The Free State Public Transportation System: A Comparison Between Buses and Taxi

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Abstract. This paper explores Information Communication Technologies (ICT) for consideration in the public transportation system in the Free State and how the two main types of public transportation; buses and taxis, are likely to adapt to these technologies. Taxis and buses operation and management of operations are completely different; their differences are likely to affect how each adapts to these technologies. Adaptation to the integrated public transportation system by the bus and taxi users, drivers, and operators will be key to successful ICT integration. Focusing on the benefits that ICT solutions have brought in some regions in the world should not overshadow consideration for possible slow adaptation, lack of acceptance or resistance by stakeholders when applied in a different environment and a different public transportation system.

This paper considers the different operational scenarios, government involvement and political will, public – driver – operator participation and willingness and ICT awareness. Whether the technologies and applications will be suitable and adaptable to the existing system and their perceived influence on adaptation to an ICT integrated public transportation system from implementation until there are fully embedded into the system are also considered. Feasibility of some ICT solutions, to the decision makers and operators, considering financial, technical and management feasibility and degree of integration will influence the adaptation process.

Keywords: ICT · Public transportation · Adaptation

1 Introduction

ICT solutions have been successfully implemented in public transportation systems all over the world and it is evident that they have led to improved quality of public transportation services in both developed and developing countries such as Kenya,

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United Kingdom, Netherlands, Singapore and in South Africa, Cape Town (Ministry of Transport, Public Works and Water Management 2010). In these places, ICTs are used for different modes of public transportation, i.e. mini-bus taxis, buses and trains. These integrations started over the years with the oldest technologies such as telephones. Most countries and cities' public transportation systems have since developed and adapted to new technologies, some of which they abandoned along the way, kept using and upgraded or adopted newer technologies. An integrated public transportation system, in this context, refers to bus and taxi services using Information Communication Technologies, which may include, but not limited to the following, provision of real time information, easy online and mobile payment methods, trip planning, Automatic Vehicle Location technologies. These technologies have been made available to stakeholders and the systems have adapted to the changes in some cities. Even though African countries and cities like Nairobi and Cape Town have managed to successfully integrate certain technologies into their public transportation, Idongesit and Knud (2014) highlight the concern and fear that African countries cannot possibly catch up with the ICT development and deployment that already prevails in other continents as they cannot use the same approaches to solve the challenges they are facing.

Increased development and use of ICT such as electronic fare payments, real-time information provision through websites, mobile applications, social networking platforms in public transportation systems exposes the non-existence of ICTs in the Free State public transportation system. The province will have to catch up with the rest of the world by adopting these trends and technological advancements in order to cater for increasing demands in public transportation; information, reliability and convenience. The current, conventional public transportation services; buses and taxis will therefore have to adopt and adapt to the use of ICTs if ever integration takes place.

1.1 Study Area and Public Transportation Limitations

The study was carried out in the Free State province, South Africa; the third largest province covering 10.6% of the country's surface area. The Free State province has a population of 2 745 590 (Statistics South Africa 2012), with 2.6 million people living in the urban areas in the province and about 0.6 million living in the rural areas (Toba et al. 2012).

Public transportation in the Free State province is faced with a lot of challenges: the low number of people who use public transportation among others. There is still a large number of people reluctant to use public transportation, 30.2% workers in the province use public transportation (buses and taxis) while 34.9% use private transportation. (Statistics South Africa 2014). More workers who travel on average five days a week to work use their own vehicles. The only modes of public transportation considered for this study are buses and mini-bus taxis as these are the main public transportation service providers.

Fig. 1. Ticketing system in interstate buses

1.2 The Differences Between Bus and Taxi Services in the Free State

Currently, the only public transportation bus service provider providing regular or conventional transportation services in the Free State is Interstate Bus Lines (IBL), which is a private company subsidised by the government through the Department of Transport. IBL operates in the Mangaung Metropolitan Municipality's major cities, Bloemfontein, Thaba-Nchu and Botshabelo. ICT solutions that are part of the company's services include a payment system in which passengers pay to load money into their tags, which they tap on a machine when entering the bus to get their ticket (Fig. 1). Travel information, i.e. timetables on PDF format are provided for downloading on the company's website and any information to be communicated by the company to passengers is conveyed through an intercom, this only takes place at the main bus-terminal in Central Park.

