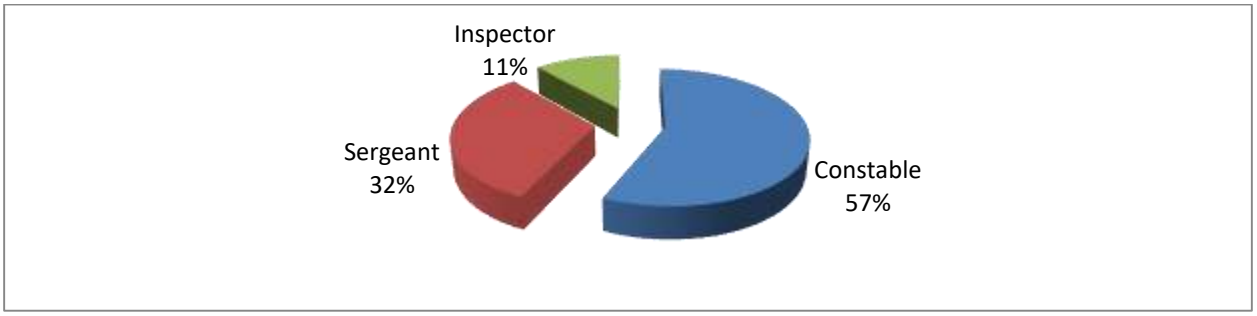

Figure 2 Rank of the Respondents

The results indicate that majority (57%) were at constable level. Those at sergeant and inspector level were 32% and 11% respectively. The rank of respondents may have influenced the level of adoption of vehicle tracking and monitoring software.

4.2.3 Work Experience of the Respondents

The study sought to find out the number of years the respondents had worked with the Kenya police service.

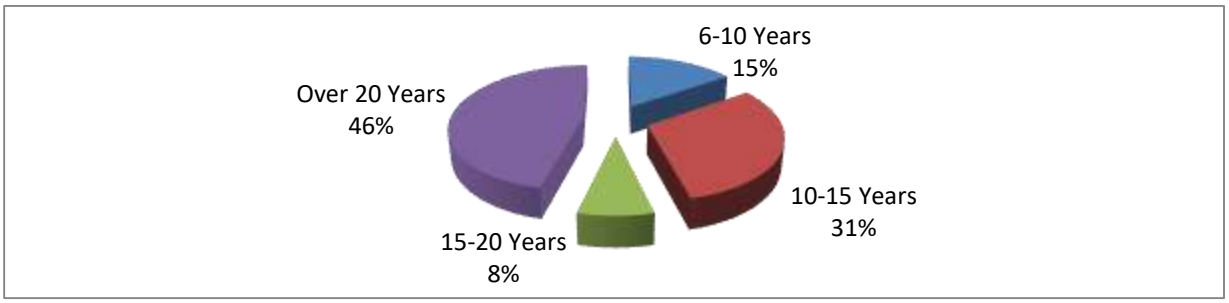

Figure 3 Work Experience of the Respondents

The findings indicate that majority (46%) of the respondents had worked with the Kenya police service for over 20 years. those that had worked for between 10-15 years were 31% while 15%

indicated to have worked for between 6-10 years. Those who had between 15-20 years work experience were the least at 8%.The work experience of respondents may have have influenced the level of adoption of vehicle tracking and monitoring software.

4.3 Descriptive results

4.3.1 Descriptive Result for Adoption of Vehicle tracking systems in Police Stations

The table 1 contains result on how respondents responded to various statements measuring the level of adoption of vehicle tracking and monitoring systems.

Table 1 Descriptive Result for Adoption of Vehicle Tracking Software

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Vehicle tracking software is applied by our organization to ensure efficiency	41.3%	51.9%	2.9%	2.9%	1.0%	4	1
There's annual budget allocation toward the maintenance and acquisition of vehicle tracking software	62.5%	35.6%	1.9%	0.0%	0.0%	5	1
Our organization undertakes training on the use of vehicle tracking software	49.0%	45.2%	5.8%	0.0%	0.0%	4	1

Majority of the respondents disagree (51.9%) and strongly disagree (41.3) %that they use vehicle tracking systems in their stations. Similarly, majority of the respondents disagreed on whether there was budget allocation for vehicle tracking and maintenance in their working station. The respondents also indicated that they were not trained on the use of vehicle tracking systems. These findings indicate the extent to which Kenya police service used vehicle tracking and monitoring systems was very low.

