

MANAGEMENT INFORMATION SYSTEMS ADOPTION AND PERFORMANCE OF LONG DISTANCE PUBLIC TRANSPORT BUS COMPANIES IN LAMU COUNTY, KENYA

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ABSTRACT

Despite the fact that long distance public transport bus companies in Kenya had invested heavily in the adoption of MIS with an aim of enhancing their performance, some of them were still struggling to achieve the expected profitability and productivity. This was mainly due to the differences in the extents of technology adoption in electronic document management, electronic parcel management, electronic booking and electronic fleet management systems respectively. This meant that companies who were not able to remain updated in the adoption of their management information systems soon became irrelevant to their customers and hence loss of business to their competitors who were updated. Additionally, the high capital involved in venturing into long distance transport business only to be brought down by technological issue which could be researched, identified and resolved was a big matter of concern among the long distance public transport bus companies. This as a result left many investors in this industry wondering why they were not performing as expected despite their efforts to adopt MIS and which was why there was need to provide an answer through a research study. This research therefore sought to assess the information management systems adoption and performance of the long distance public transport bus companies in Lamu, Kenya and focused on the extent of adoption which seemed to affect the performance of the said bus companies. Specific objective was to establish the extent of adoption of electronic document management on performance of the long distance public transport bus

companies in Kenya. Technology Acceptance Theory (TAT), Resource based view theory and Diffusion of Innovation Theory were used. Qualitative research methodology was used and descriptive data collection techniques and interpretation was applied respectively. The study used inferential statistics to examine the data in order to draw a summary and finally bring the study to its conclusion. Data was analyzed using both descriptive and inferential statistics by use of SPSS V20. The study revealed that Management Information Systems (MIS) adoption had a great influence or effect on the performance of the long distance public transport bus companies. Such included the adoption of Electronic Document Management Systems (EDMS), which enabled the companies to save on office space, increase data security, efficiency and productivity. The study concluded that EDMS had a great influence on the performance of the long distance public transport bus companies. The study recommended that every long distance public transport bus company should work hard toward full adoption of their IMS in order to achieve the maximum profitability in the public transport industry. The study equally recommended that the government of Kenya to withdraw taxes for ICT equipment in order to enable the companies to afford the ICT gadgets.

Key words: Electronic Document Management Adoption and organizational Performance.

INTRODUCTION

Most global researches showed that virtually all long distance public transport bus companies in the world had to some extent adopted the use of Information Management Systems in their effort to achieve their general company goals (White, 2016). According to White, the long distance public transport bus companies spend huge amounts of money in purchasing vehicles and making arrangements to ensure that the travel circuit was complete within the targeted routes and hence making it difficult for them to avoid the adoption of information management system which had become the common business fuel in the modern world. Additionally, Merkert, Bushell and Beck (2020) noted that most of these long distance public transport bus companies cover very wide geographical area, which keeps on increasing depending on the demands by their clients. This increase goes along with additional buses whose cost of purchase and installation to get ready for road was quite high. Such costs included the national regulations for public service vehicles, travel licenses, additional labor costs, vehicle modification and registration among others. These costs, together with the need to maximize profitability and achieve the company's goals was the key reason why such organizations would employ all the necessary requirement like the adoption of information management system to ensure they kept their relevance against their competitors.

In Africa, technology had equally become a business catalyst in moving the long distance public transport business forward. Like any other business had incorporated information management systems, the long distance public transport bus companies had taken the same direction (Veeneman & Mulley, 2018). In their research report, Veeneman and Mulley highlighted several ways in which technology had changed public transport business transactions. Such they said included the use of electronic document management, fleet management, passenger booking and parcel management. However, according to Verrips and Meyer (2020), many companies were left wondering why, even after investing heavily in the establishment of their public transport companies, and actually adopting the information management systems they still couldn't achieve their expected goals.

In Kenya, the use of technology has not been left out in the public transport sector. As noted by Tembe, Nakamura, Tanaka, Ariyoshi and Miura (2019) most long distance public transport bus companies had adopted information management systems and were continually increasing their extents of adoption. Notable areas of adoption included the electronic document management where many bus companies were no longer using the old receipt books, handwritten communications to their employees, electronic fleet management, electronic booking and electronic parcel management as well. The five researchers above however noted that the most astonishing thing was the way long distance bus companies were failing to achieve their company goals and sometimes even closing down due to poor competitiveness in the market. This they said had changed the mentality of adoption of information management system by these companies so that it was then evident that more was needed even after adopting such said system.

