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Factors Affecting Implementation of Just in Time Inventory in Public Institutions in Kenya: A Case Study of the Ministry of Transport and Infrastructure

Simeon Nyakundi Onyiego

M.sc. Candidate, College of Human Resource and Development, Department of Business Administration, Jomo Kenyatta University of Agriculture and Technology, Kenya

Dr. Margaret Oloko

Lecturer, College of Human Resource and Development, Department of Business Administration, Jomo Kenyatta University of Agriculture and Technology, Kenya

Abstract:

This research seeks to establish the factors affecting the implementation of JIT inventory in public institutions in Kenya. It aimed to establish the effect of employee training on the implementation of JIT inventory in public institutions in Kenya, to determine the role of top management support on the implementation of JIT inventory in public institutions in Kenya and to assess the role of information communications technology on implementation of JIT inventory in public institutions in Kenya. Descriptive research design was used in conducting the study to ensure a complete description of the situation in the Ministry of Transport and Infrastructure, Government of Kenya. The target population consisted of 290 sub-county store managers in the Ministry of Transport and Infrastructure. Using a simple random sampling method 87 respondents were then selected from the target population. The data collection was administered using questionnaires designed to obtain accurate information from respondents. The data collected was analyzed using both qualitative and quantitative techniques. The mean, standard deviation and percentages were used where applicable and the findings presented using tables, pie charts and graphs. The study concluded that employee training, top management support and information communication technology have greatly influenced the implementation of JIT inventories in public institutions, these has made these organizations to improve in customer service delivery. Employee training is important in the organizations implementing JIT inventory as it introduces the employees to what is expected in the implementation of the strategy thus increasing their productivity. The top management support in the implementation of JIT is critical as they provide a good working environment for its implementation and makes employees motivated to work to the success of the organization. The study also showed that the use of ICT in the organization has facilitated the speed of implementation of JIT as employees are able to quickly link up and get the information they require for the success if the organization. These study findings will help public institutions in strengthening their inventory management strategies to ensure a high level of service delivery to the citizens who are her customers, in line with the government policies and service charters in public institutions. However the study was limited to the ministry of transport and infrastructure, the study recommends a study to the other ministries and public institutions in order to establish the level of implementation of JIT in this institution.

1. Introduction

In the recent years, modern conventional approaches in service delivery are replacing the traditional approaches in the world faster than anyone ever thought. This is due to the many challenges and facts that include the turbulent and changing service delivery levels that organizations need to give to their customers. Public institutions just like any other institutions have dealt with the adoption of new service delivery strategies in line with the government manifestos and service delivery charters (Macintosh, 2007). In developing countries, public service delivery is increasingly recognized and many institutions have continuously used just in time strategies to increase their service levels to their customers. They have recognized that just in time inventory management has been an effective tool in service delivery (Holweg, 2001).

In Kenya one of the factors that have led to the success of JIT approaches implementation is the opportunities for leveraging the capabilities and competencies of suppliers through closer integration of suppliers and customers to ensure a higher service delivery in the logistical processes involved in the JIT inventory management. This is because JIT approaches require closer integration of the demand and supply-side issues in the development of strategies. JIT has resulted in a leaner operation because it shifts costs elsewhere in the supply chain by 'forcing either the supplier or customers to carry that inventory.

Therefore, this concept is very useful in government organizations where there are many challenges. The ministry of Transport and Infrastructure has faced a number of challenges, including lack of storage space and overstocking and under stocking of inventory. The stores department has endeavored to address this by using the JIT strategy in its supply chain management. This process bears in mind the need for operating a network of organizations where activities are interfaced, information enhanced and partnerships strengthened. However the process of implementation of JIT in the Ministry of Transport and infrastructure has not been very successful. This research therefore seeks to address the factors affecting the successful implementation of JIT inventory as a service delivery strategy in the ministry of Transport and infrastructure. These factors include the effect of suppliers, ICT and top management participation.

According to Singh (2013), JIT philosophy is based on simple idea that no activity whenever possible should take place in the inventory system till there is need for the activity. It requires that the parts be made available at the time they are required and not before. JIT seeks to produce only the required items at the required time and in required quantities. Therefore, it is an effective strategy to control inventory flow, reduce inventory storage costs, and manage it effectively. JIT inventory strikes a balance between the optimum and the holding costs. Inventory made available in right quantity and at the right price and in right time is the primary goal of JIT. Therefore JIT is a technique in which stock held by public institutions is measured and its quantity stored accurately for reordering whenever necessary. JIT eliminates waste, and eliminates excess inventory in order to reduce related holding cost and emphasizes on the use of small lot size so as to meet quick customer requirements. Inventory managed on JIT basis removes many types of uncertainties in inventory systems and it ensures timely delivery of customized products to the customers and thus helping the public institutions in the long run to acquire its brand status.

According to Bhatt(2000), procurement of inventory in public institutions account for high proportions of the total expenditure in Kenya where public procurement of inventory accounts for up to 60%, 58% in Angola, 40% in Malawi and 70% in Uganda's expenditure. Due to the large sums of money involved in the government procurement of inventory and the fact that such money comes from the public, there is need for developing countries to develop innovative strategies' like just in time' to establish most effective and transparent ways to account for the money without compromising on transparency and taking into account the service delivery levels set out in the service charters to ensure that there is trust from the customers served by these government institutions that is brought about by service delivery levels. Consequently both developed and developing countries have instituted the inventory reforms involving the adoption of JIT approach to improve service delivery in the public institutions.

