

## AN ASSESSMENT OF SUCCESSFUL IMPLEMENTATION OF DIGITAL VILLAGES IN KENYA

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### **Abstract**

Information Communication Technology (ICT) is quickly changing the conventional way of running business in Kenya. It is upon this foundation that the Kenyan government under the ICT board realized a need to set up digital villages otherwise known as Pasha Centers (Swahili word meaning to inform). The glaring disparities between urban and rural areas in the distribution of ICT facilities necessitated the government of Kenya to set up digital villages whose key functions were to provide a suite of services to the public via computers connected to the internet. This paper therefore aimed to assess the successful implementation of digital villages in a case of Pasha Centers. Mail based questionnaires were used to collect data from the 50 pasha managers in different counties. Key informant interviews were administered to ICT board members in order to obtain their views on why digital villages were facing teething challenges yet it is a government project, secondary data was also used to obtain the needed information. The findings of this study indicated that that successful implementation is faced with immense challenges such as loan repayment, delayed support from ICT-A, lack of inadequate working capital and stiff competition, government had not given its full support in terms of marketing and popularizing the digital villages. The findings further revealed that many people do not differentiate between a pasha center and any other cyber, Pasha Managers on the other hand have made intense efforts to make implementation of this project a success despite the challenges faced. Thus, the discussion part of this paper looks at how digital villages should be branded and given full government support in order to meet its stated objectives and move Kenya into an ICT hub. The study concludes by recommending that there should be two models used for this project, the entrepreneur and business model.

**Key words:** ICT, IT, Digital villages, Pasha Managers, internet, government, implementation model

### **1.0 Introduction**

Most developed nations have experienced a revolution in Information Technology (IT) that can be equated to the industrial revolution. (Sola, 1990 ).Nations discovered the pivotal role of ICT thus it forms part and parcel of their everyday interaction, ICT has also been used for economic social and political empowerment among developed nations(The Economist,2009) Developed countries like Japan has further taken use of ICT on a much higher level, unlike in Kenya Where ICT especially in rural areas is articulated by use of internet, scanner and a printer, According to Sakamoto, (2009) japan perceives ICT as a a monitoring system for senior citizens, nursing-care system, a welfare support system and telemedicine system to solve problems such as aging population and declining birth rate. With advanced ICT the world has become a global village where transactions are cut across the globe. This however can be said to be working well for nations that are advanced in technology, other nations in developing world and some parts of Asia are trying to follow suite but they are faced with challenges of infrastructure, they have thus come up with innovations that can allow for development of ICT thus creation of the digital Villages.

The government of India established community centers to ensure sustainable development through creation of information rich societies, supporting livelihoods and bridging the urban rural divide. With realization that no country can hope to develop global competitiveness without IT developed IT applications for rural development and agriculture leading to the start of digital villages known as community centers in India (Kothari *et al.*, 2002).

In South Africa, Digital villages were set up after the need arose to bridge information technology gap among communities and at the same time serve as a tool for skill development ,job creation, information access, improved communication and collaboration.(Gamos and Big, 2003).Soweto Digital villages an initiative by the public, private and the communities were set up, these centers provides the surrounding communities, schools, students and local entrepreneurs the opportunity to develop their computer skills, access to information and communication technology and take advantage of the power of the internet(Gamos and Big, 2003).

Kenya has not been left behind in trying to come up with IT strategies, for this matter it established digital villages known as Pasha Centers, however unlike other countries, it adopted an economic model where ICT was to bridge the digital divide and at the same time used by the digital village managers as a source of livelihood, the loans that were availed to these managers were to be paid hence they had to come up with innovative ideas to ensure sustainability of the digital villages while at the same time improve the livelihoods of the digital village managers.

