

# **Mauritius Research Council**

INNOVATION FOR TECHNOLOGY

# **FEASIBILITY STUDY OF AN** INTEGRATED FINANCIAL LITERACY ASSISTANCE STRATEGY FOR SMALL **MEDIUM ENTERPRISES IN MAURITIUS**

**Final Report** 

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## MAURITIUS RESEARCH COUNCIL

# SMALL SCALE RESEARCH AND INNOVATION GRANT SCHEME

# **Project Title:**

Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium Enterprises in Mauritius

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#### **Abstract**

Small and Medium Enterprises (SMEs) are regarded to promote inclusive growth through the creation of employment opportunities. Hence, the health of the SME sector is vital for an economy. The SMEs are key drivers of the Mauritian economy through their important contribution to Gross Domestic Product (GDP) growth and socio-economic development. SMEs are recognized for their significance and their resilience in responding to fast changing conditions, even at times of the global economic crisis. The project goal is to improve the financial literacy of Mauritian SME owners by finding an integrated financial assistance strategy for SMEs in Mauritius in view of enhancing the financial sustainability, growth and development of their business entities. For such reasons, the Government is aiming to create a secure and conducive business environment for SMEs. Over the past years, much attention has been laid in tackling constraints faced by SMEs relating to finance, capacity building, marketing, business development services, infrastructure and institutional support framework. During this study, a micro-level study has been undertaken with SME owners, notably through administering of surveys and focus groups. Furthermore, the perspectives of other stakeholders namely the Small and Medium Enterprises Development Authority (SMEDA), the Ministry of Business Enterprise and Cooperatives, Financial institutions namely the Development Bank of Mauritius (DBM) and other commercial banks, have been analysed through a series of interviews, surveys and focus groups to identify the gaps and institutional hurdles in the sustainable financial soundness of SMEs. The project also highlights the specific gaps and needs in terms of financial education and contributes to designing the most adapted solutions in terms of training and IT to respond to these needs. Another important task of this project attempts to make an evaluation of the present IT infrastructure that exists in Mauritius to meet the financial literacy informational needs of SMEs with the aim to provide an electronic assistance strategy. It is important to note that the other potentials of SMEs are yet to be fully harnessed. Hence, this study can contribute in transforming not only local SMEs but also contribute to the economy of the country.

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#### **List of Abbreviations**

ACCA Association of Chartered Certified Accountants

ACE Action Community for Entrepreneurship

ACRA Accounting and Corporate Regulatory Authority

ASEAN Association of Southeast Asian ATM Automated teller machine BPO Business Process Outsourcing

CACCI Confederation of Asia-Pacific Chambers of Commerce & Industry

CMS Content Management System
CPU Central Processing unit

CSR Corporate Social Responsibility
DBM Development Bank of Mauritius

DOB Date Of Birth

EU Enterprise Mauritius

FAQs Frequently Asked Questions

FI Financial Institutions
GBP Great Britain Pound
GDP Gross Domestic Product

GEM Global Entrepreneurship Monitor

GSM Global System for Mobile Communications
HKTDC Hong Kong Trade Development Council
HRDC Human Resource Development Council

HTML Hypertext Markup Language

ICT Information and Communication TechnologyIDA Infocomm Development Authority of SingaporeIDA Infocomm Development Authority of Singapore

ICT Information Communication Technology

IS Information System
IT Information Technology
ITC Italian Trade Commission
KETs Key Enabling Technologies

MEPI Middle East Partnership Initiative

MoF Ministry of Finance MUR Mauritian Rupee

NCB National Computer Board NIC National Identity Card

NICE National Institute of Cooperative Entrepreneurship

NWEC National Women Entrepreneur Council

OECD Organisation for Economic Co-operation and Development

POS Point of Sales

RAD Rapid Application Design

SEDSS Startup Enterprise Development Scheme

SEO Search Engine Optimised
SME Small and Medium Enterprise

SMEDA Small and Medium Enterprises Development Authority

SPSS Statistical Package for Social Science

UK United Kingdom

URL Uniform Resource Locator

WCMS Web Content Management System

### **Chapter 1 Introduction**

#### 1.0 Introduction

Small and Medium Enterprises (SMEs) are an important pillar for the economic development of a country (GEM, 2002) and Mauritius is not an exception. The significant economic contribution of SMEs in Mauritius in terms of gross domestic product, poverty alleviation and job creation is well acknowledged by the government. Therefore, it is important for policymakers and the government to see that SMEs are provided with necessary support to ensure the survival and growth in this sector. However, despite significant interventions and support of the government and local institutions, SMEs are still facing challenges regarding financial knowledge in their daily operation including regulations about tax and tax filing, maintaining proper accounting records, skills and abilities to carry out budgeting and financial planning which are crucial for the survival and growth of an enterprise. Mandell and Klein (2009) claimed that financial literacy is important for enhanced decision making and behaviour. Thus, financial literacy among SMEs plays an important role in decision making leading to the survival and growth of the enterprise. The current study addresses the gap in financial literacy among SMEs and aims to come up with a portal to provide access to entrepreneurs to educate themselves on financial aspect in order to improve their financial habit.

#### 1.1 Background Study

The economic and social contributions of SMEs across countries have been widely acknowledged. SMEs across the globe are seen as the engine for economic growth, poverty alleviation, enhance income distribution and create jobs (GEM, 2010). For instance, Jutla, Bodorik and Dhaliwal (2002) found that SMEs accounted for 80% of global economy while, the Global monitoring report (2002) concurred that 62% world population are engaged in entrepreneurial activities. The ACCA report (2010) found that SMEs contributed 54% GDP and 77% employment among OECD countries. Similarly, study conducted by statistics Mauritius (2013) showed that the SME sector accounted for 39% GDP of the national economy while, 108,000 units of formal SMEs existed with a significant contribution of 252,400 full-time employees in the sector.

However, the GEM report (2008, 2014) also showed high rate for fear failure to start up an enterprise and discontinuation of businesses in few countries (GEM, 2009). The development of SMEs is positively linked to economic growth (Beck et *al.*, 2005) whereby these firms contribute up to an average of 50% on the Growth Domestic Product (GDP) in high income countries (Ayyagari et *al.*, 2007). SMEs are developed to serve niche markets by having high quality products developed, flexibility in their approach and ready to lend an ear to the requirements of the end users. This lifts up the SMEs on the market to be in competition with firms producing products in mass (Hallberg, 2000, Snodgrass and Biggs, 1996).

### 1.2 Context of Study

Independent since 1968 and found approximately 1,130 km off the east coast of Madagascar, Mauritius is neither rich nor to its budgetary ruin. During the 1990s, this peer-shaped island has eventually moved from a mono-crop economy to a more developed entrepreneurship economy with the direct and ferrous introduction of SMEs. Indeed, SMEs are currently mushrooming in Mauritius for the sustainability of many households. SMEs add prominently to wealth creation, employment generation and poverty alleviation. Over the past decades, Mauritius has witnessed surprising advancement and evolution in the SME sector. In Mauritius, the concept of SMEs began in the 1960s when the local entrepreneurs were promoting companies to meet the demand for import, that is, substituting goods which were the first step towards creating a formal SME sector in the Mauritian economy. However, these local SMEs also face a number of challenges. One of their major hurdles is the knowledge sharing practice with regard to financial education.

#### 1.3 Problem Statement

Many SMEs lack the financial knowledge and skills of managing their organisations. Very often, it is seen that the entrepreneurs do not know how to manage their finance and ultimately are later seen to go bankrupt. Ultimately, such SMEs fall prey to many financial challenges which force them close their doors. It is no secret that in view of their characteristics, SMEs tend to neglect the

support services of running their businesses and as such do not have an idea about the performance measurement that are key for the survival and growth of a business. As such, there is scant research in financial education of SMEs. Thus, there has been no such study to investigate into the financial education of SMEs and in particular to propose an e-platform to impart the basic financial literacy to owner manager.

### 1.4 Research Objectives

The objective of the research project is to improve the financial literacy of SMEs owners in Mauritius by proposing an integrated financial assistance strategy for SMEs in Mauritius. In line with the objective of the Government, this project also aims at enhancing the financial sustainability, growth and development of SMEs in Mauritius. Ultimately, an online portal for SMEs has been developed. This portal is expected to act as a one-stop platform which attempts to act as an information source. The study specific objectives are as to:

- 1. Assess the existing IT platform of SMEs in countries for knowledge sharing practices;
- 2. Investigate on the financial awareness and knowledge of SMEs to better identify gaps in financial education;
- 3. Establish the training needs for the financial literacy assistance strategy for entrepreneurs in Mauritius;
- 4. Develop an IT solution as a mainstream business support services which is expected to contribute to the financial education of SMEs and in assisting them in their financial decision making.

#### 1.5 Research Questions

- i. What is the level of awareness, knowledge and skills of financial literacy of SMEs in Mauritius and Rodrigues?
- ii. What is the level of awareness, knowledge and skills of Information Technology(IT) literacy of SMEs in Mauritius and Rodrigues?
- iii. What are the training needs for a financial literacy assistance strategy in Mauritius?

- iv. Who are the various stakeholders in the SME economy?
- v. What are the various financial schemes that are being offered by these stakeholders?
- vi. What are the various IT infrastructures for sharing knowledge among SMEs in Mauritius with regard to their financial knowledge?

#### 1.6 Significance and Scope of Study

The study is of high significance to SMEs both in Mauritius and Rodrigues, stakeholders namely MyBiz, SMEDA, Enterprise Mauritius, NICE, Ministry of Industry, and financial institutions such as commercial banks. The different stakeholders will be made aware of the education, financial and other needs of the SMEs and will thus be in a better position to propose solution. This research comes at an opportune time where the government has launched a 10 year master plan to make this sector an important pillar of the Mauritian economy. Thus, the outcome of this feasibility study will provide the government and other key stakeholders a portal which could be further enhanced to better assist the SMEs. The focus of the study is to propose a financial literacy assistance strategy to better assist SMEs in basic accounting and IT literacy levels. Only a prototype of an integrated financial literacy system is proposed with some sample tutorials related to basic financial accounting and a platform consisting of basic information related to SMEs.

# **Chapter 2 Literature Review**

#### 2.0 Introduction

SMEs are argued to promote inclusive growth through creation of employment opportunities. Hence, most policymakers deem the health of the SME sector to be highly important for an economy. However, often it is observed that despite several assistance SMEs still lack the necessary financial knowledge which causes a major hindrance in their growth potential. Lack of access to external finance (Pissarides *et al.*, 2003), technology, innovation and expertise (Lall and Peedoly, 2006) regulatory and tax constraints cause SMEs to face problems of low productivity and competitiveness and they often struggle to survive in markets that are increasingly open and integrated within the global economy. In Portugal, around 98 % of the industrial fabric is composed by SMEs. The SME represents a factor of balance at the micro and macroeconomic level and defined in terms of the size of investment and labor force. Their role in terms of production, employment generation, contribution to export and facilitating equitable distribution of income is very critical. SMEs are seen to be a major source of productivity and contribute a larger percent of the many companies and firms and also forms a large share of the employment (Nielinger, 2003), being an important factor for social and economic development.

#### 2.1 Financial literacy

Literatures widely acknowledge that SMEs need financing to survive and grow during the different stages of the business life cycle (Nunoo and Andoh, 2012) while Hall (1992) found that one reason for failure of an enterprise is the lack of attention to proper accounting systems. Major challenge faced by SMEs is financing in terms of accessibility or the lack of literacy to access formal credit. Noctor *et al.* (1992) defines financial literacy as "the ability to make informed judgements and to take effective decisions regarding the use and management of money". For the current study, financial literacy is defined as 'the knowledge and ability to manage and take financial decisions including investment, credit terms, pricing of product and services and cash flow in an enterprise'. Therefore, financial literacy shapes the attitude and the financial habit of an individual (Beal and Delpachitra, 2003; Mandel and Klein, 2009).

Literatures concurred that financial literacy enhances individual knowledge about financial products offered by institutions and renders individual more comfortable in decision making. Nalukenge and Tauringana (2013) argued that SMEs who are financially literate, are aware about financial products, makes effective decisions that provide high return on investment and are more willing to access credit from financial institutions. Pande *et al.*, (2012) stated that financial literacy provides information about financial services and enhanced its use while providing the link between demand and supply. Financial management is a major determinant for the success or failure of an enterprise as well as a key factor for wealth creation (Beal and Delpachitra, 2003). Karadag (2017) study revealed that education level of small business owner/managers greatly influence the financial management practices, whereas no significant difference is found regarding SMEs operating in different industries. Independent of sector, financial management is thus vital for the performance of an enterprise.

### 2.2 Entrepreneurship

Entrepreneurship aptitude needs to be cultivated right from young age and continue till university training to teach students in taking calculated risks for the sake of larger gain but within the ethos of worthy business as well as cultivating capabilities to do things right. This capacity enables them to take up challenging tasks later in life (Kalam, 2010, pp. 56). Some young Indian entrepreneurs during the 1980s, with their innovative and creative thoughts, within the difficult boundary conditions of India's rules and regulations succeeded how IT-enabled services fetch export revenue. The government thus introduced innovative and liberalized IT policies, where young Indian IT entrepreneurs earn an export revenue of billions of dollars, while the pharma industry contribute a positive impact on the Indian economy (Kalam, 2010, pp.73). Though moral leadership requires people to do the right things, entrepreneurial leadership entails people to gain the habit of doing things right. Hence, key characteristics required in an entrepreneur are desire, drive, discipline and determination (Kalam, 2010, pp.226), while the following important traits are (i) a vision and pioneering spirit, (ii) ability to see possibilities where others do not, (iii) search for new opportunities and challenges, (iv) creative and 'able to think out-of-the-box', (v) constant

strive to do things better, (vi) confidence about taking risks, (vii) proactive and focused on the future and (viii) a good knowledge and skill base.

