

An investigation of ICT diffusion and utilization among SMTE's in Kenya: A case study of Bamburi – Shanzu, Mombasa

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The study was conducted to investigate diffusion of ICT and utilization among Small Medium Tourism Enterprises (SMTE's) in Kenya. It was undertaken at Bamburi-Shanzu, Mombasa, Kenya which is located 11 Kms North of old Mombasa town from Bamburi Cement Company up to Mtwapa creek which is currently used as a dock area for private residence. It's situated along the Mombasa-Malindi high way, North Coast tourist zone. Some of the small-scale enterprises in tourism-related sectors studied include; Accommodation sector, Tour Operations and Travel agencies, Transport sector, Restaurant sector, Souvenir Business, Rental companies, Beauty Service Sector and Entertainment Sector

The research was a case study with a sample size consisting of 60 small scale and medium scale tourism enterprise respondents being selected from Bamburi-Shanzu region. The 60 respondents were distributed as follows; 15 respondents from the travel and tour operators, 10 from the accommodation sector, 10 from the souvenir businesses, 7 from the entertainment providers, 7 from the restaurants sector, 6 from the rental companies, 3 from the beauty service providers and 2 from the tourism/research bodies.

A stratified random sampling technique was used to select the tourism stakeholders and subdivide them into sub-groups of tour agents and operators, hoteliers, entertainment providers, souvenirs sellers and KTB officials. Two sources of data were used in the study, namely primary and secondary. Primary data was collected using a questionnaire, oral interview and field observations. Secondary data was collected from literature. Data was analyzed using both SPSS and excel spread sheets. Descriptive statistics with cross-tabulation methods and Chi-square testing was used to investigate the relationship between the set variables and testing the research objectives. Diffusion and utilization of ICT for the STE's was found to be directly proportional to Level of Education and type of ownership. It was revealed that 49% of the respondents had studied to graduate level of education, 35% had vocational training while 16% were secondary school leavers.

Chi-square test indicated that the use of computers in the STE's was directly proportional to the level of education ($\chi^2=12.585$; $df=4$, $p=0.013$). About 49% of businesses were owned solely by Kenyan citizens, 32% by foreigners while 19% were jointly owned as indicated by Fig. V. Chi-square test indicated that the use of computers in the STE's was depended on the kind of ownership of the enterprise ($\chi^2=11.702$; $df=4$, $p=0.02$).

Other parameters studied included, Types of ICT's available in the different enterprises, Factors affecting the level of diffusion and utilization of ICT for the STE's, Labour force, Annual returns, Annual total income spent on ICT and Financial difficulties inhibiting ICT usage. Other variables included, advantage of using ICT the tourism sector, Role of supervisor in the use of ICT, How the basic ICT skills were acquired and Remedial measures to enhance the use of ICT in the STE's

Key words: Small and Medium Tourism Enterprises (SMTE's), Information and Communication Technology (ICT), Tourism.

Introduction

The Small and Medium Enterprises (SME's), also known as the informal sector has become an integral player in the African economy. In Kenya, for instance, this sector accounted for 20% of the GDP in 1999 (CBS *et al.*, 1999) and 64% of the urban employment by 2002 (Karekezi, and Majoro, 2002).

The term "SME's" is usually adopted to contrast this sector with large business. As a consequence of the co-existence in Kenya of formal and informal activities, the SME sector is highly diverse, with structures, problems, growth potential and access to support differing widely between segments. Upgrading technology in SME's is vital for the development of the sector and the economy at large.

Whereas Kenya expects SME's to play a central role in employment, industrial transformation and poverty reduction, the competitiveness and growth prospects of SME's fall below the levels required to meet challenges posed by these expectations. Further challenges posed by globalization and liberalization suggest that SME's must be internally and internationally competitive to survive and grow (UNIDO, 2002)

The ability to create, distribute and exploit knowledge has become a major source of competitive advantage. In a market-oriented environment, one way of achieving and maintaining competitiveness is by creating knowledge faster (Albu, 1997; Maskell and Malmberg, 1999). In turn, this depends on cost advantages, innovation and the continuous improvement of products and services, all coming through the capability to generate and manage technical change.