According to Holt (2012), JIT inventory management is when the supplier gets the product to the retailer as close to its time of purchase as possible. When the product comes to the work station the pieces are put on and if the pieces are not put on and you run out of parts then the supplier delivers you the supplies just in time. JIT inventory management works best when the supplier is as close to the retailer as possible, but the techniques can be used by suppliers anywhere in the world. The suppliers noted that it's now cheaper to buy in bulk than in single orders. A downside of JIT is that the method doesn't get products to their final location fast enough. If inventory is disrupted by anything, then consumers must do without. If the suppliers' building is destroyed, it still costs the JIT inventory management process. Sometimes the inventory is not received fast enough to please customers despite plans for when supply is disrupted. Then, when customers are not satisfied, they go to different manufacturers, leading to a loss of sales.

1.1. Inventory Management

According to Holt (2012), in the supply chains one of the key variables which has to be managed is inventory. The inventory includes a wide spectrum of materials that are being transferred, stored, consumed, produced, packaged, or sold in one way or another during a firm's normal course of business. The planning, storing, moving and accounting for inventory is the basis for all logistics in the organization and therefore very important area to be considered in the success of any organization. Inventory management has a financial value, which for accounting purposes is considered a floating asset. However, it may be very difficult to convert physical inventory into liquid assets, hence the inventory is very risky investment and therefore needs to be managed very carefully. The introduction of modern inventory management practices are very helpful in organizations therefore one goal in the use of just in time inventories is to keep the level of inventory in the supply chain as to low as possible thus freeing up funds for other purposes.

According to Bakar (2001), holding the inventories is connected with significant costs. Despite the all efforts and technological innovations, inventories are often still the asset with lowest return in the company. Majority of companies hold 25-40% more inventories than actually needed without realizing unreasonably high inventory levels lower the company's profit.

According to Holweg (2003), Proper management of inventories improve customer service, Provides immediacy in product availability, encourage production, purchase, and transportation economies, takes advantage of price-quantity discounts, allows for transport economies from larger shipment sizes, act as a hedge against price changes and allows purchasing to take place under most favorable price terms besides protect against uncertainties in demand and lead times. They provide a measure of safety to keep operations running when demand levels and lead times cannot be known for sure.

Effective inventory management is the result of outstanding inventory control and inventory management. Inventory control involves managing the inventory that is already in the store. That is knowing, what products are out there, how much you have of each item and where the items are this means having accurate, complete and timely inventory transactions record and avoiding differences between accounting and real inventory levels. Two tools commonly employed to ensure inventory accuracy is just in time inventory (Zeng, 2003).

1.2. Statement of the Problem

The demand for a lean inventory in public institutions is rising steadily with no long term strategy to facilitate the transition from the traditional inventory system to just in time inventory as many public institutions do not have adequate employee training on just in time inventory management, this has hindered the implementation of JIT strategy which is praised in reducing overstocking and obsolete items in stores in line with the public institutions service delivery charters. Currently public institutions heavily depend on employee training for them to compete effectively and efficiently, therefore the need to expand the limited employee training institutions on order to train more employees capable of implementing strategies in the current competitive business environment (Bakar, 2001).

Untrained employees make successful implementation of JIT strategy not achievable leading to a waste of public resources that are put into creating better inventory management systems as training is very critical in the success of any strategy implemented. This calls for specialized training in government training institutions so as to enhance the understanding of employees on every strategy that is implemented by the institutions.

This has raised concerns in employee training levels in many public institutions where there are difficulties in implementing useful strategies in government manifesto and public institutions service charters to improve service delivery (Voleza, 2014). Studies done by Biruni (2003), Kaufman (2006) and Zeng (2003) in lean inventory systems have shown that JIT inventory has improved service delivery levels in organizations and these has led to a shift from traditional inventory management systems which are normally associated with overstocking however they have not shown the importance of employee training in implementing any strategy. This study therefore will establish the effect of employee training on implementation of just in time inventory in public institutions.

1.3. Objectives of the Study

1.3.1. General Objective

To determine the factors affecting implementation of just in time inventory in public institutions in Kenya

1.3.2. Specific Objectives

1. To establish the effect of employee training on implementation of JIT inventory in public institutions in Kenya
2. To determine the role of top management support on implementation of JIT inventory in public institutions in Kenya.
3. To determine the role of information communication technology on implementation of JIT inventory in public institutions in Kenya.

1.4. Justification of the study

In today's competitive business environment, many organizations are under constant pressure to leverage on service delivery strategy such as JIT to achieve greater customer satisfaction in their areas of business and the government is not left out of these strategies. Competitive advantage is an organization's ability to perform at higher levels and markets than others due to its attributes. A cumulative customer satisfaction within service offered provides many attributes that contribute to the reduction in price elasticity, lowers transaction costs due to obtaining new customers, this insulates organizations from competitors and improves reputation in the market (Singh, 2013).

To enhance an organizations inventory management level, the organization should adopt more innovative and conventional methods like JIT inventory to enhance its service delivery which will have an improvement on efficiency of the organizations processes to compete against others in the markets (Hogan and Armstrong, 2001).

By analyzing the factors affecting implementation of JIT inventory in public institutions in Kenya, the study brings forth the knowledge on how to utilize the JIT strategy to gain competitive advantage and improve the service delivery levels in public institutions in Kenya.