For the above entrepreneur traits, we are reminded of popular and successful entrepreneurs namely Bill Gates, Jackman, Larry Page, Sir Richard Branson, Mark Zuckerberg, Anita Roddick, Donald Trump, Penney Streeter, Linda Bennett. Entrepreneurship aptitude needs to be cultivated right from young age and continue till university training to teach students in taking calculated risks for the sake of larger gain but within the ethos of worthy business as well as cultivating capabilities to do things right. This capacity enables them to take up challenging tasks later in life (Kalam, 2010, pp.56). Some young Indian entrepreneurs during the 1980s, with their innovative and creative thoughts, within the difficult boundary conditions of India's rules and regulations succeeded how IT-enabled services fetch export revenue. The government thus introduced innovative and liberalized IT policies, where young Indian IT entrepreneurs earn an export revenue of billions of dollars, while the pharma industry contribute a positive impact on the Indian economy (Kalam, 2010, pp.73). Though moral leadership requires people to do the right things, entrepreneurial leadership entails people to gain the habit of doing things right. Hence, key characteristics required in an entrepreneur are desire, drive, discipline and determination (Kalam, 2010, pp.226), while the following important traits are (i) a vision and pioneering spirit, (ii) ability to see possibilities where others do not, (iii) search for new opportunities and challenges, (iv) creative and 'able to think outof-the-box', (v) constant strive to do things better, (vi) confidence about taking risks, (vii) proactive and focused on the future and (viii) a good knowledge and skill base. For the above entrepreneur traits, we are reminded of popular and successful entrepreneurs namely Bill Gates, Jackman, Larry Page, Sir Richard Branson, Mark Zuckerberg, Anita Roddick, Donald Trump, Penney Streeter, Linda Bennett.

#### 2.3 SME Domain

An SME can be defined as an organization which

• Has no more than 250 employees;

- Has either an annual turnover of less than Euro 40 million, or an annual balance sheet total less than Euro 27 million;
- Is less than 25% owned by one, or several enterprise(s) not satisfying the same criteria

According to the European Union: 'The category of micro, small and medium-sized enterprises is made up of enterprises which employ fewer than 250 persons and which have an annual turnover not exceeding 50 million euro, and/or an annual balance sheet total not exceeding 43 million euro.' SMEs are thus defined as firms with 10 to 250 employees, and more than 10-million-euro turnover or annual balance sheet total.

Table 1: Definition of SMEs

Enterprise category	Headcount	Turnover	<b>Balance sheet total</b>
medium-sized	< 250	≤ € 50 million	≤ € 43 million
small	< 50	≤ € 10 million	≤ € 10 million
micro	< 10	≤ € 2 million	≤ € 2 million

#### 2.4 Needs and Challenges of SMEs

SMEs are faced with a number of challenges. Indeed, a few of the major constraints relate to finance, skilled labour, training facilities, marketing, business development services, infrastructure, technology and institutional support framework. Besides, with the gradual rise in production cost, Mauritius is no longer a low-cost producer. Rising production costs unmatched by productivity gains, inadequate multi-skills, logistics constraints, lack of capabilities in ancillary services, design development, a narrow base for technology diffusion and absorption, altogether constitute major hurdles. The SME sector continues to be constrained by in short of finance and

financial instruments, high rate of interest and high rentals, the short reimbursement period, and a lack of commercial and industrial space.

Another important gap identified in the body of literature on SME development particularly in the African context, is that the linkages between institutions and SME entrepreneurship are yet to be adequately explored and understood. Institutions are argued to play a critical role in the promotion of "inclusive growth" especially through promoting, facilitating and supporting entrepreneurship and SME development. However, there are still important institutional and policy related hurdles to overcome in order to harness the full potential of SMEs in terms of poverty reduction, social protection and empowerment. For this reason, the financial education of SMEs is critical to the development and sustainability of their business entities. Furthermore, with reference to the 100 Recommendations of Banking Your Future by the Bank of Mauritius, it is interesting to examine the possibility of how to come up with specific solutions whereby "NGOs and consumer associations are invited to setup and operate independent comparison websites to assess and present information on banking products" (Recommendation 56). This particular recommendation can be realized for SMEs for financial strategies with the main purpose to contribute to their business development.

Intellectual capital contributes to the success of the SMEs which need much knowledge and information to proceed in their professional endeavors. As such, an integrated financial information system (IS) to educate the SMEs is deemed to be searched. Ives and Mason (1990) proclaimed that Information and Communication Technology (ICT) offers exciting opportunities to revitalise customer service by moving the company and respective product closer to customers, thereby IS would enhance flexibility of SMEs. Moreover, Storey and Cressy (1996) share the views that SMEs' speed of adoption of new technology is often greater than in large firms. One existing platform that is showing guiding light to European SMEs is through the Small Business Portal which gathers all the material provided by the EU about and for SMEs. Small companies and entrepreneurs can find information about access to finance, access to markets, and policy related to SMEs on the portal (European Commission). Moreover, it was found by Wallis (2006)

that information on sources of finance needs to be more readily available to SMEs and their advisors through an SME portal. Furthermore, it is interesting to note that the Philippines plans to institute policy reforms to improve financial education and literacy of SMEs in preparation for the Association of Southeast Asian (ASEAN) Economic integration, with the main focus in supporting increasing competitiveness of SMEs, which make up 90% of the country's business sector (Torres, 2015). The barriers to the utilization and adoption of IT in SMEs can be broadly classified as internal and external. Internal barriers are those that exist within the organization and can also be resolved within the organization. This typically includes organizations culture, lack of resources and the level of training of employees. The external barriers are those that lie outside the immediate control of limited fund from the banks and other governmental bodies. But studies state that these barriers can be overcome and for this the SMEs need to collaborate (Kapurubandara and Lawson, 2006).

### 2.5 SME and Economy

A strong SME sector is also vital in keeping the economy in good health (Wafukho and Myaa, 2010). The development of SMEs is positively linked to economic growth (Beck et *al.*, 2005). Definition of SMEs may be determined by the number of its employees, the amount of the capital structure, or the turnover amount (Garikia, 2011). In one of the biggest goods provider of the world, China, classification of SMEs are done based on sales volume, assets value as well as number of employees (Zheng, O'Neill and Morrison, 2009, Cunningham and Rowley, 2007). In the European Union (EU), firms having lower than 250 employees are considered as medium sized and those with lesser than 50 employees are considered as small. Those firms with less than 10 employees are considered as micro businesses. The classification of SME in the EU also considers the turnover as well as the assets value of the firms.

In the Malaysian economy, SMEs are defined on the basis of the number of employees, the equity amount, assets value as well as turnover. Hence, firms in Malaysia are classified as micro businesses, small and medium enterprises. Based on the Companies Act of 1985 in the UK, a firm

is classified as small if two of the following criteria are met, namely its turnover does not exceed GBP 5.6 million, with a balance sheet not exceeding GBP 2.8 million and not more than 50 employees. For a firm to be classified as medium size it should meet at least two of these criteria; its turnover should be less than GBP22.8 million, a balance sheet less than GBP11.4 million and having less than 250 employees. In South Africa, the classification of micro, small and medium size businesses depend on the sectors the firms are involved in. The classification factors are the number of employees, turnover and capital assets worth. As per the Indian definition of SME business, same depends on the sector as well as the value of the plants and machinery. SMEs are defined in the United States based on sector, ownership structure of the business, turnover and number of employees. The Australian definition of SMEs is also based on number of employees as well as sector in which they deal.

#### 2.6 SME Management, Innovation and Growth

SMEs encourage new entrepreneurs to put forward new ideas, more skilled labour and innovative ways of production (CACCI, 2003). United States, Almeida (2004) found out that SMEs play a very important role in bringing innovation as well as new technology in the production process. Ariyo (2008), through his studies showed that 50% of both employment and industrial output in Nigeria emanates from SMEs.

#### 2.7 SME and IT

To be successful in the global economy, SMEs need to develop their technical infrastructure, one component of which is represented by information systems/information technology. Studies are conducted in the past, relating to IS applications in SMEs. Few of these studies are reviewed as follows. In the early 90's, Whitley *et al.* (1992) based on a case study results, presented a process of developing a knowledge based system to support the management of IS in SMEs. Their main objective was simplification of complex issues of information systems for SMEs. Mazur (1998) has suggested strategy of deployment of IS in SMEs and concluded that SMEs often lack time and manpower to implement complicated strategic plans. He has demonstrated, using a case study of

small university book store, how adoption of strategic planning can be implemented quickly in comparison to large companies. It is mainly an application quality tool, such as fishbone diagram and web technology. He also reported that technology helps in mass customization and argued further that SMEs which fail to adapt and utilize IT will suffer from competitive disadvantages. Korzyk (1998) addresses the issues in the context of presence on the Internet, and setting up networks for secure communication for SMEs. Stroeken and Eindhoven (1999) presented an overview of the pilot study on diffusion and adoption of IT in SMEs. Bergeron et *al.* (1999) acknowledged that contingency models based on the notion of best fit between the organization's management of IT, its environment, its strategy, and its structure seem to hold some promise for the benefit of SMEs growth. Usage of IS/IT will change the information processes for better decision making.

IS helps SMEs to be more competitive. Stantchev and Scherz (2004) said that development of a net business environment that is highly adaptable, context-aware and customizable will help SMEs. The tool exists as an e-business solution for SME focusing on mobility. IT enhances effectiveness and efficiency of products and services. SMEs exhibit distinct characteristics that differentiate them from their large organizations (Hudson et *al.*, 2001; Reid 2004). Therefore, there is need to establish the relevance of IT measurement for SMEs. The purpose of this research is to assess national IT infrastructure for an integrated IS for SMEs. IT helps SMEs in lowering its production and labour costs, increases the quality of products and services and finally increases its competitive advantage. For many firms, the most common reasons for IT adoption is to provide a means to enhance survival and/or growth, staying competitive and/or enhancing innovation abilities (Bridge and Peel, 1999; Bu´rca et *al.*, 2005; Bruque and Moyano, 2007). SMEs adopt IT for different reasons, because the functions of firms vary in different environments (Macpherson et *al.*, 2003) and they do not necessarily operate in the same way or have the same impact (Oakey and Cooper, 1988).

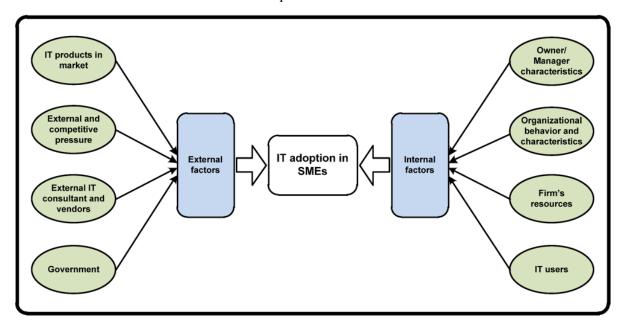


Figure 1: Factors affecting IT adoption in SMEs

Source: http://www.mdpi.com/2078-2489/3/1/36/xml

#### 2.8 Mauritian Context

SMEs contribute to 37% of GDP, producing around Rs 120 billion worth of output annually and employ 250,000 men and women. It is thus essential to preserve the long term sustainability of Mauritius by aiming to achieve large participation of SMEs in the economy. Several financial schemes and facilities, training skills and logistics are being provided to further promote SMEs. Mauritius is undergoing major changes. Indeed, its landscape is transforming into a service-oriented economy. At the ICT-BPO International Conference 2013, it was discussed that the services sector accounts for 67% of the country's GDP with the 3 leading pillars, which are the 1) tourism sector, 2) financial sector and more recently 3) Information and Communication Technology (ICT) sector. The country is being recognised as a safe investment destination because of its established tradition of socio-political stability, free market economy and good governance. At the ICT-BPO International Conference 2013, it was also stated that the vision of the Government of Mauritius is to position the country as a leading ICT destination in Africa.

In line with this statement, it is hence important for SMEs in Mauritius to keep pace with the application of technology. If not adopted rightly and positively, SMEs could position themselves

far away from the Government's vision and policy. Without the appropriate financial assistance strategy, SMEs in Mauritius will have a low profile and capacity compared to foreign SMEs and in order to sustain further growth, it is vital that local SMEs provide services that meet international norms and standards. Generally, SMEs in Mauritius operate in a wide range of sectors from food and beverages, leather and garments, wood and furniture, paper products and printing, chemical, rubber and plastic, handicrafts, pottery and ceramic, jewelry and other items related to trade and commerce. According to SMEDA (2014), SMEs have the ability to significantly contribute to the Mauritian economic growth and in order to improve their competitiveness, quality and productivity. In order to monitor the support and promote SMEs in Mauritius the Government has come up with a series of institutions. The major ones are:

- a) Small and Medium Enterprises Development Authority (SMEDA)
- b) Development Bank of Mauritius (DBM)
- c) National Computer Board (NCB)
- d) Human Resource Development Council (HRDC)
- e) Enterprise Mauritius (EU)

SMEs in Mauritius are governed by the Small and Medium Enterprises Development Authority Act of 2009, as per this legislation, SMEs regroup both enterprises with a turnover of not more than 10 million MUR (small enterprises) and other enterprises with turnover ranging between 10 and 50 million MUR (medium enterprises). During the past decade, following Government incentives and guidance, we have witnessed the expansion of the Mauritian SME sector. Many of these SMEs have successfully developed in larger enterprises and are contributing significantly to our GDP and job creation - as at end 2013, SMEs in Mauritius contributed 40% to our GDP (Jim Seetaram – The Minister of Business, Enterprise and Cooperatives). A survey conducted by Statistics Mauritius in 2007 revealed that there were 92,000 SMEs providing employment to some 209,000 individuals and these figures are estimated to have reached 280,000 in some 108,000 establishments in 2014 (Yandraduth Googoolye, First Deputy Governor, Bank of Mauritius & Board of investment).

