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### **Nigeria SMEs Participation in Electronic Economy: Problems and the Way Forward**

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#### **Abstract**

For both developing and developed countries, small and medium scale firms play important roles in the process of industrialization and economic growth. Apart from increasing per capita income and output, Small and Medium Scale Enterprises (SMEs) create employment opportunities, enhance regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development and growth.

The development of SMEs is seen as accelerating the achievement of wider economic and socio-economic objectives, including poverty alleviation. Unleashing its influence on the way traditional business is conducted hitherto is the phenomenon of electronic commerce (e-commerce). The Internet through its reduction in distance-related costs is seen by many as a potential source of economic revitalization. This Internet economy has continued to grow at an unprecedented rate.

Thus, this paper focused on the extent of Nigerian's SMEs participation in this Internet economy. This will be achieved by considering the conceptual framework of

Internet/electronic economy, some applications of Internet/electronic economy, Nigeria SME participation in electronic economy, the benefits and limitations of electronic economy in general, the problems hindering Nigeria SMEs' participation in electronic economy and finally pointing out the way forward.

**Keywords: Small and medium scale enterprise, Internet economy, Electronic economy, E-commerce, Nigeria**

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## **INTRODUCTION**

For both developing and developed countries, small and medium scale firms play important roles in the process of industrialization and economic growth. (Ogujiuba, Oliuche & Adenuga, 2004). Apart from increasing per capita income and output, Small and Medium Scale Enterprises (SMEs) create employment opportunities, enhance regional economic balance through industrial dispersal and generally promote effective resource utilization considered critical to engineering economic development and growth.

Interest in the role of SMEs in the development process continues to be in the foremost of policy debates in developing countries including Nigeria. The advantages claimed for SMEs are various, including; the encouragement of entrepreneurship; the greater likelihood that SMEs will utilize labour intensive technology and thus have an immediate impact on employment generation; they can usually be established rapidly and put into operation to produce quick returns. The development of SMEs is seen as accelerating the achievement of wider economic and socio-economic objectives, including poverty alleviation.

Unleashing its influence on the way traditional business is conducted hitherto is the phenomenon of electronic commerce (e-commerce). The Internet through its reduction in distance-related costs is seen by many as a potential source of economic revitalization. This Internet economy has continued to grow at an unprecedented rate. No doubt, many countries of the world including the developing ones, (Nigeria inclusive) are taking this advantage to develop their nation's economy.

As part of these efforts in Nigeria, the SME department recently teamed up with others to map the small business world and identify priority needs in four key areas: business environment, and access to capital, support services, and information. The analysis found considerable entrepreneurial capacity in Nigeria, but also many obstacles to success for small business. These include excessive requirements for permits and fees, problems with land acquisition and construction, and other troubling uncertainties (IFC, 2002:6). The good news is that there is now much broader recognition of the SME sector's importance among key stakeholders. In the time past, organizations in Nigeria have traditionally invested in non-Internet related information technology, established electronic links with selected suppliers and buyers, and enjoyed productivity and efficiency. However, the Internet is fundamentally different from other IT because of its ubiquitous and open nature, low access costs, and the ease of using related applications. As a result, Nigeria has witnessed an unprecedented level of adoption of

the Internet by both consumers and businesses, leading to an exponential growth pattern. This development provides a motivation for a discussion such as this. Thus, this paper focused on examining the extent of Nigerian's SMEs participation in the Internet economy. To achieve this, the paper consider the conceptual framework of Internet/electronic economy, some applications of Internet/electronic economy, Nigeria SME participation in electronic economy, the benefits and limitations of electronic economy in general, the problems hindering Nigeria SME participation in electronic economy and finally pointing out the way forward.

## **ELECTRONIC/INTERNET ECONOMY: A CONCEPTUAL FRAMEWORK**

Various terms are used to describe the electronic/Internet economy and its components. These include but are not limited to, the digital economy, e-commerce, e-economy, e-business, e-infrastructure, etc. Broadly defined, electronic commerce is a modern business methodology that addresses the needs of organizations, merchants and consumers to cut cost while improving the quality of goods and services and increasing the speed of service delivery (Kalakota and Whinston, 1996). It also applies to the use of computer networks to search and retrieve information in support of human and corporate decision making. More commonly, e-commerce is associated with the buying and selling of information, products and services via computer networks today and in the future via any one of the myriad of networks that make up the information super highway.