2. Theoretical Literature Review

2.1. Employee Training

Training can have considerable influence on the organizational finances as there are several potential training costs that organizations incur. These can be direct training costs which include instructor salary, materials, and follow-up supervision. The second type of training costs is related to output and productivity during and after the completion of the training. Once that training is completed, the workers' productivity is expected to rise and the benefit will be for the company due to the increased worker output as the increased productivity will translate to higher wages and opportunities for career advancement. Overall the organization will determine the cost and returns to determine the amount of investment it will incur (Kaufman, 2006).

According to Burke (1995), employees who participate in the most number of training programs and rated the training as they ended as most relevant, view the organization as more supportive to them and looks at the organization as more favorable and have less intent to quit the organization. The trainings enhance the employee sense of debt towards the organization and the result is a more committed employee with a greater desire to remain in the organization. Reciprocity holds that the organization's employee received benefit of training from the organization and will attempt to repay in the future. Therefore the employees will remain committed to the organization until the benefit is paid off.

2.2. Information Communication Technology

According to Wang (2011), in a case study of JIT system in the Chinese Automotive Industry concluded that proper design of information systems could assist JIT systems implementation. Information system is a technological foundation and its application to JIT is an elevated method for implementing JIT inventory system. The study established a close dynamic corporation alliance via the internet from upstream to downstream of the whole supply chain in order to realize the interaction among the public institutions, suppliers and customers. In addition, information technology assist in building seamless connection between order information of upstream and resource information of downstream in order to reduce inventory by sharing information between both sides. Thus a quicker response of the supply chain to ensure materials could be supplied smoothly in all institutions involved.

According to Gupta (2012), JIT system advocates the use of technology as the assembly operations of a car manufacturing company are carried in highly controlled automated conditions. Government operations are mainly dependent on government institutions, but the use of technology can help in improving the quality of service offered to a large extent. Government employees are becoming more and more dependent on advanced and sophisticated machines. Its customers are also getting advice from government employees in various locations within the country, they are communicating with each other on internet. So government services are becoming more and more dependent on technological advancements.

2.3. Top Management Support

Erik (2010) on studying the role of top management in supply chain management practices, in order to explore the role of top management in two retail companies to successfully utilize opportunities given by SCM practices concluded that the top management role is described by introducing the four stereotypes, the supply chain thinker, the relationship manager, the controller and the organizer for the future. All these have a role to play in the successful implementation of JIT in institutions.

Marilyn (1990), in the study, Meeting the Human Resource Challenges of JIT through Management Development, determined major technical challenges and factors related to successful implementation of a JIT program. These factors could all be categorized as human relations or organizational behavior issues and included communication skills, management commitment, worker commitment, and appropriate performance evaluation goals. No technical factors are rated as most import to program success. Management development of training programs of training and development should include a comprehensive pilot program, a series of initial pre-implementation sessions, and on-going training. The content of these sessions must be clearly defined. Management development practitioners must recognize these behavioral needs since a behavioral focus for such technological changes are important and the engineering focus alone is not enough for the successful implementation of such major changes in an organization.

3. Research Methodology

This chapter identified the research design and the methods used to gather the facts to support the study. The topic focuses on the factors affecting the successful implementation of just in time inventory in public institutions in Kenya, a case study of the ministry of transport and infrastructure. This section includes the following sub-sections: Research design, target population, sampling size, research instrument, data collection procedure, reliability, validity and data processing and analysis. The research design that is most appropriate for this project is descriptive research. Descriptive design will be used because it ensures a complete description of the situation minimizing biasness in data collection and reduction in errors in data interpretation and analysis. It will give a complete description of the situation and often use visual aids such as graphs and charts to aid the reader understand the finding of the research (Mugenda, 2013). The target population refers to all the members of real set of people; object or events which the researcher wishes to generalize the results (Mugenda, 2003). For this research, the target population was 290 sub county store managers in the ministry of transport and infrastructure. According to Mugenda (1999), a sample is a representation of the whole population in the study which is usually given by 10-30%. For this study the total population was homogenous therefore simple random sampling technique was used to select 30% of the target population of 290 sub-county store managers to arrive at a sample size of 87 respondents. This was the sample size for the study. The data was collected by the use of questionnaire. In the questionnaires, both open ended and closed ended questions were used. A questionnaire is a pre-formulated written set of questions to which the respondents record the answers usually within rather closely delineated alternatives (Mugenda, 2003). Since this study was a case study, questionnaires were appropriate instruments for the study. The questionnaires were divided into five parts: employee profile, effect of employee training, effect of top management support and the effect information communications technology on implementation of JIT in Public institutions. The questionnaires were administered using drop and pick method and where necessary the questionnaires were sent using courier services. The respondents filled in their views and returned the questionnaires within a deadline that was set for the questionnaires to be ready for analysis in time. Primary data is of prime importance because it draws information directly from the sample population for the first time in the field for the purpose for which it is used. Primary data collection is given highest priority in research because there is limited published material on the subject under study (Mugenda, 2003). This study used primary data which was collected through the use of questionnaires. Primary data was data collected directly from first-hand experience. Secondary data is data which has already been previously collected for some other purpose or research study, other than the original use. These may be contemporary or historical and the data may be qualitative or quantitative and usually needs adjustments and validation before being put to use. These data can include survey data and documentary data. Secondary data avoids the problems associated with the data collection process. Unlike primary data, secondary data generally provides a source of data that is both permanent and available in a form that may be checked relatively easily by others. The published documents gives the researcher extra information on the research problem, as some of the information may not be found within the organization (Mugenda, 2003). The secondary data in this study was collected from both published and unpublished organization records. This includes information from the Government Ministries and