Taxi services are privately owned and operated by individual taxi owners and small companies. Vehicles used as taxis are mini-bus taxis normally sixteen seaters. Technologies often found in these taxis are tracking devices and entertainment devices such as a radio or Mp3 players. These do not mostly benefit the passengers, i.e. because they do not provide them with any information, and are mostly for the driver's entertainment. Taxi fare payments are made in cash before or during travel and there is no real-time information available. Taxis cover remote areas within the province and are cheaper compared to buses, the limitations in bus services include the fact that it doesn't cover smaller towns and villages in the province and for people travelling to and from those areas, their only available mode of public transportation is mini bus taxis.

2 Literature Review

Some cities' public transportation systems have adopted ICT solutions for different types of vehicles; trains, mini-bus taxis and buses. In Nairobi, Kenya for instance, they use mini bus taxis known as Matatu and fares are paid using a cell phone through M-Pesa services (Mulipi 2015). In London, Perth and Cape Town, ICT solutions are

available across various modes (Transport for London 2012; NNT DATA 2015 and City Of Cape Town 2015), which consist of electronic fare payment systems, information display screens, online booking and payment systems. Success of the above cities and countries systems is due to stakeholder acceptance which led to quicker adoption and adaptation.

Adaptation to ICT may affect travel behaviour by either attracting more people or change the behaviour of the existing public transportation users due to availability of information, reliability and convenience. The efficiency of public transportation systems over the world have improved the systems and attracted more users. Growth in public transportation improvement globally and a decline in public transportation use in the province, due to inefficiency of the service, will gradually force the public transportation system to change. Adoption of ICTs and adaptation to an ICT integrated public transportation system, for buses and taxis will be determined by the following factors:

2.1 Political Will, Legislation and Policies

The role of politics and government in public transportation policy making and operations affects the development of the system. Public transportation operations globally are influenced by politics; the Free State province therefore is not an exception. South African legislation on public transportation decision making gives political leaders the power to control and make important decisions regarding the public transportation system, that is, ministers and MECs (Member of Executive Committee) (Department of Transport 2000). It is the duty of the minister to prescribe requirements for integrated fare systems, comprising fare structures, levels and technology, to ensure compatibility between such systems. This highlights the issue of political will; implementation happens because the people in power to pass authority and orders for prescriptions to be implemented are willing to do so, therefore until the minister permits or deems necessary, integration of fare systems may not happen.

Even so, policies have been made before and the parties involved did not implement these policies entirely. Government legislation and policies such as the Taxi Recapitalization Programme and provincial (or cities) integrated transportation plans most often include ICT components which are seldom implemented. The Taxi recapitalization programme (TRP) introduced in 2001 in which old taxis were scrapped off the roads in exchange for new ones was supposed to include an Electronic Management System (EMS). This system was to include Electronic Fare Collection System using smart cards, Monitoring and Control System, and Vehicle Identification Tracking and Recovery System. This programme however, has mostly resulted in replacement of vehicles with only some or none of the EMS components.

TRP would have speeded the adoption of ICT by taxis, but it was and still is not fully implemented, stressing the fragmentation and lack of coordination in the taxi industry, together with the lack of cohesion between government and taxi owners or industry.

2.2 Stakeholder Acceptance

The public transportation system involves many stakeholders: the operator (the bus company or taxi owner and the associations they belong to), the driver, the passenger, the government and the general public. Acceptance of the technologies by all stakeholders may result in the system adapting to the innovations faster. The technology acceptance Model by Davis, Bagozzi and Warshaw (1989) articulates perceived usefulness and ease of use of technologies as the main motivators of acceptance of technologies. If technologies adopted for use in the Free State fit these driving forces, adaptation will be easier. There are also debates regarding acceptance of technologies, that users accepting technologies does not necessarily mean that they will support them (Regan et al. 2014). Further, lack of knowledge about technological developments, how they function and acceptance of the proposed systems and their possible impacts after implementation may also affect adoption (Geenhuizen and Thissen 2002). Stakeholder's attitudes and perceptions towards technologies can also impact the adaptation process especially from the beginning, but Van Exel and Rietveld (2010) suggest that perceptions can be changed and this may lead to changes in attitudes.