In January 2015, the current government regime issued its programme in view of reframing its current strategy and achieving meaningful change in Mauritius. This programme perceives SMEs as the main engine of growth, and catalyst for the democratization of the Mauritian economy. Investment, from both the Government and private firms will be provided to promote the sector and ensure that SMEs become the backbone of the economy in the years to come. In addition, the programme also provide for a new SME bank and 10 billion MUR earmarked by Government to support the development of this sector over the next 5 years, and open the doors of Africa to our export market.

### 2.9 International Perspectives

An overview of a sample of current levels of e-support systems for SMEs around the world is given with a view to have an assessment of the advancement made by other jurisdictions in IT support systems targeted to SMEs.

#### 2.9.1 African Experiences

Etisalat Nigeria and Yuuzoo Singapore operate an e-commerce platform facilitating growth of SMEs in Nigeria. This e-platform allows SMEs to converge network, collaborate, showcase their product and interact with customers and business partners in digital segment, thereby enhancing efficiency, productivity and profit optimization. Nigeria Mobiz, a mobile website is optimized for all features and smartphones that enable SMEs to trade their goods and services at reduce hosting cost. The Bank of Industry in Nigeria also provide five mobile digital product including the SME Mobile App, the SME Accounting App, the Online loan application portal, the Loan application tracking system, and SME Customer portal. Further, the SME Mobile App based on the country's high GSM tele density and improved internet access to information on their mobile phones and banks' services. In Egypt, SMEs portals are informational portals providing customers with information about company/products/services information, e-procurement, use of social networking groups such as Facebook, Instagram, Twitter and advertisements, quick memo and instant customer feedbacks.

The Kenya Internet Exchange Point allows SMEs to receive flawless messages through advanced level of connectivity to SMEs while using Quick Book in an affordable price. The Kenya IT and Outsourcing Service (KITOS) is a platform through which local SMEs engage with government, other domestic and international players in the industry ecosystem. Moreover, the Kenya Agricultural Commodity Exchange (KACE) has established a cell phone service called "Kilimo Hotline" which mainly aimed in promoting agricultural products for trade information through SMS. Also, SME Kenya, Online News Portal (Online Newspaper), a user friendly, active, informative and resourceful site serve as a library source for all SMEs where they access information to empower them and enrich their knowledge about operating their businesses including SMEs and Finance; SMEs and IT. The Biz4Afrika.co.ke online hub, a Microsoft initiative helping SMEs across Africa aiming to meet SMEs needs at three entry points the start, growth and acceleration phases by aggregating relevant online services, complemented by valuable information, resources and leanings. Further, the WebCrunch e-commerce helps in keeping SMEs data fresh based on real time facts, rules and policies from SMEs portal system and have portal administrator manage by a corporate web presence on a 24/7 access.

Launched in 2009 in Algeria, a support program signed between the Ministry of Small Business and Craftsmanship and the European Commission, comprised of three components (i) Direct support to SMEs in selected areas (general upgrading, upgrading in terms of quality and skillful usage of ICT); (2) support to the supporting institutions (Ministry of SMEs and its agencies, departments, and organizations representing SME); (3) Support for the establishment of a quality system, including the structures in charge of standardization, metrology, accreditation, inspection and certification and support for technical centers. The Technology Center Sidi Abdallah, developed under the ICT Development Support Project supported by the World Bank comprises of three technology parks. A cyber park was also established, along with a "Technobridge Incubator" in the technology park to support start-up of new companies and innovative SMEs and while provide development support to the Ecole Centrale des Postes et Telecommunications and the Institut National des Telecommunications (INT) in offering courses on cyber entrepreneurship

and ICT management with aim to increase wealth through promoting competitiveness and innovation culture in both small and large businesses. The government thus emphasizes to strengthen national capacity of consulting and engineering, modernize the structures of management training; including the creation of specialized centers for training and development of business managers as well as develop the SMEs incubators. The national Agency for Research and Technological Development is the national innovation agency whose objective, besides working with universities' incubators is to distribute subsidies to inventors and promote all sort of efficient partnership enterprises, between universities, and research labs.

#### 2.9.2 Asian Experiences

The SME-info is a One Stop Information portal for SMEs in Malaysia providing information on all aspects of SME Development including Financing, Advisory Services, Training Programmes, Business, networking opportunities and other SMEs Developmental Programmes/initiatives by the Government/Private Sectors. "SME Corporation Malaysia" is a Central Coordinating Agency supervised by the Ministry of International Trade and Industry Malaysia that formulates overall policies/strategies for SMEs coordinating implementation of SME development programs across all related Ministries and Agencies. The sharing of dialogues and information sharing sessions with the Presidents of Women Entrepreneurs Associations is also possible.

To facilitate the financing of businesses a certification programmer initiated by the SME Corp called the "Innocert" has set up so as to encourage entrepreneurs to venture into high technology and innovation-driven industries where SMEs can participate and compete in various activities. Idea sharing. SMEs benefit from financial support and guidance of managing their finance. They are taught transaction recording in order to facilitate their accounts set up at the end of financial year and also how to use different technological programs/hardware to manage their daily transactions. Further, the project of Digital Malaysia enable SMEs to make payment effective by using e-payments. Malaysia support SMEs for cloud computing providing shared computer processing resources and data to computers and other devices on demand, enabling all computers to have access to different data and access different computer networks. Moreover, the well-known

RHB retail group provides many facilities in the retail pack which is known as E-Retail package that provides services of Business Current Account, Merchant card terminal, Accounting Software, Customized Insurance.

Accounting IT implementation in China's SMEs has relatively low success rate due to various preseason: relatively low development degree of marketisation, economically backwardness, apart from characteristics of SMEs, including small-size, poor credit reputation, weak innovation capability. Sagamihara City government in Japan has made incubation and showroom demo lab, where the leading firms of robots can demonstrate their products while SMEs can use it hands on before they could implement at their factory. Furthermore, Hong Kong has an SME support Centre, known as the new HKTDC SME center providing important information and professional advices to new SMEs, the know-how to start a good business as well as equipped with updated trade information, 35 electronic databases, and business facilities. Database is accessed through one of the networked computer workstations set up in the SME center.

In Singapore, the Accounting and Corporate Regulatory Authority (ACRA) website have practical FAQs and guides. SMEs seek expert advice through SMEs centers which are managed by experts in different areas of business like entrepreneurship development, branding and technology. Government agencies like Action Community for Entrepreneurship (ACE), Infocomm Development Authority of Singapore (IDA) and Startup Enterprise Development Scheme (SPRING SEEDS) have put into action different programmes and schemes to assist SMEs in the provision of training to flourish their key skills to encourage innovation and the usage of technology. Furthermore, the government of Taiwan provides internet connectivity to SMEs for their information sharing via same network to do better and faster research, set up websites, conduct e-commerce, and set up video conferences. Interestingly, SMEs in India benefit from (i) "SME Indian Council" launched by Facebook, (ii) Google and Tolexo Partnership (iii) Alibaba's Reseller Programme (iv) Power2SME. Further, it is observed that the SME trends in 2017 are the rise of SME focused B2B e-commerce, amalgamation of e-commerce and m-commerce, and improving SME lending with growth in the Fintech firms.

#### 2.9.3 European and American Experiences

The Italian SME networks in the Emilia Romagna and Friuli Venezia regions are supported by younger and larger entrepreneurs. The Italian Trade Commission (ICE) is the Government agency whose overall aim is to increase the international competitiveness of Italian SMEs providing technical assistance and information to Italian industry and its partners. SMEs in Turkey have been strengthened through SME policies in their technological capacity. Increased Internet use help industrial SMEs to procure raw materials and capital goods more efficiently, trim their costs, boost productivity, control production processes and manage inventory. Key Enabling Technologies (KETs) support to access knowledge for SMEs to generate innovative solutions in products, processes and services. Next, the Commission in Belgium created a web tool to help SMEs find technological service centers active in the field of KETs to speed up the commercialisation of their innovation ideas to enforce their business. The government of Panama initiative facilitates citizens and SMEs to incorporate technology to modernize the state, promoting digital inclusion and improving international competitiveness. Since 2011, the Government of Panama has adopted cloud technologies in Central America.

The country experiences mentioned above have given a broad perspective about Fintech adoption by SMEs around the world. *Appendix A2* can be further referenced for detailed information provided regarding the country experiences of Fintech adoption by SMEs.

#### 2.10 Chapter Summary

The country experiences have shown in different degree the extent of ICT infiltration to enhance the business activities of SMEs. The African experiences is something for the Mauritian government to replicate while the Asian experience, in particular the Malaysian extent of ICT use is of great interest to make the Mauritian SMEs more competitive. Further, the European degree of digital use to ensure a buoyant SME sector is a good example that most other jurisdictions can embark on to tap into the potential of SMEs to create economic growth.

# Chapter 3 Research Methodology

#### 3.0 Overview

This chapter elaborates on the research methods, approaches used to conduct the investigation with a view to design a prototype of an integrated financial assistance strategy. A dual approach is used to address the study objectives.

#### 3.1 Research philosophy

According to Lincoln and Guba (1994), ontology is the existence of a reality in the real world which needs to be discovered while epistemology is the relationship between the researcher and the unknown. Similarly, the ontology of the current study posits that there exists a reality about financial literacy among SMEs which determines the success and growth of enterprises and this reality needs to be discovered. The present study adopts a post-positivism paradigm since both qualitative and quantitative methods will be adopted. As such, focus group has been conducted followed by a survey whereby, hypotheses can be falsified. The current study adopts qualitative research using interpretive approach in order to formulate questions for further research including large-scale survey among SMEs. Thus, at philosophical level the study follows a post-positivism paradigm of mixed- method approach.

#### 3.2 Research Purpose

The purpose of this research study has been to come up with an online strategy to assist SMEs in their financial literacy. This research is descriptive (Robson, 1993) the fact that the profile of entrepreneurs and their related business are known whereby the "who", "what", "where" and "how" questions are well defined. With reference to Zikmund (2000), this research study attempts to use exploratory research which is carried out to have a clearer and better interpretation of the nature of a problem through exploring the problems that entrepreneurs are facing in their daily operational activities, and research is conducted to provide understanding and observation on the subject which is financial literacy of SMEs, rather than the provision of conclusive evidence.

#### 3.3 Research Study

This investigation aspires from Yin (1994) who defines five principal research strategies to use when collecting and analysing empirical evidences namely experiment, survey, archival analysis, history and case study and emphasizes on three factors, namely (i) type of research questions being addressed, (ii) control over actual behaviour events, (iii) and focus on contemporary versus historical phenomena.

### 3.4 Research Objectives

One of the main concerns for SMEs has been the access to finance. In Mauritius, the Government has defined schemes based on which SMEs can have access to finance in order to materialize their businesses plans and contribute in the wellbeing of the economy. However, it has not been easy for SMEs to get financing for their projects despite fulfilling the criteria of the different schemes put in place by the government. The objectives are to:

- a) Assess the existing IT platform of SMEs in countries for knowledge sharing practice
- b) Investigate on the financial awareness and knowledge of SMEs to better identify gaps in financial education.
- c) Establish the training needs for the financial literacy assistance strategy for entrepreneurs in Mauritius.
- d) Develop an IT solution as a mainstream business support services which will contribute to the financial education of SMEs and in assisting them in their financial decision making.

### 3.5 Research Approach

According to Denzin and Lincoln (2008), qualitative research follows an interpretive naturalistic paradigm undertaken in the natural setting. This means a subjective approach involving the interpretation of meaning or phenomena is followed by researchers. Cresswell (2007) posited that qualitative research is used to explore a new research area, where we need a detailed, in-depth understanding of the phenomena and to identify variables to be measured further. Financial literacy among SMEs is a new research stream and has rarely been researched while there has been no study on financial literacy among SMEs in Mauritius, a small island economy. The current

study aims to conduct qualitative research in a first stance to exploit the phenomena in-depth with SMEs and to be able to identify variables in order to conduct further quantitative research. The study aims to gauge the financial awareness and knowledge of SMEs to better identify gaps in financial education, that is to gain knowledge about existing services and knowledge of entrepreneurs about the existing services followed by strategies to fill the void in knowledge. Therefore, qualitative research is undertaken in the natural setting and an interpretative approach is adopted to acquire in-depth knowledge and understanding about the phenomena. The different types of qualitative research are ethnography, phenomenology. Grounded theory, narrative study and case study research (Cresswell, 2007). In the same vein, Yin (2009, pp. 4) concurred that case study research is adopted when there is need to understand "complex social phenomena" or there is need to study the behavior of small groups. Case study approach is undertaken to understand the "how" and "why" of phenomena.

The current research studies follows the recommendation of Yin and exploits the "how" and "why" of the subject under study to get an in-depth understanding about financial literacy among SMEs and to contribute by providing solution to satisfy the needs of SMEs and assist in survival and growth of the sector. The study also contributes in developing a pilot project that provides access to an online IT platform for SMEs on to educate and enhance their financial capability. The qualitative research also assists in defining variables for further research and to design the questionnaire for survey. Moreover, the study adopts a dual methodology to address the study objectives, that is, both qualitative and quantitative. Three focus groups were held as part of the qualitative approach to gauge into the SMEs level of financial literacy and to assess the extent of the problem. Focus groups have been followed by survey for data collection.

#### 3.5.1 Qualitative Approach

Focus group is widely used across a variety of disciplines including marketing, political science and social marketing (Morgan, 1996). Focus group encourages interaction among individuals in a group, allows to assess the needs of participants (Krueger, 1994), allows to discover new

paradigm or results in new areas which would not be possible with other methods and can also be used to generate a measuring instrument for further collection of data (McLafferty, 2004).

Using purposive sampling technique, focus groups were organised with various stakeholders to capture primary data. These focus groups are further elaborated in the following sections. Focus group conducted during the present study allows interaction among entrepreneurs and assist in exploiting the gap in financial literacy among SMEs. Three focus groups were successfully organised with much findings, however one could not be conducted due to unavailability of the targeted FIs. Further, financial literacy among SMEs have been under researched and therefore reliable scale for quantitative research is not available. The focus groups have been instrumental in developing the constructs for the quantitative part of the study.

