

Effect of Information Communication Technology Innovation Policy, Training and Skills on Efficiency of Service Delivery in Private Laboratories in Kenya

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Abstract: Information communication technology (ICT) has become a key element in economic development and a backbone of knowledge-based economies in terms of operations efficiency, efficient delivery of services and quality of services in this competitive private sector business environment. There is growing evidence that knowledge-driven process management is an influential factor in the competitiveness of private Laboratories, organizations and firms. Unlike many similar private laboratory enterprises, Pathologist Lancet Kenya has benefited substantially from e-resulting leading to better service delivery to customers thus strengthening business competitiveness. The general objective of the study was to find out the effect of information communication technology innovation policies, employee training and skills management on efficiency of service delivery among private laboratories in Kenya. This study used a descriptive research design. The target population was entire 52 employees of Pathologists Lancet Kenya Limited and Purposive sampling technique was used on the study. Quantitative data was collection through questionnaires. The data was analyzed using descriptive statistical methods. The findings pointed out that ICT; innovative policy, training and employee skills significantly affect efficiency of service delivery in Private laboratory enterprises in Kenya.

Keywords: Information Communication Technology, Innovation Policy, Staff Training, Skills Management, Service Delivery

I.INTRODUCTION

In Kenya there are a number of private medical laboratories which have been registered as private laboratories by the Medical Practitioners and Dentists Board which is a statutory authority established under Cap 253 Laws of Kenya to regulate the practice of medicine. Those medical private laboratories are; Cell path laboratories, Alkam laboratory, Path care laboratories, Nyumbani diagnostic laboratory and Pathologists Lancet Kenya Limited.

The medical laboratory environment has been characterized by ongoing rapid and dramatic improvement since the 1980s. There has been extraordinary growth in the range and complexity of available tests and services, which is expected to continue. Laboratory technology is frequently at the front position of medical advances. In some cases, testing techniques to diagnose or screen for a particular condition are available before effective treatment. Innovation in laboratory technology, which includes both new tests and advances in

equipment and testing techniques, has made testing more efficient and automated. Information communication technology (ICT) has revolutionized the transfer of data by decreasing the time it takes to order and accept test results and by creating opportunities for research on large datasets. Many foresee that information communication laboratory technology will play an even more important role in the future delivery of health care (Clarke,2012). The emergence of Information and Communication Technology (ICT) has provided means for faster and better communication, efficient storage, retrieval and processing of data and exchange and utilization of information to its users, be they individuals, groups, businesses, organizations or governments. Information and Communication Technologies have to be used in order to generate and deliver a service, which is useful and has an effective impact for the businesses (Fichman,2011). ICT as any technology used to support information gathering, processing, distribution and use .ICT is the integration of computer and communications technologies for the creation, processing, dissemination and transmission of information. ICT consists of hardware, software, data and communication technology.

There are three major technological innovations that have fundamentally altered the way samples are collected and analyzed and the way results. The first one is pre analytic stage includes; choosing the test, placing the order, preparing the patient, collecting the specimen, transporting the specimen, any specimen preparation work, and daily quality controls through the use of information communication technology to monitor. Second is analytic stage involves actual use of information communication technology in testing of the specimen and all routine procedures up to result reporting. Thirdly is the post analytic stage is concerned primarily with forwarding results through the use information communication technology to the appropriate hospital department or physician and routine daily maintenance and shutdown (Fichman,2011).

1.1 Profile of Pathologists Lancet Kenya Limited

Pathologists Lancet Kenya Limited owned and managed by pathologists Lancet Group of Laboratories South Africa. The Lancet Group of Laboratories has spread in over 12 African

countries. In east Africa for example Lancet Group of Laboratories is incorporated in East Africa as follows: Pathologists Lancet Kenya Limited, Lancet Laboratories Uganda Limited and Lancet Laboratories Tanzania Limited. Pathologists Lancet Kenya Limited is part of an internationally accredited pathology laboratory, providing high-quality pathology services to the medical and allied sectors, including occupational health, across Africa. To achieve its goals, Pathologists Lancet Kenya Limited operates ethically, efficiently and effectively, enabling us to provide these services at highly competitive rates. Clients have accessibility to over 3800 sophisticated routine and specialized tests from malaria to molecular diagnostics (Lancet Kenya, 2012).

Quality is implemented across all sites and international standards of excellence are adhered to. Pathologists Lancet Kenya Limited commitment is to ensure that any laboratory they operates to international standards and is audited to these standards called SANAS (South Africa National Accreditation System). The firm embraces ICT and all of its laboratories are connected through a dedicated fiber optic and wireless network that allows its pathologists to access, monitor, supervise and electronically sign out all reports in all its laboratories, thus ensuring that international expertise is injected in every result. ICT ensures accurate and comprehensive results are achieved by integrating doctors and patients. Patients can call through a local number to consult with our experts on any result or inquiry simply by dialing locally to tap into its network. Its ICT systems are automated for paperless electronic reporting platforms through automatic email notifications and use of Path Portal a mobile app for both Android and Apple platforms. (Lancet Kenya, 2012).

1.2 Statement of the problem

Information communication technology (ICT) has become a key element in economic development and a backbone of knowledge-based economies in terms of operations efficiency, efficient delivery of services and quality of services in this competitive private sector business environment. There is growing evidence that knowledge-driven process management is an influential factor in the competitiveness of private Laboratories, organizations and firms. Unlike many similar private laboratory enterprises, Pathologist Lancet Kenya has benefited substantially from e-resulting leading to better service delivery to customers thus strengthening business competitiveness. The general objective of the study was to find out the effect of information communication technology innovation policies, employee training and skills management on efficiency of service delivery among private laboratories in Kenya.