4.3.2 Intention to Use Vehicle Tracking Systems

Intention to use a certain innovation is important to adoption of the innovation.

Table 2 Descriptive Result for Intention to Use Vehicle Tracking Systems

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Suppose you access to vehicle tracking and monitoring system will you adopt and use	0.0%	0.0%	2.9%	35.6%	61.5%	5	1
I can adopt the vehicle tracking and monitoring system if it is useful in your job	0.0%	2.9%	4.8%	44.2%	48.1%	4	1
I can adopt the vehicle tracking and monitoring system if it is easy to use in my job	0.0%	1.9%	12.5%	41.3%	44.2%	4	1
I can adopt the vehicle tracking and monitoring system if it will increase performance of Kenya police	0.0%	0.0%	1.0%	53.8%	45.2%	4	1

Before the population finally accept to adopt a technology they must exhibits the intent to use it. Here the study sought to establish whether the police had the intention of adopting the tracking systems. Responses are given in table 2.

Majority (61.5%) of the respondents strongly agreed that given access they could adopt the use of tracking systems. Majority also indicated that they could adopt if the system was useful in their job, easy to use and increased their job performance. This clearly indicated that the respondents had intention to use the tracking system given access.

4.3.3 Descriptive Results for Technology Awareness of Vehicle Tracking Systems

The study also tested the extent of technology awareness among the respondents as in table 3.

Table 3 Descriptive Result for Technology Awareness

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
I am aware of the existence of vehicle tracking and monitoring systems	0.0%	0.0%	0.0%	44.2%	55.8%	5	0
I know and understand how vehicle tracking software work	0.0%	0.0%	0.0%	42.3%	57.7%	5	0
I am able to explain to my colleagues the functioning of vehicle tracking and monitoring software	0.0%	0.0%	2.9%	38.5%	58.7%	5	1
I can identify which vehicles have the vehicle tracking software installed	0.0%	0.0%	5.8%	54.8%	39.4%	4	1

The findings show that the technology awareness among the respondents was very high. The respondents strongly agreed to be aware of the existence of vehicle tracking and monitoring systems. They also agreed have idea on how these systems worked and could be able to explain to their colleagues the how the systems worked.

4.3.4 Descriptive Results for Environment Factors of Vehicle Tracking Systems

The study sought find out whether environmental factor contributed to adoption of vehicle tracking and monitoring systems as in table 4.

Table 4 Descriptive Result for Environmental Factors

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Others people's attitudes can influence Kenya police intention to adopt vehicle tracking software	0.0%	8.7%	12.5%	63.5%	15.4%	4	1
Others people's behaviour can influence Kenya police intention to adopt vehicle tracking software	0.0%	4.8%	15.4%	59.6%	20.2%	4	1
Social pressure can influence Kenya police intention to adopt vehicle tracking software	0.0%	8.7%	11.5%	52.9%	26.9%	4	1
There are supportive technical infrastructure for the adoption for vehicle tracking software	0.0%	0.0%	0.0%	41.3%	58.7%	5	0
There is external pressure for the police force to adopt vehicle tracking software	0.0%	0.0%	1.9%	51.9%	46.2%	4	1

The results indicate that majority of the respondents felt that other people opinion and behaviours towards the technology, social pressure and external pressure were among environmental factor that influenced the adoption of vehicle tracking and monitoring systems. The respondents also indicated that having supportive infrastructure could influence the adoption of technological innovations.

4.3.5 Descriptive Results for Financial Resources

The study sought to find out whether financial resources influenced the adoption of vehicle tracking and monitoring systems as in table 5.

The results indicate that the respondents strongly agreed and agreed that Kenya police service had financial constraints that limited their adoption of vehicle tracking systems. The results also shows that Kenya police service fails to invest in vehicle tracking systems because of the fear of relocating funds budgeted for other projects which could result to budget crisis. These finding indicates that given sufficient budget the Kenya police service could invest in vehicle tracking and monitoring systems.

Table 5 Descriptive Result for Financial Resources

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
There is inadequate budgetary allocation for Kenya police service	0.0%	1.0%	11.5%	44.2%	43.3%	4	1
Kenya police budget cannot finance adoption of vehicle tracking and monitoring	0.0%	0.0%	3.8%	51.9%	44.2%	4	1
The adoption of vehicle tracking and monitoring software will compete with other projects for funding	0.0%	2.9%	4.8%	44.2%	48.1%	4	1
The adoption of vehicle tracking and monitoring software will strain the forces resources	0.0%	1.9%	12.5%	41.3%	44.2%	4	1

4.3.6 Descriptive Results for Technological Complexity

The study sought to find out whether the complexity of technology could influence the intention to use, perceived usefulness and perceived ease of use of the technology.