Lamu, which was the location of this study is located along the North Coast of the republic of Kenya and is one of the six Coastal Counties in Kenya. The capital town is in the town of Lamu and is mainly known as the Amu Town. Lamu County is neighbor to Tana River and Garisa counties to the south and to the north respectively. The county is also neighbour to Somalia to the northeast, while to the south is the Indian Ocean. There are two (2) constituencies in Lamu namely the Lamu West and Lamu East. The county has four mainlands where road transport takes place namely: Witu, Mpeketoni, Hindi and Mokowe. Long distance public transport bus companies in Lamu have their offices located in the four mainland locations plus another one in Amu Island to serve those crossing by sea to the mainland.

Since the Covid-19 pandemic invasion, all the long distance bus companies coming to Lamu had to adopt Management Information Systems with an aim of reducing social distance and cash interactions which much of it had continued to date. Notwithstanding however, some bus companies were losing their clients to others due to different variations in the extents of adoption of the Information Management System. For example, while some bus companies were considered the best by most clients, others were considered unreliable. The best were determined by their MIS flexibility, reliability, and efficiency in terms of document management, parcel management, online booking and reservations together with their fleet management abilities and customer care prompt response. On the other hand, the worst had systems that were sometimes functional and sometimes not functional and one had to call the office to confirm whether what the system was showing was the reality on the ground. This as a result brought about the variation in performance by the long distance public transport bus companies. As a result, some buses had excess customers to handle while others struggled to even have a bus full.

Electronic Document Management Systems (EDMS) referred to a computerized way of storing, sharing, tracking and managing files or documents (Rosa *et al.*, 2019). This was usually through various computer systems used by various organizations of the world depending on the level of documents or data they were handling as a whole. In their research report, Abdulkadhim, Bahari, Bakri and Ismail (2015) highlighted that electronic document management systems had made it very easy for most organizations to manage their information. This they said was even more effective with the advent of the internet where every single information had been made accessible without any geographical barrier and hence enabling greater customized electronic document workflows.

According to Pelletier, Trépanier and Morency (2011), long distance public transport bus companies had found it very easy with the incoming of technology since their customers could easily access their services in their houses, book their tickets or make reservations, make calls to confirm the time for departure, or even track their parcels online. This according to Spenranza, saved a lot of office space since not many customers would come to the office like in the previously used manual or traditional systems. In fact, as confirmed by Spenranza (2018), the more an

organization had adopted and was making use of electronic document management systems, such were making more business than those who were yet to start doing so.

Most past researches had confirmed that electronic document management systems were continuously changing the public transport sector by increasing their data security (Ongkittikul & Geerlings, 2006). Additionally, the above researches noted that the traditional document management systems were not comparable with the modern electronic document management systems in terms of data protection. The former, according to Ongkittikul, and Geerlings, wasted a lot of time with several uncertainties and a lot of issues in terms of receipt storage where if one lost a receipt it meant trouble while on transit and one may be forced to make a double payment. On the other hand, they said that it was also difficult with the traditional document management systems to know or establish whether one would really travel on the particular date or not, or whether the service required was available at that moment or not. Finally, they said, the fact that one could easily confirm availability of a means of transport while at home and decide whether he or she was traveling or not was a great step ahead.

According to Kaplan *et al.* (2019), even though it had taken long to get the developing countries to fully adopt this modern technology of document management, it had finally become a solution to many such long distance public transport bus companies. This though was not the same in all the long distance public transport bus companies since the level of adoption differed from one company to another. Mohareb and Kennedy (2014) pointed out however that though the difference may be hidden, the performance told it all.

A good example was a case where one company had partially adopted to electronic document management while another had fully adopted to such with highly sophisticated services. For the former company, customers could only see in the system whether the bus is full or not, but cannot book and receive an electronic receipt. The latter however, could be different since the customers are able to book online, and receive their electronic receipt online. Additionally, documents can be sent on phone for ease of tracking of parcels in the latter company while in the former company, there is only an application where one can just track their parcels. This automatically means that even though both have electronic document management systems, one has an advantage over the other due to the extents or levels of adoption of the said system.