Fraumeni, Manses and Mesenbourg (2000) assert that e-economy comprised essentially of three components; e-business infrastructure which is defined as the share total of economic infrastructure used to support electronic business processes and conduct electronic commerce transactions including hardware, software, telecommunication network etc. The second component is e-business which is described as any process that a business organization conducts over a computer- mediated network. The third component identified, as e-commerce is any transaction completed over a computer-mediated network that involves the transfer of ownership or rights to use goods or services.

According to (Mounsey, 2002), the Internet economy (IE) comprises the value-added chain of firms/institutions that wholly or partially transact business via the electronic networks of the internet and the array of institutions that provide the necessary infrastructure and peripheral services to make these transactions happen. The collection of agents that provide the basic platform for this Internet i.e. telecommunication, hardware backbone and access service etc. is referred to as the *infrastructure level*. The *e-commerce (electronic commerce) level* comprises a miscellaneous collection of agents who, through the medium of the Internet, purchase or sell goods and services.

From what we have gleaned from the literature there is much confusion associated with the use of this Internet based business. Most people use the terms interchangeably, which is not wrong. For the purpose of this paper, we will adopt the definition put forward by Awad (2002). According to him, electronic commerce can be defined in several of the following ways.

1. From *interface* perspective, e-commerce involves various information and transaction exchanges; business-to-business (B2B), business-to-consumer

- (B2C), consumer to-consumer (C2C).
2. From a *communications* perspective, e-commerce is the ability to deliver products, services, information payments via networks such as the Internet and World Wide Web.
  3. From a *business process* perspective, e-commerce includes activities that directly support commerce electronically by means of networked connections.
  4. From an *online* perspective, e-commerce is an electronic environment that makes it possible to buy and sell products, services and information on the Internet. The products may be physical such as cars or services such as news or consulting.
  5. From a *structural* perspective, e-commerce involves various media, data, text, web pages, Internet telephony and Internet desktop video.
  6. As a *market* e-commerce is a worldwide network. A local store can open a web storefront and find the world at its doorstep-customers, suppliers, competitors and payment services.

From the foregoing, e-commerce means connecting business systems directly to critical constituencies – customers, vendors and suppliers-via the Internet, Extranets and Intranets. It means using electronic information to boost performance and create value by forming new relationships between and among businesses and customers. Although most of us may tend to think of merchandise when we hear about internet retailing, a wide variety of services are sold on the internet as well- such include airline tickets, travel services, hotel booking and reservation, financial and stock market services. In addition, there are literally hundreds of competitors in the field of education, from electronic extension schools to online degree awarding schools. Throughout this whole discourse, we shall adopt the term Internet economy to mean the coming together of buyers and sellers to exchange information, products, services and payments. Traditionally, business has been conducted in physical buildings, often referred to today as “brick and mortar” market places. When the market place is electronic, business transactions occur across a telecommunication network where buyers, sellers and others involved in the business transaction rarely see or know each other and may be physically located anywhere in the world. This electronic market place is sometimes called market space (Napier, et. al, 2002).

The Internet economy has continued to grow at an unprecedented rate. The U. S. currently leads the world in technology, sophistication of web sites and Internet savvy of consumers. The number of Americans who shop on the Internet exceeds those of any other country and the Internet will be an integral part of every business retail strategy and customers’ shopping list in the very near future (Ernst and Young, 1999).

In a 1999 online survey, Ernst and Young discovered near universal approval and optimism for Internet economy. According to this survey, consumers reported that they were generally pleased with the online shopping experience and planned to do much more of it in the future. Furthermore, industry leader Bill Gates predicts that one-third of all food sales will be handled electronically by 2005. In other words, most commerce will soon be –e-commerce or no-commerce at all.

At current projections, the e-economy will overtake the physical industrial economy very soon. Several factors are responsible for this scenario: The technology infrastructure is in place and expanding; the regulatory environment has become cooperative and

encouraging; consumers are becoming cerebral and sophisticated enough to conducting business electronically. E-economy is a pervasive, encompassing and global force. It transcends geographic boundaries, cultural biases and political differences. It is an inevitable, irresistible force.