All organizations of different shapes and sizes need to adapt to survive. Central to this is the potential of applying technology as way of adapting and surviving (UNIDO, 2004).

By extension, it is not possible for SME's to grow and become competitive without technological change and accumulation of knowledge (Buainain, 2002). Just like training, finance and business premises, technology is often seen as an important factor influencing the productivity and competitiveness of SME's, but not always accessible to them. Without access to technology, SME's lack the capability to produce efficiently, meet deadlines, upgrade product quality and evolve new product designs.

It is only SME's with the capacity to initiate improvements in products, processes and production organizations that take advantage of the emerging opportunities. "It is a misconception that, acquisition of new technology is a panacea for all the problems of SME's and that it can be done by all and sundry with financial power. Acquiring new technology and applying it to secure competitive advantage and sustained productivity would require basic capacity to assimilate the technology, to manage and control results with it.

In Kenya, much of the existing technology available to SME's is either insufficiently productive to create secure livelihoods with the available resources, or cannot produce goods of a quality or type that enables them to break into new, expanding or more demanding markets. This is because choosing a technology requires specific skills and knowledge that SME's just do not have.

The Sessional Papers No. 2 of 1992 and 2005 (Government of Kenya, 1992, 2005) clearly summarizes the problem of technology in Kenya. These papers state that SME's have restricted levels of technology, inappropriate technology and inadequate institutional capacity to support adaptation and absorption of modern technological skills.

Such enterprises suffer from lack of information on existing technologies and are exposed to a weak environment that hampers coordination and transfer of technology. In some instances, small enterprises simply have no way of gauging the appropriateness of technologies. In addition, there is a wide gap between the suppliers of technology and the end-users of technology products (Government of Kenya, 2003). Effective transfer of technology is not taking place in the country because decisions relating to most aspects rest with Multinational Corporations (MNCs) (Government of Kenya, 1982).

In terms of technology transfer, SME policy makers must be very careful with their recommendations. SME policy should stress that all technology adopted by SME's, at whatever stage of their growth, should conform to their needs, resources and capabilities.

The most important distinction found among SME's is between survivalist activities, craft and micro enterprises, small enterprises and medium-sized enterprises:

Gibson (1998) has also observed that 'the adoption of a novel technology requires new labour skills that are usually not found in Less Developed Countries (LDC's)'. This tends to confirm common perceptions that the developing countries encounter problems with ICT because of their local environment/traditional culture - affordability, improper/insufficient training and improper/insufficient infrastructure and educational curriculum. An inadequate telecommunications infrastructure will hamper the strategic implementation of e-business as it is based on ICT.

The study was undertaken to investigation ICT diffusion and utilization among SMTEs in Kenya and the need to address the knowledge gap within the broader discourse of adoption of ICT's.

Materials and Methods

Study location

The study was undertaken at Bamburi-Shanzu, Mombasa, Kenya. Its located 11kms North of Mombasa Old town from Bamburi Cement Company up to Mtwapa creek which is currently used as a dock area for private residence, it's situated on the Mombasa-Malindi high way, North Coast tourist zone, and this is the Bamburi-Shanzu area.

Types of small and medium tourism enterprises

Some of the small-scale enterprises in tourism-related sectors include, Accommodation sector, Tour Operations and Travel agencies, Transport sector, Restaurant sector, Souvenir Business, Rental companies, Beauty Service Sector and Entertainment Sector

Research design

The research was a case study.

Sample size

The sample size consisted of 60 small and medium scale tourism enterprise respondents selected from Bamburi-Shanzu region. The 60 respondents were distributed as follows; 15 respondents from the travel and tour operators, 10 from the accommodation sector, 10 from the souvenir businesses, 7 from the entertainment providers, 7 from the restaurants sector, 6 from the rental companies, 3 from the beauty service providers and 2 from the tourism/research bodies.