Statement of the Problem

Previous studies were notably characterized by several research gaps. Müller, fay and vom brocke (2018) revealed that a significant relationship between BDA (Big Data and Analytics) assets and firm productivity truly existed. The study however, was not clear whether the adoption of BDA was a guarantee of attaining best performance to an organization. De Pelsmacker, Van Tilburg and Holthof (2018) revealed that there existed a notable relationship between the online reviews, star ratings and the performance of the hotels. However, the study did not elaborate whether this was

the only factor promoting performance in an organization. Notably also, the study was based on different organization (hotel), hence the contextual gap in literature.

Yildiz Çankaya and Sezen (2019) indicated that electronic document management was key for achieving efficiency and sustainability in an organization. This study focus was on green supply chain management which was only one function in an organization where electronic documents management was implemented and did not give details on the extent of implementation in order to achieve the said performance. As noted by Tajvidi and Karami (2021), a positive relationship between the use of social media and performance of an organization was continually evident every time the two were compared. Notably, the previous study was based on hotels in the United Kingdom which was considered as a developed nation unlike Kenya which was a developing nation and where technology adoption was still at its foundational levels, hence the uniqueness of this study.

The above researchers concentrated mainly on the basic adoption of management information systems in organizations and assumed that it was enough to improve their performance which was not the actual reality on the ground. This assumption was therefore the reason why most organizations were losing business even after embracing the MIS adoption since there was more than just the adoption. It was evident therefore that there existed a problem of understanding the levels or extents of adoption of management information system which was what directly affected the performance of an organization. Unless this issue was brought out clearly, more losses would continue being incurred by several organizations and particularly the companies in the long distance public transport, who had no knowledge of what they needed to do when and after adopting the management information systems to achieve the expected performance. Due to these gaps, this study investigated whether there was any relationship between management information systems adoption and performance of the long distance public transport bus companies in Lamu, Kenya. The study discussed the extents of management information systems adoption with specific attention to electronic document management, which was suitable for achieving the right performance.

Objective of the Study

To establish the extent of adoption of electronic document management on performance of the long distance public transport bus companies in Lamu, Kenya.

LITERATURE REVIEW

This section delves into the theory on which the study was anchored, presents empirical literature and the conceptual framework. For the theory, the study looked at the Technology Acceptance Model. Davis, Bagozzi, & Warshaw (1989) mentioned that TAM was established by Fred Davis and Richard Bagozzi with an aim of determining how adequate a tool can be together with any

modification which can be done to it to make it more relevant to the user. Additionally, the above researchers noted that users of an organization must first accept the information system and understand its manner of functioning if such will bring any effectiveness to an organization. In their conclusion, the researchers revealed that TAM is the best measure of information system and such is highly recognized as playing a very important role in promoting the organization's performance.

Technology Acceptance theory was considered in this study because it was the workers' acceptance of the technology in place that helped to determine performance in the organization since people and machine must work together to bring out the expected results. In this regard, MIS was part of effective performance in the long distance public transport bus companies particularly in managing their documents, parcels, booking and fleet, since performance cannot be reported unless such is viewed in terms of the end users. TAM was of great help in this study since such helped to address the notable gap existing between users and systems as it pertained to acceptability of change management in various long distance public transport bus companies in Lamu, Kenya.

Electronic Document Management Adoption and Performance of Long Distance Public Transport Bus Companies in Lamu, Kenya.

Arifin (2022) noted in his study on DMS in Ibnu Sina Middle School Administration that a good document management design can be of very great assistance to the staff in the institution, particularly in storing and collecting incoming and outgoing mail. This he said helped in storage and collection of information resources which kept coming and going in and out of the institution. As a result, he said, this increased the school's efficiency in service delivery and therefore there was a great need to promote such since the objectives of the institution would be easily achieved. The study sought to create a solution in file saving from manual system to online saving so that files could be saved online to avoid wastage of time trying to number the files manually and inserting new items within registers which would bring a lot of confusion. The study used interview to collect primary data while the secondary data was collected using information resources in the library. The study however concentrated on the system development and not on its implementation where performance can very well be measured. The study at hand therefore focused on document management systems adoption and performance of long distance public transport bus companies in Kenya.