#### (i) Focus Group with entrepreneurs

In view of preparing the Focus group with SMEs owners, a preliminary brainstorming session was initially conducted as preliminary task to collect views of 10 students who were identified as selfentrepreneurs or working in their own family enterprises. Items of discussions were basically, the existing stakeholders supporting SMEs, knowledge of existing information about SMEs financing and knowledge of an integrated platform providing financial information for SMEs. The brainstorming sessions brought forth some constructs to further discuss in the focus group with SMEs which was conducted at the premise of MyBiz/SMEDA at the Coromandel on 17<sup>th</sup> March 2017. The objective of this focus group was to gauge the financial awareness and knowledge of SMEs to identify gaps in financial education among entrepreneurs. The targeted SME audience consisted of 16 firms from various sectors of the economy. Some major constructs were identified which ultimately contributed to design of the questionnaire. Moreover, the inputs from this focus group contributed the design of the first prototype. The entrepreneurs were queried about the ways in which they handle their business finance, their cash flow management, the sources of finance, their usage of different business supports as well as their awareness and extent of use of ICT services and e-Banking facilities in their business routines. The content of the focus group is detailed in *Appendix A*.

### (ii) Focus Group with SME Authorities

The focus group for the SME Authorities was conducted on 21<sup>st</sup> June 2017 at the premise of the University of Technology, Mauritius. An open-ended questionnaire (*Appendix B*) was used to conduct the focus group. ACCA, MYBiz, NWEC. The participants contributed much to findings towards the existing strategies that they are providing to facilitate financial literacy of SMEs in Mauritius.

### (iii) Focus Group with Financial Institutions (FIs)

Another focus group was planned to gather experiences and information from FIs in Mauritius. These FIs comprise of banks and insurance companies in Mauritius. An email together with an e-invitation card was sent to the targeted FIs followed by phone call for confirmation. Unfortunately, this focus group had to be cancelled due to a very poor participation confirmation of FIs. The main reason was basically due to their overloaded schedule. Although these FIs proclaim their unavailability, a presentation was created for their use so that they can submit the information needed though email. These FIs were once again contacted by phone for their participation through email. Yet, no response could be obtained even through email. It is thus noted that this focus group did not bring much required information. Ultimately, the websites of these FIs were virtually visited by the research team to gather existing information.

#### 3.6 Quantitative Approach

The quantitative approach was developed based on designing a questionnaire that was administered to the SMEs.

### 3.6.1 Questionnaire Design

The quantitative approach was used to collect primary data from the owner manager of SMEs operating in different industry groups in Mauritius and Rodrigues. The questionnaire was designed based on an extensive review of the literature and the first and second focus groups which were instrumental in identifying some of the constructs relevant for the study. The research instrument (*Appendix C refers*) comprised of a cover letter and the questions are divided into five main sections as further elaborated below.

**Section A** gives a profile of the respondents in terms personal details of the entrepreneur as well as the sector of operation, business types, yearly turnover and awareness of their own financial literacy.

**Section B** includes a number of questions with a view to assess the respondents' financial attitude and behaviour. There are multiple types of questions using the nominal and ordinal scale. Some of the questions make use of multiple choice questions and dichotomous type. Some of the questions relates to about how money is handled in the business, profit/loss/pricing calculation, awareness of their financing options.

**Section C** consists of questions that attempt to measure the SMEs financial knowledge and some of these questions have been adopted from the OECD instrument on financial literacy.

**Section D** focuses on the ICT adoption and usage by the owner manager as a means to run and manage their businesses. The questions set range from basic use of ICT tools/ devices to more advanced applications software that have been developed to facilitate business operations. There are also a set of questions to assess the extent of internet banking, mobile banking, Point of Sales (PoS) and other e-banking channels.

**Section E** comprises questions related to financial education and assistance enquiring on trainings benefitted on business finance, counseling on finance and financial tutorials.

### 3.6.2 Pilot Testing

With reference to Leedy et *al.* (2001), validity of the survey form has been assessed by vetting constructs from the two focus groups, internal validity was done by the research members and external validity was conducted through a pilot test with some 10 entrepreneurs (Ghauri and Gronhaug, 2005) to identify errors in the survey form. The pilot test enabled to eliminate ambiguous and complex words. Moreover, the face validity has ensured that the questionnaire was relevant to entrepreneur participants, ambiguous words were eliminated. Also, content validity

was done by getting expert comments of our SME advisor and industry entrepreneur in this project who provided much their opinions and feedbacks with objective to ensure that the measure is actually what it is intended to.

#### 3.6.3 Data collection

Given the nature of the study, a multi approach was used to collect data. Besides the online tool of google forms, some face to face survey was deemed necessary to reach the target audience. However, it is observed that respondents prefer to face-to-face approach and the online strategy was not successful. Hence, university students and research team members administered the survey at various places from the period of May 2017 to July 2017. The various places where the administered survey conducted were:

- i. Swami Vivekananda Conference Centre at Pailles for SME Innovation Fair from 12<sup>th</sup> to 14<sup>th</sup> May 2017
- ii. Caudan Waterfront
- iii. Port Louis Market
- iv. NWEC Phoenix
- v. Mahebourg Market place
- vi. Rodrigues
- vii. SMEs in the Northern region
- viii. Vacoas SME Fair on 3<sup>rd</sup> June 2017

### 3.6.4 Limitation of the methodology

The fact that the questionnaire was lengthy and therefore time consuming, it was found that many entrepreneurs were not willing to participate in the survey. Whereby, time was a constraint to conduct the survey. Ultimately, the strategy adopted to ensure participation was face-to-face administration of the survey form with the participants. Since financial literacy has been underresearched, there was no reliable scale available to conduct the survey.

### 3.7 Sampling techniques

Given the high number of businesses classified as SMEs in Mauritius, it is better to receive feedbacks from a part of those SME owners. The sample includes SMEs from different sectors of the economy. A stratified random sampling has been used for the study so as to ensure that the sample is representative of the population of SMEs in Mauritius. The determinants of size of SME firms were based on the followings:

- a) 10 million micro firms
- b) 10 to 25 million small firms
- c) 25 to 49 million medium firms
- d) >50 million large corporations

The objectives are to gauge into their awareness and knowledge about of financial products, procedures and obligations and evaluate their financial education needs.

#### 3.8 Analysis and Presentation of Findings

The data analysis stage allows the researcher to compile collected data into more meaningful information, by manipulating, ordering, categorizing and summarizing data (De Vos et *al.*, 2002). This helps in the interpretation of collected data to match research questions. Data analysis consists of the following steps:

- Editing data: Detect errors and omissions and correct them wherever possible
- Classification: Group the data based on common characteristics
- Tabulation: Arrange the data in a way which facilitates further analysis

During the research process, SPSS 18 (Statistical Package for Social Sciences) was used to compare and analyze all relevant data, to do descriptive and inferential analysis, help in hypothesis testing and publishing of test results.

### 3.9 Development of Proposed Solution

The methodology of prototyping was used to facilitate the outcome of the proposed software based on feedbacks and inputs of targeted respondents / audience of this system. The approach for the

prototype was done in several tasks comprising of (i). designing the logo of the website which has been finally named as **SME**<sub>Finance</sub>, (ii). development of prototypes whereby **four** prototypes were developed after the suggestions and testing of some SME users. Detailed information is presented in chapter 5 technical report.

# 3.10 Chapter Summary

This chapter discussed on the various approaches used in this research study. The qualitative approach was conducted through focus groups whereby firstly a brainstorming session was conducted with young student entrepreneur at the School of Business Management and Finance, secondly a focus group was targeted at some entrepreneurs in Mauritius, and thirdly a focus group where the research team could gather much findings from SME authorities in Mauritius. A fourth focus group was organised for the financial institutions (FIs) including banks and insurance companies in Mauritius for information collection. However, no response for participation was received due to the busy working schedule of these FIs. Moreover, in order to obtain more precise data about financial awareness, existing financial schemes and technologies adopted by MEs in Mauritius, a quantitative approach was also adopted. The findings of both the quantitative and qualitative approaches brought forth the development of proposed solution through various prototypes tested by some volunteer SMEs.

# Chapter 4 Analysis of Results and Discussions

#### 4.0 Introduction

This chapter analyses the survey response with a view to gauge into the financial literacy of the owner manager. The survey instrument also attempts to assess the level of digital literacy as the study's main objective is to propose an integrated financial assistance strategy using an IT platform. The owner manager and firms' characteristics are first given to better profile the respondents. This is followed by an assessment of the SMEs' perception on financial literacy; their financial attitude and behaviour, the extent of ICT adoption and usage. Most importantly, the instrument uses 7 basic financial literacy questions to calculate the SMEs financial knowledge score. The survey also attempts to measure the need for financial education and assistance of the owner manager of Mauritian SMEs. Furthermore, the output of the qualitative research is used to validate the survey analysis. In fact the transcriptions of the focus groups provide further information on one hand, about the SMEs cash flow management, their sources of finance, their usage of different business supports as well as their awareness and extent of use of ICT services and e-Banking facilities and on the other hand about the existing facilities provided by SME Support agencies and Financial literacy providers.

#### 4.1 Descriptive Data

As displayed in Table 2, the majority of the respondents are male, representing 62% of the sample. The age group 36 to 50 is more represented and this points to the maturity of the owner managers in managing their businesses. This would be important when assessing their level of financial literacy and also the extent of FinTech usage. As expected the qualifications of the owner manager are basically technical/vocational and secondary level with only some 38% had studied up to university level. It would be of interest to investigate into the differences in the level of financial literacy on account of the owner manager education level.

Table 2: Characteristics of Respondents

Owner Manager Characteristics	f	<b>%</b>	Firms' Characteristics	f	%
Gender:			Sector:		
Male	109	62	Primary	29	20
Female	68	38	Secondary	52	35
Age Group:			Services	29	20
18 – 35	49	28	Food n Beverages	36	25
36 – 50	83	48	Legal Status:		
Above 50	42	24	Sole proprietorship	79	44
Qualifications:			Partnership	44	25
Primary	17	10	Limited Private Cos.	53	30
Secondary	48	28	Cooperatives	3	1
Technical/vocational	41	24	Turnover:		
Degree	66	38	Below 10m	101	59
			10 – 25m	44	26
			26 – 49m	22	13
			50 and above	4	2

Next the firm's profile is analysed in terms of its legal status, sector of operation and the yearly turnover, a common proxy to measure size of firms. The majority of the firms are organised as sole proprietorship and private companies, representing 44% and 30% respectively. 25% of the sample firms operate as a partnership, where the requirements for compliance to preparation of accounts are less stringent. The initial survey form has captured the sampled firms sector using a

number of categories ranging from agriculture to health care. In order to facilitate later analysis, the sector was regrouped into primary, secondary and services sector, with the food and beverages as a separate industry group. The primary and services sectors are represented by 20% of the sample and 35% are from the secondary sector while the food and beverages is 25%.

# 4.2 Perception on Financial Literacy

In line with the study objectives, the respondents' perception on financial literacy is measured using a 5pt Likert scale. Financial literacy is defined as a combination of awareness, knowledge, skills, attitudes and behaviour needed to make sound financial decisions, in order to achieve individual financial wellbeing. The table below summarises the results and report the mean score for the different dimension of financial literacy. It appears that the owner managers perceive their level of financial literacy to be high where their financial knowledge, skills, attitude and behaviour are rated as good.

Table 3:Perception on Financial Literacy

	Awareness		Knowledge		Skills		Behaviour	
	f	%	f	%	f	%	f	%
Very Good		8		10		10		13
Good		62		63		58		56
Average		23		18		22		23
Bad		5		8		8		7
Very Bad		2		1		1		1
Mean	3.	71	3.7	72	3.6	58	3.7	74

### 4.3 ICT Adoption and Usage

The basic ICT qualification of the 174 SME owner managers is displayed in Table 4 below, which shows that 32% of the owner manager does not a qualification in ICT related studies. This in itself would be a handicap for the owner managers to use ICT in the running of their businesses. However, it is interesting to observe that 32% of the owner managers have undergone training in computer studies as part of the government project to make the population more IT literate. 32% of the respondents have followed the ICT courses.

Table 4: Qualification

Education Level	Res		
	N	Percent	Percent of Cases
Computer studies - SC level	37	18.4%	23.0%
Computer studies – HSC level	39	19.4%	24.2%
ICT3	51	25.4%	31.7%
Degree level	23	11.4%	14.3%
None	51	25.4%	31.7%
Total	201	100.0%	124.8%

The survey data attempts to assess the SMEs' readiness to embrace ICT in carrying the operation of the business. Table 5 summarises the 9 questions set to gain an insight into the firms' ICT strategy, internet access, human capital and the usage of technology. There is some evidence as to the SMEs preparedness to use ICT as the majority of the respondents claim that they have access to internet, have their own home page and they have skilled staff or they avail the services of expert in IT. However, they do not make enough use of e-banking, e-commerce and only 49% of the sampled firms use the MRA e-filing services for payment of tax.

# 4.4 ICT Devices

Table 5:Usage of ICT Devices

Usage of ICT devices	Res	ponse	
	N	Percent	Percent of Cases
Monitor	117	9.1%	72.7%
CPU	115	8.9%	71.4%
Printer	116	9.0%	72.0%
Computer data storage	105	8.2%	65.2%
keyboard	121	9.4%	75.2%
Scanner	101	7.9%	62.7%
Mouse	132	10.3%	82.0%
Hard disk drive	109	8.5%	67.7%
Speakers	95	7.4%	59.0%
Laptop	120	9.3%	74.5%
Tablet	84	6.5%	52.2%

Dichotomy group tabulated at value 1.