## **APPLICATIONS OF INTERNET/ELECTRONIC ECONOMY**

The Internet was only just becoming a mainstream. The direction of the Internet growth that concern us today include access, privacy, taxation and consumer protection, directions that have been instrumental in nurturing online activity and helping to make it a part of our daily lives. And in the last few years, new services, such as iTunes, Skype and YouTube, have become part of the daily vocabulary of millions of people around the world. The network's infrastructure has also fundamentally transformed in the last decade. Dial-up Internet access has given way to always-on broadband technology. Users are accessing the Internet via all manner of wireless devices, from laptops to mobile phones. Along the way, communications became the fastest-growing part of household expenditure since 1993, even faster than health and education (Huttner, 2007).

With all these developments, millions of people around the world now use the Internet for everything from doing homework to buying books, or playing or downloading games, music and movies. Levels of user participation and publication on the Internet have also surged, from blogs, podcasts and interactive wikis that anyone can modify, through to services for sharing photos and video clips, such as Flickr and Daily Motion. Social networking sites such as Bebo, Facebook and MySpace represent another rapidly developing frontier of communication. It is apparent that Internet-based applications underlie major advances in science, business organisation, environmental monitoring, transport management, education and e-government. Nowadays, without the Internet, planes would not fly, financial markets would not operate, supermarkets would not restock, taxes would not get paid and the power grid would not balance the supply and demand for electricity (Huttner, 2007). This reflects our increasing reliance on the Internet for business and social activity.

According to Kalakota and Whinston (1996) the following are some areas where Internet economy is applicable: common business services, for facilitating the buying and selling process; messaging and information distribution; multimedia content and network publishing; the information superhighway – the very foundation for providing the highway system along which all electronic commerce must travel. From this it is clear that the two pillars supporting all Internet economy are applications and infrastructures.

Source: Kalakota and Whinston 1996:85

As earlier defined e-infrastructure is used to support electronic business processes and conduct electronic commerce transactions. It includes hardware, application software, telecommunication networks, support services and human capital used in Internet economy.

## **NIGERIAN SMES PARTICIPATION IN INTERNET ECONOMY**

As earlier mentioned, Nigeria the most populous country in Black Africa has an estimated population of one hundred and forty million people (National Population Commission (NPC, 2007). With this vast human resource she has the potential to be a major player and beneficiary in the cybersale, e-commerce or Internet economy earlier discussed.

Regrettably however, this vast Internet economy potential has not been fully utilized. In a 2000 export promotion conference in Geneva, Switzerland, it was observed that “e-commerce is virtually non-existent. The few businesses that have an idea of what e-commerce is all about are having their hands full trying to cope with one infrastructural deficiency or the other”.

One cogent reason for this grim picture is low Internet awareness, usage and connectivity in Africa in general and Nigeria in particular. Oyeyinka and Adeya (2002) found that only 6 percent of the study population in Nigeria used the Internet to conduct electronic businesses. Despite this grim picture and the seeming monumental challenges been faced by SMEs as they attempt to engage in Internet economy, an optimistic wave of improvement is blowing across the entire business community in Nigeria.

Among the first sector to tap into this vast Internet economy potential is banking and allied services; perhaps in no other sector like the banking industry has Internet economy been prominent. Termed e-banking, it facilitates the transformation of all traditional banking services electronically. Electronic transfer and withdrawal of large sums of money has been made possible. The transformation highlighted above sees to the widespread use of Automated Teller Machines (ATM), credit cards, smart cards and Internet lending e-banking (Awad, 2002). This type of computer-based, bank-to-bank, banks-to-consumer and consumer-to-consumer transactional and informational exchange is what Internet economy is all about.

Another sector of Nigerian economy that has transformed to Internet economy is the information and telecommunication sector. The adoption of various sophisticated Internet ready mobile telephone handset has not only brought Internet economy to consumers' doorstep but has actually brought Internet economy to their fingertips. The beauty of GSM technology is that it is well integrated with existing infrastructure and the World Wide Web. Coupled with this advantage is that while the use of the Internet has been reduced to a small fraction of the economy, over 60% of the population have adopted the use of GSM technology to facilitate business transactions.