1.3 Study Objectives

- i. To determine the effects of information communication technology innovation policies on efficiency of service delivery in Private laboratories in Kenya.

- ii. To assess the effect of information communication technology trainings on efficiency of service delivery in Private laboratories in Kenya.
- iii. To determine how employee skills on efficiency of services delivery affect private laboratories in Kenya.

II. LITERATURE REVIEW

2.1 Theoretical Literature Review

2.1.1 Technology Acceptance Model

The model was initially designed to predict user's acceptance of information technology and usage on the job. TAM focuses on the attitude explanation of intention to use a specific technology or services; it has become the most widely applied model for user acceptance and usage. TAM has become well established as a robust, powerful model for predicting user acceptance. The original Technology Acceptance Model was developed based on the theory of Reasoned Action (TRA). Davis extended the Theory of Reasoned Action to formulate the Technology Acceptance Model. TAM model suggests that when users are presented with a new technology, two important factors influence their decision about how and when they will use it, perceived usefulness (PU) and Perceived ease of use (PEoU) TAM deals with perceptions and it is not based on observing real usage but users reporting their conceptions (Ghobakhloo & Tang, 2013).

2.1.2 Resource Based Theory

The resource based theory emphasizes the firm's resources as the fundamental determinant of competitive advantage and performance. It is based on two assumptions in analyzing sources of competitive advantage (Joseph, 2013). First, it assumes that firms within an industry or within a strategic group may be heterogeneous with reference to the bunch of resources that they control. Second, it assumes that resource heterogeneity may endure over time due to the fact that the resources used to implement firms' strategies are not completely mobile across firms meaning that some of the resources cannot be traded in factor markets and are difficult to accrue and reproduce. The theory suggests that the firm can secure a persistent competitive advantage through facilitating the development of competencies that are firm specific, produce complex social relationship, embedded in a firm's history and culture and generate tacit organizational knowledge (Odhong 2013).

2.2 Empirical Review

2.2.1 Information communication technological innovation policy and efficiency of service delivery

Technology adoption on efficiency of service delivery may be also affected by physical resources like computers, routers, size and power of servers if the technology has not been customized according the size of the organization before it's implemented. It's this features that determine the communication systems to be adopted. According to UNESCO (2009) technological risks may be difficult to be

ensured over the Internet due to its vastness and complexity, rising hacking activities due to easy access to hacking tools, and difficulties in the prevention of hackers attack due to unpredictability associated with Internet technologies because of these organizations should have high security mechanism to protect the hackers.

According to Harris & Chacko (2011) the accomplishment of an information society and knowledge economy is one of the main priorities of the Government towards the realization of the development goals and objectives for wealth and employment creation as espoused in Kenya's Vision 2030. The review of the ICT Policy of March 2006 is motivated by first, the need to support it with the New Constitutional dispensation in Kenya and Vision 2030 that seeks to transform the country in to a leading information and knowledge hub of the region. Specifically, the driving strength behind this review is to take on board the lessons learnt from the Vision 2030 Medium Term Frameworks and the three underlying pillars namely the Economic, Social and Political.

According to Jones (2011) the review is meant to present a proactive policy and regulatory framework that is not only in synch with modern-day technological realities and dynamics, but also anticipated to guide the orderly development of the ICT division in such a way as to ensure maximum developmental impact for the benefit of all Kenyans. In reviewing this policy, the Government has taken cognizance of the marvelous impact of globalization and rapid changes of technology. These changes have invariably affected the traditional approach to the management of public relationships and service delivery, which increasingly informs the need for more proactive policy and regulatory response.

2.2.2 Information communication technology trainings and efficiency of service delivery

According to Perego & Mangiaracina (2011) user training has an effect on how quickly the employees can learn information communication technology trainings on efficiency of service delivery and also affects the business objectives of service delivery to be achieved. Training is expensive but the users need enough training to understand the general idea behind the information communication technology and its potential benefits as well as the impact of their own activities on the bigger picture. It may be hard to employ rare qualified system analysts and programmers attributable to limited career advancement prospects after the adoptions are over. Increasingly sophisticated information communication technology requires engagement of various specialists to insure information security, which may not be possible without competence employees.

According to Oyetunde & Oladejo (2012) competency can be achieved through the process of learning, acquisition of knowledge, and development of skills through individual factors of motivation, knowledge and skills. These factors when combined together can contribute to an increased level of competence, and can be measured in regard to a person's

use of a particular technology. According to Murphy and Wood (2011), inspiration can have either positive or negative facts. The negative facets reflect the fear and apprehension aspects that characterize technophobia. The positive facets generally reflect a feeling or belief that a given medium can enhance preferred outcomes and therefore can lead to an increased competence.

Mpofu & Milne (2012). suggest that knowledge can be gained either via formal methods such as workshops and computerized tutorials, or by more informal ways such as tinkering with a device, or having someone show them how to perform a simple task. They described skills as being the repeatable, goal-oriented behavioral tactics and routines that people employ in the service of their motivation and knowledge. Insufficient training of the ICT workforce in new technology, without enough 'internal' expertise, and failure to combine internal and external expertise will lead to system failure. He recommended investing more in recruiting and retraining ICT professionals who combine technology and business ideas which keeps the professionals from moving to consulting firms with higher salaries.