Sample Technique

A stratified random sampling technique was used to select the tourism stakeholders and subdivide them into sub-groups of tour agents and operators, hoteliers, entertainment providers, souvenirs sellers and KTB officials. Two sources of data were used in the study, namely primary and secondary. Primary data was collected using a questionnaire, oral interview and field observations. Secondary data was collected from literature.

Data analysis

Data was analyzed using both SPSS and excel spread sheets. Descriptive statistics with crosstabulation methods and Chi-square testing was used to investigate the relationship between the set variables and testing the research objectives.

Data analysis

Out of sixty- (60) questionnaires sent out, 37 were returned showing a 62% response. The returned questionnaires were then analyzed organized and tabulated in graphs and pie-charts. Data analysis also incorporated the views expressed by the respondents as well as personal observations.

Results and discussion

Characteristic of the Service Providers

Majorities of the respondents (76%) were male and (24%) were female as shown in Fig. 1.

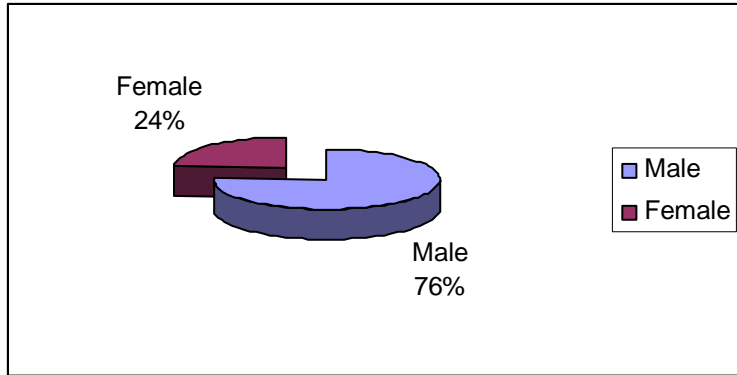


Fig I: Gender of the respondents

Almost 95% were accessible to mobile phones (Fig. II). Over half (68%) of the respondents had computers. Only 27% of the respondents had faxes in their enterprises while 19% of the respondents agreed they had other types of ICT's.

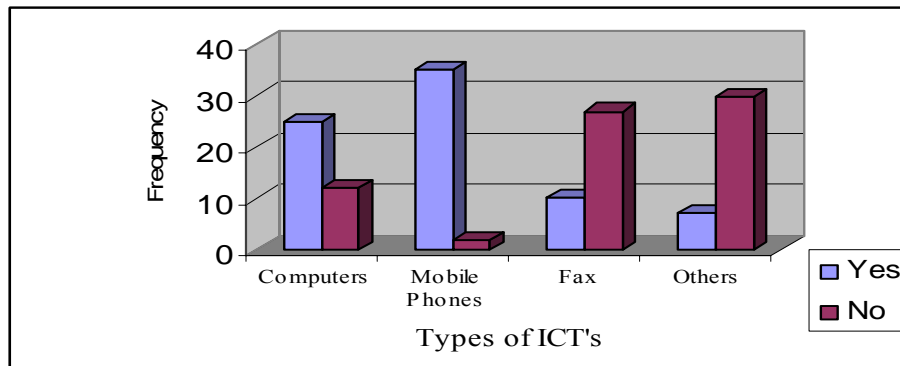


Fig II: Different types of ICT's

Factors affecting the level of diffusion and utilization of ICT for the STE's

About 76% of the respondents were male while 24% were female. Chi-square test indicated that the use of computers in the STE's is depended on the gender of the individual ($\chi^2=6.801$; $df=2$, $p=0.033$).