2.3 Finances

Deployment of ICT in itself requires financial obligations in order to be successful. The Interstate Bus Lines company, which provides all public bus services to passengers in the Free State province is a private company, which is also subsidized by the government. On the other hand, taxis are operated as small businesses by individuals or small companies. The taxi operators finance themselves, therefore for them to integrate any technologies on their own, they will have to do that from their own financial resources. However, in the case of TRP, EMS were supposed to be compulsory in all taxis as the taxis would have been designed specifically for the programme; hence, replacing the old taxis with shared financing by the government and part of the fee from the taxi owner. The research indicates that most of the current taxis being used only have (VITRS). Fares are still payed in the form of cash; this indicates that the programme which was to be completed in 1999 have not been able to achieve its intended purposes. This implies that if ICTs were to be installed now, this has to be at the expense of the taxi owner, be it individuals or companies. This puts bus service provider in a more favourable financial condition to be in a position to integrate ICT solutions into their operations than taxis. The Taxi Recapitalisation Programme also proposed that after the recapitalisation process had paid off, taxis should be in a suitable position to apply for government subsidies.

2.4 Operating Environment

IBL Bus service operate in Mangaung Metropolitan Municipality, the only metropolitan municipality in the province, taxi services operate in the cities and the rural areas within the province. The population density in areas within the province would also influence schemes such as ICT based Demand Responsive Transportation

schemes. The population in rural areas which has lower literacy rate than the urban areas is likely to adapt slowly to the new system. Buses and taxis operate under entirely different conditions.

3 Research Method

Both primary and secondary data collection methods were used to quantitatively and qualitatively gather data using questionnaires, interviews and literature review.

Literature review was carried out in order to get the background of ICT and public transportation. Public transportation operators, drivers and passengers were interviewed. The questions were based on ICT awareness by the stakeholders, their likelihood to use public transportation after ICT solutions are integrated into the public transportation system and technologies the operators are willing to incorporate into their services. Regression analysis was used to mathematically correlate demographic, current public transportation and ICT related variables with likelihood of people using public transportation after ICT integration, which resulted in a model forecasting future public transportation usage. Determining whether people will accept ICT into the public transportation system whereas the technologies used will affect the stakeholder's perceptions to these technologies, their acceptability and feasibility.

A sample of 162 respondents was used, amongst them 50 mini bus taxi operators and 1 representative of the bus company operating in the Free State province was used. The respondents include public transportation users and non-users, taxi owners, taxi drivers who were randomly picked. ICT experts, transportation planners and academics in both transportation and ICT were identified based on their expertise and interviewed.

3.1 Research Aim

This study evaluates the possible adoption of ICT solutions into the current public transportation system in the Free State province and compares the two main modes of public transportation's presumed future adaptation based on the stakeholders needs and the service providers' willingness to integrate ICT into their operations, under the premise that there will be differences in rates of adoption and adaptation for buses and taxis.

4 Results

4.1 ICT Awareness and Accessibility

Awareness and accessibility of ICT are presented in Table 1, which shows the reasons for lack of internet access by public transportation users. People's willingness to use internet if it was available gives hope that with more people having access to the internet, it will mean possible quick adaptation by users of both taxis and buses. The public's willingness to continue using public transportation after ICT integration is a possible sign of quick adaptation; this means that for public transportation users, the introduction of ICT solutions is a long overdue development.

Table 1. Internet accessibility in the free state

Reasons for lack of internet access	Percentage
Do not need it	2.8
Expensive	30.6
Not interested	16.7
Willing to use if available	50
Total	100

4.2 Future ICT Uptake

Technologies available in the some of the buses used for public transportation are illustrated in Fig. 1. These are the only ICTs used, being an electronic ticket machine and a tag. Figure 2 also shows technologies respondents indicated are available in vehicles, especially taxis. Majority of the devices are for entertainment purposes (music and DVD players), followed by cell phones which are the driver's personal phones which may be used for communication between the driver and owner. Vehicle destination display (mostly used in buses) and Global Positioning System (GPS) devices are available in some taxis. The types of devices available indicates that, even with the TRP, taxis did not install all ICT components listed under the EMS. Public transportation service providers are willing to provide technologies which benefit them, based on security reasons especially for their vehicles and taxi fare, not those of the public transportation users.