Table 6 Descriptive Result for Technological Complexity

	Strongly Disagree	Disagree	Neutral	Agree	Strongly Agree	Mean	Std Dev
Vehicle Tracking and monitoring system is complex for Kenya police service	0.0%	7.7%	5.8%	55.8%	30.8%	4	1
Complexity of vehicle tracking and monitoring system affects its adoption	2.9%	6.7%	20.2%	43.3%	26.9%	4	1
Use of the tracking and monitoring system will make work difficult for police	0.0%	0.0%	1.0%	54.8%	44.2%	4	1
The adoption of vehicle tracking and monitoring software will strain the police	0.0%	2.9%	3.8%	60.6%	32.7%	4	1

The finding indicates that most of the respondents strong agreed and agreed on statement on technological complexity.

The finding shows that majority of the respondents perceived vehicle tracking and monitoring systems to be complex which the felt could have contributed to poor adoption. They also noted that some of these systems are likely to make the work of the police harder and more strenuous. One of the reasons behind the perception could be because most of the police in Kenya police service have no computer training and necessary skills to work with such systems.

4.4 Inferential statistics

4.4.1 Correlation Results

The study conducted a correlation tests to ascertain the association between study variables and test the presence of multicollinearity among the study variables.

Table 7 Correlation Results for Study Variables

		Awareness Mean	Environmental Mean	Financial Mean	Technology Mean
Awareness Mean	Pearson Correlation				
	Sig. (2-tailed)				
	N				
Environmental Mean	Pearson Correlation	0.087			
	Sig. (2-tailed)	0.38			
	N	104			
Financial Mean	Pearson Correlation	.310**	.463**		
	Sig. (2-tailed)	0.001	0		
	N	104	104		
Technology Mean	Pearson Correlation	.244*	.285**	.338**	
	Sig. (2-tailed)	0.013	0.003	0	
	N	104	104	104	
PU Mean	Pearson Correlation	.283**	.435**	.315**	0.055
	Sig. (2-tailed)	0.004	0	0.001	0.578
	N	104	104	104	104
PEOU Mean	Pearson Correlation	.322**	.343**	.440**	.246*
	Sig. (2-tailed)	0.001	0	0	0.012
	N	104	104	104	104

** Correlation is significant at the 0.01 level (2-tailed).

* Correlation is significant at the 0.05 level (2-tailed).

The results in the table below indicate that there was no multicollinearity among the study variables. The presence of multicollinearity is detected when the correlation value is above +/- 0.7. Results of correlation are shown in table 7.

4.4.2 Ordinary Least Regression Results

The study conducted OLS to tests the relationship between study variables. Three OLS regression models were conducted.

OLS Results for Determinant for Perceived Usefulness

The first model had perceived usefulness as dependent variable and technology awareness, environmental context, financial resources and technological complexity as independent variables. The findings indicate that technology awareness and environmental context positively and significantly influenced perceived usefulness of vehicle tracking systems since their p-value<0.05 at 95% confidence level. Financial resources and technology complexity had positive and insignificant relationship with perceived usefulness.

Table 8 OLS Results for Determinant for Perceived Usefulness

	B	Std. Error	Beta	t	Sig.
(Constant)	1.795	0.574		3.126	0.002
Technology Awareness	0.29	0.104	0.256	2.791	0.006
Environmental context	0.385	0.092	0.412	4.193	0.000
Financial resources	0.098	0.103	0.099	0.957	0.341
Technology complexity	-0.165	0.098	-0.158	-1.69	0.094
a Dependent Variable: PU					

OLS Results for Determinant for Perceived Ease of Use

The study sought to find out the independent variables affect perceived ease of use of the tracking systems.

Table 9OLS Results for Determinant for Perceived Ease of Use

	B	Std. Error	Beta	t	Sig.
(Constant)	1.169	0.564		2.071	0.041
Technology Awareness	0.231	0.102	0.209	2.263	0.026
Environmental context	0.167	0.09	0.184	1.856	0.066
Financial resources	0.266	0.101	0.274	2.632	0.01
Technology complexity	0.051	0.096	0.05	0.529	0.598
a Dependent Variable: PEOU					

The findings of this study indicate technology awareness and financial resources were significant predictors of perceived ease of use. This implies that when the individual are aware of the technology and have sufficient financial resources they likely to perceive new technology as easy to use. Environmental factors and technology complexity had insignificant relationship with perceived ease of use.