Table 6:IT Readiness

%	IT Plan	Internet	Website	Staff literacy	Expert in IT	Database	e-banking	e-filing	e-commerce
Yes	54	83	58	65	52	61	55	49	42
No	46	17	42	35	48	39	45	51	58
N	175	174	175	175	175	175	175	175	175

Table 7:Frequency of e-banking

	ATM	IB	MB	SMS	POS	Credit cards	Debit cards	Smart Cards
Very often	48	24	19	12	9	16	17	6
Often	32	35	26	27	26	34	36	24
Sometimes	10	10	11	11	13	14	16	16
Rarely	5	5	8	8	8	12	7	7
Never	5	26	36	42	44	23	24	47
Mean	1.85	2.74	3.16	3.40	3.52	2.91	2.86	3.65

The above table displays the result on the usage of e-banking channels. The most common one is the ATM (mean score = 1.85) and the least often used is the smart cards (with a mean score of 3.65). The use of debit and credit cards are quite popular among the Mauritian SMEs. However, it is important to point out that nearly a quarter of the sample firms do not make use of debit and credit cards. Moreover, the point of sale technology is not often used as more than 50% of the firms hardly used this device for trading. It is interesting to note that internet banking is used by most of the respondents with a mean score of 2.74. The two latest Fintech devices, namely SMS banking and mobile banking have not captured the attention of the owner manager.

Table 8: Communications Tool

	Email	Fax	Letter	Telephone	SMS	Skype	WhatsApp
Very often	60	23	32	80	59	25	40
Often	16	25	29	16	24	22	20
Sometimes	6	13	14	3	8	19	14
Rarely	4	12	9	-	5	9	8
Never	14	23	16	1	4	25	18
Mean	1.94	2.95	2.48	1.26	1.73	2.85	2.43

In order to gain an insight into the extent of the use of technology devices, the respondents were asked to choose the most often used communication tools. The most traditional forms of communication remain telephone, letter and fax having a mean value of 1.26; 2.48 and 2.95 respectively. Alternatively, the most commonly used communication tool in the advent of technology is SMS followed by email and WhatsApp. 60 % of the respondents claimed that they use WhatsApp while 73% used text message. It is interesting to note this trend as this will facilitate the implementation of an IT platform as a solution to the financial assistance strategy.

#### 4.5 Social Media

Table 9:Use of Social Media

Use of Social Media	Res	ponse	
	N	Percent	Percent of Cases
Facebook	136	41.3%	82.9%
Twitter	51	15.5%	31.1%
LinkedIn	49	14.9%	29.9%
Youtube	64	19.5%	39.0%
None of the above	29	8.8%	17.7%
Total	329	100.0%	200.6%

Dichotomy group tabulated at value 1.

As expected the majority of the respondents are an active user of facebook, 83% of the cases make use of facebook as a marketing tool. There is a low penetration of the other social media.

# 4.6 Financial Knowledge Score

The study determined the Financial Knowledge score which was based on the questions in the survey and encompasses the core areas which follows that of Atkinson and Messy (2012) whereby each correct answer was given an equal score of 1 with each question bearing equal weightage. The maximum Financial knowledge score is therefore 7. The average Knowledge score of SME owners was found to be 3.21 (45.9%) implying a below average performance in terms of financial knowledge.

This section further investigates the extent to which demographic factors including gender, age, qualifications of SME owners as well as the firm characteristics such as legal status, the business sector in which they operate and the annual turnover affect Financial Knowledge. The analysis

revealed that the only significant demographic determinant of financial knowledge for our sample group is the level of qualifications of the SME owners. Summary statistics related to qualifications of the respondents have been computed in Table 10 and the Levene's test for testing the homogeneity of variances were conducted. There was no evidence to reject the null hypothesis of homogeneity of variances at 10%. To identify where the differences in qualifications lie, the Tukey HSD Post-hoc test is performed which shows that degree holders and those having a technical or vocational training have higher financial knowledge than those having basic education.

Table 10: Qualifications

Qualifications of SME Owners	Financial Knowledge Score Mean (Standard deviation )	Mean difference	
Degree	3.38	Technical/Vocational	-0.14
	-1.72	Secondary Level	0.207
		Primary Level	1.322**
Technical	3.53	Degree	0.14
/Vocational	-1.921	Secondary Level	0.347
		Primary Level	1.463*
Secondary Level	3.18	Degree	-0.207
	-2.037	Technical/Vocational	-0.347
		Primary Level	1.115
Primary Level	2.06	Degree	-1.322**
	-1.948	Technical/Vocational	-1.463*
		Secondary Level	-1.115
Total	3.23	Levene's Statistic	0.865
	-1.907	F Value	2.548**

Source: Computed. \*\* and \* implies significance at the 10% and 5% level respectively.

### 4.7 Financial Attitude and Behaviour

### 4.7.1 Accounting Records

The literature on the financial management practices has revealed the lack of attention to basic accounting records of SMEs. This is often viewed as a major weakness when the owner manager

of firmsaccess formal credit. The focus group with SME owners captured similar observations since the majority confirmed that "bookkeeping is done on our own" using basic ICT tools like Excel and monitoring is "not always possible" and "difficult" since most of the time the businesses are driven single handedly. Along the same line, the survey results confirm this situation as shown in Table 11. The most popular records that are kept by the firms is the receipts and payments (72% of the sample firms) while there are still 50% of the sample firms that keep the transactions in a log book and some 39% use the company's bank account to keep track of the business transactions. This would be an area of focus in the design of the training to enhance the financial education of SMEs. The system of recording of transactions is predominantly a combination of manual and computerised – 64% of the sample firms claim to have both systems. This has implication on the readiness of our SMEs to adopt computer applications to facilitate the business operations – 64% of the SMEs claimed that they use a combination of manual and computerised recording systems.

Table 11:Accounting Records and Systems of Recording

Response										
	N	Percent	Percent of Cases	Recording Systems	f	%				
Receipts and Payments	126	37.6%	71.6%	Fully Manual	41	23.2				
Log book	88	26.3%	50.0%	Partly Manual	15	8.5				
Main Transactions	46	13.7%	26.1%	Both computerized and manual	113	63.8				
Rely on Bank Account	69	20.6%	39.2%	Do not keep	8	4.5				
None	6	1.8%	3.4%							
Total	335	100.0%	190.3%	Total	177	100.0				

### 4.7.2 Budgetary Provision

Budgeting is viewed as an important financial planning tool for the smooth running of businesses. The literature points to the postulate that SME owners tend to neglect this critical aspect of cash flow management. Based on the survey results, 22% of the respondents base their budgeting on their cash availability while 29% allocate budget as per revenue generated during the month. However, some 23% of the SMEs still handle cash flow management based only on their immediate exigencies (firefighting).

#### 4.7.3 Profit calculation

Profit is often used as a benchmark for measuring firm performance. The large majority of the respondents keep track of their firms profit either in house (58%) or by outsourcing (18.5%). 11.2% of the respondents use their bank balance as a reference to profit measurement and thus suggesting that they face the profit cash illusion. It is worth noting that nearly 12% of the SMEs do not keep track of the business performance.

### 4.7.4 Costing and Pricing of Products/Services

This section investigates into the pricing strategy adopted by SME owners. The majority of the respondents consider the costs of production when devising their pricing strategy either in house (corresponding 52%) or by outsourcing (43%). Further probing into the pricing strategies adopted by the SME owners, Table 12 below give details about the different methods of pricing. 52% of the cases use the most popular cost-plus pricing while they supplement it with other pricing strategies such as price taker and price discrimination.

Table 12:Pricing Strategies

Pricing Methods	Resp	onse	
	N	Percent	<b>Percent of Cases</b>
Cost Plus	89	28.5%	51.7%
Price Taker	66	21.2%	38.4%
Accountant Figures	59	18.9%	34.3%
Break even	45	14.4%	26.2%
Price Discrimination	53	17.0%	30.8%
Total	312	100.0%	181.4%

### 4.7.5 Financing Mechanisms/Awareness

Finance has been viewed as one of the most obstacles which SMEs face and this affect their growth potential. This is even the concerned of government and the national budget do make budgetary provisions to provide financial assistance to the SME sector. The survey attempts to capture the respondents' awareness about the different sources of finance that available and their related charges. This is displayed in Table 13. The different financing options to finance start up, current needs and to meet financial difficulties are used at different degree by the Mauritian SMEs. Appendix C Section C1 to C4 give the multiple response for all the cases. It is observed that SMEs tend to use more traditional sources of finance and hardly use debt factoring, foreign currency loans. The most popular sources of finance at start up is bank loan and family loan. The four common sources of finance to meet the current needs of the business are credit cards, leasing, privileged cards and bank overdraft. However, it is interesting to note that the Mauritian SMEs have recourse to bank overdraft and family loan to meet unpredictable financial difficulties. To further prompt into the financing mechanisms the survey seeks to measure the respondents' awareness of the financial products and the related charges. Table 13 gives the results.

Table 13:Financing Mechanisms and Charges

Financing Options	Mechanisms (%)		Cha	arges (%)
	Aware	Not Aware	Aware	Not Aware
Bank Loan	90	10	85	15
Bank Overdraft	78	22	67	33
Debt Factoring	55	45	51	49
Leasing	74	26	67	33
Credit Cards	74	26	70	30
Angel Investing	44	46	41	59
Family Loans	65	35	65	35
Grants	55	45	50	50
Credit Union	49	51	43	57
n = 174				

The respondents are more aware about the traditional financing mechanisms and their related charges. The lack of awareness on the alternative financing options include debt factoring, angel investing, grants and credit union. It is surprising that some 45% of our SMEs are not aware about grants which is an important source of finance for startup firms. Another important finding of this research is the lack of awareness on the charges applied by lending institutions for the different financial products. Except for bank loan, at least some 30% or more of our respondents do not about the related costs of the financing modes. This implies that there is a financial education gap that we aim to solve using an integrated financial strategy platform.

#### 4.8 Financial Education and Assistance

The last section of the survey instrument captures the need for financial education and assistance for the Mauritian SMEs to better run their businesses. There is a comfortable number (48%) of the respondents who confirm that they would need training on business education. Next the

questionnaire contains a six-item statement to evaluate the need for financial education and what assistance the SMEs are benefiting from.

Table 14:Financial Education and Assistance

Statement	SA	Agree	Mean	Std dev.
<b>Understanding Finance is important for my business</b>	42	40	4.03	1.21
I need regular basic financial tutorials	26	45	3.78	1.12
Use of ICT improves access to basic templates that would help me better manage the business finance	31	43	3.90	1.06
Bank provides counselling to better manage the business finance	10	43	3.39	1.04999 999999
Am satisfied with the financing solutions provided by banks	10	36	3.29	1.06
Am satisfied with the grants provided by support agencies	10	35	3.28	1.06

There is a good consensus (X = 4.03) among the owner manager that finance is important for the running of the business. This is followed by the need to have regular basic financial tutorials (X=3.78; SD=1.12). Given the time constraint which SMEs face, they are of the view that the use of ICT will facilitate access to business templates that would prove beneficial to manage the business finance. On the other hand, the survey results point to the lack of support from the banks and the support agencies. The owner managers are of the opinion that the banks should make more effort to counsel them in business finance. This is further evidenced by the low satisfaction level (46%) with regards to the financing solutions provided by their banks. A similar observation is made about the grants which are provided by the support agencies. These findings reveal an important area of focus for this study; that is the need to develop an IT platform as a means to better assist in the financial education and assistance of the Mauritian.

### 4.9 Implications for the Financial Literacy Assistance strategy

The analysis of the survey has uncovered the relative low financial knowledge especially for SME owners having basic education as well as the lack of awareness about basic financial planning tools useful for the business. This is observed despite the fact that SME support agencies do have training on financial tools to support SMEs. For instance, the SMEDA in collaboration with ACCA "conduct workshops on basic finance for the SME owners, while other organisations namely the MEF and NWEC conduct basic "Adult literacy and lifeskills programme to empower human capital". Furthermore a representative of the NCC avers that "there are many non-financial people who submit their financials to the registrar". The organisation is therefore planning to introduce a non-award programme on financial management, book keeping and accountancy for SMEs. On the other hand, the focus groups with SME owners suggest the lack of responsiveness to the training programme "not because they are not interested" but because they are "so busy with their business routines" they often "do not find time to attend the training". Some even pointed that they miss out on the training because the information does not reach out to them as they do not always have the attitudinal reflexe "to check websites" of support agencies.

Additionally, the desk work has highlighted the numerous financial schemes of banking institutions and support agencies but it has been observed that although entrepreneurs are generally aware of these, it becomes "tedious to take appointments with all of them" to decide on their most suitable options. The respondents also highlighted that a forum where the community could exchange their experiences and share practical information would also be "helpful" and "instructive". Moreover, the survey has revealed that although there is some degree of awareness about the most common sources of finance, the cost implications are not always fully understood. In the light of the above and since there is evidence of ICT readiness among the Mauritian entrepreneurs, the proposed solution is an e-Platform which would encompass the following features:

1. Short clips on Basic Accounting terminology: This feature is a multimedia mode which involved the presentation of the purpose of the website and a short clip on initiatives and operational activities of entrepreneurs.

- Tutorials on Sources of finance and costs: This feature present tutorials that have been prepared by a professional SME advisor acting as an online tutor to explain the concepts of basic accounting and finance that entrepreneurs should be knowing while operating their businesses.
- 3. Accounting Templates: This feature contains some useful accounting templates in excel format that can be used by entrepreneur in handling their basic financial matters.
- 4. Discussion forum: This feature is an interactive feature whereby the registered users can log in to interact with other entrepreneurs and SME advisor to discuss financial management and other related issues.
- 5. Centralised information centre from relevant financing institutions and support agencies: This feature provides a centralised location whereby SMEs can search for relevant information provided by FIs, support agencies and service providers through the useful links feature.
- 6. News and Events Alert: Interesting in this feature, the website attempts to provide news and alerts related to SMEs in Mauritius.

#### 4.10 Chapter Summary

The study findings from the mixed approach have revealed to varying degree the financial knowledge and ICT readiness of the Mauritian SMEs. Given the study focus, the survey analysis has investigated into the financial literacy of the SMEs in view of proposing an appropriate IT platform as a means to better assist them in their operational activities. Chapter 5 will detail the technicalities of the implementation of the e-platform with the relevant features.