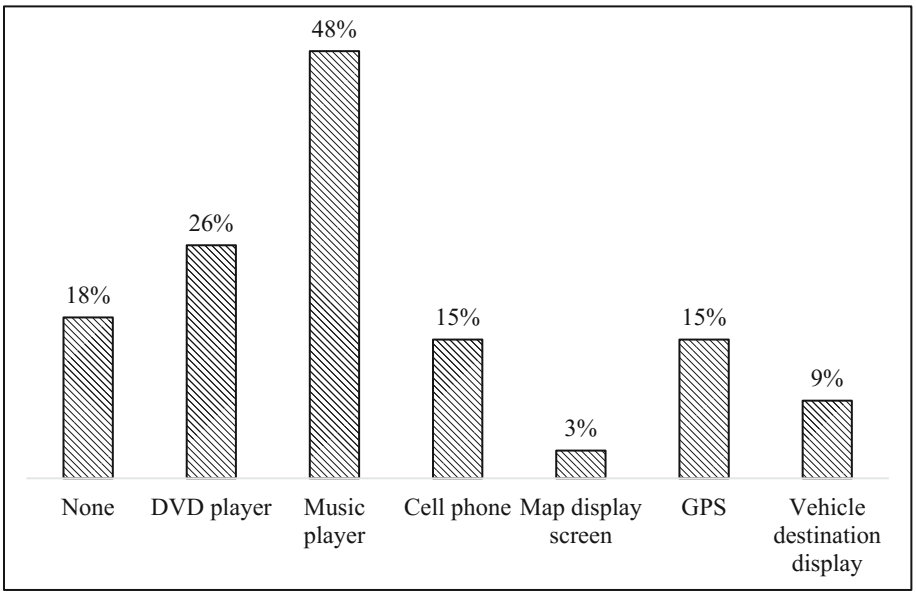

Fig. 2. Devices currently available in public transportation vehicles in free state

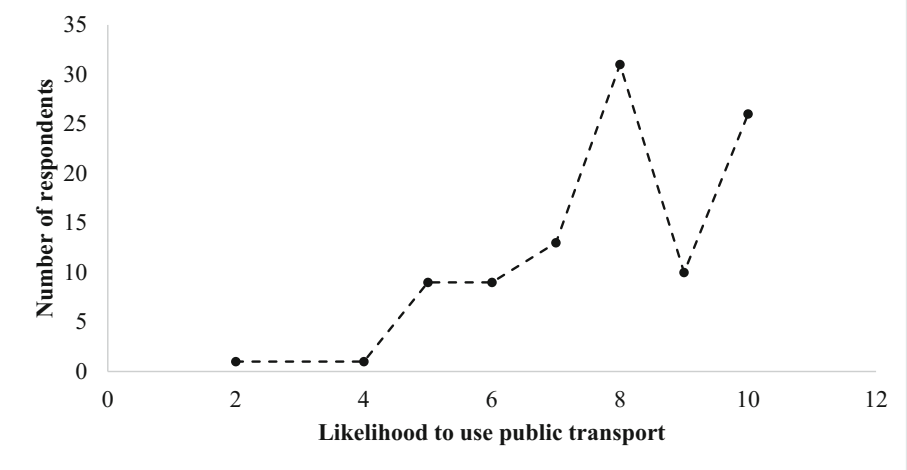

Fig. 3. Users likelihood to use public transportation after ICT integration in the free state province

There are possibilities of a vast majority of the population in Free State, resisting the new technologies; majority of people who use taxis in rural areas are not aware of ICT and are not computer literate. Lack of awareness, if individuals are not willing to learn or no measures taken to increase awareness may lead to high levels of unacceptability. Accessibility of internet will also play a large part in the adaptation process.

