e-Finance: a key to improve SMMEs access to South African government funding

Boitumelo Nkaelang  
Tshwane University of Technology, Pretoria, South Africa  
and  
SAP Meraka Unit for Technology Development, Pretoria, South Africa  
oboitumelo.nkaelang@sap.com

Marlien Herselman  
Council for Scientific and Industrial Research, CSIR, South Africa  
mherselman@csir.co.za

SJ Jacobs  
Tshwane University of Technology, Pretoria, South Africa  
jacobssj@tut.ac.za

Ernest Ketcha Ngassam  
School of Computing, University of South Africa  
and  
SAP Meraka Unit for Technology Development, Pretoria, South Africa  
ernest.ngassam@sap.com

Abstract

The South African government has initiated a number of funding schemes for Small, Medium and Micro Enterprises (SMMEs) to stimulate economic growth and job creation. Despite these funding schemes through various government programs and initiatives, SMMEs still find it difficult to get access to finance from such initiatives. Many of these initiatives operate in isolation, lack close coordination and as a result there is a loss of synergistic benefits. The argument presented here is that governmental financial institutions can achieve competitiveness and overcome some of their challenges through innovatively employing Information Communication Technology (ICT) in their organisations. It is proposed that the translation of the existing manual-based transaction model to an e-finance model may lead to an effective and efficient service delivery, which in turn could positively result in financial sustainability and growth of SMMEs.

Keywords: Small, Medium and Micro Enterprises; finance; e-finance
1. Introduction

In recent decades the financial services landscape has experienced major changes in the use and access of finance. Advancement in Information and Communication Technology (ICT) and sophisticated users of electronic channels has had a remarkable influence in the development of e-financial services. E-finance can be defined as the provision of financial services and markets using electronic communication and computation [1, 14]. E-finance has not only brought cost savings to financial services but also new opportunities to the financial industry [5]. Inherent convenience, speed and efficiency are some of the opportunities brought by e-finance. In this paper e-finance will be defined as the transaction activities associated with financial services mediated by the Internet to provide cheaper, faster and more widely available finance for SMMEs, with a particular emphasis on the prospects for the emergence of e-financial services on improving SMMEs access to government finance.

The advent of Internet technology has had a great influence on how business is being conducted today in the financial services industry. The technological revolution has brought consumers more opportunities for services consumption such as around the clock access to financial services. E-finance has a critical role to play on the lending side by non-deposit taking financial institutions ¹ and capital markets to reach far more borrowers including SMMEs because transaction costs are lower and information is more widely available [5]. Access to finance is no longer restricted by geographical locations and time; SMMEs can access finance 24 hours a day and 7 days a week.

Government finance institutions like non-deposit taking financial institutions can exploit the capabilities offered by developments in internet technologies to extend access to finance and overcome some of their challenges (e.g. long turnaround & information gaps). Accessing finance still remains a great challenge for SMMEs, partly because the current process involved in getting finance is difficult to accomplish. The time taken to process the application is long (1-3 months), the processes are completed manually with minimal use of ICT. For example an SMME that has been awarded a tender and needs some working capital to start the work would be delayed in rendering its service because of the delay encountered when approaching financial institutions. This process can stifle SMMEs growth and sustainability. Furthermore, SMMEs are operating in a dynamic environment and need to respond quickly to the opportunities that arise. Therefore, time is very important and there is a need for speed in processing the applications and disbursing funds. The lack of national footprint of some of these financial institutions makes it difficult for the SMMEs to access their funding. For instance an SMME located in remote areas where the DFIs have limited national coverage find it difficult to access the services provided by the DFIs. In effect, it follows that often an SMME will need to travel to get access which can be costly and time consuming.

Access to finance still remains an important resource for small businesses. Finance provides SMMEs with the ability to acquire valuable assets needed to take out its operations and develop innovative products. Access to finance can be defined as the availability of a supply of reasonable quality financial services at reasonable costs, where reasonable quality and reasonable cost have to be defined relative to some objective standard, with costs reflecting all

¹ A Non deposit taking financial institution is an institution which provides various funding services to SMMEs without requesting a deposit.