In another study by Regla and Marquez (2020) on Workplace DMS Employing Cloud Computing and Social Technology, it was discovered with emphasis that the capabilities of a well-developed Electronic Document Management System are beyond failure of an organization to achieve its expected productivity. The study was done at the Romblon State University, Cajidiocan Campus and aimed at the implementation of a DMS within the institution. The study findings revealed that

most Higher Education Institutions had very bulk documents of several types which unless well managed, such could create a big confusion. Documents like the feedback reports and minutes of meetings could be very bulk and therefore needed an online system to manage. Other documents like the lesson plans and other circulars were great additional to the voluminous documents, which unless digitally managed, no efficiency in productivity could be achieved. However, this study was conducted in some developed nations, which would be difficult to compare such findings with that of the same conducted in developing countries like Kenya. Since this study was conducted in Lamu, Kenya, such geographical limitation would be taken care of and hence able to bridge the gap therein.

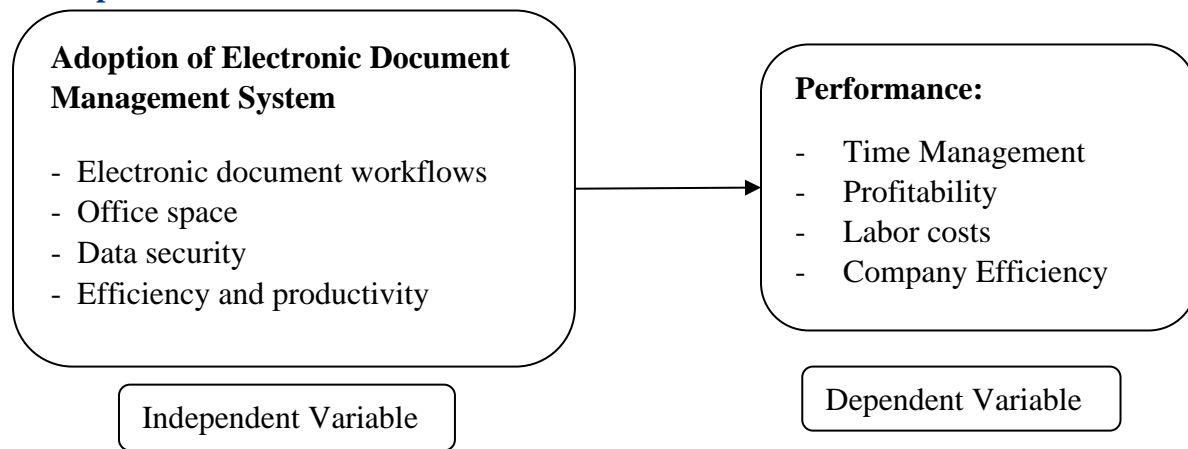
Hjelt and Björk (2020), in their study on End-user views on Electronic Document Management (EDM) in construction highlighted that Electronic Document Management (EDM) Systems had become commonplace tools in the design process of larger construction projects. The study reported on perceived benefits and challenges related to EDM use as was seen by individual end-users across a large construction project group. The findings of this study suggested that EDM can be a valuable aid in the work processes in all segments of the organization and which if well implemented, it could result to much efficiency and productivity. This study however, did not concentrate on the final results of implementation of EDM system on performance of the organization but rather looked at the benefits and challenges realized therein. This study therefore looked at the EDM system adoption and performance of the long distance public transport bus companies in Kenya.

In another study by Al Shobaki, Naser and Kassab (2017) on the Reality of the Application of EDMS in Governmental Institutions, it was noted that for a government institution to succeed and achieve its goals, its electronic document management system application must be well established to a very good extent. The study's main objective was to determine the status quo of EDMS application in the said system in governmental institutions. Descriptive and analytical approach was used to explore the phenomenon of the study. The findings of the study revealed that EDMS was a key factor to introduce in government organization structure since this was what would take care of the general document and records management in the organization. Additionally, the above researchers revealed that efficiency and productivity, together with proper utilization of office space, was much more being achieved in government institutions whose documents were managed uniformly, and henceforth enhanced perfect document workflow. This study however concentrated much more on the status of Electronic Document Management Systems application and did not look at the effects of the EDMS on performance of the organization. This study therefore bridged the gap created herein and looked at the EDMS adoption and performance of the long distance public transport bus companies in Lamu Kenya.

