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## **Preparedness of South African Deep Rural SMMEs to Deliver e-Government Services to Local Communities**

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### **Abstract**

This paper reports on a research to assess the readiness of Small, Medium and Micro Enterprises (SMMEs) to deliver e-government services to deep rural communities through information dissemination by the SMMEs. This research was conducted as a case study at KwaNongoma rural area in KwaZulu-Natal. The study was meant to determine the ways SMMEs operate, assess the ICT infrastructure and ICT skills in the community, identify the community needs on service delivery and then give an assessment on the level of preparedness by the SMMEs to deliver e-government services. The conclusion reached was that, although there is a willingness by the SMMEs to deliver e-government services, these deep rural SMMEs are not in a position to currently. Lack of ICT skills, prohibitive costs of ICTs and unreliable electricity supply all contribute to this. However this is mitigated by the fact that the SMMEs are run by young people who are eager to embrace ICTs, there is an

opportunity for alternative sources of energy to the communities to drive ICTs and the government has already developed e-government services and products.

**Keywords:** Deep rural, SMME, e-government, Internet

## **1. INTRODUCTION**

Service delivery to deep rural communities has now become the greatest challenge for the South African government. The advent of the Internet and its many advantages has made it become the backbone of the world economy and has created a new global world of free exchange of ideas, interests, and transactions. Among the many benefits of the Internet, e-commerce offers a great business opportunity for enterprises. There have been innumerable studies of the benefits and problems associated with the adoption of e-commerce, but with little reference or attention to the Small, Medium and Micro Enterprises (SMMEs), especially deep rural SMMEs as well as their communities. Deep rural communities are those which have a local municipality that has small old “resettlement areas” with more than 50% of people living more than 5 kilometers from a tarred road, and more than 25% of the people using water from streams, rivers, dams or rainwater tanks with very limited choice of services within that municipality [1].

The objective of this study is to assess the preparedness of deep rural SMMEs to serve as an access point to all the government services and information needed by rural communities. That is, they act as a potential window to knowledge and government information, programs and services for and about deep rural South Africa. This increasing collaboration among SMMEs and government is related to the identified business drivers, such as the need for adequate service delivery. This study was meant to determine the ways deep rural SMMEs operate, assess the ICT infrastructure and ICT skills in a deep rural community, identify the community needs on service delivery and then give an assessment on the level of preparedness by the SMMEs in the deep rural area to deliver e-government services.

## **2. SMMEs and e-government**

Service accessibility to deep rural communities in South Africa has now become the greatest challenge for government. But this is not to say that deep rural areas are not enterprising. The communities run SMMEs whose contributions to the prosperity of their community development are undeniable. Yet their role in community development has not been exhaustively explored, neither government nor academia.

SMMEs play a critical role in sustaining the South African economy as demonstrated by the number of people they employ and their overall contribution, which is not necessarily measured by official statistics [7]. According to South Africa’s development framework, one of the goals of the ICT sector in the country is “to increase the use of ICT as an enabler of socio-economic development with equity” [9]. In relation to SMME development, there is a very real opportunity to improve service delivery to previously neglected groups in our society by harnessing of ICTs. It is envisaged therefore that ICTs will provide innovative convergence at service delivery level and not only the technological level in support of societal transformation and development [5].

The use of ICT as an interface between the citizens and government of a nation is termed e-government [10] and in its simplest term, refers to the use of the Internet as a communication platform to allow the exchange of information and the execution of processes that had previously been undertaken via direct human interaction. E-

government can be defined as “information technologies that have the ability to transform relations with citizens, businesses and other arms of government... and can serve a variety of different ends: better delivery of government services to citizens, improved interactions with business and industry, citizen empowerment through access to information, or more efficient government management” [8]. According to a South African Small Enterprise Development Agency (SEDA) study, there are three key characteristics that determine ICT usage among SMMEs, that is, business size, whether the business is urban or rural and educational levels of the owner. Smaller businesses were more likely not to have and use a computer with 36% of micro, 27% of very small and 14% of small businesses indicating that they had neither a business computer nor access to the Internet [6]. These three attributes must be in place for SMMEs to participate in e-government service delivery.

The slow diffusion of e-government in Africa, including South Africa, can be attributed to factors of “e-readiness for e-government” [11]. The data systems infrastructure, legal infrastructure, institutional infrastructure, technological infrastructure, human infrastructure and leadership infrastructure should be in place for e-government to work.