Proceedings of the 3rd International IDIA Development Informatics Conference, 28-30 October 2009
978-0-620-45037-9 -49-
pecuniary and non-pecuniary costs [7]. Therefore it is important to improve the environment for SMMEs to access finance. In quest of improving the environment for SMMEs e-finance is seen as an important instrument in improving access to finance. E-finance offers a plethora of opportunities to transform the Development Finance Institutions\(^2\) (DFIs) into true partners for business growth. Thereby giving SMMEs the opportunity to access finance anywhere, anytime and whenever, increasingly making it easy for SMMEs to remain at arms length from the DFIs.

In this paper an e-finance model is recommended as a way of broadening access to finance for SMMEs by the government finance institutions in South Africa. E-finance is seen as one of the key solutions in extending access to finance for small businesses. In section 2 we discuss the funding environment for SMMEs, look at the different funding programmes provided by government (specifically those of the Department of Trade and Industry in support of SMMEs development and growth. Then, the current model of access to finance is discussed to show the gaps that exist with the current model of providing finance. Section 3 outlines the importance of e-finance for SMMEs in broadening access to finance and the benefits thereof. As a jump-to-start for the discussion on e-finance model for government finance institutions in SA, an e-finance model is proposed and explained in section 4. Finally, in section 5, the conclusion and topics for further research are discussed.

2. Current government funding programmes for SMMEs in SA

Since 1994 the South African government has initiated a number of support programmes aimed at promoting the development and growth of SMMEs. Among others, the types of support provided by government institutions are the funding schemes for SMMEs to stimulate economic growth and job creation. SMMEs are seen as an important instrument to reduce unemployment, poverty and to grow the economy. The number of SMMEs in South Africa has been estimated at between 1.8 and 2.6 million. Moreover the SMMEs sector constitutes about 30 to 40 percent of total employment in the economy. Aside from the job creation effect of SMMEs, their contribution to GDP is also viewed as an important indicator of the significance of this sector. The contribution of SMMEs to GDP thus varies between about 27 and 34 percent [18]. The SMME business sector in South Africa is highly diverse, with problems, growth potential and access to support differing widely between sectors.

In order To make finance easily accessible to small businesses, the South African Department of Trade and Industry (DTI) has established a number of Development Finance Institutions (DFIs) which are responsible for providing SMMEs with access to affordable finance. The DTI offers financial assistance to SMMEs through its agency organizations such as Khula, National Empowerment Fund (NEF), Industrial Development Corporation (IDC), South African Micro-Finance Apex Fund (SAMAF) and Technology Transfer Fund. The objectives of these schemes range from promoting and facilitating black economic equality and transformation, reducing poverty and unemployment and also to extend financial services to reach deeper and broader into the rural and semi-urban areas. They also encourage the sustainable development of SMMEs through network partnerships by insuring organizations financial viability and to support the provision of accessible and affordable financial services.

\(^2\) Development Finance institutions (DFIs) is another term used to refer to the governments finance institutions.
Support is provided to SMMEs throughout their growth lifecycle. These include services such as providing start-up finance, working capital and finance for expansion. In expanding services and reaching out to a broader range of customers’ access to finance for small businesses is provided in the form of loans, grants, guarantees and equity. In effect one of the main objectives of Khula is to improve the outreach and capacity of alternative financial institutions and increase the level of bank lending to SMMEs at rates not increased by unreasonable risk perceptions. In the same alley SAMAF seeks to facilitate the provision of affordable access to finance by micro small and survivalist businesses for purposes of growing their income and asset base.

Finance made available by government agencies and other private institutions caters for the different needs and sizes of SMMEs. Figure 1 below shows the supply side of finance in South Africa.

(Source: Sithole 2006: 5)

As depicted in the figure DFIs provide financial support to SMMEs in different cycles of small enterprises growth (from enterprises survivalist enterprises to medium enterprises). SAMAF mainly provides support to Survivalist enterprises and Micro enterprises while Khula, IDC and NEF mostly provide support to Small and Medium enterprises.