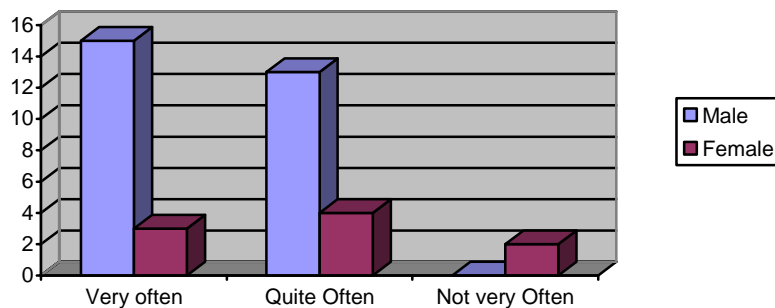


Figure III: Gender * ICT Usage

Level of Education

It was revealed that 49% of the respondents had studied to graduate level of education, 35% had vocational training while 16% were secondary school leavers. Chi-square test indicated that the use of computers in the STE's was directly proportional to the level of education ($\chi^2 = 12.585$; $df=4$, $p=0.013$). Results of the study are summarized in Fig. IV.

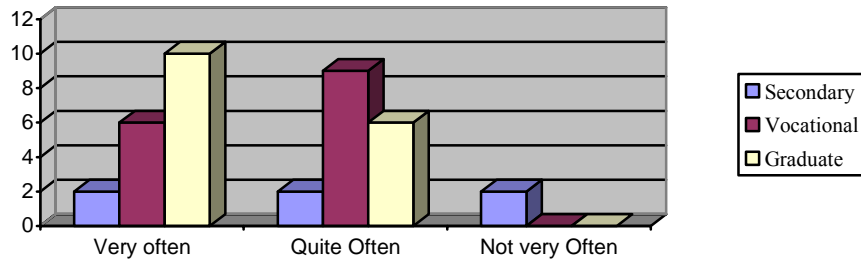


Fig IV: The extent to which education levels affect ICT usage

Ownership of enterprises

About 49% of businesses were owned solely by Kenyan citizens, 32% by foreigners while 19% were jointly owned as indicated by Fig. V. Chi-square test indicated that the use of computers in the STE's was depended on the kind of ownership of the enterprise ($\chi^2=11.702$; $df=4$, $p=0.02$).

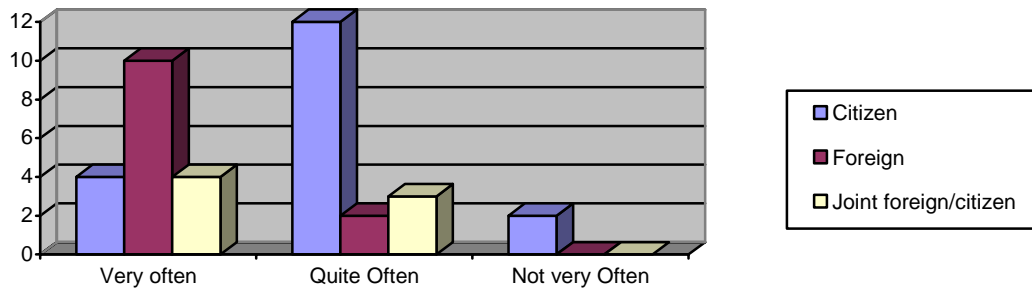


Fig V: Ownership of Enterprise * ICT Usage Crosstabulation

Labour force

A total of 62.2% of respondents reported that the number of employees in their enterprises had shrunk, 27% had not changed while 10.8% had expanded as indicated by Fig. VI ($\chi^2=11.599$, $df=4$, $p=0.021$)