ICT facilities in Kenya have been concentrated in urban areas leaving rural areas to lag behind, (Drury, 2011). Digital Villages were started in Kenya in 2009 after the Government rolled out the ICT Board now known as ICT A, The Kenya ICT -A was established as a state Corporation, and the Government aimed to achieve information based society that would lead to realization of National development goals and objectives for creation of wealth and creating employment. These centers are run by entrepreneurs who have undergone training; a development loan from the revolving fund was awarded to these entrepreneurs who set up these Pasha Centers. Pasha is a Swahili word connoting to inform (Drury, 2011) Pasha Centers were meant to provide Kenyans in rural areas with access to information across the country hence bridging the digital divide leading to development. Through public and private partnerships, (PPP) these villages were meant to provide services to the public through use of any ICT techniques especially computers connected to the internet. In its initiation, the digital villages were meant to provide government services, and Community based services as well as other commercial services.

The revolving fund was released to successful entrepreneurs who had vision and strategies that would enable the Pasha centers to grow. The first pasha center was then launched in 2009 in Kagundo, there were other six centers that followed across peri urban and rural communities across the country, these were in Malindi, South Imenti, Garrisa, Siaya and Mukuru Kiaba. These six centers acted as a pilot programme that would provide future insights for other pasha centers. These launches were made possible with the Kenya ICT Board working closely with cisco systems (Drury, 2011).

### **1.1 Statement of the Problem**

The Digital village's initiatives in Kenya commenced with a lot of optimism however four years down the line it cannot be recorded that they have been successful with some pasha managers abandoning the project. These centers were meant to provide ICT services that would help bridge the technological divide in the nation. With its implementation in 2009, each constituency in Kenya was meant to have a digital village that would provide digital services, mainly government services, allowing people to reduce the distance they needed to travel in search of government services. These services would spur innovation and provide employment in rural areas, hopefully allowing more people to move from Nairobi, the capital, to the rural areas, decongesting the capital. (Drury, 2011). Four years later, only 63 centers have been opened with others failing to pick and others closed down as they could not break even. This study thus sought to assess the success of digital villages with a keen interest on the challenges faced during implementation.

### **1.2 Purpose of the Study**

The Purpose of the Study was to carry out an assessment of successful implementation of digital villages in Kenya. Specifically the study sought to assess the appropriateness of implementation strategy used towards successful implementation of digital, to determine the role played by the Digital Village Managers in ensuring successful implementation of the digital villages and to determine the challenges faced by pasha managers in successful implementation of digital villages in Kenya.

## **2.0 Materials and Methodology**

The study was descriptive in nature. There are 50 Pasha managers in total, thus a census study was used as the population element was considered small. Questionnaires and Key informant interviews were used as data collection instrument. Questionnaires were administered to the pasha managers while an interview schedule was used to collect information from Key informants and for this case the Programme officer and Acting CEO ICT-A were part of the informants.

Analysis of data was both qualitative and quantitative, for qualitative data a quick impressionist summary was performed while quantitative data employed inferential analysis in which correlation and regression analysis were undertaken to come up with the findings of the study.

### **3.0 Results and Discussions**

Twenty (28) questionnaires were returned out of fifty (50), this represented a response rate of 56% which was considered adequate enough. On The background information, it was established that 53.6% had attained a college education while 46.4% had a university education; this implied that the digital village managers are well educated and could articulate the implementation of this project. It further shows that they are able to implement the projects due to their level of education. Further the study established that the Pasha Managers had formal training on ICT apart from the one being offered by the ICT-A,(92.9%) affirmed that they had been trained on ICT prior to becoming Pasha managers. Only 2% had not been trained. 60.7% had got their money during the first disbursement while 39.3% were during the second disbursement. From the findings the first disbursement had the highest percentage of Pasha Managers who benefited from the revolving fund. As per the implementation, the conditionality's for access to the money were set during the second disbursement, this included not giving the Pasha managers money directly instead they were to come up with quotations from suppliers and this would be paid directly to the bank, this somehow inconvenienced the Pasha managers as they had to wait for long durations before the pasha centers started running. On the Pasha model that the managers were running, 25% had the basic model, 50% standard model while 25% had the advanced model. During startup of these pasha centers the basic model was to offer basic office services, Internet surfing and emailing. The standard pashas were to offer all of basic model, IT basic skills courses, IT face to face support and access to government services. The advanced model on the other hand was to offer: All of standard model, remote technical support, wireless access to satellite "places", educational and vocational course training room and health advice room. It is imperative to note that with all these models, Pasha Centers were to offer a bouquet of services, there has been an overlap since some centers have expanded and started offering services that would transform them from one model to the other.