In general the mode of accessing finance from government finance institutions in SA usually is through a number of channels (as depicted in figure 2). In some instances the financial institution has presence throughout the country; which reflects their proximity to SMMEs in quest for financial and non-financial support. On the contrary other institutions have limited national presence; they only have a provincial office which has to serve the whole SMMEs ecosystem. Although these institutions have increased their presence in the ecosystem it still becomes difficult to access their services. This can be attributed to, among other things, bureaucracy and the often manual process of accessing these services with minimal use of ICT in completing some of these processes [13]. Therefore a plausible remedy to this challenge is to seek the use of ICT to leverage the quality of service rendered as well as the processing time required for service provision. Also of importance is the use of intermediaries in rendering services and as a result the DFI does not have any control on how finance is provided to the
SMMEs. Although this model of rendering service can be efficient it also has a negative effect on service provision in the sense that in some circumstances, the intermediaries do not give the necessary exposure to the services/products offered by government financial institutions. A detailed discussion on the overall process currently used for accessing finance is discussed in the next section.

![Diagram of DFIs channels of access to finance]

**Figure 2: DFIs channels of access to finance**

### 3. Current model of access to finance

In South Africa small businesses have access to various financial products such as procurement, franchise, acquisition, expansion and rural community development project finance, product process development scheme amongst others. Usually financial providers advertise their products (services) in their brochures and it is up to the SMMEs to discover the products and services that best suit their financial needs. Products and services can be discovered through word of mouth, friends and family, company websites, pamphlets, exhibitions and radio. An SMME without the knowledge of available services and products is unlikely to take advantage of opportunities available.

In general a generic model of access to finance in South Africa can be described as follows: The financial providers advertise their products and services through any of the advertising mediums (Print, TV & Radio) and sometimes they even do exhibitions and road shows around SA. The responsibility of accessing finance lies on the small business to discover the advertised financial products and services in order to make use of various opportunities that arise from using such products/services. The SMME has to select the product/service that best meet their financial needs and take relevant action in order to have more insights on the products/service. Once an SMME has made a choice on the suitable product/service it needs various interactions may take place between the financial provider and the SMME (Consumer). Some of these interactions can be combined into one stage rather than a series of interactions.
The interactions for accessing finance entail: the request for application documents; the reception of the list of documentations required for requesting the service; the completion of all the necessary forms; the submission of a formal request for financial and non-financial services; the screening of the submitted application documents; the submission to investment committee for review purposes; the due diligence process; the resubmission of final report; the validation process; and finally the consumer and the provider enter into contractual agreements followed by the disbursement of funds. Of course after the service has been rendered, monitoring will take place. A brief description of each stage is provided along the following line.

- **Advertise services:** Financial agencies advertise products in various forms with the aim at reaching as many SMMEs as possible. Various communication media such as the internet (e-mail and web-pages), print media, road shows and TV/radio can be used at cost.

- **Request service information:** If the service advertised has been worthwhile to the potential consumer, more information is required before making any decision. Information provided is useful to the consumer as it enables them to make further judgments before proceeding. The provision of information is often done through fax, telephone, e-mail or individually by the consumer (SMME) upon arrival at the provider’s premises.

- **Apply for service rendering:** A complete understanding of detailed information on the service is often followed by a request for the various documentations required in order to apply for the service. The previous process can be combined with this process as well as the next one. However, our intention here is to demonstrate the lengthy approach that logically applies for consumers that are unfamiliar with the product, thus would require step-by-step interactions with the financial provider. The process could happen telephonically, electronically, face-to-face or via post, which is time consuming and costly to both parties. The expected outcome at this stage is the submission of the documentation to the consumer described below.

- **Request application forms:** At this stage, the financial provider sends required forms to the consumer for completion. In general, further detailed information and certified documents should be attached to completed forms depending on the kind of service in question. This process is often time consuming to the consumer as some information are often omitted during the exercise.

- **Submit application forms:** Completed forms and relevant documents are then submitted to the financial provider for further analysis.