Figure 3 was used to predict the need for ICT in the public transportation system, the likelihood of respondents using the transportation system after ICT integration was measured, using a 10-point scale. A mean of 7.94% was recorded. This shows that there are high chances of people using public transportation after ICTs are introduced. Further analysis carried out using regression analysis produced the following results:

Regression model

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 \ldots\ldots\ldots\ldots + \beta_p x_p$$

An R^2 value of 0.551 was produced, which means that 55.1% of the relationship between likeliness to use public transportation after ICT integration, can be explained by the independent variables; Age, Occupation, Public transportation usage, satisfaction with taxis, computer literacy and internet access. These results indicate that the model accounts for 55.1% of likelihood of using public transportation after ICT integration. (Adjusted R^2 value is 0.382 = 38.2%) (Table 2).

Table 3 shows that the model has a significance value of less than 0.05 i.e. $p < 0.05$; with R^2 being significantly greater than 0 proving that the age, occupation, PT usage, satisfaction with taxis, computer literacy and internet access account for a significant amount of variance in likeliness to use public transportation (dependent variable) and the overall regression model is significant: $F(6, 16) = 3.268$, $R^2 = 0.551$.

Table 2. Model summary output

Summary output	
Regression statistics	
Multiple R	0.742
R Square	0.551
Adjusted R square	0.382
Standard error	0.678
Observations	23

Table 3. ANOVA

ANOVA					
	df	SS	MS	F	Significance F
Regression	6	9.0020	1.5003	3.2685	0.0271
Residual	16	7.3445	0.4590		
Total	22	16.3465			

The final coefficients derived presented the following model:

$$y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \beta_3 x_3 + \beta_4 x_4 + \ldots\ldots\ldots\ldots + \beta_p x_p$$

Therefore; Likelihood to use public transport after ICT integration = 5.201
$$-(0.185\ \text{Age}) - (0.314\ \text{Occupation}) + (0.350\ \text{Public Transportation Usage}) + (0575\ \text{Satisfaction with Taxis}) - (0.214\ \text{Computer Literacy}) - (0.145\ \text{Internet Access}).$$

These results when simulated show that people with higher satisfaction levels with the current taxi services, computer literate and have access to the internet are more likely to use the ICT integrated blic transportation system.

Based on the variables used and their relationship, which the dependent variable relies upon human behavior and some of the independent variables are based on individual's feelings towards the existing transportation system, the possible explanation to this are the different perceptions people might have towards adopting ICTs, which will impact how they adapt to the new ICT integrated public transportation system.

4.3 ICT Technologies

Technologies preferred by users and those the operators are willing to provide are shown in Figs. 4 and 5, the ones users are willing to use will be more acceptable for either buses or mini bus taxis. Long distance taxis, which normally leave only when full would use online booking compared to local taxis because people are always

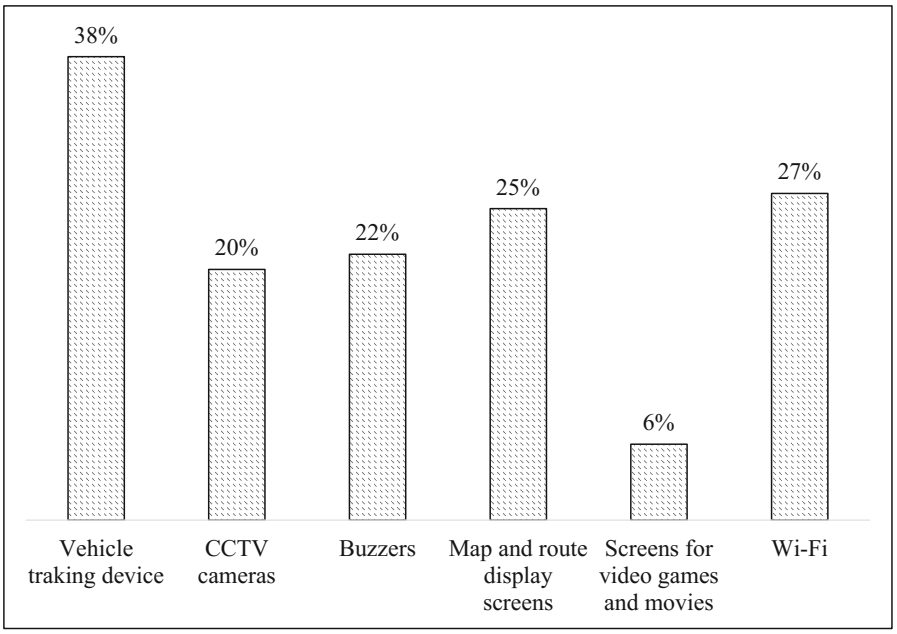

Fig. 4. Technologies respondents are willing to use in public transportation when made available