2.2.3 Employees skills and efficiency of service delivery

Employee training should be done to upgrade the staff knowledge and skills constantly to enable him/her remain competitive and productive in the organization. For any organization to attain a competitive advantage, each staff in each department must perform excellently. According to Potts, 1998 Training can be sold as key influence to improving the performance of individuals. The aim of training is to facilitate employees to match the organization's future needs at expert and management levels so as to attain the organization's objectives.

According to Reynolds, 2004 Training is defined as a set of activities which react to present needs and is focused on the instructor while According to Armstrong, 2006 training is the use of systematic and planned instruction activities to promote learning. It involves the use of formal processes to impart knowledge and help people to obtain the skills required for them to perform their jobs satisfactorily. According to Caro 2007, recent review by the Organization for Economic Cooperation and Development states that the shortage of skills has been identified as a major hindrance to economic growth and creating jobs as a means to allocate the poverty in South Africa. India experiences a rapid growth of the industry which demands more skilled manpower that would help brand it as a quality intention rather than a low cost one. This is explored with respect to specific recruitment practices, training and skill development that exist in both indigenous and multinational firms.

In Hong Kong the internet may create a threat to more traditional ways of doing business (Forrester,2008). There is a concern in Hong Kong that there could be a lack of skills to service the fast growing technology sector within the local labour market. Only an adequate supply of training to the

managers will sort this problem. Investment in training in Hong Kong is a key issue. Ferguson, et al (2014) have found that some companies are hesitant to invest in training, and this is possibly linked to the problem of job hopping due to frustrations associated with poor performance. Company provided training provides workers with narrow skills related to their meticulous job than broad occupational skills. In Kenya, most of the financial institutions engage employees from any field of specialization to work in the banking or Micro Finance industry. To such, thorough trainings should be done. However, very little or none is done.

2.3 Conceptual Framework

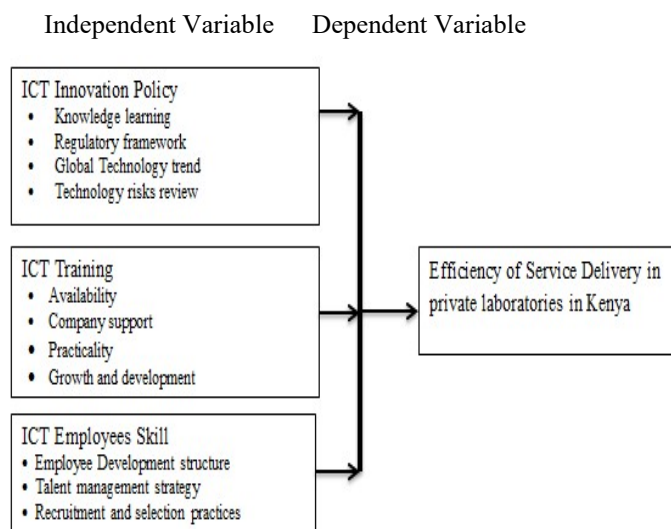


Figure 2.1 Conceptual Framework

III. RESEARCH METHODOLOGY

3.1 Research Design

According to Mugenda and Mugenda, 2003 a research design is the outline, plan or system that is used to create answers to the research problem. This study adopted a descriptive research design.

3.2 Target Population

According to Kothari, 2004 Target population is the totality of elements under study. The target population of the study shall be the 52 staff from Pathologists Lancet Kenya Ltd.

3.3 Sample and Sampling Technique

The sampling technique was purposive sampling technique and the sample size was the entire target population of 52 staff members of Pathologists Lancet Kenya Ltd.

3.4 Data Collection Instruments

The study used questionnaires for data collection. This was helpful as it assured anonymity and confidentiality of the respondents. Also this instrument was selected because data collected could be quantifiable thus making it easy in generalization of findings. (Mugenda & Mugenda 2003)

3.5 Pilot Study

A pilot study was undertaken to pre-test the methods and tools of data collection. The questionnaires were sent to 4 respondents of selected sample respondents. The 4 respondents represented 7% of the entire sample size. The information acquired was evaluated to assess the data tool's reliability and validity.

3.5.1 Validity

According to Mugenda and Mugenda, 2003 validity refers to the accurateness and meaningfulness of the interference made, based on the results obtained. The developed instrument was presented to the supervisor and other research experts to assess the applicability and suitability of the content, clarity and adequacy of construction of the instruments from a research perspective.

3.5.2 Reliability Test

Reliability is the degree to which the instrument yields the same results on replicated trials according to Orodho, 2009. To ensure reliability of the questionnaire the researcher used the Test–retest method where by selected respondents were given the questionnaire twice.

3.6 Data Analysis and Presentation

Data analysis procedure includes the process of packaging, the collection of information putting in order and structuring its main components in a way that the findings can be easily and effectively communicated that is according to Mugenda and, Mugenda, 2003. Quantitative data was analysed using Statistical Package for Social Sciences (SPSS) version 23.

IV. RESEARCH FINDINGS AND DISCUSSION

4.1 Response Rate Analysis

Out of the 48 questionnaires that were issued to respondents after 4 were used for pilot testing, 42 (87.5%) of them were duly filled and returned. However, 3 some of the respondents returned the questionnaires half-filled, while 3 others did not return them completely despite an intensive follow up. According to Mugenda and Mugenda, 2003 a response rate of 65% and above is acceptable for data analysis.