#### **3.1 Appropriateness of Implementation Strategy Used Towards Successful Implementation of Digital**

On a five point likert scale, with a mean of 3.71 which is to a large extent, it was established that the entrepreneurial model was rolled out as planned; this shows all the necessary requirements were followed while coming up the entrepreneurial digital village model. Further the entrepreneur model adopted by ICT-A was in line with Policy framework of the digital villages (Mean 2.36). With a mean of 2.00 the respondents were aware of the policy framework governing digital villages and lastly with also a mean of 2.00 the entrepreneur model used were found to be appropriate for business growth and reduction of digital divide. The standard deviations were very close to the means implying there were no great variations. The R<sup>2</sup> was 25.7% showing a small variation. There was shrinkage in the adjusted R 0.257-0.128 thus 0.129 less variation from the outcome .This was illustrated in table1. An analysis of variance was further undertaken to determine the significance in the mean difference between the success in implementation of digital villages and the appropriateness of the strategy adopted .From table 2  $p > 0.05$  thus there was no significant difference between successful implementation and the strategy adapted.

#### **3.2 The role played by the Digital Village Managers in Ensuring Successful Implementation of the Digital Villages**

To determine whether digital village managers play a role in ensuring successful implementation of digital villages, it was ascertained that 100% put extra effort since they consider these ventures their own businesses. The efforts they put included carrying a through marketing, having personal financial discipline, supplementing running costs with personal finances, introduction of unique products, innovation and diversification, improved customer care and offering quality products and services, repayment of loan- some use sources outside the business, ensuring commitment on tasks, engaging the community to create awareness of Pasha centers, proper management of the business, training of employees.

Further a correlation was undertaken to determine if there was a relationship between the year the pasha center was started and the efforts by pasha managers. This was represented in table3 it was concluded that there was a strong positive relationship between the year the pasha center was opened and the efforts put by the pasha managers to ensure success in implementation.

#### **3.3 Challenges Faced By Pasha Managers in Successful Implementation of Digital Villages in Kenya.**

It was established that the pasha mangers face immense challenges from repayment of loans which the respondents strongly agreed was a challenge (60%), 21% agreed to this, those who were neutral or either disagreed had 7.1%.This

showed that the Pasha managers are really challenged when it comes to repayment of their loans since their businesses have not yet picked yet the bank still expects them to repay the loans. On the challenge of working capital, 39.3% strongly agreed that they are faced with this challenge, (39.3%) further agreed that lack of/ inadequate working capital is a challenge to the successful implementation of digital villages, 14.3% disagreed to this while 3.6% were neutral. This showed that indeed working capital is a challenge faced by pasha managers, upon receiving these loans, there were operational costs that go hand in hand with new business startup this included rent, electricity, licenses and internet equipment which were not factored in when the loans were disbanded thus working capital become a challenge .

The managers were also of the view that they are faced with a challenge of public awareness, branding and participation.60.7% strongly agreed to this while 39.3 agreed. The pasha managers felt that Pasha centers are not known yet this was a government project, during implementation the ICT-A was to do branding and public awareness campaigns to make pasha centers known yet up to now it has never been done.

There was yet the challenge of the pasha managers facing stiff competition, 60.7% strongly agreed that they face stiff competition while 35.7% agreed to this assertion. This shows that competition from cyber cafes and other ICT providers affect the implementation of Pasha Centers. This can further be explained by the fact that initially the idea of digital villages were to be rolled out in rural areas, however there are pasha centers in urban areas hence they have to compete with others who offer similar products and services.

Uptake of ICT in rural areas was yet another challenge faced by the pasha Managers, 39.3% were neutral about this, and 39.3% agreed to this assertion, 7.1% strongly agreed, 7.1% disagreed while 3.6% felt that this question was not applicable as some of the Pasha centers were not located in rural areas. On those who disagreed, it was felt that some people in rural areas are very IT literate and they consume ICT just as other counterparts in urban areas. Among those who agreed it can be deduced that rural areas still face challenges of infrastructure and a case in point is electricity hence do not mostly use ICT.