There are many considerations and implications of implementing e-government in rural areas. An e-government site that provides web access and support does not offer the potential to reach many users, particularly in remote areas [12]. Low English proficiency and poverty are some of the issues that are a hindrance. Much of the current discussions on the implementation of e-government focuses on the Internet. It is assumed that the Internet is the base medium in all phases and recommends governments to build Internet infrastructure. Issues of lack of an Internet infrastructure, high Internet costs, low Internet penetrations and citizens’ Internet illiteracy are overlooked in all this [6]. It is with this background in mind that this research to assess the preparedness of deep rural SMMEs to server as centres for e-government information service delivery was undertaken

### **3. METHODOLOGY**

#### **3.1 Aims and objectives**

The aim of this research is to assess the readiness of deep rural SMMEs to deliver e-government services. The research question therefore is:

How far prepared are deep rural SMMEs in South Africa to deliver e-government services to deep rural communities today?

The objectives of the research are:

- To analyse the ways SMMEs currently operate in a deep rural area of South Africa
- To assess the ICT infrastructure and levels of ICT knowledge and skills in the rural community
- To identify current community needs against the service delivery by the government
- To analyse the stakeholders in the SMME chain

- To give an assessment of the levels of preparedness of SMMEs to deliver e-government services

### 3.2 Data collection

This research was conducted as a case study at KwaNongoma rural area in KwaZulu-Natal. The case study contains an economic analysis of the target area and includes analyses of the types of industries that are active in the region. It was conducted in the form of an opinion poll. The questions posed in the questionnaire were around availability of ICT technology, its usage and awareness of ICTs in the community. It also requested information on the needs of the community, the state of business in the SMMEs and the stakeholders involved. The researchers explained verbally to the respondents some of the concepts, where necessary, to avoid inaccuracies in answering. Since the rural area spreads far and wide, the researchers could not touch on all the SMMEs in the area, hence it was decided that the survey questionnaires be distributed to SMME owners who attend weekly meetings at the KwaNongoma urban area for business update.

KwaNongoma local municipality has an area of 2184 km<sup>2</sup>. It has a rural population of 226 830 inhabitants which constitutes 98.34% of its population, while 1.66% of its population is urban. According to KwaNongoma local municipality statistics, the population of Nongoma tribal authority or rural is equally distributed with 44.61% males and 55.39% females [3, 4].

Given the fact that all communities participating in the study differ by size, the study collapsed all responses obtained, in the four major groups: rural village, rural scattered village, scattered and rural farms responses. Table 1 represents the summary of the KwaNongoma rural population in 2006 [4]. These totals are shown in disaggregated form by tribal authority.

Community	Population inhabitants 2006,	Population Percentage
Rural Village	183 525	79.56%
Rural Scattered	43 305	18.78%
Scattered	0	0.00%
Rural Farms	0	0.00%
<b>Total</b>	<b>226 830</b>	<b>98.384%</b>

Table 1: Summary of KwaNongoma Community grouping table

Table 2 shows KwaNongoma's population distribution according to types of settlements [4]. The settlement types can be summarised as follows:

Item	Type	Characteristics
1	Rural Village	1 200-1 500 people per mile <sup>2</sup>
2	Rural Scattered	55-1 200 people per mile <sup>2</sup>
3	Scattered	0-500 people per mile <sup>2</sup>

<b>4</b>	<b>Rural Farms</b>	Communities living outside tribal areas on farms
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**Table 2: Summary of KwaNongoma rural population**

### **3.3 Sample**

30 respondents represented various SMMEs in the catering, tailoring, poultry-farming, agriculture and beverage-making industries in KwaNongoma rural area. The respondents were 35% male and 65% females. 47% were between the ages of 18 and 25 years, 35% were between 26 and 35 years of age, 12% were between 36 and 45 years of age, while 6% were above 45 years of age. 53% of the respondents had a Matric qualification, 12% had between Std. 6 and 8, 35% were lower than Std. 6 and none of them had Diplomas, Bachelors' degrees and postgraduate studies.

The various forms of ownership of these SMMEs are sole proprietorship, partnership, closed cooperation, social groups and cooperative societies. Cooperatives are autonomous associations of persons united voluntarily to meet their common economic, social and cultural needs and aspirations through jointly-owned and democratically-controlled enterprises. A social group consists of members whose interest, values, ethnic and social background is similar and has kinship ties, e.g. clubs, communities and peer groups. A partnership is a type of business entity in which the owners (partners) share with each other the profits or losses of the business. In sole proprietorship a business has no separate existence from its owner. Its owner has no partner. Closed corporation is one in which all of the stock is held by a few shareholders such as family members, management or business partners [2]. The form of business ownership in the SMMEs represented in this survey is spread as follows: 33% - sole proprietorship, 11% - partnership, 6% - closed cooperation, 17% - social group and 33% cooperative society.