Equally noteworthy is the entrance of most academic institutions into the Internet economy. Like their counterparts in the developed countries most Nigerian institution are now offering competitive online degrees, advertising their activities on the Internet. The introduction of OPACs has made cooperation and collaborating possible especially in the provision of library services.

On the aggregate, the entire business community in Nigeria is fast availing themselves of the opportunities provided by Internet economy by not only maintaining a physical

presence- “brick and mortar” but establishing their presence on the Internet. In this emerging Internet economy revolution, many of the limitations of space and time are disappearing. Most of these SMEs that previously conducted business activities during traditional hours can now conduct those activities online 24 hours a day, 7 days a week and 365 days a year.

We can safely point out here that, given the prevailing digital activities presently going on in Nigeria; most if not all SMEs will eventually register their presence on the internet.

## **BENEFITS AND LIMITATIONS OF ELECTRONIC/INTERNET ECONOMY**

Benefits in the Internet economy are not uniformly distributed across nations, as some might believe. Language, telecommunication infrastructure and technical competence are some of the factors that determine one country's relative strength in the new economy (Mounsey, 2002). The authors identified benefits of electronic economy to include, language, proximity to major markets, cultural assets, relatively high levels of functional literacy, and high rates of telecommunication penetration. There are other benefits apart from the ones identified by this authors. The benefits of electronic/internet economy are discussed as follows:

### **Job creation**

With 1.203 million Internet/IP-based jobs, the Internet economy is reshaping the job market. Many of these jobs (e.g., Web design and development, Internet consulting) did not exist prior to 1994/1995, and companies have also re-designed existing jobs to meet the challenges and opportunities of the Internet economy. An estimated 5.9 million Americans work in the broadly defined high-tech field, of which 20% were associated with the Internet economy as of 1998 (Barrua, Pinnel, Shutter, and Whinston, 1999). As Internet players flourish and as traditional businesses become more dependent on Internet related technologies for their daily business operations, new jobs will continue to be created and existing jobs will continue to be reshaped in the new economy.

### **Lower cost of transaction**

Instant communication, coordination, and collaboration across the Internet are helping firms lower their transaction costs through virtual integration with suppliers and customers.

### **Proximity to major markets**

In the trade of tangible deliveries (goods that must be physically delivered) on the Internet, the issue of proximity to major markets is critical, as it has implications for transportation cost and delivery time. As the largest geographical market on the Internet, the US market is important not just for its size but also for its spending power. It should be noted that many countries of the world are closer to this market.

### **Growth of entertainment industry**

The entertainment industry is one of the fastest growing sectors in the digital economy. A recent survey on the online purchasing habits of Britons (Hijazi, 2000) reveals that the category of purchases with the second highest frequency by both males and females was the compact disc and video category. For instance Nigeria as a country populated

by peoples of diverse ethnic and cultural origin is thought by many to be a great repository of cultural assets. These endowments place the country at a strategic advantage to exploit the growing entertainment industry in the digital economy.

### **Relatively high levels of functional literacy**

Active participation in the electronic economy requires functional literacy. Other things being equal any country with a significantly higher literacy rate than another would be at an advantage in this new economy. Mounsey (2002) pointed out that although, data are incomplete it has long been believed that many developing countries have relatively low levels of illiteracy when compared to countries in similar income groups. The advent of electronic economy had brought about the development in functional literacy. This gives them an enablement to participate in this new economy.

### **High rates of telecommunication penetration**

Telecommunication is the backbone of the Internet. The higher a country's rate of telecommunication penetration the greater is its chances of competitive participation in the Internet economy. The high rate of telecommunication penetration would therefore prove to be an advantage in exploiting the opportunities presented by the new economy.

### **Limitations**

#### **High cost of Internet access**

Active participation in the Internet economy, especially at the level of the producer, requires dedicated Internet access. In some African countries charges for Internet access at Internet cafes can be said to be quite high compare to the rest of the world. In general an hour access costs less than US\$1.00. Nevertheless, in the sub-Saharan region where the majority of the population in Africa live on less than US\$1.00 per day, the growth rate of Internet access will remain limited (van Brakel and Chisenga, 2004). A basic requirement for a firm that is doing 'on-line business' is access to the Internet. Dedicated access means that (a) the service is unlimited and (b) the customer does not connect by 'dialing-up' to his Internet service provider (ISP).