other public institutions in various sub counties, public website information and journals (monthly reports and newsletters that were obtained from public institutions under study). For this study secondary data was appropriate because it saves time and money since the work to collect the data has already been done. According to Mugenda and Mugenda (2003), a pilot study is necessary for testing the validity of data collection instruments. Validity in research is the degree to which results from the analysis of data collected actually represents the phenomenon under study (Mugenda and Mugenda, 2003). The questionnaires scheduled for this study were designed in consideration with ideas from the university supervisor, lectures, postgraduate students and stores experts from the ministry of transport and infrastructure. Each item in the questionnaire was critically analyzed to ensure that it measures what it is supposed to measure. Necessary reviews were made before the questionnaire was scheduled for piloting. According to Mugenda (2003) reliability tells how well a test measures what it is supposed to measure. It is the degree to which the research instrument yields consistent results or data after repeated trials. If similar results will be obtained, then the data will be regarded as reliable. To test for reliability of the questionnaires used in this study, a pre-test study was done in the ministry of transport and infrastructure on sub county store managers who do not constitute the study sample. A test re- test method was used to estimate the reliability of the questionnaires. The study adopted descriptive statistics analysis method to analyze data gathered. The Statistical Package for Social Sciences (SPSS) computer software was used in the analysis to generate data arrays that were used for subsequent analysis of the data. The data was cleaned, coded, categorized for each of the research variables and then analyzed. Descriptive statistical analysis methods were then used to analyze the data. This included the use of percentage, mean and STD deviation, where applicable so as to establish the factors affecting the implementation of JIT inventory in public institutions in Kenya. The findings were presented using frequencies, tables, pie charts and graphs where applicable to draw a conclusion and make recommendations on the factors affecting implementation of JIT inventory in public institutions in Kenya.

4. Findings

4.1. Employee Training and Implementation of Just in Time Inventory

An analysis done on the questionnaires using the mean and percentages in order to show the relationship in the variables, the respondents were asked if the organizations considered training as part of the organization strategy, those who strongly agreed (64%) showed that training of employees is critical in the success of an organization. Those who agreed 33% and only a few somewhat agreed (2%), this showed training is an important tool in the success of the organizations in the implementation on various strategies and JIT is not an exception. On being asked the type of training program undergone in the organization, few (20%) agreed that that they undergo on job training, some respondents undergo off the job training (13%), (17%) undergo case studies and class room training, while (48 %) have undergone all the above training types in the organization depending on the need. This shows that the organization in the public sector are keen on training to specific needs in the organization and therefore organize trainings to meet specific needs in the organization. To be specific on JIT training, the ministry trains its employees every year on JIT as 53.6 % of the respondents agreed that they train every year and only 29% have trained only half yearly. This is because some of the training which is specific to the need and critical in the success of JIT use in the organization is carried out at least twice in the year. But most of the training is done yearly so that there is enough time to put in top practice what has been learnt and tray to correct the mistakes that have been realized in the course of work.

As shown in the figure 1, the respondents were asked if the training they received was helping them achieve their goals in the workplace, 80.5% confirmed that the training was very beneficial, 16.1% confirmed that the training was beneficial while only 2.3 % said the training was not beneficial to them.

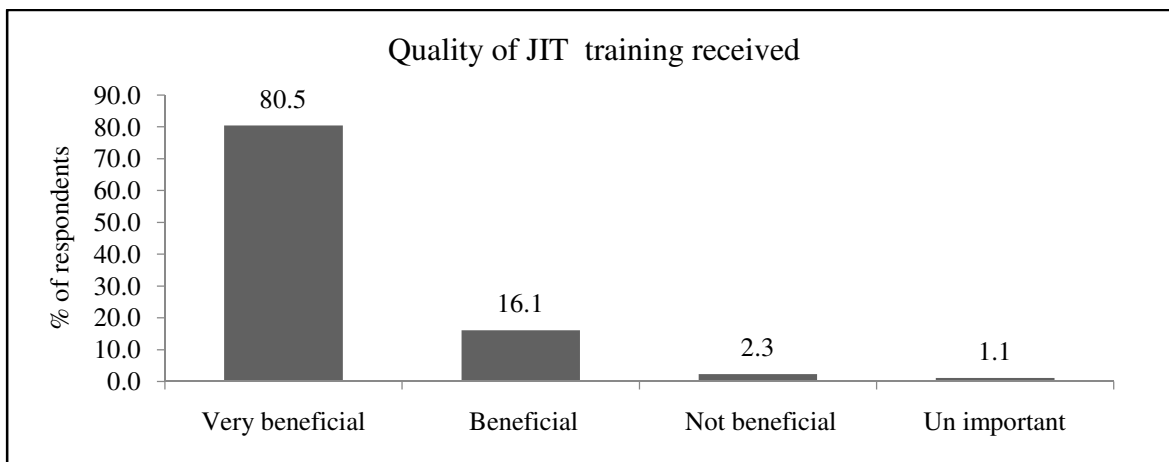


Figure 1: Quality of JIT training received from the training sessions

The respondents were asked to say how helpful JIT was to their organization, more many respondents (59%) concurred that JIT helped to keep good relationship between the employees and the employer as there is constant interaction of employees. JIT helps increase productivity in the organization (22%), it helps in increasing the attention of employees to the organizational goals (11%). On

the question on how the JIT training has improved the performance of employees in inventory management, more than half of the respondents (55%) gave an approval rating of 81 to 100% while few (8%) had an approval of below (40%). On the respondents comments on the degree to which the objectives of the training are met during the JIT training sessions, (63)% confirmed that all the objectives are met, (11%) said some objectives are met while (25 %) said objectives are met according to need. This showed that the JIT trainings help the respondents in every way in the achieving of the company goals. Finally the respondents were asked to comment on the important barriers to training JIT in the organization. Figure 8, slightly more than half (66%) said time, (10%) money, (17%) lack of interest, (7%) non availability of skilled trainers. From the analysis it was realized that lack of interest in the JIT training affects its training in the organizations.