OLS Results for Determinant for Intention to Use

The study further analyse the effects of perceived usefulness and perceived ease of use on the intention to use vehicle tracking systems. The results show that perceived ease of use significant affected the intention to use. The relationship between perceived usefulness and intention to use was insignificant.

Table 10 OLS Results for Determinant for Intention to Use

	B	Std. Error	Beta	t	Sig.
(Constant)	2.17	0.388		5.599	0.000
PU	0.129	0.077	0.152	1.679	0.096
PEOU	0.392	0.079	0.45	4.967	0.000
a Dependent Variable: Intention to use					

OLS Results for Effects of Intention to Use on Adoption

The study finally analysed the effects intention had on adoption of vehicle tracking systems. The results indicate that the relationship between intention to use and adoption of vehicle tracking and monitoring systems was significant at 95% confidence level. Intention to use accounted for 0.172 units in adoption of the system.

Table 11 OLS Results for Effects of Intention to Use on Adoption

	B	Std. Error	Beta	t	Sig.
(Constant)	2.038	0.336		6.072	0
Intention	0.172	0.076	0.22	2.28	0.025
a Dependent Variable: Adoption					

5.0 DISCUSSION CONCLUSIONS AND RECOMMENDATIONS

5.1 Discussions

The results of this study showed that technology awareness significant affected both perceived usefulness and perceived ease of use. Studies have shown that the level of awareness significant affect the adoption of technology. The null hypotheses that technology awareness has no effect on perceived usefulness and perceived ease of use were rejected.

The study findings showed that environmental factors significantly affect PU but had insignificant relationship with PEOU. Environmental factors capture that how individuals who are important for end users have an effect on them towards using a system. Previous studies indicate that subjective norm as an environmental facto has a direct relation with both Perceived Usefulness and perceived ease of use in the scope of adopting e-learning systems (Wang & Wang, 2009).

The study also investigated the effects of financial resources on both perceived usefulness and perceived ease of use. The results showed that financial resources had a significant relationship with perceived ease of use but the relationship with PU was insignificant. Similarly, Hall& Khan

(2003) in their study on adoption of new technology suggested that the obvious determinants of new technology adoption are the benefits received by the user and the costs of adoption.

The study also investigated the effects of technological complexity on both perceived usefulness and perceived ease of use. The results showed that technological complexity had insignificant relationship with both perceived ease of use and PU. This finding contradicts the findings of previous study that investigated effect of TC on PEOU to explain pre-service teachers' intention toward technology use (Teo, 2009). The study stated that if a technology perceived as being difficult, it is perceived as being tedious and time consuming, which results in a lot of effort to be spent to benefit from it.

The study sought to establish whether perceived usefulness affected the intention to use of vehicle tracking systems. The findings showed that perceived usefulness had a positive and significant relationship with intention to use. The findings also revealed that perceived usefulness was correlated to perceived ease of use. This finding agrees with those of Chang and Tung(2008) who argued that perceived usefulness affects the intention to use of new technology.

Based on the study findings PEOU was revealed to be the key factor that affects the behavioral intention to use technology. The findings of this study support those by Chang and Tung(2008) who stated that both PU and PEOU directly affect the intention to use and adoption of technology.

The results on intention to use vehicle tracking revealed that intention to use was highly related to adoption of vehicle tracking and monitoring systems.

5.2 Conclusions

This study aimed to propose a vehicle tracking and monitoring systems adoption model from the perspective of Kenya police service. The model comprised of four dimensions – technology awareness, environmental context, financial resources and Technological complexity and a scale was developed to examine the relations among their variables. Validity tests have proved that the following variables and their corresponding dimension of the model were significant in explaining the behavioral perceived usefulness and perceived ease of use of police towards vehicle tracking and monitoring systems use.

5.2 Recommendations

Based on the study findings, the study recommends that the Kenya police service should consider adopting the proposed model in implementing vehicle tracking and monitoring systems. The study also recommends that the Kenya police service should train their officers on the vehicle tracking and monitoring systems. Kenya police service should also allocate funds in their budget to implement the installation and training on tracking and monitoring systems.

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