# **Chapter 5** Technical Feasibility

#### 5.0 Overview

This chapter elaborates on the technical aspects of the proposed solution and the major technical issues concerning the development of the SME finance Literacy project Web site. The project consists of the design, development and deployment of a web application to provide useful information to intended users.

# 5.1 Development Platform / Technological Domain

A Web Content Management System (WCMS) is typically a computer application that provides website development features and web publishing capability so as to allow non-technical developers to create and manage website content with little effort and difficulty. Indeed, this powerful tool allows developers with little or no knowledge of web programming languages or markup languages to easily build websites or web-based applications from a central interface.

One of the primary aims of using WCMSs is to bypass the need for hand coding and development from scratch (Patel et *al.*, 2011). Plug-ins are readily available to perform complex tasks for the developer. In addition to that, being a website maintenance tool, developers can make use of WCMSs to bring modifications to web content (Ghorecha and Bhatt, 2013) in a seamless way. Typically, WCMSs are used to develop blogs, news, and e-commerce websites for corporate and marketing organisations. Most WCMSs include web-based publishing, layout management and search features (Ghorecha and Bhatt, 2013). The figure given below provides a brief overview of the purposes of using WCMSs.

#### **5.1.1** Comparison of existing WCMSs

The most commonly used WCMSs are WordPress, Joomla and Drupal. These have been discussed in this section. An in-depth investigation was conducted in order to grasp a better understanding of the features that each of the aforementioned WCMSs provide. A comparison was subsequently conducted in order to determine the most appropriate

#### 1. WordPress

Released in 2003, WordPress was originally developed for the creation of blogging platforms. However, since 2009, this tool has upgraded into a full-fledged WCMS. WordPress is written in PHP and uses MySQL database. WordPress is led and supported by the for-profit company Automatic. The table found at *appendix D* summarises the key features of WordPress.

#### 2. Joomla

Developed in 2005, Joomla is one of the most powerful open-source WCMS for publishing web content. Written in PHP, Joomla makes use of object-oriented programming techniques, making it ideal for designing interactive multi-language websites in a short period of time (Patel et *al.*, 2011). Joomla is commonly used to develop online communities, media, portals, blogs and e-commerce applications.

### 3. Drupal

Released in 2010, Drupal is another open-source platform for building robust, flexible websites. According to Patel et *al.* (2011), Drupal is considered suitable when web developers need to perform critical tasks of high complexity. Drupal provides not only flexibility but also provides a fair amount of documentation support as well. The aforementioned WCMSs have also been are analysed and compared with respect to the key requirements of this project. Table 15 illustrates the result of this evaluation.

Table 15:WCMS Comparison

Requirement	WordPress	Joomla	Drupal
<b>Learning Curve</b>	Moderate	High	Moderate
Ease of Use	Moderate	High	Moderate
<b>Documentation Support</b>	High	Moderate	Moderate
Prob. of obtaining support for unresolved issues	High	Moderate	Moderate
Prob. of having required plug-ins available	High	Low	High

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Prob. of having suitable themes/template	High	Low	High
available			
Security	Low	High	High

#### 5.1.2 Choice of WCMS

As it can be depicted from table 15, WordPress, Joomla and Drupal have various notable strengths and weaknesses. All the 3 WCMSs meet more or less the same goals. However, they do not all contain the same features. WordPress has been considered best suited for this project because of its large array of built-in features as well as a large selection of additional plug-ins (43,427) which enhance the value of websites as well as enrich visitors' experience. Moreover, a substantial amount of documentation and support for WordPress is available in the form of live chat with WordPress representatives, published books, online forums and video tutorials. In addition to that, hundreds of pre-packaged graphical themes and templates are also readily available.

### 5.2 Requirement Analysis

IFLAS is web application designed to enable SME to have access to resources in relation to facilities provided to setup / enhance business.

#### **5.2.1** Initial Requirements

The initial requirements have been captured from the focus group conducted at MyBiz with 16 SME owners from various sectors in the Mauritian economy. Their feedbacks were gathered to know their needs for the requirements of the proposed solution.

### **5.2.2** Actual System and Problems

- There is no such system that provides information to intended users.
- They need to search information by themselves that they find suitable and sometimes land to the wrong place.
- The users need to go to appropriate authorities to have valuable information which takes a day or two.
- Hence, it is a loss of time and in business terms this counted in monetary terms.

#### **5.2.3** Functional Specifications

The followings are functional specifications as proposed by the SME target audience

- 1. Easy to use by any person (children, students, matured entrepreneurs, novice entrepreneurs);
- 2. Simple in terms of design for easy usage such as Google;
- 3. Interoperable on various devices namely PC, laptop, mobile systems such as smart phones, iPhone:
- 4. Informative with easy information contents;
- 5. Facilitate SMEs operational activities/tasks;
- 6. Forum for knowledge sharing for various communities of practices and sectors of the economy;
- 7. Animated and interactive for better understanding;
- 8. Responsive and Accessible quickly;
- 9. Easy Navigation menus
  - a. More informative as possible in terms of literature and video tutorials;
  - b. Maintenance easiness & content update.

### **5.2.4** Technical Specifications

The website is designed to be available on a 24/7 basis where it can be:

- a) Accessible to a large number of users without affected performance of the website itself;
- b) Highly resilient;
- c) Scalable and easily maintainable in the future;
- d) Enhanced with security features to protect user credentials and data.

The website is hosted on a 24/7 Linux server with a registered domain name. To access the website, SME web users should have one of the following browsers installed namely Internet Explorer minimum version 10, Chrome or Firefox. The website Operating System is also accessible via mobile devices. The website is being designed using HTML5 for the presentation layer. MySQL database is being as back-end where all the information pertaining to the website

are stored. The intermediary language between the front-end and the back-end used is the PHP language.

### 5.2.5 Project Management Methodology:

The development methodology of the proposed prototype is based on Rapid Application Development (RAD) and the prototyping approach is used to develop the website. It is tuned and enhanced after peer review and basis the requirement.

### 5.3 System Analysis

#### 5.3.1 Normal User

- They are regular users who access the website to check for new updates / articles;
- They have the possibility to reply to a post (through multimedia);
- Any user can access the website to search and view post/videos uploaded;
- Users replying to posts should provide their name and email address;
- Once the reply is approved it appears on the site under the post;
- User can receive news update for recently posted articles provide they register themselves;

#### **5.3.2** Admin User / Webmaster

He is the one responsible for the maintenance of the site by:

- Creating new post /articles;
- Adding new pages to the structure of the website;
- Validating reply made by users on posts;
- Validate reply by users made on a specific article posted;
- Activate / Deactivate Users.

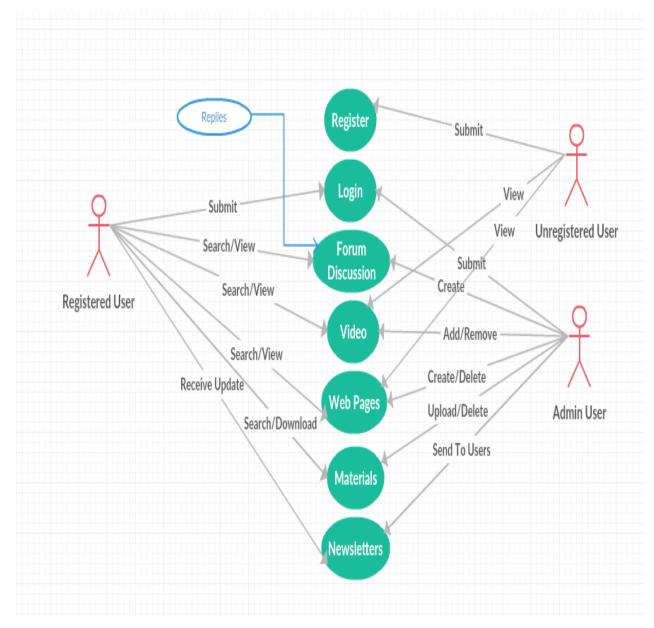


Figure 2 :Use Case Diagram

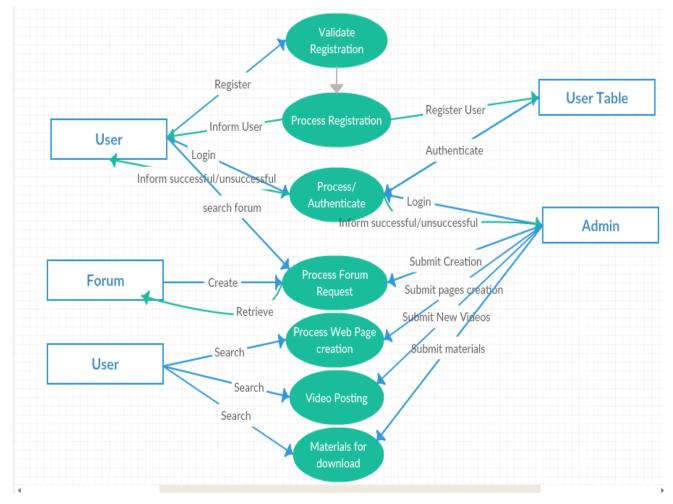


Figure 3:Detailed Use Case Diagram

This use case diagram describes the system's actions from the user point of view. There are 3 main actors in the system. It includes the **Registered User**, the **Unregistered User** and the **Admin User**. To begin with, the Registered User will have to login to the system in order to have access.

- He will be able to search and view information in the forum;
- He will be able to search and view video from the system;
- He will be able to search and view webpages from the system;
- He will be able to search and download materials from the system;
- He will be able to receive update of newsletters.

Next, is the unregistered user who will have first to register to the system. He will only be able to view videos and webpages from the system. The roles of the Admin User are as follows:

- He will first login to the system.
- He will create a forum discussion whereby registered users will be able to interact with each other, asking and replying questions.
- He will be able to add or delete videos.
- He will be able to create or delete web pages.
- He will be able to upload or delete materials regarding the system.
- He will be able to send newsletters to users.

Upon registration of the user, he shall be notified if the textbox has been filled correctly. In case, the user missed out to fill a textbox, he will be notified to fill in the textbox before proceed further with the other textboxes. When the user logins, he shall be notified of successful or unsuccessful registration. The user shall be able to search in the forum. The user table comprises of the registration details along with the validation. The roles of the admin are as follows:

- The admin will be notified of successful or unsuccessful login;
- He will create accept and submit request to user via the forum;
- He will create and post web pages;
- He will post new videos;
- He will post new materials which are downloadable.

The roles for the unregistered users are as follows:

- The user can search for webpages;
- He can also search for video;
- He can search for materials and download them.

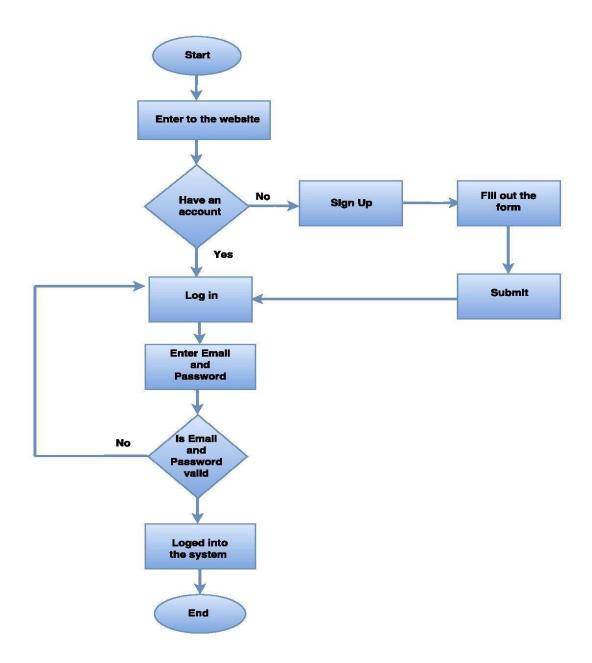


Figure 4:Flow Chart Diagram

The above flow chart depicts the registration process for any user on the Financial Literacy website. Once into the website, the user will have the option either to register for an account if he has never registered or he can proceed to log into the website as an existing user. Being a new user, he will have to sign up where he will be directed to a page for registration. Once all the required details have been filled, the user needs to click on submit. Subsequently, a validation URL link will be directed to the email account for which he supplied at time of registration. Once he validates the link by clicking on same, he will be directed to the website to input his credentials. Once the credentials have been entered, the user will have to click on login button. The validation process checks for the existing email account and password provided if they matches. Once the credentials are matched, the user is allowed access to the website as a registered user. For existing users, they need to click on the login button which validates their supplied credentials. Once validated, the user is allowed into the website as registered user.

#### 5.4 System Design

### 5.4.1 Design Description

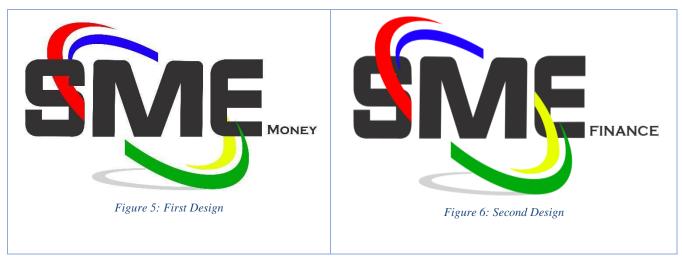
The project comprised of designing of an interactive web platform comprising of blog, video tutorial to provide financial literacy and business setup ideas to the public on general who wants to launch themselves into the business. For the hosting, www.gestionfinpme.com has been taken as testing purpose. An initial design of the website was made and all the members proposed changes from the design made. A new prototype will be designed and presented to the members for the perusal until final product is obtained. The website has the following features:

- a) Welcome informative pages
- b) User register through the websites to receive update on newly posted information and newsletters
- c) Multilingual capability
- d) Online Chat service
- e) Video tutorial pages
- f) Forum

- g) Contact us pages
- h) Admin dashboard area

Users of the website will be landed on a platform where all information related to business will be available in terms of financial literacy.