## **4. FINDINGS OF SURVEY**

### **4.1 State of the business**

The nature of businesses run by the SMMEs were 25% arts and crafts, 25%- poultry farming, 17% catering, 8% beverage-making, 4% tailoring, 4% agriculture-related and other miscellaneous businesses – 21%. None of the businesses are ICT-related and only 18% of these businesses are registered.

27% of the SMMEs in arts and crafts are in partnerships with other SMMEs in arts and crafts. 46% of the SMMEs involved in poultry farming are in partnerships with other SMMEs in poultry farming. 27% of the SMMEs in catering are in partnerships with other SMMEs in catering. There are no reported partnerships in each of beverage-making, ICT-related and agriculture-related activities. On the question of how these SMMEs are enhanced by partnerships, 30% indicated that this increased their customer base, 31% experienced increased profits, and 8% indicated it gave them a competitive edge, while 31% mentioned other smaller benefits.

On the question of distance from the nearest SMME, 43% of the SMMEs are between 0.5 and 1 kilometres from the next, 13% are between 2 and 3 kilometres, 25% are

between 4 and 6 kilometres, 13% are between 10 and 15 kilometres and 6% beyond 15 kilometres.

51% of the SMMEs indicated they have an idea what a computer was, and only 24% knew what the Internet was. Although there were a few who knew about ICTs, there are no ICT-related businesses in the village because the technology is far beyond the reach of these SMMEs due to the intensive capital investment that is required.

In the survey, 71% of the SMMEs have business plans, while 29% did not have any. 24% of the businesses have had increasing profits, 64% have had fluctuating profits and 12% have had decreasing profits in the past year.

Although the SMMEs have no access to electricity where they conduct business, the SMME owners meet once a week in the nearest urban area to discuss business issues with their counterparts. This is where there is electricity and 85% of the SMMEs indicated they have access to electricity sometimes. This means that it is the 85% that meet with their counterparts outside the rural area occasionally.

5% of the SMMEs have no ICT infrastructure at all, 6% have a computer, 0% each for the fax, Internet, e-mail and Microsoft office and 89% had other ICTs such as the calculator and cell phone. There are no landlines in this community. 6% said they never use any ICT infrastructure in their daily business activities, 18% said they sometimes used it and 76% said they use it. This infrastructure is in the form of cell phones and calculators. I guess the few computers that are there are available at the central meeting point, where they meet once a week for update on business. 100% of the respondents said they would like to have high-tech ICT infrastructure in their business and that their staff would look at this development positively. This is because the benefits of high-tech ICTs were explained to the respondents before the survey. The respondents gave several reasons for not using the ICT infrastructure available to them no matter how small. 33% were not sure what ICTs were used for. 28% said they lacked funds to purchase the ICTs. 22% had no skills to use high-tech ICTs. 17% said they were not aware that high-tech ICTs can benefit business before this survey.

The respondents gave the following reasons on why they did not have computers in their businesses: 49% said they did not know what a computer was, 27% of those who knew said it was due to a lack of acquisition funds, 28% of those who knew said they lacked computer skills, 14% of those who knew said they were not aware of benefits of computers to business and 17% of those who knew said they did not have electricity.

The government services that SMME owners currently have access to in a limited extent are as follows: 5% of the respondents said literacy support, 10% indicated investment loans, 10% said health information and grants, 36% said laws and regulations and 39% said permit and license information. The other government services that SMME owners need but are not currently available are: computer literacy, information on export/import of goods and transport allowance. On how best these services can be delivered to the SMMEs: 81% indicated that the government should make it easier for them to find out how to access these services, 13% said it should be done through workshops and training and 6% said through financial support. 100% of the SMMEs indicated they were willing to deliver services to the

community using the Internet infrastructure should it be available and they have the right ICT skills imparted to them.

On the question of what improvements they would like to see in the way they do business, the responses from the SMMEs were as follows: 13% would like to see a profit increase in their businesses, 50% would like to see their businesses grow and ICT usage adopted; 6% would like to see an increase in product funding; 13% would like to access foreign markets; 6% would like to acquire training in business; 6% are interested in new product design and 6% in financial assistance.