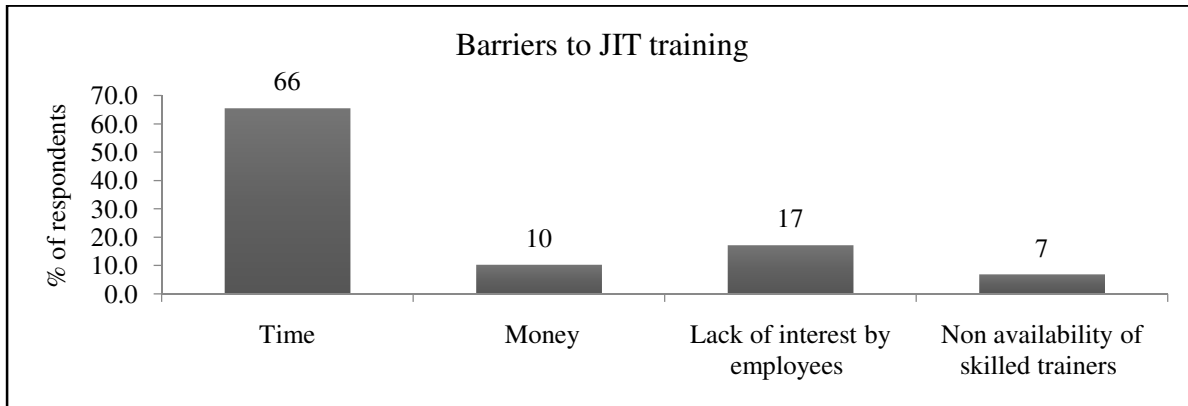


Figure 2: Barriers to JIT training

These research findings are confirmed by the study done by Scott (2013), in the research which found that the relevancy of training plays a role in the commitment of employees to their work. Employees enter in training programs with specific expectations and needs and the result of the training programs that do not meet the expectations of the participants may be lower commitment, negative attitude change and increased turnover. In implementing new ideas in the organization, the employees may not be fully committed in its implementation if they are not well trained. Organizations need to ensure that trainings are relevant and are communicated effectively and are able to meet the expectations of the employees participating in them in order to use the trainings as the mechanisms for building commitment in the employees and getting better results at the end of the day.

4.2. Top management support and implementation of Just in Time inventory

As shown in the figure 2, the respondents were asked to rate the support of the top management in the implementation of JIT in the organizations, (62%) of the respondents confirmed that their support was excellent, (24 %) said that it was very good and the other (14%) aid good, these means that there is good will on the implementation of JIT from the top management and these is a good indicator that the employees work as a team in the implantation of JIT.

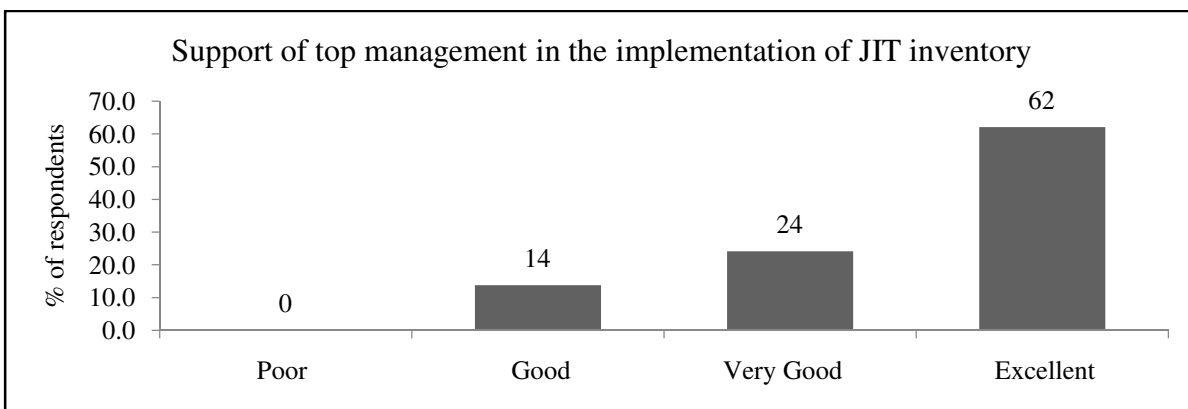


Figure 3: Support of top management in the implementation of JIT inventory

From figure 3, the management supervises the use of JIT inventory in the organization as (46%) of the respondents said the management supervises the use on an hourly basis, (32%) supervises once a day, (12%) supervises every two days, (6%) supervises every four days. This shows that the management is concerned with the progress of implementation of JIT inventory in their institutions. From the responses, top management gives team members a clear picture of the direction the organization is headed, (62%) strongly agreed to this statement, (24 %) somewhat agreed, (5%) were neutral, (6%) somewhat disagreed and only (3%) strongly disagreed. Having a clear picture of what one is supposed to do make work enjoyable and this gives a better result in the performance of employees.