Another study by Abdulkadhim, Bahari, Bakri and Hashim (2015) revealed that proper integration of EDMS with already existing infrastructure directly affected the performance of an organization.

The study was on exploring the common factors influencing EDMS implementation in Government and focused on identifying some common factors that influenced EDMS implementations in government. The findings of this study on government institutions where EDMSs had been implemented effectively showed that such had its daily document workflows improved tremendously. Examples of such improvements were in document storage and retrieval, auditing, workflow facilities, and not forgetting the searching and publishing. This study however concentrated more on factors influencing EDMS implementation in governments and did not look at the results of the EDMS system implementation. This study on MIS adoption and performance of long distance public transport bus companies in Kenya therefore looked at the final effects of EDMS on performance of an organization and particularly that of the long distance public transport bus companies.

Conceptual Framework



RESEARCH METHODOLOGY

The research used descriptive research design to investigate MIS adoption and performance of long distance public transport bus companies in Lamu County. This research design was an approach chosen for the integration of various aspects of the study with the aim of addressing the research questions and control study modifications (Creswell & Creswell, 2017). To ensure meaningful achievement of this study, a target population of Seven (7) long distance public transport bus companies in Lamu County was used. A set of elements to which a fraction could be taken and was regarded as a percentage of the overall population which the researcher had reasonable access was referred to as a target population (McLeod, 2019). This study used data collected from the Lamu County Revenue Office, where all the public transport vehicles reported frequently to pay for parking fee, branding and entry fees.

Every long distance bus company had five (5) office branches located in Amu Island, Mokowe, Hindi, Mpeketoni and Witu. In every branch, there were two (2) employees making them a total

of ten (10) employees for every company. The target respondents for this study therefore were 70 employees from all the long distance public transport bus companies branches in Lamu County, plus 3 top management officials; Included were the managing director (1), the finance manager (1) and the operations manager (1) from every companies headquarter office located in Mombasa and Nairobi respectively, making them 21 additional respondents. The total target respondents for the study therefore were 91.

This study randomly selected 35 respondents who were the users of Management Information Systems (MIS) at the long distance public transport bus companies branch offices in Lamu County, together with 14 top management officers in various headquarter offices in Mombasa and Nairobi. The total sample population was therefore 49 respondents, (53.85% of the total target population). This study used both primary and secondary data and both were collected using varying methods. The primary data, which refers to the raw and fresh data was collected using printed questionnaires distributed to the respondents and later collected for data analysis. Secondary data, which refers to related literatures to the study at hand was collected using other written literatures in the library and those in the internet sources. The printed questionnaires had in the m divisions of various sections following the objectives of the study. The sampled respondents were given the questionnaires with the instructions on what to fill. This was accompanied by an introduction letter with a communication on the need to be keen to fill the right information. Soft copies of the same were sent to the top management officers of the long distance public transport bus companies through email and they were requested to send the filled copies through the same means.

This study used Inferential statistics to investigate and summarize the data in order to draw a pattern which represented the true outcome of the research. The statistical model that was used included regression analysis or linear regression, measures of central tendencies (mean). Measure of central tendency which is a value that attempts to denote the central point within a dataset. It measures where many values in a distribution fall and these are also referred to as central location of distribution (Bhandari, 2020).

RESULTS AND FINDINGS

Out of the 49 sample respondents that were selected for the study, questionnaires were distributed to them. A 78% return rate which, according to a proposal by Mugenda and Mugenda (2003), was adequate for data analysis and interpretation.