The ICT-A always delayed its support, these support was articulated in form of release of funds, technical and bandwidth support.75% strongly agreed that that ICT-A delayed its support leading to implementation not being successful, this was followed by 21.4% who agreed that indeed ICT delayed in providing its support.3.6% however disagreed on this. Upon implementation of some pasha centers in 2009, the bandwidth support come in 2013, other managers have not yet been able to access their funds despite them writing proposals and being assured that they had qualified for the money. The bank also disbanded the money in bits slowing opening of up of most pasha centers.

Challenge in terms of expertise management of machines also come up,67.3% disagreed on this assertion, they outsource skilled persons to check and ensure the machines are in good condition,10.7% strongly disagreed ,7.1% agreed,7.1% were neutral about this while 3.6% strongly agreed that they face challenges in terms of expertise maintenance. Pasha Managers also felt that there were a lot of conditionality's attached to the revolving fund hence viewed it as a challenge, 50% strongly agreed while the other 50% agreed .Some of the conditions were set by the World Bank which was the financier for the grant. The bank that was responsible in disbursement of the money also had a lot of conditions that were considered stringent by the pasha managers.

*Table 1: Sum of Squares for appropriateness of implementation strategy*

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.507 <sup>a</sup>	.257	.128	.444

*Table 2: ANOVA of strategy used and successful implementation of digital villages*

Model		Sum of Squares	df	Mean Square	F	Sig.
	Regression	1.568	4	.392	1.987	.130 <sup>b</sup>
	Residual	4.539	23	.197		
	Total	6.107	27			

Table 3: Correlations between year of pasha opening and efforts made by pasha managers to ensure successful implementation

		Opening of Pasha Center	Efforts to Ensure Successful Implementation
Opening of Pasha Center	Pearson Correlation	1	.519**
	Sig. (2-tailed)		.005
	N	28	28
Efforts to Ensure Successful Implementation	Pearson Correlation	.519**	1
	Sig. (2-tailed)	.005	
	N	28	28

\*\* . Correlation is significant at the 0.01 level (2-tailed).

#### 4.0 Conclusion

Digital villages in Kenya were started to bridge the digital divide and soar Kenya to new heights in terms of technology, however different from other countries Kenya adopted the entrepreneur model in which the pasha managers were to offer a bouquet of services and ensure they also earn a living from this venture. Implementation started in 2009, every constituency had to have a pasha center, however four years down the line only 64 centers have been opened, others closed bringing this number to 50. This study thus concluded that Pasha centers have faced immense challenges since its implementation. Support from ICT-A has always delayed hampering the implementation process, conditionality's from different stakeholders further portray vested interest from different quotas. Pasha centers are not known yet this is a government project, this can be attributed to lack of branding and public awareness by the government.

The entrepreneur model used for digital villages in Kenya was rolled out as planned; but there was a challenge in delay of fund disbursement and other support leading to implementation problems. Pasha managers play a vital role in ensuring success of digital villages despite the challenges they face, they go out of their way to safeguard not only successful implementation but also sustainability. Payment of loans, stiff competition, delay in support from ICT-A, lack of public awareness and branding remain the biggest challenge towards implementation.

#### 5.0 Recommendation

Digital villages in Kenya should adopt two models of implementation, one is the already ongoing which is the entrepreneur model where it will concentrate on providing a bouquet of services, it will be run by entrepreneurs who are aware of business dynamics. The second model should be the bridging of digital divide model where the centers will be located in remote areas, the role of the pasha manager will be to market use of ICT and ensure there is an increase in uptake of the same, this should be fully run by the government, all the operational cost would be incurred by the government and the Pasha managers will be paid from the government kitty. The entrepreneur model will enable the pasha manager to concentrate on business while the digital divide will be a social responsibility to ensure digitalization and uptake of ICT in Kenya leading to further development. There should be performance contracts for the Digital divide pasha model managers.

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