# 5.4.2 Logo Designs



As part of the design process of the prototype, a logo was designed using Photoshop application to be displayed for the website. The first logo design as **SME**<sub>MONEY</sub> depicted in *Figure 5* above was designed after gathering inputs from the second focus group. It was then tested internally among the research members, SME advisor and with some five entrepreneurs who ultimately proposed the **SME**<sub>Finance</sub> as shown in *Figure 6* above as the most appropriate name and design for this proposed website.

# 5.4.3 Database Designs

Table 16: Database Design

Name	Data Type	Size	Constraint	Description
User ID	Integer	50	Primary Key Auto Increment	It is the unique id of the User
FirstName	Varchar	50		First Name of the User
Last Name	Varchar	50		Last Name of the User
DOB	Date			Date of Birth of the User
NIC	Varchar	30		National Identity card of the User
Nationality	Varchar	30		The Nationality of the User
<b>Mobile Phone</b>	Numeric	8		The User Mobile Phone Number
Phone Number	Numeric	8		The Phone Number of the User
Address	Varchar	100		Current Address of the User
State	Varchar	50		Current State of the User
City	Varchar	50		Current City of the User
Email Address	Varchar	60		User Email Address

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Password	Varchar	50	Password to be able to login
Confirm Password	Varchar	50	To Confirm if Password is Correctly entered

### 5.4.4 System Architecture

The website is hosted on the internet domain name http://www.gestionfinpme.com. It is a three-tier architecture consisting of the standard client-server discrete layers, described below. The functionalities performed are based on open standards ensuring interoperability between the selected software components. The Client Layer is the presentation level of the system providing to end-users with an interface in order to display information related to the offered services. The client layer communicates with the other system components by sending requests and receiving responses. Users can request, explore and visualize spatial information, perform querying actions in order to receive information, discover, find and bind to data and processes by exploring their metadata information. The Applications Layer contains the necessary software applied for good functioning of the website in terms of information delivery and accessibility. Furthermore, it establishes the connection and performs the necessary data transmission between client and data layer. A Web-Server hosts services and directs requests and responses between clients and applications.

#### **5.4.5** Content Management / Materials

The contents are the various lessons that are in the format of short videos related to online lessons by a tutor. These videos have been taken by an expert SME advisor / tutor.

### 5.5 Development and Prototyping

### 5.5.1 Project's Website Design and Development

The current version is the latest version of the project's website and was performed with the use of open source Content Management System (CMS) "WordPress" (https://wordpress.org/). Basically, WordPress is web software that facilitates creation, publishing and management of website content through a central interface. WordPress is the most popular CMS among others

since it provides some features such as security, stability, flexibility and "Search Engine Optimization" (SEO) capabilities.

Wordpress is based on php programming language but it is not required any programming skills to be installed and maintained. Moreover, it provides ready to use templates as well as thousands of plugins which can be exploited to develop a website even by non-experts. The website's changes and content update can be performed through a PC that has internet connection without any need of special software, just with the use of a web browser. In the following picture is depicted the "WordPress" user interface environment.

#### **5.5.2** Website Content

The website consists of the following pages

- a) **Home page** the greeting page whenever a user logs into the website
- b) Mission and Vision Statement
- c) Entrepreneur Learning Corner
  - a. Basic Accounting terms definition of accounting terminology
  - b. **Video Tutorials page -** it consists of several subpages each of which contains three to four videos explaining the concept of financial literacy
  - Televised Documentary containing a short video on the importance of having an SME financial literacy portal
- d) Useful links page contains links to other websites that is helpful to users in quest of business doing
- e) **Events** Any events that takes place is published for information of users
- f) **SME Networking** facility to discuss business related issues and chatting facility with other fellow members of the SMEs that are logged into
- g) **Sitemap** providing info to users of the listed pages on the website
- h) Contact us the page where any user can contact the key person in quest of information

#### **5.5.3** Development of Prototypes

The proposed solution is derived after working on various prototyping, on evolutionary prototyping approach, that is, an initial prototype is worked on and tested, leading towards a second prototype, until the final has been approved to be the most suitable one.

### 1. Prototype 1

The project consists of the design, development and deployment of a web application to provide useful information to intended users. Two types of user group are defined namely *Normal User* and *Admin user*. The web application is developed using (i) HTML, JavaScript as frontend, (ii) PHP programming to push and pull data from Database and (iii) MySQL Database as backend. This is a web application designed to enable SME to have access to resources in relation to facilities provided to setup / enhance business. The solution intends to bring an all in one platform that can provide useful information at the tip of fingers to intended users who will have a major advantage in saving time and money. These information can be accessed anywhere and anytime provided they are connected to the internet. The platform in the form of an interactive website will contain information such as videos, tutorials, post and even chat will be incorporated to contact the available members online. An initial design was made for the project and hosted, screenshot is as follows:

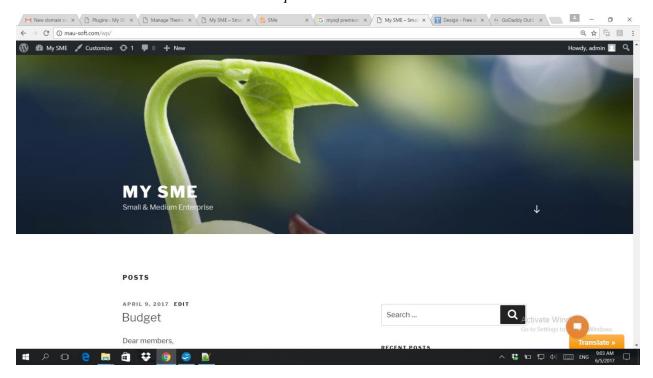


Figure 7: Main Page

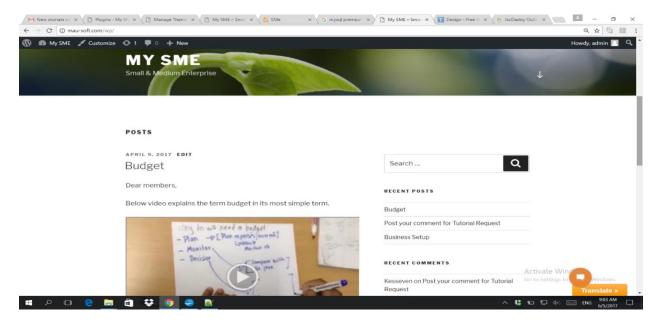


Figure 8: Web Page for Sample Lesson

The prototype 1 was just a startup of the website to know the strategy for improving the e-platform. Another prototype 2 was built for an improved version.



Figure 9:Main Page

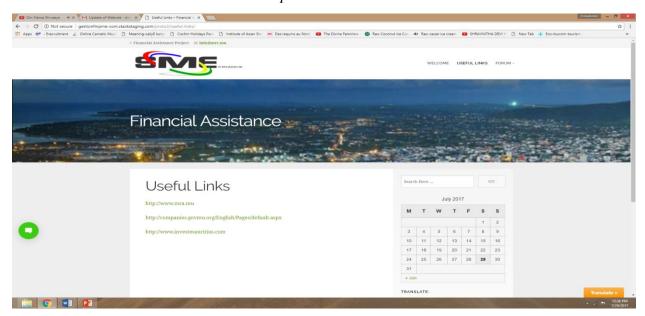


Figure 10: Web page for Useful Links

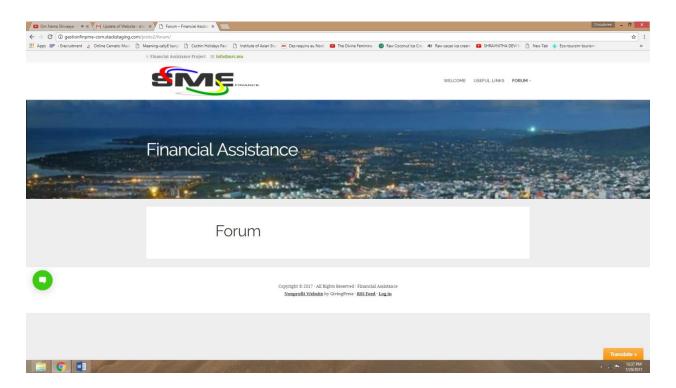


Figure 11: Forum Page

**Problems encountered** were observed in this prototype where the video being loaded were not responsive. The current format of the video has to be converted so that loading is made easy.

### 2. Prototype 2

After review of the previous prototype suggestions were made by fellow members for:

- Changing the main page so that slider be added depicting local business.
- Chat to be added on the menu
- Basic Accounting terms to be plugged into the website in the form of an e-dictionary
- Rearranging the useful links page

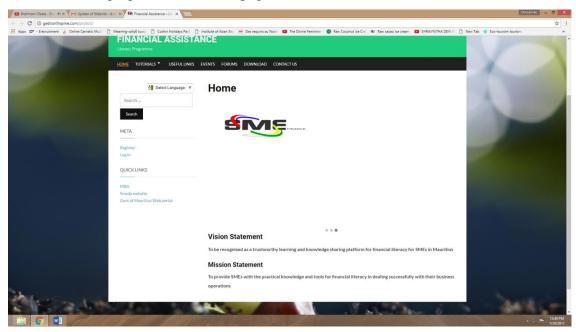


Figure 12: Main Page

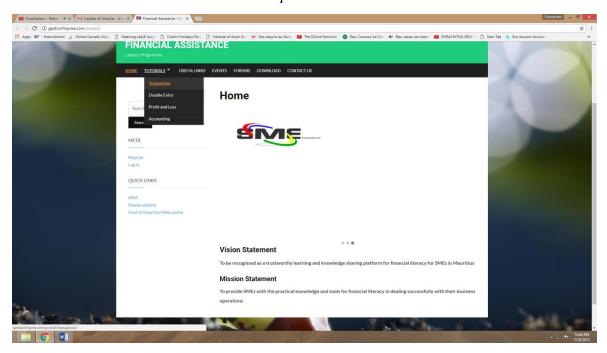


Figure 13:Links for Tutorials

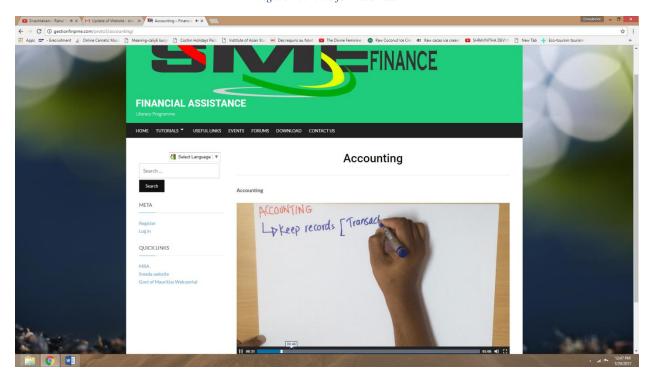


Figure 14: Links for online Accounting tutorial

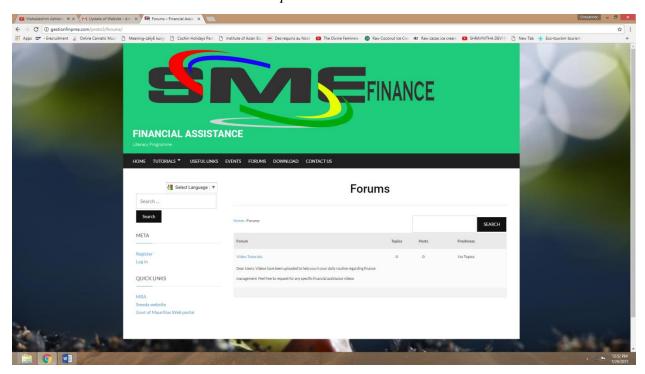


Figure 15: Forums Page

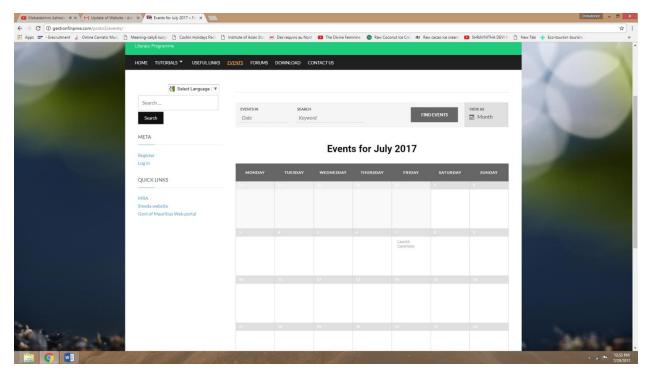


Figure 16: Events Page

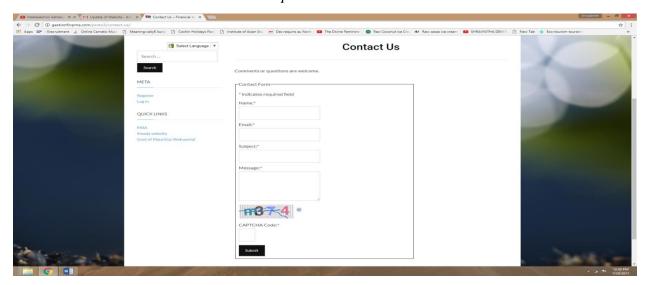


Figure 17: Contact Us Page

## **Final Prototype**

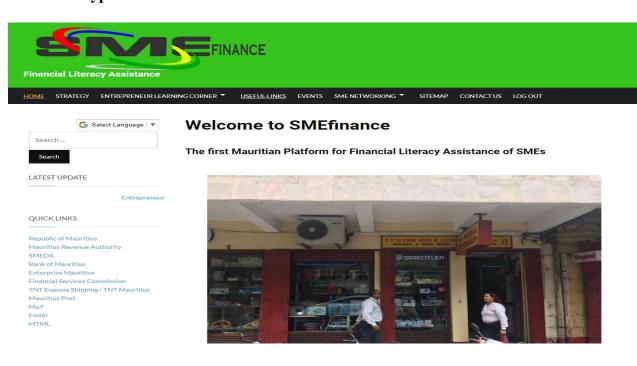


Figure 18: Main Page



G Select Language   ▼
Search
Search
LATEST UPDATE
Entrepreneur Le
QUICKLINKS
Republic of Mauritius
Mauritius Revenue Authority
SMEDA
Bank of Mauritius
Enterprise Mauritius
Financial Services Commission
TNT Express Shipping   TNT Mauritius
Mauritius Post
My.T
Emtel
MTML