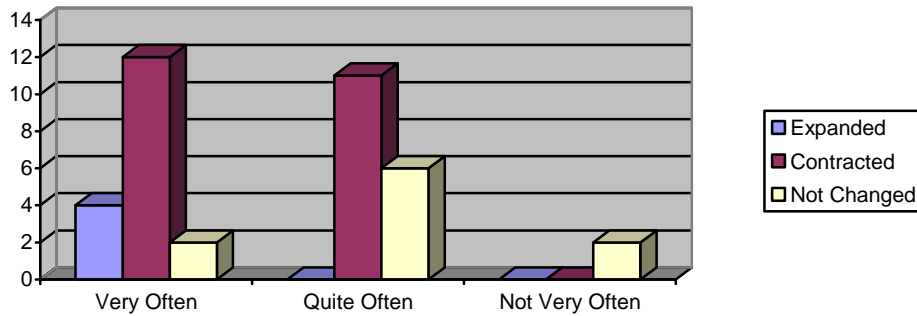


Fig VII: Labour Force * ICT Usage Crosstabulation

Annual returns

About 62.2% of businessmen indicated that they had profit margin of between Kenya shillings, Kshs 21,000-50,000, Kshs 21.6% earned below Kshs 20,000 while 16.2% experienced a net income of more than Kshs 50,000 ($\chi^2=12.109$; $df=4$, $p=0.017$).

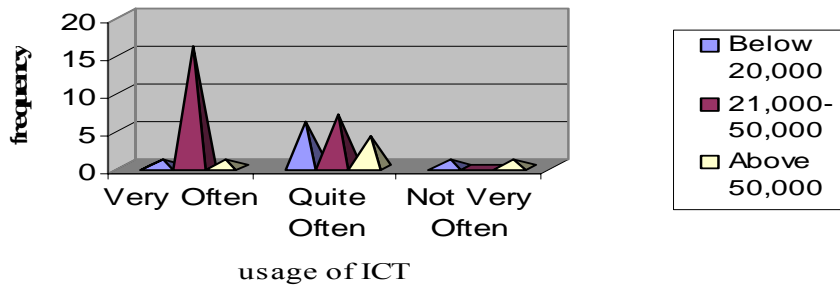


Fig VIII: Annual returns * ICT Usage Crosstabulation

Advantage of using ICT the tourism sector

About 89% of the respondents (Fig. IX) agreed that ICT helped in communication within the company, 81% of the respondents suggested that ICT aided a lot in accessing information, 78% agreed that ICT was vital during processing and storage of information

while 65% of the respondents agreed that ICT helped in decision making process..

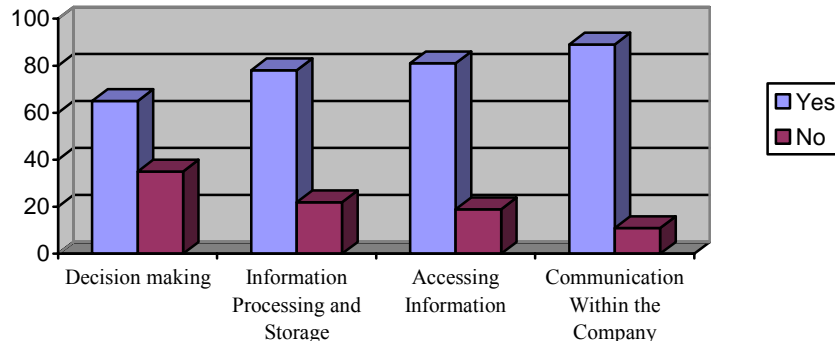


Fig IX: Different factors that offer competitive advantage in the tourism arena

Role of supervisor in the use of ICT

About 51% of the respondents disagreed that the supervisors encourage the use of ICT, 41% agreed the management usually encouraged the use of ICT in the SME's. Chi-square test indicated that the use of computers in the STE's was depended on the lack of managerial skills and training ($\chi^2=6.416$; $df=2$, $p=0.040$) as indicated in Fig. X.