- **Screening of the submitted application documents:** once the application has been received basic check for completeness is done thereafter the application is allocated to a consultant for evaluation. In general, bureaucratic procedures involved in the approval of submitted forms are lengthy. Furthermore, the financial provider may request additional information from the consumer for the finalization of the procedure, which further delays the process.

- **Submission to investment committee:** Now the consultant presents the proposal to the investment committee which has to decide if the consultant should continue processing the application.

- **Due diligence process:** Consultants visits the consumer to carry out due diligence, to verify assertions made by the SMME and to identify caveats that may not have been
disclosed to the DFI. They then prepare a report and submit it to the evaluation panel where a decision to fund or not to fund is made.

- **Resubmission of final report**: The investment proposal is submitted to the investment committee which in turn approves, rejects or amends the business proposal.

- **Validate service request**: The provider notifies the consumer on the outcome of the application. If successful, agreements that formally bind the two parties are prepared and finalised before the actual rendering of the service requested.

- **Sign agreement for rendering**: Contractual agreements between the two parties are signed. In most instances, this takes place at the providers’ premises. In some circumstances, fax and post mail can be used as the communication medium.

- **Disbursement and monitor service**: After all the above processes have been completed, the actual service rendering happens. In some cases, the provider has to follow up on the service rendered in order to ensure that it has a positive impact on the small business operation.

In general the time taken to process the application ranges from one month to three months and can even be more in some circumstances. In principle the process followed in the application for finance is the same irrespective of the amount of money requested (financial service required) as well as the importance of the loan being sought by the consumer. In effect, a service that requires a provision of an important amount of money follows the same process as a similar service leading to the provision of far lesser amount. Subsequently, such lengthy process at times tends to have a negative impact on SMMEs in the sense that financial services are not accessed on an as needed basis. Subsequently, such lengthy process at times tends to affect the SMMEs negatively by not offering finance when it is needed. These can be attributed to the little usage of ICT in the completion of each process which complicates the overall systems efficiency and effectiveness. Therefore, unreliable infrastructures and inaccurate timing in providing the service make it difficult to provide finance when requested. Furthermore SMMEs can be excluded from accessing finance from DFIs due to the fact that application forms are difficult to complete and requires a lot of information (lengthy).

The procedure of loan application process demonstrates that more can to be done to minimize the processing time and improve the efficiency of the overall system in order to increase the satisfaction of small businesses. Thus, there is a need to bring ICT into the picture as an optimal tool for improving the efficiency of interactions amongst DFIs and SMMEs. The next section discusses e-finance as a way of broadening access to finance for SMMEs.

### 4. E-finance as an enabler for SMMEs

Information and Communication Technology (ICT) has revolutionised the way business is conducted in today’s competitive and globalized world. The rapid progress in ICT is a key factor changing the financial sector in many countries and its effects are predominantly strong in finance [21]. The internet as an enabling technology not only allows SMME opportunities to conduct business anywhere around the world, but also allows SMMEs access to financing with better and more competitive rates [11]. For example, in Mexico, in program developed by Nafin³, many small suppliers use their receivables from large creditworthy buyers, including

³ Nafin is a development banking institution in Mexico which is also known as Nacional Financiera, S.N.C. Development Banking Institution.
foreign multinationals, to receive working capital financing. By effectively transferring the creditworthiness of large businesses to small businesses, the program allows small businesses to access more and cheaper financing. Nafin operates an Internet based platform, reducing costs, increasing transparency, and improving security [7]. The most important elements of internet banking are low fees, time savings and freedom from time and place [12]. Goldstuck [17] has discovered that there is a dramatic difference between those SMMES who use electronic banking and those who do not use it. The 70% of small businesses that use electronic banking considers themselves competitive as compared to their counterpart who does not use it.

E-Finance can deliver strategic financial information faster and sooner, not only about what happened in the past, but also giving you forecasts and insights into what will happen next quarter or next year. The application of ICT to the financial services sector has been responsible for transparency and the balance of power between customer and financial intermediary has been tilted more in favour of the consumer, thanks to the improvement in the quantity and quality of information [21].