In most of the countries, there are more than one ISP; however, those represented were selected on the basis of data availability and comparability in service offered by other ISPs. The high rates of telecommunications and Internet access in many parts of the world particularly developing countries may limit the potential for doing business on the Internet. However, it is likely that the current liberalisation of the telecommunications market will result in the reduction of charges associated with dedicated access. This would translate into lower costs of doing business over the Internet, thereby improving the potential for African businesses.

#### **Complexity of being noticed by consumers**

In order for trade to take place, a buyer must meet a seller. As the number of Web sites increases, the chances of a particular site being noted by consumers' decreases. In July 1999 there were about 56 million IP addresses. By January 2000 that number had grown to 72 million (EDS Financial Industry, 2000). This represents a growth rate of 4.3 per cent per month or 65.3 per cent per annum (Mounsey, 2002). Adamic and Huberman (1999) in a study covering over 120,000 web sites found that in the case of all sites, and sites in specific categories, the distribution of visitors per site follows a universal power law. This implies that a small number of sites command the traffic of a large segment of



Internet users - the signature of a winner-take-all market.

### **Problems specific to small firms**

Many SMEs firms are still typically small. Ba, Whinston and Zhang (2000) state that, in the digital products industry; the share of small firms is rapidly shrinking. They highlight three causes for the low level of competitiveness by small firms:

- (1) Limited product selection
- (2) Inadequate resources to reach consumers
- (3) The asymmetric information problem: the electronic market is inherently uncertain.

Consumers do not have the indicators of product quality that they have in the physical economy. Consumers who possess asymmetric information about the quality of a product will rely on the next best proxy for quality – brand name.

## **PROBLEMS OF NIGERIA SMES PARTICIPATION IN ELECTRONIC ECONOMY**

Having looked at the general benefits and limitations of electronic/internet economy; the next discussion centers on the factors hindering the Nigeria SMEs participation in the electronic/Internet economy.

The role played by SMEs in national developments, its participation in the internet economy is greatly hampered by a number of factors. In a report obtained from Nigeria Business Information Publication, the challenges facing SMEs are said to be “monumental”. The most worrisome among these challenges is the one that is tied to funding. Most of these SMEs are not attractive to banks to qualify for loans. Banks in Nigeria consider them risks. Coupled with this is the fact that cost of maintaining online presence are prohibitive and monumental especially in the short run.

Closely following this is the non-existence of e-infrastructure. Internet economy thrives on infrastructure which is absent in Nigeria. The process of acquiring, installing and maintaining the essential Internet infrastructure is devastating. Where these are acquired, the epileptic and worsening electricity supply in the country does not help matters.

While discussing some of the disadvantages or limitations of internet economy, data integrity was highlighted. This becomes very crucial in a country like Nigeria that has acquired a reputation of been one of the most corrupt nation in the world. Integrity of data cannot be totally relied upon because of the activities of scammers and hackers who defraud innocent people of their valuables including money.

Another noticeable challenge facing Nigerian SMEs is lack of e-commerce education. This is borne out of the fact that almost 50% of the entire population is not adequately educated formally. The remaining that has satisfactory level of education are not educated in the use of Internet technology. Majority of these are “digital migrants” because such technology came suddenly upon them. These are people who Alegebeye (2005) term Luddites. They need to be trained and retrained.

Telecommunications and Digital Age: Nigeria's present situation revealed that Nigerian Telecommunications Limited (NITEL) is still one of the largest monopolies in any civilized democracy, which aims at restructuring its economy to be private sector-led and market oriented. Nigeria's telecommunications infrastructure is still very primitive. This is not conducive for the SMEs to thrive in their participation in electronic economy.

The problems also include government policy, poverty corruption etc.

Others could be summarized as follows:

- Insufficient personal savings/funds resulting in low initial promoters' equity
- Uncoordinated business ideas and plans
- Non bankable projects by entrepreneurs
- Inability of the customers (SMEs) to satisfy high credit risk standards, including security/collateral
- Inability of banks to provide long-term funds due to mismatch between tenor of bank deposits and loans being sought.
- Fluctuating and prohibitive interest rate regime, and
- Volatile exchange rate regime.