Table 4.1 Response Rate Analysis

Responses	Frequency	Percentage
Response	42	87.5
Non response	6	12.5
Total	48	100

4.2 Gender of Respondents

The percentage of male participating in the study was at 57.4% and that of female at 42.6%. This shows that there are fewer women than men in the organization however with a small difference showing that the organization is on track towards gender balance in the workplace. This could also be

associated with the fact that most jobs in manufacturing sector require the input of men.

Table 4.2 Gender of Respondents

		Frequency	Percent	Cumulative Percent
Valid	Male	24	57.4	57.4
	Female	18	42.6	100.0
	Total	42	100.0	

4.3 Age of Respondents

Figure 4.1 shows the age bracket of respondents as 11% being aged 18-25 years, 22% aged 26-35 years, 32.9% aged 36-45 years and 8.5% being 55 years and above. From this it can be observed that the majority were aged 36-45 years at 32.9% meaning the majority were middle aged staff.

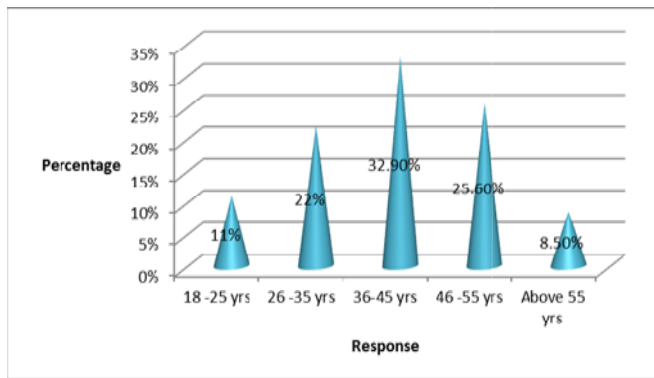


Figure 4.1 Age of Respondents

4.4 Respondents' Position Level

The responses in table 4.3 below show the various positions held by the respondents in the organization. In the top management positions there was 4.3% of the respondents, 27.7% middle level management, 51.1% lower management and 14.9% subordinate staff. These findings show that more than half of respondents were from lower level management followed by ideal level management.

Table 4.3 Position Level

		Frequency	Percent	Cumulative Percent
Valid	Top Management	2	4.3	4.3
	Middle management	13	27.7	31.9
	Lower management	24	51.1	83.0
	Subordinate staff	7	14.9	97.9
	Missing System	1	2.1	100.0
	Total	47	100.0	

4.5 Respondents' Education Level

Respondents were asked to indicate their highest levels of educations. From figure 4.2, shows that 9% had master's degree, 11% certificate, 39% diploma and 41% bachelor's

degree. This shows that the respondents were educated and well informed since the majority at 41% had bachelor's degree followed by diploma at 39%.

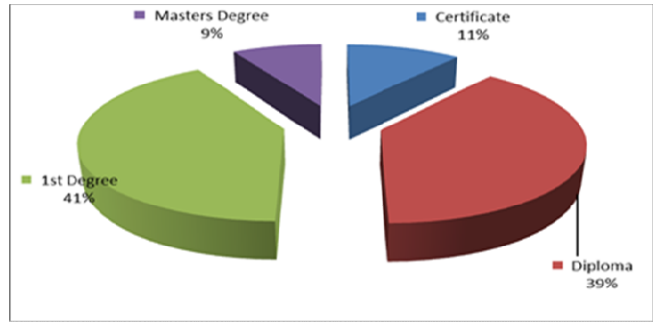


Figure 4.2 Highest Education Level

4.3 Information Communication Technology Innovation Policies and Efficiency of Service Delivery in Private Laboratories in Kenya

4.3.1 Organization priority on achievement of information and knowledge learning

The findings in figure 4.4 relate to first item of the variable whether achievement of information and knowledge learning is one of the main priorities of the organization. Respondents 42.6% agreed followed by 27.7% who strongly agreed while 23.4% and 6.4% were for neutral and those who disagreed respectively. These findings indicate that in most organizations achieving information and knowledge learning is among the priorities. According to Wiklund & Shepherd, 2003 the attainment of an information society and knowledge economy is one of the main priorities of the Government towards the attainment of the development goals and objectives for wealth and employment creation as espoused in Kenya's Vision 2030.

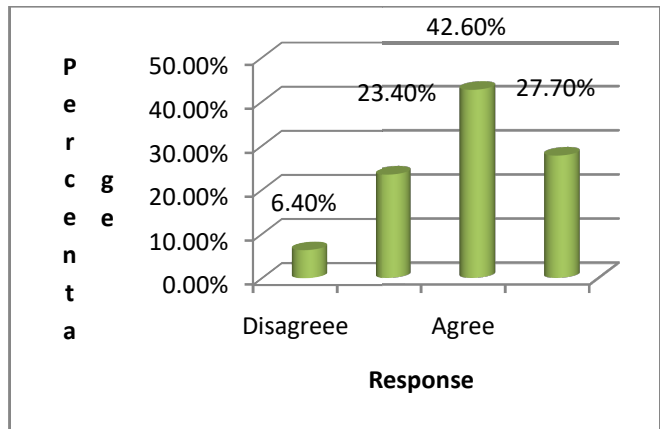


Figure 4.4 Organization priority on achievement of information and knowledge learning

4.3.2 Proactive policy and regulatory framework guides the orderly development in the organization

In order to achieve an orderly organization, proactive policy and regulatory framework is key. When asked to respond to

this on a scale of five 40.4% followed by 29.8% agreed and strongly agreed respectively while 14.9% and 10.6% apply to neutral and strongly disagree as shown in table 4.6. The remaining 4.3% disagreed thus implying that Proactive policy and regulatory framework guides the orderly development of the organization. In maintaining of these findings Tyler, 2001 explains that policy review is meant to provide proactive policy and regulatory framework that is not only in synch with contemporary technological realization and dynamics, but also expected to lead the orderly development of the ICT sector in such a way that guarantee maximum developmental aspects.