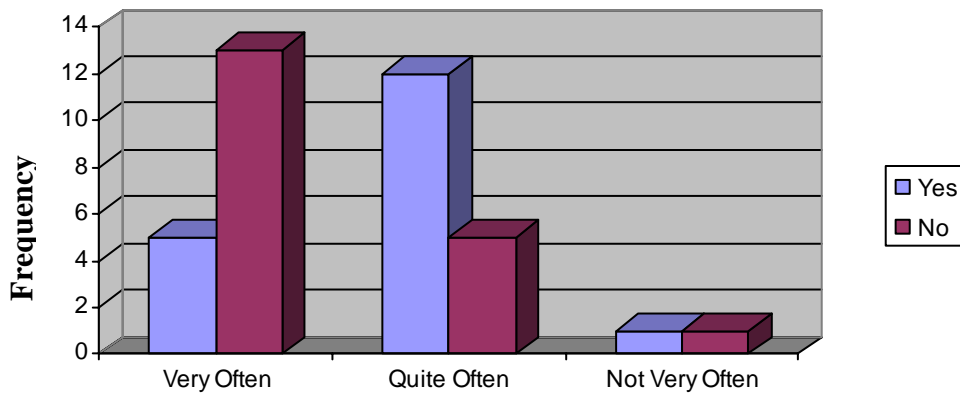


Fig X: Role of supervisor in the use of ICT

How the basic ICT skills were acquired

Of the employees interviewed, 38% obtained their ICT skills in youth polytechnics, 35% from technical institutes, 19% through apprentice and 8% from other sources as indicated in Fig. X. Chi-square test indicated that the use of computers in the STE's was depended on the lack of managerial skills and training ($\chi^2=12.951$; $df=6$, $p=0.044$).

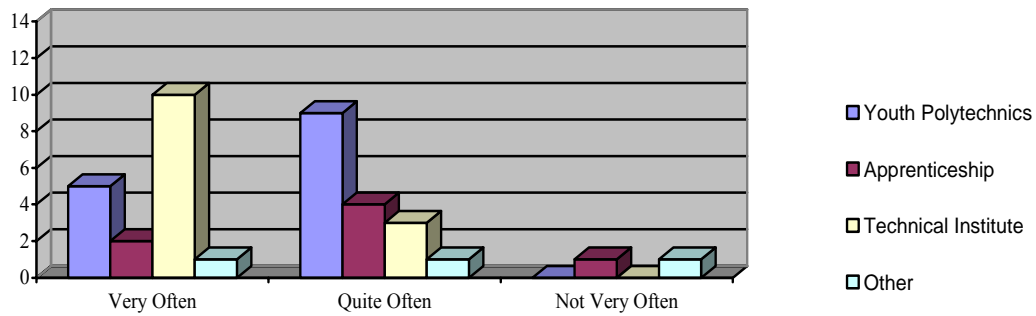


Fig X: How the basic ICT skills were acquired

Annual total income spent on ICT

Majority of the respondents (46%) were those who spent between (21-30%), 32% comprised of those who spent between (1-10%) while 22% were those who had spent (11-20%) ($\chi^2=11.379$; $df=4$, $p=0.023$). Fig. XI summarizes the results.

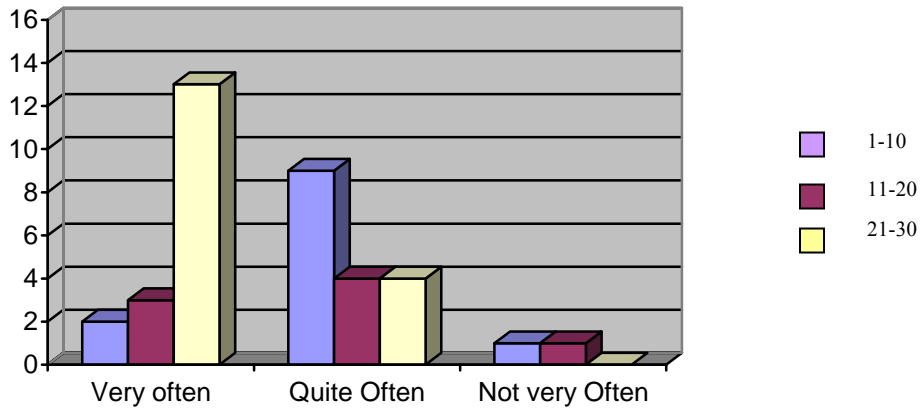


Fig XI: Annual Total Income Spent On ICT * ICT Usage Crosstabulation

Financial difficulties inhibiting ICT usage

Majority of the respondents (70.3%) agreed that they often experienced financial problems when it came to using ICT's while 29.7% of the respondents said that they did not experience financial difficulties. Results are summarized in Fig. XIII.