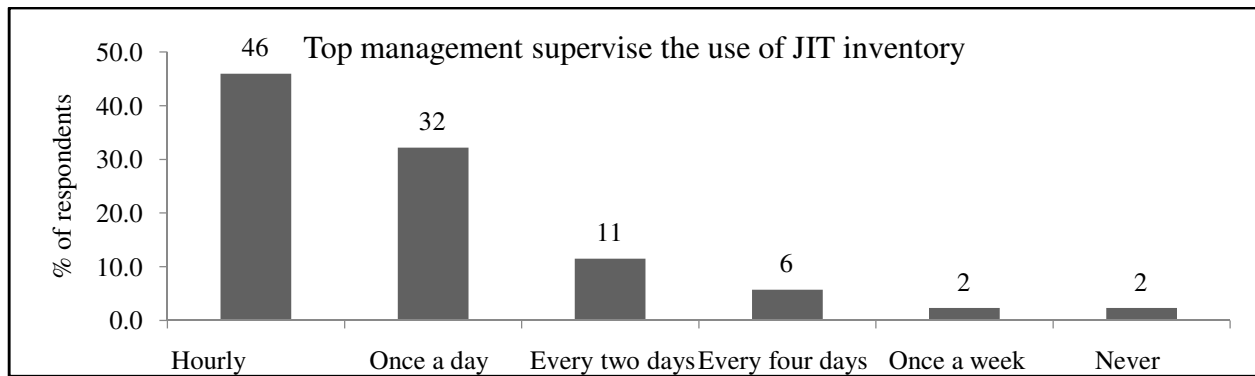


Figure 4: Top management supervise the use of JIT inventory in a week

Top management offer solutions to problems encountered in JIT inventory immediately the problem arises, (71 %) of the respondents. (24%) of the respondents said top management solve problems after 2 days, (3%) solve problems after 4 days and only (1%) solve problems after one week. This shows that there is a good will in providing solution to problems arising due to the implementation of JIT inventory in the organization. To what extent were the respondents motivated by the involvement of top management in the use of JIT inventory in your organization. (69%) of the respondents were between 81% and 100% motivated, (23%) were between 61% and 80% while only (8%) were below 60%. these showed that the involvement of the management in the daily activities of the organizations motivates the employees in doing their work and therefore organizations record high productivity of employees. Top management supports any staff member to learn JIT inventory programs in the organizations, (74%) strongly agreed, (16 %) somewhat agreed, (5%) were neutral, and (6 %) disagreed. This showed that the support from the top management to new staff who wants to understand using JIT inventory is very good as (72%) of the respondents agreed to this statement. These findings are also confirmed from the findings of Gupta (2012), in the study, training of the employees and top managers plays an important part in implementation of JIT concepts in public institutions and their operations. Proper training and empowerment to the public institution top management and employees will provide a great deal of flexibility in meeting demand fluctuations and proper use of JIT inventory in public institution.. Training will provide Top management and employees with the ability to identify and resolve problems and operational weaknesses hindering organizational effectiveness and efficiency.

4.3. Information communications technology and implemetation of Just in time ineventory

In determining the factors affecting the implementation of JIT inventory in government institutions, in was necessary to determine how long the respondents have used computer so as to assess their competency in the use of JIT is more of technology based and hence uses computers. Figure 4, shows the responses that were obtained from the study. The respondents who used computers less than one year in their lifetime (6%) were less competent in using the computer in the implementation of JIT inventory. Less than a quarter of the respondents (16%) have used computers between one and three years. almost a quarter of the respondents(23%) have used computers between three and five years while large number of respondents(55%) have used computers for more than five years. The reason being in most government offices there are computers which are used in various processes. And every employee is taken in various trainings in the course of their work in order to improve their efficiency in the work place hence making many employees learn computers from the time they are employed.