In addition e–finance has been acknowledged for broadening access to finance and transforming the traditional financial functions into value added services that create value for financial institutions and its clients. The Internet has greatly simplified the collection and sharing of credit information and other data on individuals and businesses, and technology has lowered the costs of processing and using such information.

Demirgüç-Kunt, Beck & Honohan [2] contend that the rapidly evolving technologies based on the Internet (e-finance) and cell phones (mobile phones or m-commerce) can be powerful engines of access. This could be as a result of the popularity and the cost thereof. However Claessens [7] asserts that new technology, including the Internet, smart cards, and the use of mobile phones can help to broaden access, although it does not necessarily address the underlying distortions limiting access to finance.

Demirgüç-Kunt, Beck & Honohan [2] argue that the application of modern techniques in ICT is more important in improving the prices, terms, and conditions on which financial services are available- regardless of whether services are provided at home or abroad. For example with advances in technology, financial service providers can better arrange their customer base through analysis of internet collected data and allow customers to build their preferred profiles online.

Furthermore e-finance can relieve the SMMEs of the need to visit the branch to undertake transactions, offering instead “anytime, anyplace, anywhere” financial and non financial services. The inherent convenience, speed and efficiency of e-finance solutions are some of the key factors causing e-financial transactions to predominate. The successful e-financial firms have as their core competency one of the financial efficiencies – operation, allocation, information and pricing efficiencies [8].

It follows that e-finance offer DFIs an opportunity to make service delivery efficient and effective. With e-finance manual processes can be compounded into a single system with
certain parts being automated making service delivery more efficient and effective. Hence there is a need to conceptualise the service delivery model into an e-finance model. The next section discusses our proposed e-finance model.

5. Proposed model

In order to minimize the challenges faced by small businesses in South Africa relating to access finance, an e-finance model is envisaged as one possible solution. The proposed model is all about offering SMMEs a single window for all their finance related requirements- from associated services such as loans processing to financial consultancy. The e-finance model is perceived to represent a new distribution channel (an add on channel rather than a substitute) for DFIs products and services; it offers a way of reaching a broader range of new clients. To adopt an e-finance model DFI’s needs a unified model that can enable them to easily provide their service to SMMEs making service delivery more effective and efficient. To achieve this, it is proposed that they need to begin automating their lending process for optimization and management. Our suggested e-finance model enables automatic interactions between DFI’s and small businesses aimed at improving the productivity of both parties.

Figure 3 depicts the high-level architecture of the proposed e-finance model which comprises of three environments namely: the lending subsystem, the service consumer environment, and the financial provider environment. The lending subsystem advocates for a collaborative environment where financial and non financial services are advertised, discovered, and compose. It also serves as the interface between SMMEs and DFIs during service delivery. Each component of the e-model is briefly described below:

Verification module: this module serves as a platform specifically to allow financial providers to review and verify information about SMMEs. This activity involves checking the quality and quantity of information received to ensure that it matches the required specifications. It is imperative that information flow between the provider and the consumer takes place in an organized manner. Verification is required to determine whether the information specified in the loan application form by the consumer is valid and reliable.

Monitoring and management module: serves to provide reliable information about the progress of activities and their outcomes. It enables consistent transfer of information across the organizations (SMMEs and DFIs) and also serves to reduce the amount of consumer data entry into electronic forms where an existing relationship has already been established.

Auditing and reporting module: serves to supply financial providers with needed insight into consumers’ activity and allows for historical reporting on all actions done by users. And also provide real time event monitoring to financial providers to enable them to respond immediately when security policies are violated.

Application module: an interface that will enable a consumer to apply for required financial services. This is where the consumer complete/provide all the necessary information required in order to access the advertised service.
**Processing and execution module:** this module is a platform for enabling the processing and execution of transactions such as loan applications and non-financial services. It also serves to facilitate messaging services between the organizations (SMMEs and DFIs).

**Advertised service module:** it serves as a platform where service providers advertise their products and services. In this module the DFIs will publish accurate, relevant and timely information to the SMME on strategic developments and initiatives of their available products/services. The information is then consulted by the SMME for plausible consumption.