Table 4.6 Proactive policy and regulatory framework guides the orderly development in the organization

		Frequency	Percent	Cumulative Percent
Valid	Strongly Disagree	5	10.6	10.6
	Disagree	2	4.3	14.9
	Neutral	7	14.9	29.8
	Agree	19	40.4	70.2
	Strongly Agree	14	29.8	100.0
	Total	47	100.0	

4.3.3 In reviewing policy, the organization takes cognizance of tremendous impact of globalization and rapid changes of technology

The findings in figure 4.5 present findings on whether in reviewing policy, the organization has taken cognizance of the tremendous impact of globalization and rapid changes of technology. Respondents (45%) agreed followed by neutral at 24%. Respondents (21%) strongly agreed while 6% and 4% respectively strongly disagree and agree thus an indication that In reviewing policy, the institution has taken cognizance of the incredible impact of globalization and rapid innovation of supports that These technological innovation have invariably affected the traditional approach to the management of public affairs and service delivery, which gradually raises the need for more proactive policy and regulatory response.

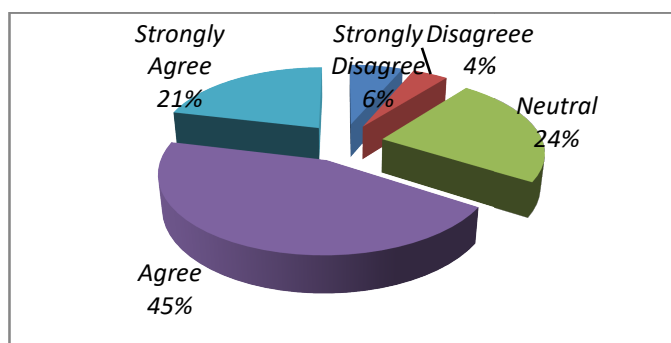


Figure 4.5 Review of organization policy

4.3.4 The organization's ICT policies are developed in the light of technological risks

Table 4.7 shows responses pertaining whether the organization's ICT policies are developed in the light of

technological risks. Respondents 38.3% agreed followed by 10.6% who agree while 14.9% and 4.3% respectively disagree and strongly disagree. The remaining 31.9% neither agreed nor disagreed thus pointing out that the organization's ICT policies of the laboratory are developed in the light of technological risks. In support of these findings Camilla (2002b) point out that technological risks may be difficult to be ensured over the Internet due to its vastness and complexity, rising hacking activities due to easy access to hacking tools, and difficulties in the prevention of hackers attack due to unpredictability associated with Internet technologies because of these organizations should have high security mechanism to protect the hackers.

Table 4.7 The organization's ICT policies are developed in the light of technological risks

		Frequency	Percent	Cumulative Percent
Valid	Strongly Disagree	2	4.3	4.3
	Disagree	7	14.9	19.1
	Neutral	15	31.9	51.1
	Agree	18	38.3	89.4
	Strongly Agree	5	10.6	100.0
	Total	47	100.0	

4.4 Information Communication Technology Trainings and Efficiency of Service Delivery in Private Laboratories in Kenya

4.4.1 Training opportunities to learn and grow are available

Table 4.8 present responses as to whether training opportunities to learn and grow are available 10.6% and 12.8 % respectively agreed and strongly agreed while 44.7% and 2.1% disagreed and strongly disagreed. The other 29.8% neither agreed nor disagreed. These findings point out that training opportunity to learn and grow are available though not adequate. Although the findings were discovered deficiency in training, according to Spender, 1996 user training has an outcome on how quickly the employees can be trained on information communication technology, trainings on efficiency of service delivery and also affects the business objectives of service delivery to be achieved.

Table 4.8 Training opportunities to learn and grow are available

		Frequency	Percent	Cumulative Percent
Valid	Strongly Disagree	1	2.1	2.1
	Disagree	21	44.7	46.8
	Neutral	14	29.8	76.6
	Agree	5	10.6	87.2
	Strongly Agree	6	12.8	100.0
	Total	47	100.0	

4.4.2 Company supports employee training and career progression

Respondents were asked whether the company supports employee training and career progression. From figure 4.6 respondents (34%) followed by 23.4% agreed and strongly agreed respectively while 10.6% and 8.5% disagreed and strongly disagreed respectively. The remaining 23.4% neither agreed nor disagree thus an indication that company supports employee training and career progression. Spender, 1996 also supports by pointing out that training is expensive but the users need enough training to understand the general idea behind the information communication technology and its potential benefits as well as the impact of their own activities on the bigger picture. It may be hard to employ rare qualified system analysts and programmers attributable to limited career advancement prospects after the adoptions are over.