travelling locally, within cities which would not require prior online booking. Online booking of seats wouldn't also carry financial implications for the operators and passengers. Bus services, especially travelling to Botshabelo and Thaba Nchu at peak hours would also benefit from online booking.

Vehicle tracking devices, CCTV cameras and speed monitors, when deployed monitoring technologies would be acceptable to operators (vehicle owners). However, drivers, especially taxi drivers would consider them to be invasion of their privacy. This is mainly because taxi drivers unlike bus drivers, tend to use the vehicles for their own errands and tracking and monitoring them at all times would compromise their freedom. There are higher financial implications of tracking and monitoring vehicles as they use more advanced technologies. On the other hand, passengers for their safety would accept such technologies. The taxi system's safety is still questionable due to reasons such as taxi driver behaviour, hijacking of taxis and robberies and thefts at taxi ranks. Operators and passengers would be willing to accept these technologies while drivers are likely to reject them.

Countdown timers, available seat detectors; the size and capacity of buses allow for installation of seat detectors. Passengers before settling down, especially in large articulated buses walk down the bus looking for available seat; seat detectors will help passengers identify empty seats from the vehicle's entrance. On the contrary, mini bus taxis are small and a passenger can easily identify an empty seat from the entrance. Therefore, these technologies will be much more suitable and acceptable for buses.

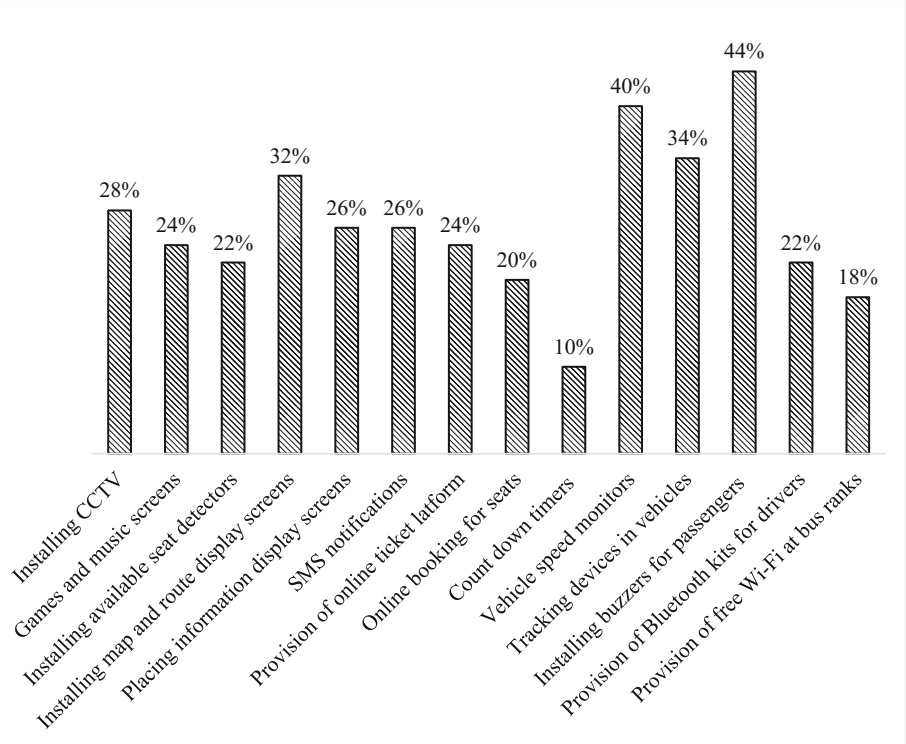

Fig. 5. Technologies public transportation service providers are likely to incorporate in their service in future

SMS notifications, for both bus and taxi services, the use of SMSes to notify waiting passengers of delays in schedule or vehicle breakdown will be both affordable to the operators and acceptable. Even though taxis are always available in their designated routes in towns, in cases of delays the next taxi would pick up the passengers, buses run on schedules and passengers might have to wait longer waiting for another bus to be dispatched.