## **4.2 Community needs**

Respondents were asked to evaluate the importance of various community needs to their quality of life on a 4-point scale, that is, very important, quite important, not very important and not important at all. Opinions of the respondents were sought on literacy support, employment insurance, existing customers, potential customers, supplier information, export market, laws and regulations, sources of finance, ICT literacy and SMME management.

All SMMEs surveyed scored high on the importance of literacy support to the quality of life. 88% scored literacy support as very important, 6% as quite important, 6% as not very important and 0% as not important at all. Of the participants 56% scored employment insurance as very important, 12% as quite important and 19% as not very important and 13% as not important at all. Of the participants, 75% scored existing customers as very important, while 19% scored it as quite important and 6% each scored existing customers as not very important and not important at all, respectively. 74% scored the supplier information as very important, 13% as quite important and 13% not very important and 0% as not important at all. 62% of the respondents scored the export market as very important, 12% as quite important, 13% each as not very important and not important at all. 52%, 12%, 17% and 19% scored laws and regulations as very important, quite important, not very important and not important at all, respectively. 87% and 13% scored sources of finance as very important and quite important respectively. 94% and 6% scored ICT literacy as very important and as quite important respectively. 80% scored SMME management as very important, 13% as quite important and 7% as not very important.

## **4.3 Stakeholder analysis**

100% of the SMMEs said they get their material from local suppliers. 67% indicated the material comes from wholesalers and 33% from the land. 18% said they had a contract with their supplier and 75% of these have the contracts in written form.

Only 47% of the respondents said the suppliers deliver their products on time. To mitigate against delays in delivery of supplies, 75% phone their suppliers when there is a delay and 25% go out and buy the products required. 69% of the respondents go out and order the products by themselves and 31% said they ordered their products over the phone. The problems that are associated with their current systems of

ordering goods range from financial problems in 11% of the respondents, order surplus which leaves goods unsold in 11%, 34% have transport problems and in 22% the product they want to order is out of stock.

Only 20% of the SMMEs can get goods on credit from their suppliers. 65% of them indicated that they have the added benefit of getting a discount from the suppliers if they purchase the goods in bulk. If the supplier delivered the wrong product, 39% indicated they would return the product and 61% said they discuss the issue over the phone with the supplier. Payment to the supplier is on a cash basis in 82% of the SMMEs, 6% pay by cheque and 12% conduct bank transfers.

10% of the respondents said their customers can make orders over the phone and then come to the store to settle the payment. 75% said the customers come to the store to make orders and pay instantly. 15% of the respondents said their customers make a phone call and the products are delivered to them. None of the customers make their orders online.

When selling the products, SMMEs face a number of challenges. 13% have a problem getting rid of surplus stock which accumulates on their shelves, 20% get complaints from the customers on the high prices of their products, 7% of the SMMEs suffer from theft of goods, 26% receive late payments, 7% have inadequate funds and experience cash-flow problems, 7% experience profit-losses from goods which are rejects and 7% lose out on the market to competitors. In their opinions the challenges they face can be addressed in several ways. These include proper marketing of their products, having their own premises, tightening security to cut down on theft-related costs, effective communication with suppliers, being able to sell and purchase on a cash-basis only and financial assistance to set up.

The clientele of the responding SMMEs are 21% tourists and 79% locals. The SMMEs market their products through the local community newspaper in 38% of the cases, brochures in 19% of the SMMEs, 43% through word of mouth and none on radio and TV. Only 18% have a product that is sold to agents, who in turn sell it abroad. Of the 18% who have products that eventually find their way outside the borders of South Africa, the active consumers of these products are the European market at 100%. 64% announce to their customers when a product is available, either by word of mouth or by placing notices where they sell.

#### **4.4 Production process**

The SMMEs faced the following problems with production: 55% - material damaged during production, 27% - machine breakdown, 9% - lack of electricity supply and 9% - product rejects. In 26% of the SMMEs finished products are stored in the refrigerator, in 49% in the storeroom, in 8% - on the shelves and in 17% at home. In 7% of the SMMEs the raw material is stored at home, in 20% - in the refrigerator and in 73% in the storeroom.

### **5. DISCUSSION**

#### **5.1 Sample**

From the sample, the entrepreneurs are increasingly young people between the ages of 18 and 25 years who are interested in ICT. Females make the majority as represented by 65% of the participants because they remain in the rural, while the males move to bigger urban areas and mines in search of jobs. Although on the ground the majority of the rural populations are the elderly who cannot cope with an urban life, very few own businesses. Technology is a threat to the elderly. The predominant activities are arts and crafts because they are engrained in their culture. None of the participants holds a Diploma, Bachelor's degree or postgraduate qualification. Those that have professional qualifications have moved to the urban areas for professional jobs.