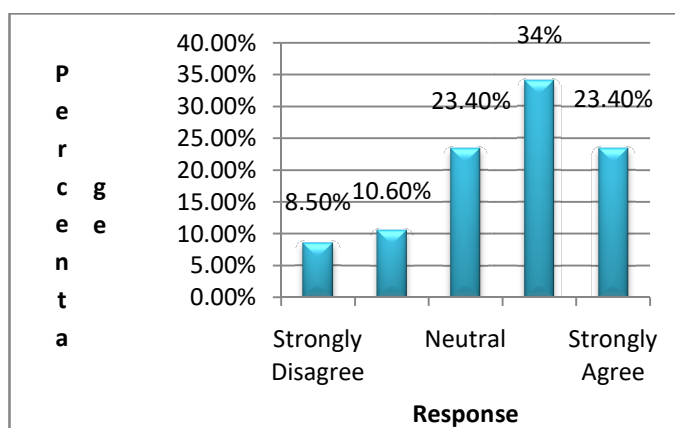


Figure 4.6 Company supports employee training and career progression

4.4.3 Training leads to promotion and career growth

The findings in table 4.9 relate to whether training leads to promotion and career growth. Most of the respondents at 40.4% and 17% respectively agreed and strongly agreed while 12.8% and 17% disagreed and strongly disagreed respectively. The remaining 12.8% were of neutral stand. These findings are an indication that training leads to promotion and career growth. According to Sumner, 2000 Competence can be attained through the process of learning, acquirement of knowledge, and development of skills through individual factors of motivation, knowledge and skills.

Table 4.9 Training leads to promotion and career growth

		Frequency	Percent	Cumulative Percent
Valid	Strongly Disagree	8	17.0	17.0
	Disagree	6	12.8	29.8
	Neutral	6	12.8	42.6
	Agree	19	40.4	83.0
	Strongly Agree	8	17.0	100.0
	Total	47	100.0	

4.4.4 Training programs are practical and do relate to the actual problems at work

When asked whether training programs are practical and do relate to the actual problems at work the majority at 57% and a further 11% agree and strongly agree respectively while 11% and 2% disagree and strongly disagree respectively. The remaining 19% maintained a neutral stand. These findings indicate that the available training programs are practical and do relate to the actual problems at work. According to Spender, 1996 the increasingly sophisticated information communication technology requires more engagements of various specialists to insure information security, which may not be possible without competent employees. For any organization to attain a competitive advantage each staff in every department must perform excellently and thus training can be sold as key influence to improve the performance of individuals.

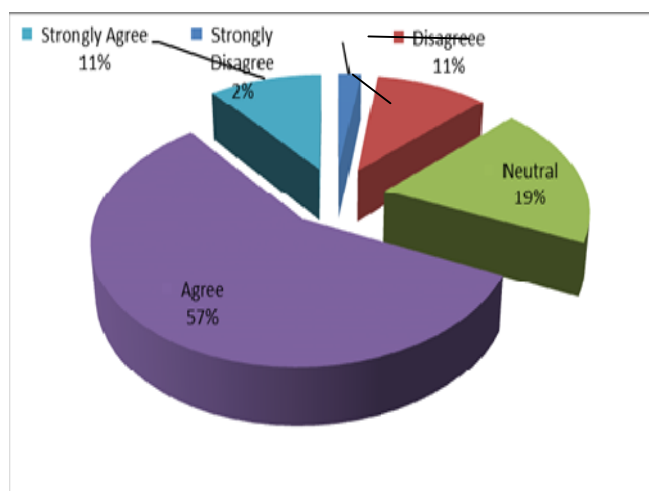


Figure 4.7 Training programs are practical and do relate to the actual problems at work

4.5 Employee's skill and efficiency of service delivery

4.5.1 There are structured systems of developing talent in the organization to meet new growth and change requirements

The responses in figure 4.8 present views on whether there are structured systems of developing talent in the organization to meet new growth and change requirements. Respondents (34%) and a further 10.6% disagreed and strongly disagreed respectively while 25.5% and 12.8% agreed and strongly agreed respectively. The remaining 17% were of a neutral opinion thus an implication that the systems of developing talent are not well structured to meet new growth and change requirements. According to Armstrong, 2003 training involves the use of methodical and planned instruction activities to promote learning. It involves the use of formal processes to impact knowledge and help people to acquire the skills that are necessary for them to perform their jobs satisfactorily.

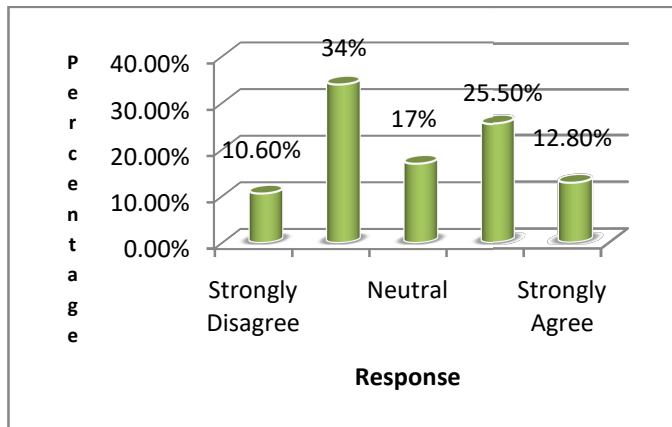


Figure 4.8: There are structured systems of developing talent in the organization

4.5.2 Talent management strategy is embedded in the overall strategic plan

The findings in figure 4.9 relate to whether talent management strategy is embedded in the overall strategic plan. Respondents 57.4% followed by 29.8% agreed and strongly agreed respectively while 6.4% and 4.3% strongly disagreed and disagreed. The 2.1% were for neutral. The findings therefore indicate that the organization’s talent management strategy is embedded in the overall strategic plan.