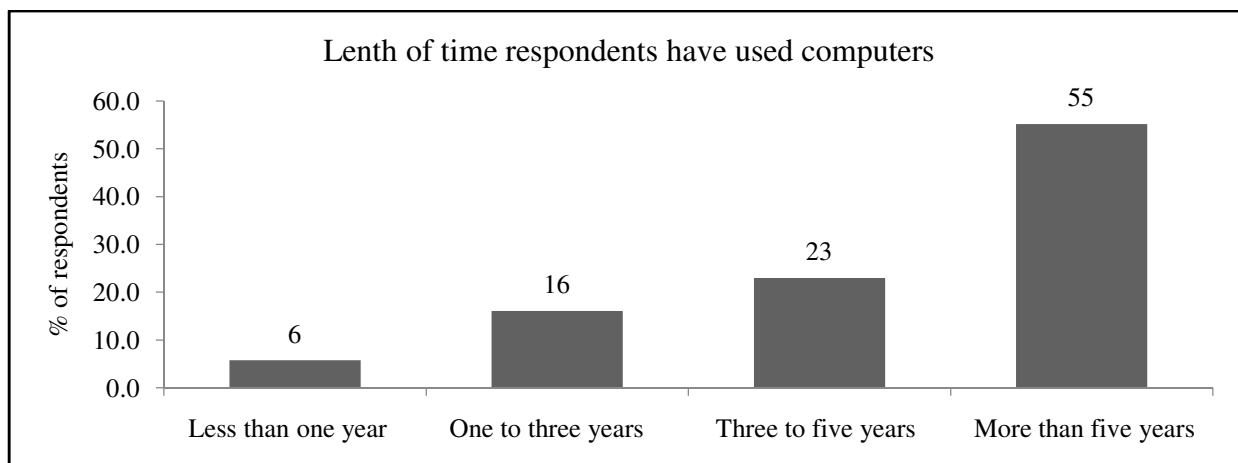


Figure 5: Length of time respondents have used computers

The same respondents were asked to comment on what they mostly use computers for as they are not always with their supervisors all the time. This was to give an indication of the use of computers that are meant to be used in the JIT inventory when the employees do not have a lot work in the office. From the analysis percentages were used to estimate the percentage of employees and their use of computers. From figure 5, of those interviewed, many of the respondents (61%) use the computers to download inventory related programs. In close relation to inventory programs are spreadsheets, (23%) use the computers to download spreadsheets that are used in the JIT inventory management. To download educational software's like statistical programs in the organization a few do it (6%) these are only the members of staff who are mostly doing more work on the implementation of JIT inventory during their free time. A significant majority (16%) of the total population interviewed use the computers in other ways not related to JIT implementation.

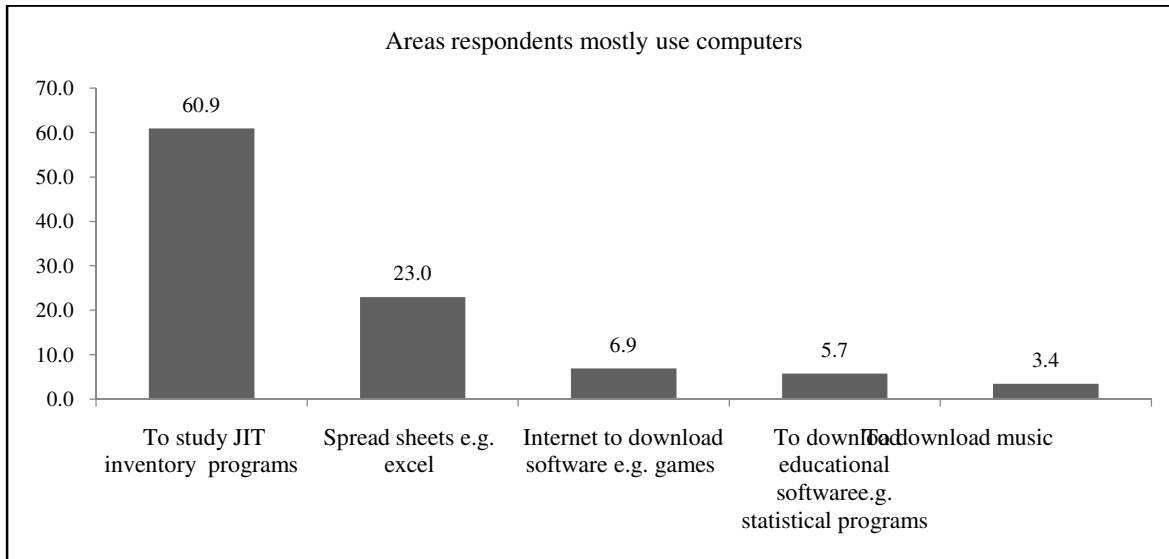


Figure 6: Areas computers are mostly used

ICT has improved the use of JIT in many organizations and the public institutions are not left behind. Many respondents were asked to confirm to these statement in their various organizations.

Many of the respondents rated the use of ICT in JIT inventory as very high (55%) with a slightly lower percentage (29%) giving a rating of high. Many of those who said the use of ICT in the JIT inventories management was moderate (23%) had not attended enough trainings in the use of ICT in the implementation of JIT inventory. Those that said ICT has low or no improvement on the use of JIT in inventory were only (3%) most of these respondents had minimal experience in the use of JIT inventories in the organizations. This confirmed that the productivity of employees has increased with the use of computers in the organization.

Information communication technology use is very important tool in JIT inventory in the organization with the provided scale many respondents confirmed that for organizations to do well in the markets they have to ensure that their employees are well trained in the use of information communication technology in the organizations as relates to the inventory management. These means that the organizations have to invest well in order to realize the full benefits associated with information communication technology in the inventory management. Using the scale provided please rate the extent to which you agree or disagree in the figure 6, the respondents rated the use of information communication technology use in the inventory management.