Cooperative societies and sole proprietorship dominate because communities are drawn together by a traditional common culture of sharing and the sense of belonging. Cooperatives outstrip sole proprietorship because groups have a bigger resource pool. Partnerships and closed corporations are difficult to establish because of legal issues involved. They are both formal businesses and hence taxed. Only 18% of the businesses are registered. This is closely linked to the formal partnerships and closed corporations. The community does not see the benefits of registering their businesses. They fear that the government will interfere in their little profits if their businesses were formalised. Businesses to them are meant to cover the basic needs, not grow and make huge profits.

## **5.2 State of business**

The 0% in partnerships among organizations with ICT-related activities is that this business involves heavy financial investment in ICTs. Inadequate ICT skills coupled with high capital costs has deterred the SMMEs from establishing ICT-related businesses. Partnership in poultry farming is high because of the high input costs and the labour intensive nature of the business which requires more hands. 25% partner with other organizations in arts and culture businesses because this is a trade that is entrenched in their traditions. Also, arts and crafts do not need specialized machinery. Catering is a labour-intensive trade and hence numbers are required which can be made up through partnering. There is a market for caterers in social gatherings such as traditional ceremonies, weddings and funerals.

Most SMMEs are situated close together. The decreased distances between the SMMEs shows there is a proliferation of SMMEs in the rural area for survival. 81% of the SMMEs are a maximum of 6 km from each other. The rural economy is increasingly controlled by SMMEs. The clients can conduct business in a localised area, that is, a number of services are available within the village. The problem would arise if SMMEs trading in the same product were close to each other. Competition would be very stiff.

Very few knew what the Internet is, that is, only 24% of the respondents. This shows that their knowledge and experience of technology is very low. This is the reason why there are no ICT-related businesses – there is a skills shortage in this area. Although a few know about these ICTs, there are no ICT-related activities because the technology is far beyond the reach of these SMMEs, due to the intensive capital investment that is required.

24% of the businesses have increasing profits, while only 12% have decreasing profits. It looks like the businesses haven't started feeling the economic crunch. Where there are decreasing profits it is because businesses are run as personal ventures and hence not much effort is put into them. 64% of the businesses have fluctuating profits. The reasons could be due to poor business management or a lack of business management skills. This is a learning curve in business for most SMMEs. Rural populations have come to realize the importance of business plans if they are to run any meaningful businesses. There is a concerted effort by the government, NGOs and municipalities to enhance development through SMMEs, hence they are encouraged to have business plans in place.

89% of the SMMEs have the cell phone and calculator as ICTs. Although not directly used in daily activities, the cell phone is the main mode of communication. The community has no landlines but cell phones for communication. Because of its dispersed nature, mobile technology is the best bet. It's interesting that the calculator has replaced the computer for calculation. The village currently is not on the electricity grid and if there is any chance of adopting e-government then something has to be done. Alternatively, other sources of energy such as solar and generators should be considered for power supply.

Only 6% of those who have an ICT infrastructure use it. The cell-phone is used to communicate with partners, consumers and suppliers. It only requires a battery to function. They use generators to recharge their cell phones. The idea of a cell phone charging station is appealing for business, and so are solar-powered cell phones. 100% said they never used ICTs for typing, faxing, e-mail, printing, and Internet access. If the computer is available and is not used for typing, faxing, e-mail, then it is standing idle. The calculator is used predominantly because it does not require electricity.

81% of the respondents indicated that they wanted the government to make it easier for them to get information about and access to services. The SMMEs are willing to deliver the services on behalf of the government on condition that the necessary ICT infrastructure is in place and they have been trained.

On what improvements they would like to see in the way they do business, only 6% of the SMMEs said they require financial assistance. It looks like they do not expect the government to fund them, but they want to make a profit and fund their activities.

### **5.3 Community needs**

62% scored the export market as very important. Because of the limited market in the village they would like to explore external markets. The problem may be ignorance on how enormous the task involved in growing the business to be able to sustain an external market is. Only 52% scored laws and regulations as very important. This is because the crime rate is low in the village. This is a close knit community. Also to export, laws and regulations are needed. 94% scored ICT literacy as very important. The SMMEs showed a willingness to deliver e-government services once the ICT infrastructure is in place and once they have adequate skills to handle ICT activities.