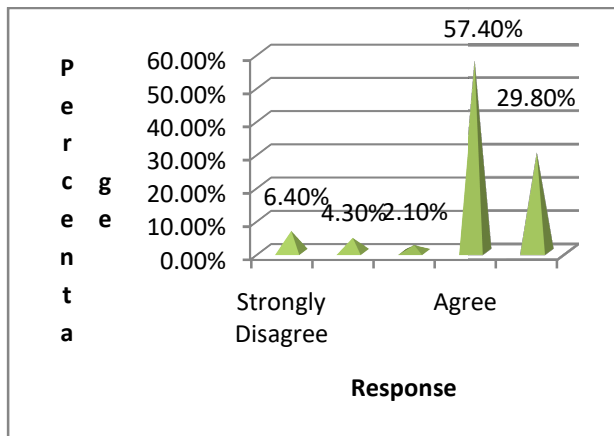


Figure 4.9 Talent management strategy is embedded in the overall strategic plan

4.5.3 Company has recruitment and selection practices that attracts the best talents

From table 4.11 respondents (40.4%) respectively agree and strongly agree while 2.1% disagree. The remaining 17% represents those with a neutral stand. These findings point out that the company has recruitment and selection practices that attracts the best talents. According to Claydon, 2007 in Kenya, the majority of the institutions hire employees from any field of specialization to work and thus hinder the impact, thorough trainings should be done.

Table 4.11 Company has recruitment and selection practices that attracts the best talents

		Frequency	Percent	Cumulative Percent
Valid	Disagree	1	2.1	2.1
	Neutral	8	17.0	19.1
	Agree	19	40.4	59.6
	Strongly Agree	19	40.4	100.0
	Total	47	100.0	

V. SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Summary

5.1.1 Information communication technology innovation policies and efficiency of service delivery in Private laboratories in Kenya

The findings indicate that in most organizations achieving information and knowledge learning is among the priorities. In order to achieve an orderly organization, proactive policy and regulatory framework is key. Respondents pointed out that a proactive policy and regulatory framework guides the orderly development of the organization. In reviewing policy, the organization has taken cognizance of the remarkable impact of globalization and rapid innovation of supports that these technological innovations have invariably affected the traditional approach to the management of public affairs and service delivery, which increasingly raise the need for more proactive policy and regulatory response. The organization’s ICT policies of the laboratory are developed in the light of technological risks.

5.1.2 Information communication technology trainings and efficiency of service delivery in Private laboratories in Kenya

Respondents pointed out that training opportunity to learn and grow are available though not adequate. User training has an effect on how quickly the employees can learn information communication technology trainings on efficiency of service delivery and also affects the business objectives of service delivery to be achieved. The company supports employee training and career. These findings are an indication that training leads to promotion and career growth since the training programs are practical and do relate to the actual problems at work.

5.1.3 Employee’s skill and efficiency of service delivery

The respondents pointed out that the systems of developing talent are not well structured to meet new growth and change requirements. This is because the firm does not have a specialized department which deals with special talents of employees. However the organization’s talent management strategy is embedded in the overall strategic plan.

VI. CONCLUSIONS

A proactive policy and regulatory framework guides the orderly development of the organization. User training has an effect on how quickly the employees can learn information communication technology trainings on efficiency of service delivery and also affects the business objectives of service delivery to be achieved. In terms of skill, findings indicate that the systems of developing talent are not well structured to meet new growth and change requirements.

VII. RECOMMENDATIONS

7.1 Policy

The organization should ensure proactive policy and regulatory framework that is not only in synch policy with contemporary technological realities and dynamics, but also expected to guide the orderly development of the ICT in the organization in such a way as to ensure maximum organizational development impact.

7.2 Information communication technology trainings

Training is expensive but the users need enough training to understand the general idea behind the information communication technology and its potential benefits as well as the impact of their own activities on the bigger picture. It may be hard to employ rare qualified system analysts and programmers attributable to limited career advancement prospects after the adoptions are over. Increasingly sophisticated information communication technology requires engagement of various specialists to insure information security.

7.3 Employee's skill

Employee training should be done to upgrade the staff knowledge and skills constantly to enable him/her to remain reproductive and competitive in the organization. For any organization to achieve a competitive advantage and staff in each department must perform excellently.

7.4 Suggestion for Further Studies

This study was about effect of technology on efficiency of service delivery in Private laboratories in Kenya. The researcher suggests that the study be extended to public sector organizations to establish their constraints in adoption of modern technology and how it affects their performance.