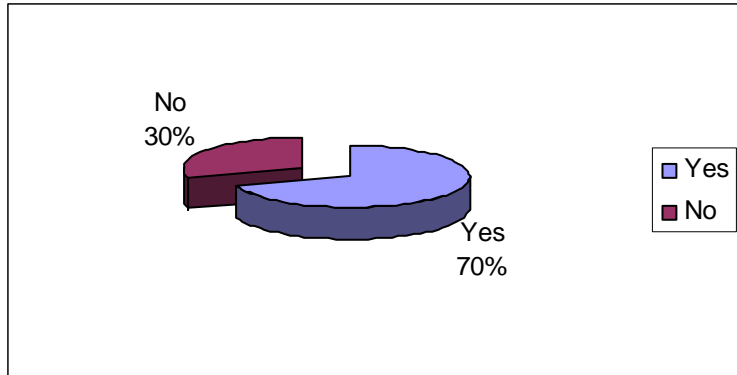


Fig XIII: Financial difficulties inhibiting ICT usage

Remedial measures to enhance the use of ICT in the STE's

About 92% agreed that financial aid would help promote the use of ICT to the STE's. A further 86% of the respondents perceived training institutions should aid in the training of manpower on ICT. About 78% of the respondents agreed that the government should promote use of ICT's. Another 76% of the respondents agreed that research and promotion would promote the use of ICT. About 73% of the respondents agreed that business enterprises could enhance the use of ICT while 68% of the respondents perceived that innovation and technology markets would enhance the use of ICT in the STE's.

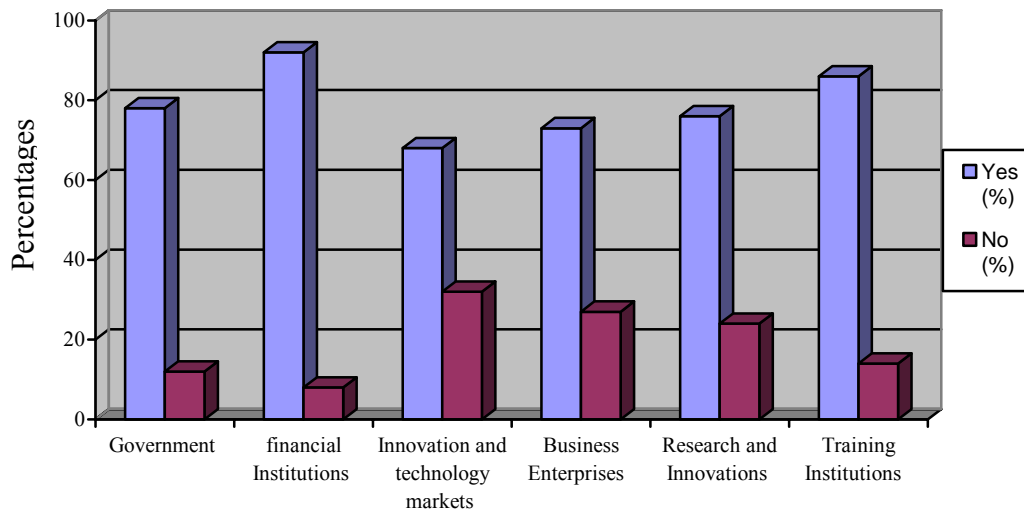


Fig XIV: Shows possible institutions that can enhance the usage of ICT in the STE's.

Acknowledgement

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