Map and route display screens, entertainment screens, entertainment screens for video games or television would be acceptable to younger passengers and considered a nuisance or distraction by older passengers. The effectiveness of these will depend on the size of screens to be used; buses and mini bus taxis can accommodate screens internally. Screens are common in some taxis and buses for entertainment purposes. The same screens can be used for displaying real time map and route information to passengers. Using the existing devices would result in less financial implications to the vehicle owners or the state. How compatible the screens are with the applications or software used however may determine the overall financing and implementation. Requirement for new screens would mean more financial burden for the vehicle owners, companies or the state.

Provision of Wi-Fi at bus ranks and stops, as internet accessibility is currently a problem, providing accessible internet at bus stations will be an acceptable technology.

Destination display LED signs, already exist on some of the Interstate Bus Line buses, in the form of LED display boards in front of the vehicles. Passengers are already accustomed to this technology. Mini bus taxis on the other hand do not have their destinations displayed on them, for a passenger to know where the taxi is going, they have to stop it and ask the driver. However, some of the mini bus taxis have their destinations printed on them. LED signs are feasible in taxis; either mounted on top of the vehicles or displayed the same way as in buses, on the front exterior of the vehicle.

5 Discussion

Buses are more likely to adopt ICT solutions before the taxi services. Based on the results of the study and literature review, ICTs have been adopted for various modes of public transportation using different types of vehicles. For example, in Kenya the *Lipa-na-Mpesa* system of electronic are payment using mobile phones through *Mpesa* service is used in mini-bus taxis known as *Matatu*. Internet based computer platforms and mobile applications can be used for both the bus and taxi systems. Some devices, however, depending on the size can be used for both or either one of the modes. Table 4 shows ICTs and vehicles they would best suit, most of the technologies can be used for both buses and taxis.

The extent to which envisaged integration is to be implemented dictates the adaptation process. Basic technologies the stakeholders consider important have the possibility of being adopted faster depending on their benefits or expected incentives. Taxi owners, are more likely to install security devices than those entertaining passengers or

Table 4. Proposed ICT solutions and type of vehicle they would best fit

ICT solutions	Bus	Taxi
CCTV	x	x
Cell phones		
GPS		
Games and music screens		x
Seat detectors		x
Wi-Fi	x	x
Map and route display screens	x	x
SMS notifications	x	x
Information display screens	x	x
Online ticketing platforms	x	x
Countdown timers	x	x
Vehicle speed monitors	x	x
Tracking devices	x	x
Buzzers	x	x
Bluetooth kits for drivers	x	x

for fare payment if they are going to spend and not benefit from it. As the government has limited control over them, there are also limitations to what they can be directed to do or install in their vehicles. Bus service can accommodate a much more diverse ICT integrated public transportation system including vast technologies and applications. As long as it depends on government subsidy contracts, government policies can be aligned to include ICT in the services in order to be eligible for the contracts. Failure of the TRP to fully address and implement the ICT integration in the taxi industry proves that the uncontrollable nature of taxis may result in slow adoption and adaptation of ICT even with government policies regulating the process.

6 Summary

The differences in buses and taxis as modes of public transportation and their possible uptake of ICT solutions is determined by finance, management, operating environment, political involvement and stakeholder acceptance. Public transportation is South Africa was said to be "fragmented and not coordinated" (Oxford 2013), especially the taxi industry which has operations controlled by the taxi owners and drivers. These operations include payment methods, structural organisation, facilitating and adhering to policies; informal or unlawful taxi operations are also common. South Africa has illegal minibus/combi taxi operating cartels (Cervero and Golub 2011) and they account for large percentages of public transportation supply. van Ryneveld (2008), stated that mini bus taxis had to be formalised and technical and financial assistance would be offered to improve their economic viability. Bus services on the other hand as they are financially supported by the government, are relatively well organised, have clear structures and have to adhere to rules set forth by the government. Bus service operations are more corporately run compared to taxis, therefore executive decisions encouraging the use of ICT or putting ICTs in place are likely to lead to acceptance and successful integration.