REFERENCES

- [1] Armstrong, M. (2003). Human Resource Management Practice, 9th edition, Kagan London.
- [2] Carroll, J. M. (2007). HUMAN-COMPUTER INTERACTION. Psychology as a Science of Design, 61-68.
- [3] Changbyung, Y., Keeun, L., Byungun, Y., & Omar, T. (2010). Typology and Success Factors of Collaboration for Sustainable Growth in the IT Service Industry. Sustainability, 9-11.
- [4] Changsu, K., & Galliers, R. D. (2014). Towards a Diffusion Model for Internet Systems.
- [5] Clarke, P. (2012). The situational factors that affect the technology development process: Towards a comprehensive reference framework. Information and Software Technology, 54.
- [6] Claydon, J. B. T. (2007). Human Resource Management, 5 th edition, FT Prentice Hall, London.
- [7] Cruz, L., Barata, E., & Ferreira, J.-P. (2012). Performance in urban publi transport systems: A critical analysis of the Portuguese case. International Journal of Productivity and Performance, 730-751.
- [8] Fichman, R. G. (2011). The Diffusion and Assimilation of Information Technology Innovations. Framing the Domains of IT management: Projecting the Future through the past.
- [9] Ferguson, Sherry Devereaux; Lennox-Terrion, Jenefer; Ahmed, Rukhsana; Jaya, Peruvemba (2014). Communication in Everyday Life: Personal and professional contexts. Canada: Oxford University Press.
- [10] Forrester, D. (2008). Keys to Successful E-Commerce Platform Projects. New York.
- [11] Ghobakhloo, M., & Tang, S. H. (2013). The role of owner/manager in adoption of electronic commerce in small businesses: The case of developing countries. Journal of Small Business and Enterprise Development, 754-787.
- [12] Grandon, E. E., & Pearson, M. J. (2004). Information and Management. Electronic Commere Adoption: An empirical study of small and medium US businesses, 197-216.
- [13] Harris, W., & Chacko, P. (2011). Informatio Technology and Small, Medium and Micro-Entreprices in Asia Pacific - Size does not matter. Information Technology for Development.
- [14] Hewett, B., Card, C., & Gasen, M. P. (2012). ACM SIGCHI Curricula for Human-Computer Interaction. ACM SIGCHI.
- [15] Jones, P. (2011). ICT Impact within the SME Sector. Coventry: Emerald Group Publishing Limited.
- [16] Joseph Katie (2013), "Value of information systems in Organizations-Case Study", GRIN Verlag
- [17] Kariuki, A. G. (2012). ICT Attributes as Determinants of E-commerce Adoption by Formal Small Enterprises in Urban Kenya. International Journal of Business and Social Science, 65-74.
- [18] Kenya Economic Survey. (2011). The Economic Survey 2011. Nairobi.
- [19] Kenya ICT Authority. (2014). THE KENYA NATIONAL IT MASTERPLAN. Nairobi.
- [20] Kimani, P. N., Masinde, T., & Muyondo, K. (2012). The Role of the Matatu industry in Kenya: Economic Costs, Benefits and Policy Concerns. Kenya Institute of Policy Analysis and Research.
- [21] Lavrakas, P. J. (2008). Cross Sectional Survey Design. Research methods.
- [22] Margi, L., Philip, P., & Yetton, P. (2002). Small Business Economics. The Dynamics of SME Information Systems, 341-354.
- [23] McMillan, J. H., & Schumacher, S. (1993). Research in Education. HarperCollins College Publishers.
- [24] Mokaya, D. E., & Njoroge, A. G. (2012). ICT Attributes as Determinants of E-commerce Adoption by Formal Small Enterprises in Urban Kenya. International Journal of Business and Social Science, 65-74.
- [25] Mpofu, K., Walkins-Mathys, P., & Milne, S. (2012). A research on ICT Adoption and Development of ICT adoption among transport SMEs in South Africa. Cape Town.
- [26] Mugenda, D. B., & Mugenda, A. G. (2003). Research Methods. Quantative and Qualitative Approaches.
- [27] Odhong', A. E . , Were A . & Omolo, J . (2014). Effect of human capital management drivers on organizational performance in Kenya. A case of investment and mortgages bank ltd. European Journal of Business Management, 2 (1), 341-356
- [28] Orodho, John. (2009). ELEMENTS OF EDUCATION AND SOCIAL SCIENCE RESEARC.
- [29] Oyetunde, O, & Oladejo, M. (2012). Communication Approach and Firms Performance: Appraisal of Nigerian Bottling Company(Coca cola), Ilorin-Nigeria. Research on Humanities and Social Sciences, 2
- [30] Perego, A., Perotti, S., & Mangiaracina, R. (2011). ICT for logistics and freight transportation: A literature reviewmand research agenda. International Journal of Physical Distribution and Logistics, 457-483.
- [31] Rogers, E. M. (1995). Diffusion Of Innovations. New York: Simon and Schuster.

- [32] Spender, J.-C. (1996), "Making knowledge the basis of a dynamic theory of the firm", *Strategic Management Journal*, Vol. 17, special Winter issue, pp. 45-62
- [33] UNESCO. (2009). *Africa Review Report on Transport*. Addis Ababa.
- [34] Wang, Yan (2011) *The Role of Communication in Enhancing Employees' Organizational Commitment: Exploring the Relationship between Social-emotional-oriented Communication, Work-oriented Communication and Organizational Commitment, China*.
- [35] Wanjau, D., Macharia, J., & Ayodo, K. (2012). *The influence of leadership style, resources, infrastructure, and positioning on the adoption of electronic commerce among tour and travel firms in Nairobi*. *International Journal of Business and Social Science*, 65-74.
- [36] Welman, J. C., Kruger, S. J., & Mitchell, B. (2008). *Research Methodology* (3 Ed.). Cape Town: Oxford University Press.
- [37] Wole, B., & Bosola, W. (2011). *The factors influencing ICT adoption and use by transport SMEs in Nigeria*. *International Journal of Business and Social Science*, 65-74.
- [38] Wresch, W., & Fraser, S. (2013). *Persistent Barriers to E-Commerce in Developing Countries*. Wisconsin Oshkosh.
- [39] WTO. (2011). *E-commerce*. Geneva: UN.