**Provider/Consumer portal:** an interface which serves to provide a single point of access to the e-finance model (access to content and core services).

**SMMEs central repository:** serves as an information repository carrying relevant information that will assist DFIs in their daily businesses (Including database of relevant SMMEs) carrying up to date information with integrity. This is a placeholder for storing data about SMMEs, enabling for a complete and consistent view of the consumer track record. It will enable the ability to leverage data across the organizations.

**Verification repository:** serves as information repository carrying relevant information from a third party that is important for decision making. Information relating to whether the business is a legal entity, complies with tax and track record of the SMMEs.

**Financial provider repository:** serves as information repository for the financial provider. This is a placeholder for storing data about DFIs, enabling for a complete and consistent view of the financial provider. It will provide accurate, relevant and timely information on strategic developments and initiatives, trends and market opportunities, Information on access to funding, training (assistance with business plans) and where it is available from.
The e-finance model as described in this paper serves to enhance the current service rendering model providing efficient and effective service to the SMMEs. Since security and risk management forms some of the key important factors in the financial industry, this model aims to cater for these issues through the auditing and reporting module and the monitoring and management module. Adopting the e-finance model could significantly contribute to ensuring sustained profitability in SMME lending. It could leverage the productivity of DFIs as well as that of small businesses. Although not all the processes may be performed automatically, it is worth noting that all the automated activities required to complete the loan application process could be handled within the e-finance model.

Based on the proposed e-finance model, an application for the expansion capital would be performed at optimum such that there would be limited manual intervention in the process. Once a financial service is advertised by the service provider in the advertised service module residing in the lending subsystem environment, its discovery by a service consumer is done in real-time. Upon discovery, the consumer may request for the advertised service/product provided it suits its needs. In the case where the consumer still need more information on the advertised product/service, a request may be sent to the provider for further clarity on the advertised product/service. Once the consumer is satisfied with information provided and have identified a suitable product/service, then the consumer may complete the application form through the application module. The application is then sent to the processing and execution module for further consideration. The processing and the execution module will facilitate the communication between the concerned organisations making sure that they receive real time messaging. The review and verification of business registration, tax clearance, track record and banking details will be carried out automatically by the verification module. The information provided by the service consumer is verified against information from third parties which is stored in the verification repository. The DFIs no longer need to individually contact the other
role players to confirm information such as tax and business registration of SMMEs; which is often time consuming and costly. The system screens the application and allocates it to an appropriate consultant to ensure that the application is reviewed accordingly and carry out the due diligence if required. The auditing and reporting module serves to identify if there is any missing information that needs to be provided and ensures that transactions are performed securely. Monitoring and management ensures that all parties are aware of the progress and outcome of the application. After all the necessary conditions have been conformed to then the provider may supply the SMMEs with the required service.

It follows that, the e-finance model serves to improve the turnaround time of the application by automating the process. This demonstrates the advantage of using the e-finance model for rendering financial services to small enterprises, and in our view it will significantly leverage the productivity of DFIs and SMMEs. The conclusion and further directions to this work are presented in the next section.

6. Conclusions and future work

In this paper, the importance of e-finance as an enabler to access financial resources by South African SMMEs has been presented. The concept suggested was set forth by the understanding of the challenges faced by SMMEs in South Africa that is, their inability to have access to financial resources. ICT is seen as essential if these SMMEs must communicate, exchange information, deliver and use products and services in real time. The argument presented is that e-finance represents a new distribution channel for DFIs; it also provides efficiency in transaction cost and offers a way of reaching a broader range of new clients. DFIs can achieve competitiveness and overcome some of their challenges without necessarily increasing their actual size, but rather by building on their soft assets in order to provide access to financial resources. The suggested concept might make significant contributions to the DFIs and SMMEs sustainability and growth. For future work, investigations should be made on the obstacles of implementing the concept and how to promote the benefits of e-finance to SMMEs and government funding agencies. It is also worthwhile to investigate how SMMEs can make the transition to reaping the full benefits of e-finance.

References