Respondents Bus Company Branch Distribution

From the questionnaires that were completed and returned successfully, respondents distribution among the specific long distance public transport bus company branches were sought. The results were as shown in Table 1 below:

Table 1: Respondents Bus Company Branch Distribution

Bus Company	Bus Company Branch Respondents Distribution					
	Witu Office	Mpeketoni Office	Hindi Office	Mokowe Office	Amu Office	HQ Office
Tawakal	1	1	1	1	1	1
Tayaan	1	1	1	1	1	0
T.S.S	1	1	2	1	1	1
Simba Coach	1	1	1	0	0	1
Buscar	1	1	1	0	1	1
Mombasa Raha	0	1	1	1	2	1
Wamo Classic	0	1	1	1	1	1
Total Respondents	5	7	8	5	7	6
% Respondents Distribution	13.2%	18.4%	21.1%	13.2%	18.4%	15.7%

Table 1 above showed various respondents company branches distribution. The table showed some variation in respondents' distribution in their branch offices. This was as a result of differences in operation hours of respondents in the branch offices. Some branches were in small towns where their passengers were few and offices were opened once a day either in the morning or in the evening with most of such respondents working in shifts. In such cases, due to limitations of time, the respondents were not reachable while some of them did not return their filled out questionnaires.

The variation did not however affect the results of the study since the answers to the questionnaires were related regardless of the branch and therefore there was no biasness in data collection. This was in agreement with Maxwell (2021), who noted that where all respondents were to give related information, average representation by the respondents can be generalized as unbiased.

Respondents Experience using Management Information Systems

Information on how long respondents had interacted with the present Management Information System was sought and results were shown in table 2 below.

Table 2: Respondents Experience of Using Management Information System

Respondents Experience of using MIS at the Bus Company					
Bus Company	Name of MIS	<2 years	2-5 years	5-8 years	>8 years
Tawakal	Tawakal Airbase App System	3	2	1	0
Tayaan	Tayaan Online System	4	1	0	0
T.S.S	T.S.S Online System	3	2	1	1
Simba Coach	Simba Coach Online System	2	1	1	0
Buscar	E-Bus Reservation System	2	2	0	1
Mombasa Raha	Mombasa Raha Online System	3	2	1	0
Wamo Classic	Wamo Classic Online System	2	2	0	1
%Respondents experience using MIS		50%	31.6%	10.5%	7.7%

The results in table 2 above, indicated that all the bus companies in Lamu were using a Management Information System which had the four modules that were observed as the independent variables of the study (i.e. Electronic Document Management, Electronic Parcel Management, Electronic Booking Management and Automated Fleet Management). The results revealed that most of the employees (50%) in these companies had less than two years’ experience in using the available MIS. This comprised of young people which was probably the reason why they could not remain in these companies for long due to reasons of search for greener pastures elsewhere. Additionally, due to the nature of business this companies do, most of their payments are low and employees mostly rely on commissions to make additional income. This was probably another reason why employees didn’t work for long in search of job security in well-paying and long contractual terms of service jobs.

Electronic Document Management System Adoption and Performance

The study sought to investigate whether Electronic Documents Management Systems (EDMS) had any influence on performance of the long distance public transport bus companies. The questionnaires used a scale of 1 to 5, where 1 was Strongly Disagree (SD), 2 was Disagree (D), 3 was Neutral (N), 4 was Agree (A) and 5 was Strongly Agree (SA) and the results were as follows:

Table 3: Electronic Document Management System Adoption and Performance

Statements on Performance of long distance public transport bus companies	SD	D	N	A	SA	Mean	Std. D
Electronic document management system had increased electronic document workflows	0 %	5.3 %	2.6 %	68.4 %	23.7 %	4.11	0.689
Electronic document management Systems had enabled efficient utilization of office space in the company.	0 %	5.3 %	5.3 %	50.0 %	39.5 %	4.24	0.786
Electronic document storage by the organization had increased information and data security.	0%	10.5 %	5.3 %	44.7 %	39.5 %	4.13	0.935
Updated payment records had made company audit easy and hence high productivity and efficiency.	0%	15.8 %	10.5 %	31.6 %	42.1 %	4.00	1.090
Real time capturing of information had enabled up-to-date records	0 %	2.6 %	7.9 %	36.8 %	52.6 %	4.39	0.755
Mobile payments had increased the number of customers in the company.	0 %	5.3 %	13.2 %	47.4 %	34.2 %	4.11	0.831
EDMS had enabled more work to be done by few staff hence reduced cost by the company.	0 %	7.9 %	5.3 %	57.9 %	28.9 %	4.08	0.818