## **THE WAY FORWARD**

The high cost of dedicated Internet access is hampering the cost efficiency of Nigerian online business, thereby limiting the overall competitiveness of these entities. A key component of any plan for more competitive participation of Nigeria business in the new economy must involve a strategy by governments to reduce the high price of Internet access. Government along with the private sector must find interesting ways of increasing the participation rate in new communication technologies like the Internet. One way of achieving this (apart from lowering the cost of Internet access) is by reducing the cost of acquiring the hardware (e.g. computers) that allows for participation. The country needs to find a similar way to facilitate universal access. Therefore the government is called upon to encourage the development of low cost access technologies for addressing the need of the rural majority by coordinating and promoting roll-out of multi-purpose community centers using low cost access technologies and encourage those involved in this line of business.

The banking sector also plays a critical role in the development of this enabling environment. Policymakers should examine the relative charges on merchant account services (these accounts facilitate credit card transactions on the Internet) by the country's financial institutions to ascertain if the cost of these services is significantly hindering the online export sector.

Alliances between small firms could considerably reduce the complexity and cost

involved in servicing the B2C market. The issues of high cost and logistical complexity involved in shipping small quantities to the consumer can be addressed through the establishment of fulfillment centers in strategic geographic locations. The total cost of operating a fulfillment centre may be prohibitive for any one firm, but as a collective it is likely to be cheaper than each firm paying high prices for courier services each time they fill an order.

Firms need to attract attention to their products and services. This could prove to be quite a task for the typical Nigeria firm, with a practically unknown brand name and weak advertising dollars. Goldstein and O'Connor (2001) state that "even the best e-marketing strategy does not substitute for traditional media. Indeed, such advertising is normally viewed as an unavoidable sunk cost to establish brand name recognition." Small firms by themselves will be unable to afford the advertising sunk cost that is necessary for effective market penetration. By engaging in a cooperative effort in marketing, using a Web portal and sharing advertising cost, firms may better penetrate the on-line market.

Nigeria government needs to encourage and recognize innovative applications of ICTs and help in instituting mechanisms to spread best practices. Government should create a national demonstration and help desks to assist SMEs in ICTs choice, implementation and maintenance. If possible, provide motivation to encourage SMEs' use of ICTs through various mechanisms, facilitate, support and encourage e-commerce applications through establishing appropriate frameworks, removing hurdles and leading by example.

There is need for education and training. Education institutions in Nigeria should Institute compulsory courses in information and communications technology as early as possible into the curriculum. They should also encourage local hardware shops to collect-refurbish and roll-out computers that are gathering dust in most offices to high schools and elementary schools, at least where there is electricity, so that students will get exposure at an early age. Education administrators must ensure that tertiary education curriculum reflects changes in the global environment, expand tertiary level information and communications technology education, establish specialized institutions (like the Egyptian Information technology and South African software development institute) to prepare young cadres for the information economy in collaboration with the local private sector and other international institutions. In addition, they should also encourage, recognize, accredit and certify private institutions involved in high level ICTs training, set requirements and (social) obligations for organizations to provide ICTs skills to their staff and provide incentive and motivation.

A complete program package that would first seek to educate the population at the three levels-government, the business enterprises, and the populace is desirable and profitable for e-commerce. It would then encourage the participation of the small and medium-size enterprises by providing personal computers to select product categories or trade associations, enabling the presence and effect to be enjoyed by a sizable number of companies. As a pilot scheme, free internet access could be provided through the setting up of a few internet cafes, funded initially by Government or donor/e-cooperating international agency. The success of this program would certainly encourage other to join the new wave. The figure below provides an illustration of the way forward that have been identified together with others.

## CONCLUSION

In conclusion, for Nigeria's electronic/Internet economy to blossom, government must recognize that there is a direct relationship between a highly digitalized economy and the prosperity of that economy. Therefore, there is need for her to assist the SMEs with the provision of basic functional infrastructures, the inadequacy of which has constituted a drain channel for the investible funds of SMEs. They have to make provision for all these from the loan/funds hitherto acquired from banks. If these basic amenities were readily available, SMEs would divest such funds to more productive operations. Government could also assist by establishing a well funded National Credit Guarantee Fund that will act as buffer for credit facilities from banks and other financial institutions over and above the equity provided under SMEs.

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