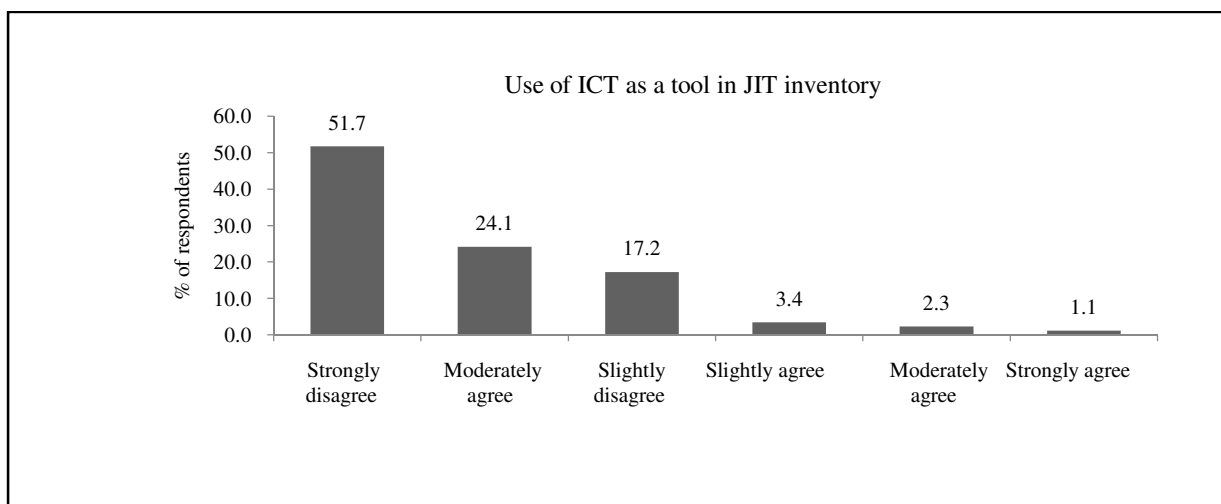


Figure 7: Use of ICT as a tool in JIT inventory

This research findings are confirmed by Cheng (2003), Information communication technology is an important element in order processing as all the activities in the order cycle, including collecting, checking, entering and transmitting order information can be done on the internet. ICT is the means by which firms in the logistics processes exchange order information. The information collected will provide useful data for market analysis, financial planning, production scheduling and logistics operations. Information technology helps JIT in managing inventory effectively and it helps in integration of the components of the supply chain network. Therefore in the implementation of JIT inventory, ICT is essential.

5. Conclusion

Employee training, top management support and information communication technology have greatly influenced the implementation of JIT inventories in public institutions, these has made these organizations to improve in customer service delivery. Employee training is important in the organizations implementing JIT inventory. Many organizations consider training their employees before introduction of any strategy and the employees also strongly confirm that the employees training helps them in understanding the process of implementation of the strategies in the organization. These makes organization successful in the implementation of strategies that help improve the organizations productivity and customer service in general. On the job training, off the job training and case studies if all applied when need arise helps employees understand the process better. This training program should be given at appropriate intervals like half yearly to enable the tutors and employees time to implement what they have learnt and in the course of implementation problems encountered should be noted and corrected as soon as possible. These sessions must be of quality and beneficial to the employees for its full benefits to the organization to be realized. It was proved that these training in organizations help to keep good relationship between the employer and the employees, training improves productivity and also helps in motivating and increasing attention of employees to organizational goals. All the trainings offered must be tailored to meet the organization objectives while at the same time eliminating the barriers to successful training in organizations

The top management support on the implementation of JIT inventory in organizations in the public sector is evident as those organizations have to satisfy their customers and show that public institution leads the way in the implementation of good and beneficial practices in the country. The implementation of JIT in public institutions must have a good support from top management for it to succeed. If the implementation is properly supervised like every hour mistakes will be noted early and the corrections can be made this has made the top management to be keen in the supervision of these JIT program to avoid mistakes that can be costly to the organization. During the implementation of JIT, and with the proper directions from the managers the processes can be easily undertaken and therefore employees prefer the directions be given by experienced top managers who will put confidence in them

Information communications technology has played a great role in the implementation of JIT inventory in public institutions. It has made work of training, processing and execution of customer requests easier. For these ICT to be used employees must know how to use computers and they should use the computer provided for the right purposes, these include studying inventory implementation programs and spreadsheet used in JIT. From the research ICT has greatly improved the use of JIT inventory in public institutions to very high levels and these has increased the customer service in this sector.

The implementation of JIT inventory in public institutions has been critical in the improvement of inventory management processes in improving customer service levels. JIT inventory procedures must be in place for the organization in the public sector to succeed in its implementation. JIT has reduced the duration it takes between ordering and delivery of ordered stock the time taken to process stores documents to issue required items to users, the duration it takes to pay for ordered inventory, and the duration it takes for stock to be moved out of the store to the users.

6. Recommendations

JIT inventory has been greatly encouraged in the public sector as it has made firms have an edge against other inventory management strategies. More needs to be done so as to realize the full benefit of this strategy. Employee training, top management support and ICT are some of the areas of great concern in the implementation of JIT inventory. Employee training is a constant exercise over the year in the implementation of the strategy as all the processes in the implementation are dependent on training. This therefore means that the organizations must have regular and quality training sessions that are meant to help employees to understand the working of JIT inventory system.

The top management support on the implementation of JIT inventory in organizations in the public sector must be carried out carefully in order to succeed. Top management are the most critical part of these and therefore they must be well informed on the working of JIT inventory so as to be in a position to help their juniors during the process of implementation. Top managers also need training sessions on the implementation of JIT inventory. These trainings should be done in stages which are well calculated so as to provide enough knowledge to the employees in general. During the implementation of JIT, with the proper directions from the managers the processes can be easily undertaken and therefore employees prefer the directions be given by experienced top managers who will put confidence in them, these must be clearly spelt out in the training sessions.

The most important technology in JIT inventory is the information communications technology, which plays a great role in the implementation of JIT inventory in public institutions. It has made work of training, processing and execution of customer requests easier. All the stores in the public sector should be supplied with ICT for them to be compliant in the use of JIT. For these ICT to be used employees must know how to use computers, therefore computer training sessions must be included in the JIT training as employees as they use the computer provided for the right purposes of JIT implementation

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