Concerning whether EDMS had increased electronic document workflows in the day to day operations of the companies, 92% were in agreement with the statement. This results also agreed with a previous study by Abdulkadhim, Bahari, Bakri and Ismail (2015) who noted that the advent of internet and digitization had made electronic documents accessible without any geographical barriers hence increasing document workflows within organizations. As to whether EDMS had enabled efficient utilization of office space in the company, 89.5% of the respondents were in agreement. The results showed that indeed the statement was true that EDMS had enabled efficient utilization of office space in the company. The results were also in agreement with the results of a research by Speranza (2018), who highlighted that electronic document management systems saved a lot of office space. This he said was because clients no longer needed to keep coming to the office for physical receipts and transaction documents.

As it concerned whether Electronic document storage by the companies had increased information and data security, 84.2% showed agreement. This results concurred with what had previously been mentioned by Ongkittikul and Geerlings (2006) that electronic document storage was continuously increasing information and data security. A statement on whether updated payment records had made company audit easy and hence high productivity and efficiency was sought and the results showed 73.7% expressing agreement. The results were a confirmation of a study report previously mentioned in this study by Abdulkadhim, Bahari, Bakri and Hashim (2015) who highlighted that updated records provided room for great improvement particularly in document storage and retrieval, auditing and workflow facilities.

Additionally, the study sought to establish whether real time capturing of information had enabled up-to-date records, out of which, 89.4% agreed with the statement. This result agreed with what had been noted by Soegoto, Setiawan and Jumansyah (2020), that real time capturing of information made the whole difference in the day-to-day operations of organizations.

As to whether mobile payments had increased the number of customers in the company, a big number of the respondents (81.6%) agreed to it. This results agreed with the study by Trépanier and Morency (2011), who noted that online payments, including mobile payments were preferred more by customers since such left an electronic record as a proof of transaction. This they said had increased customers in organizations more than when such transactions were done manually. As to whether EDMS had enabled more work to be done by few staff hence reducing the cost by the company, 86.8% of the respondents were in agreement to this. The results were in line with what had earlier been said by Chandra and Jhonsons (2019) who said that one of the reason why electronic documents were the preference of many customers and organizations was the reduced costs.

The mean for the statements in table 4.5 were between 4.00 and 4.39 which was an indication of unbiased representation of respondents in the study. Additionally, the standard deviation for the statements were all between 0.689 and 1.090. According to Luo, et al. (2018) low standard deviation is an indication that the data points are close to the mean while a large SD indicated a dispersed data points away from the mean. Since the results in table 4.5 above show that the SD is low (0.689-1.090), then it shows that the data collection process was unbiased.

CONCLUSION AND RECOMMENDATIONS

Conclusion

This study was conducted on the premise of assessing the effect of Management Information Systems adoption on performance of long-distance public bus companies in Lamu county. The study revealed that Management Information Systems (i.e. electronic document management adoption) was key to improving company performance. With effective and efficient practices of

Management Information systems, companies were able to overcome some of the problems they faced during service delivery in terms of meeting customers demand and providing timely services to client as promised, hence giving firms an edge over competitors in their line of business operation.

It was also worthwhile noting that, despite the many improvements, firms had gained through adoption of electronic document management adoption, there still remained major challenges that plagued effective electronic management systems.

In summary, the study confirmed that adoption of Information management systems adoption was important factor to enhancing performance and competitiveness of respective companies. Successful execution and implementation of MIS would always give a firm a significant competitive edge.

Recommendations

The study recommended that long-distance bus companies should allocate more funds towards training and updating their staff on the usage of electronic management systems. The study further recommended that the long-distance bus companies should provide and improve infrastructures aligned to implementation of MIS such as computers and the system itself.

It was also recommended that company managers needed to evaluate their strategies on a continuous basis so that corrective actions could be taken to eliminate problems that hinder the achievement of the goals of the company through the use of the system. Finally, the study recommended that managers and employees should be involved in the MIS implementation decision and adequate communication between all parties was important for successful adoption and implementation.

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