The government's involvement in the transportation system, especially the bus service could be used to promote use, awareness for ICT and the adaptation process. The government using it position to update policies and ensure that they are implemented, or create new laws and legislature influencing and promoting quicker and uneventful integration. Ensuring that all government-subsidised vehicles have all relevant or suitable technologies, standardisation of such policies. Even though (Idongesit and Knud 2014) stress the point that for successful deployment of ICT in transportation there shouldn't be any cultural or political interference on ICT development plans, but currently in the Free State setting, government oversees the system.

In the case of South Africa, acceptance is also influenced by political agendas: The TRP's EMS factor would also have been successful had there been acceptance by stakeholders, in this case Taxi Associations and taxi owners. The policy provided for ICTs to be included in the vehicles, had this been adopted, most of the new Quantam taxis would have EMS components installed. The lack of acceptance was also as a result of the taxi industry's assumptions of the government taking over control of the service. Lack of consultation before decision making by the government about the Taxi Recapitalisation Programme prompted the rejection (Magubane and Manicom 2003).

7 Conclusions

ICTs are introduced to the system under assumptions that they will improve the system and the possible uptake by the stakeholders is overlooked. Prior to deployment, basic requirements such as user adoption and preparation of ICT in transportation under new circumstances before implementation should be addressed (Idongesit and Knud 2014).

The bus services in the current state of public transportation system are more favoured by the possibility of ICT integration, considering the financial backing of the government, the much more coordinated environment they operate in. Bus services that are operated by one service provider are likely to adapt smoothly and faster as compared to the taxi industry which is run by different taxi owners and Taxi associations.

Because of the government subsidy, buses would afford running at all times to meet customer demand without losing any profits. On the other hand, if taxis where to adopt demand responsive technologies, they would be affected financially as they would lose a lot of revenue. Buses are more coordinated as compared to taxis, which means any ICT integration which takes place would be a smoother transition for buses as compared to taxis.

Even though mini-bus taxis are the dominating method of public transportation (Walters 2013), they might be difficult to coordinate and integrate based on their traditionally unsystematic environment. Mini bus services use 16 seater mini-buses that operate short and long distance trips within the province and even operates in the remotest areas of the province, making taxis much more accessible as compared to buses. Traditional mini-bus taxis operate from different taxi ranks while buses operate from one bus rank. To coordinate and integrate taxis, an orderly solution has to be introduced, in the form of laws or incentives for cooperation; dispatching taxis would then be well coordinated, operating in real time. If the current bus system were to be integrated, it would be easier to manage and control the vehicles systematically.

The results indicated that the people are willing to continue using public transportation after integration; this is a sign that people are willing to accept ICT in their daily public transportation trips. Humans change their behaviour when systems around them change, therefore people are likely to adapt to what the technologies require of them. Planning of public transportation is based on the general needs of all travellers (Waara et al. 2015), this means that the technologies deployed into the public transportation system should satisfy the needs of everyone, also to be taken into consideration is that sophisticated technologies alone will not determine successful deployment of ICT.

In conclusion, slower adaptation of ICT into the public transportation system is evident for the taxi industry compared to the bus industry. The bus system may be faster to adopt and adapt to an ICT integrated public transportation system. The government should be willing to assist in accelerating ICT in the system, through either its policies or financial backing. Establishing policies and not seeing them through implementation hinders uptake by the taxi industry, had the Taxi Recapitalisation Programme been implemented to completion, all vehicles would have up-to-date technologies. Operational issues such as fare collections may be reduced through a centralised electronic fare payment system which would involve mini-bus taxis and buses using the same

system (co-modality). This however, would work well with both these operations publicly subsidised and with no informal taxi operations. This will also reduce focus on one mode by the government; this would then allow for all modes of public transportation to be equally considered for funding and subsidiary opportunities.

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