### **5.4 Stakeholder analysis**

100% of the SMMEs source their raw materials from local suppliers. Due to the small sizes of their businesses, to source any goods outside the local arena would mean that their orders have to be large to even on profits. They are using very little of what they get from their land, that is in 33% of the SMMEs. This is associated with the subsistent nature of their farming activities. Only 18% of those who source their goods from the wholesalers have contracts in written form. This is because of the ad-hoc nature of their purchases. For a business that is performing well, consistent supply is required hence the need for a contract. The verbal contracts also explain the trust that is prevalent between supplier and business because this is a close knit community. What the SMMEs are not aware of though is that a verbal contract is as enforceable as a written contract.

75% of the SMMEs indicated that they phone their suppliers when there is a delay in the delivery of goods to them. Therefore, a cell phone is a necessity considering that there are no landlines in this community. 69% of the SMMEs go out and order products by themselves and yet 34% indicated that they have transport problems. That would mean they have to use public transport in the transportation of their goods to base. The fact that 11% have an order surplus which is difficult to sell in the end may mean bad management of the businesses. Having surplus stock could also be a way of avoiding frequent trips to the supplier, in cases where they make their own purchases and deliveries. The delays in delivery by the suppliers could also be a contributing factor. They probably go out and make purchases of goods while waiting for goods on the contract to be delivered. In such cases, the SMMEs should be educated on how to draw up contracts with suppliers that would not disadvantage them.

Only 20% of the SMMEs can get goods on credit. They have to have good credit records to get goods on credit. It is possible that the 80% who do not get goods on credit prefer cash transactions. 82% of the SMMEs pay the supplier on a cash basis according to the survey. This means that few have bank accounts. To open a bank account documentary proof of residential address is required. Rural home have no addresses, but only the box number of the nearest institutions, e.g. a school. There are no banks in deep rural areas because of reasons of economic viability. None of the customers make orders online. There are no computers, Internet and electricity to be able to conduct e-commerce transactions from the village.

The SMMEs do not market their products via the national TV and radio because the advertisement costs are very high. They only advertise locally through word of mouth and local community newspapers which are relatively cheap. But remember that their products, especially arts and crafts eventually find their way abroad. They can only sell these products to agents who take them abroad or directly to the tourists who visit the village. With the Internet they can market their products directly to a wider audience.

## **5.5 Production process**

55% of the material is damaged during production. This shows a lack of operator skills. These losses are too much for small businesses. Only 9% of the businesses need electricity for their businesses to function.

## **6. LEVELS OF PREPAREDNESS OF SMMEs**

From analysis of the above findings it follows that deep rural SMMEs aren't prepared to deliver e-government services as long as the current status quo persists. The reasons identified were as follows:

- a) Lack of knowledge of ICT
- b) No experience in ICT usage
- c) Most SMMEs are informally structured
- d) The electricity supply to the rural communities is non-existent or unreliable
- e) The costs of ICTs are prohibitive
- f) Its difficult to find funding to purchase ICTs
- g) There are no banking facilities in deep rural areas

However, there are some issues that could mitigate the drawbacks, as follows:

- a) Most SMMEs are owned by young people eager to learn and embrace ICT if given the opportunity
- b) Government has already developed e-governance services and products
- c) The fact that the SMMEs would be earning money from the government for the service rendered would help them overcome funding problems
- d) The lure of getting more people for existing products and services the SMMEs are already offering by rendering e-government services in parallel might entice SMMEs to consider rendering these e-government services
- e) Imaginative use of alternative sources of electricity supply will lessen the impact of the unreliable and non-existing sources of electricity supply.

## **6. CONCLUSION**

The major contribution of this paper lies in the portrayal of the immense challenges and obstacles facing deep rural SMMEs in engaging with development informatics, and acting as centres for e-government service delivery. Although there is a willingness by the SMMEs to deliver e-government services, they are not in a position to currently. Lack of ICT skills, prohibitive costs of ICTs and unreliable electricity supply all contribute to this. However this is mitigated by the fact that the SMMEs are run by young people who are eager to embrace ICTs, there is an opportunity for alternative sources of energy to the communities to drive ICTs and the government has already developed e-government services and products. There are things that can be done to enable them be the hub of e-government services. This would mean coming up with alternative sources of energy, making available funding towards purchase of ICT equipment, training the entrepreneurs in ICT and changing the mindset of the communities from informal to informal business.

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