# Mission and Vision Statement

#### **Vision Statement**

 $To be \, recognised \, as \, a \, trustworthy \, learning \, and \, knowledge \, sharing \, platform \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, literacy \, for \, SMEs \, in \, Mauritius \, for \, financial \, financial \, for \, financial \, finan$ 

#### **Mission Statement**

To provide SMEs with the practical knowledge and tools for financial literacy in dealing successfully with their business operations

Figure 19: Strategy Page

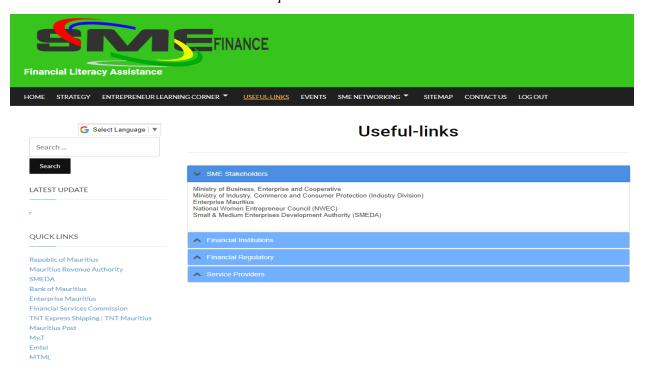


Figure 20: Useful Links



Figure 21: Financial Template Download Page

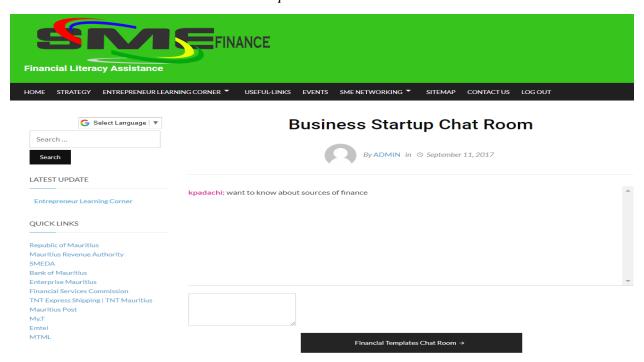


Figure 22: Chat Room Page

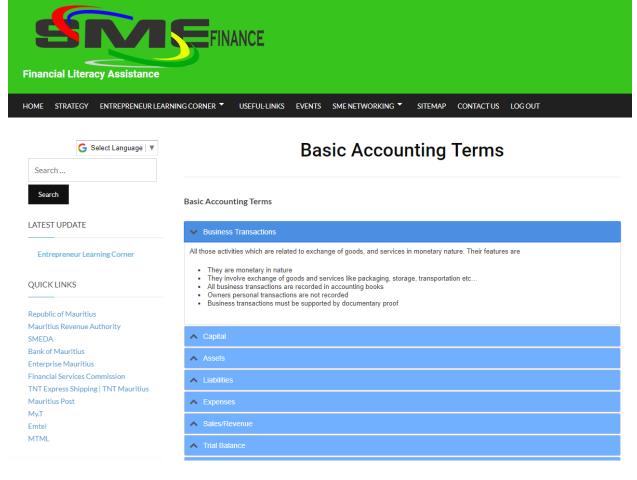


Figure 23: Basic Accounting Terms Page

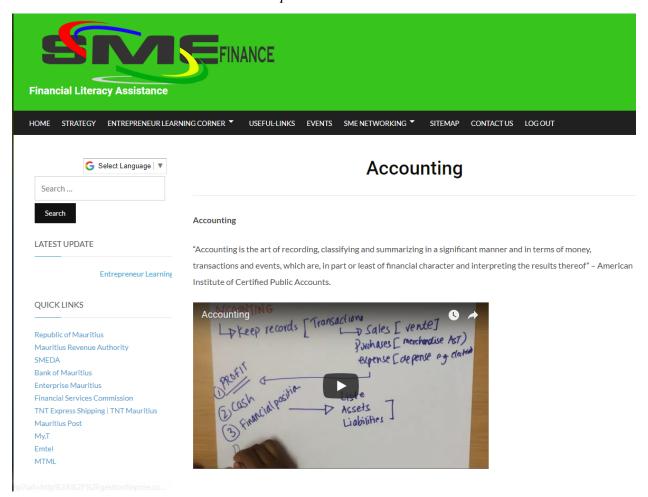


Figure 24: Accounting Video

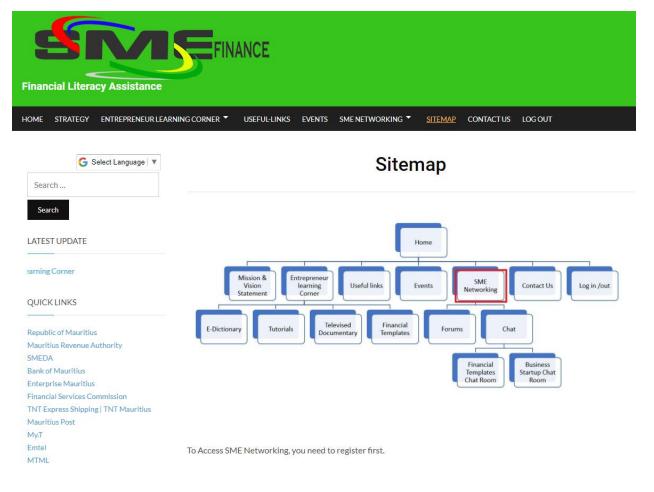


Figure 25: Sitemap

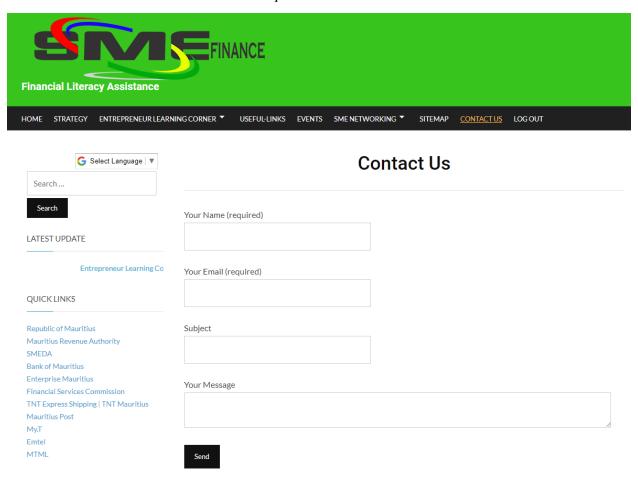


Figure 26: Contact Us Page

# Multimedia / Short TV



Figure 27:Snapshot of Video Shooting 1



Figure 28:Snapshot of Video Shooting 2



Figure 29:Snapshot of Video Shooting 3



Figure 30:Snapshot of Video Shooting 4



Figure 31:Snapshot of Video Shooting 5



Figure 32:Snapshot of Video Shooting 6



Figure 33: Snapshot of Video Shooting 7



Figure 34: Snapshot of Video Shooting 8



Figure 35:Snapshot of Video Shooting 9



Figure 36:Snapshot of Video Shooting 10



Figure 37:Snapshot of Video Shooting 11



Figure 38:Snapshot of Video Shooting 12

#### **5.6** Prototype Testing

#### **5.6.1 Functional Testing**

This chapter deals with the confirmation of functionalities that are existing within the webs site. Main functionalities that are found in the website are:

- Registration
- Login
- Contact us

Basically, a user when clicking on any hyperlink, he should be directed to that requested page unless he is not logged into, e.g., chat room page which is solely reserved for registered / logged users. Evidence of tests carried out is found at *Appendix E* 

### **5.6.2** System Integration Testing

A top down approach has been used since we do not have much modules. Most of the data are displayed for information purposes. The only interactive module is the chat room which displays live chat feeds.

Test scripts were prepared and provided to users to perform the tests.

Individual modules tested under his section are:

- Registration
- Login
- Contact Us
- Chat Room

The test result is found at *Appendix F*.

#### **5.7** Prototype Implementation

Several prototypes were designed during this phase and presented to the team and participating users (entrepreneurs). Their valuable inputs and feedback were taken into consideration until the final version was released. Several comments were made from all the prototypes by users at each phase of the prototypes. These comments are as follows:

#### Prototype 1

Requirement made were as follows:

- I. Simple website with videos uploaded for information to users and static home page
- II. Testing was performed where it was found that the website should be lively and video loading was an issue

### **Prototype 2**

Prototype 2 consists of uploading of videos which it does not affect loading time. All the videos were uploaded on youtube and referral links were put on the website. Testing carried out on the  $2^{nd}$  prototype the following remarks were made namely:

- I. need for homepage to have slider for better viewing;
- II. no well displayed menu with cascading styles;
- III. to put an additional menu for:
  - A. providing sample templates that can be downloaded by users
  - B. including online chat with other logged users

### **Prototype 3**

After analysis and testing conducted, the shortcomings on the 2<sup>nd</sup> prototype led towards a 3<sup>rd</sup> prototype with more enhanced features namely:

- I. Sliding pictured of local institutions on the main page;
- II. Add mission and vision statement page;
- III. Complete change of the website themes;
- IV. Add a site map;
- V. Add page for basic accounting terms.

Testing was carried out on the prototype and some changes were recommended such as:

- I. Quick Links to have more shortcuts
- II. Mission and Vision Statement menu label should be changed to Strategy
- III. Add line "To Access SME Networking, you need to register first." in sitemap

IV. Changing the homepage title to "Welcome to SmeFinance".

### **Prototype 4**

The testing and recommendations related to 3<sup>rd</sup> prototype have ultimately brought forth the final prototype with the following features:

- I. Home page Greeting page with slider images;
- II. Strategy Menu containing the mission and vision statement;
- III. Entrepreneur learning corner containing video, basic accounting terms and download facility of Financial Templates;
- IV. Useful Links hyperlinks to other useful websites;
- V. Events page containing on coming events;
- VI. SME Networking Accessible only to registered users for chat purposes;
- VII. Sitemap providing information to users of the website pages;
- VIII. Contact Us Send email to the web administrator for any query.

### 5.8 System Installation

Since a hosting platform is needed for this project, the testing and recommendations related to 3<sup>rd</sup> prototype have ultimately brought forth the final prototype with the following features:

- I. Home page Greeting page with slider images;
- II. Strategy Menu containing the mission and vision statement;
- III. Entrepreneur learning corner containing video, basic accounting terms and download facility of Financial Templates;
- IV. Useful Links hyperlinks to other useful websites;
- V. Events page containing on coming events;
- VI. SME Networking Accessible only to registered users for chat purposes;
- VII. Sitemap providing information to users of the website pages;
- VIII. Contact Us Send email to the web administrator for any query.

configuration choices were PHP 7 or greater, MySQL 5.6 or greater OR MariaDB 10.0 or greater, the mod rewrite Apache module and HTTPS support. For this project Mysql has been used since the current hosting package Mysql is integrated.

#### 5.9 User Training

Since it is an informative website, no introduction is needed to walkthrough the website for common users. A basic knowledge of using ICT and surfing the web suffice. A site map has been provisioned for users who intends to browse through the website available at the URL <a href="http://smefinance.mu/site-map/">http://smefinance.mu/site-map/</a>. WordPress has been used as the platform for developing and hosting the website. It is a well-known platform and supported by the web development communities. Most websites are now being hosted using WordPress as web platform. Being supported by all the web development communities, daily updates are available to the platform that renders it robust and secure. It is a versatile application supported all platforms. Regular updates in the form of plugins and themes are provided to developers for them to have better choice to render their website more responsive. Documentation on the setup and maintenance of the platform has been made available to all technical users who intends to use WordPress found at <a href="https://codex.wordpress.org/First\_Steps\_With\_WordPress">https://codex.wordpress.org/First\_Steps\_With\_WordPress</a>.

#### **5.10** System Review and Maintenance

This phase shall be an ongoing activity. Request for changes are bound to be happen in the future. Periodic review shall be made to ensure that the system is up to the norm. Since WordPress templates have been used to build the website periodic updates are provided to be implemented and this is done through the maintenance phase. Plugins that have been incorporated into the website are updated as and when latest patch are available. Moreover, changes that can happen due to the demand of users are additional tutorial videos, videos and templates are aligned as per users' expectation, changes in the image gallery to reflect the actual, changes in the configuration of the servers may happen to cater for the increase in number of users accessing the website.

### 5.11 Chapter Summary

This chapter has put forth the various phases of the development of the proposed solution, which comprised on gathering analyses and findings from chapter 4 and then conducting a system analysis, after which design of the system was done through database and logo design. Ultimately, the e-platform was developed through various prototypes. Prototype 1 (P1) was developed then tested with volunteer SMEs. The feedback from P1 was then improved towards prototype 2 (P2), which was then improved towards prototype 3 (P3) and the final product emerged as prototype 4 (P4) known as the online platform for financial literacy assistance for SMEs in Mauritius. P4 comprises of various interactive and multimedia features as a learning corner to support SMEs in the field of basic accounting.

# Chapter 6 Conclusions and Direction for Future Work

#### 6.0 Overview

This chapter concludes with the main findings of the research study and possible features that could be added on for future work of this project.

#### 6.1 Conclusions

This research study concludes on the fact that the survey conducted has led towards the development of a prototype with references based on **country experiences**. The features adopted in the prototype are:

#### 1. Website Strategy:

- a. The vision and mission statement are aligned with the aim of the strategic policy of the Mauritian Government to provide knowledge to the SMEs in Mauritius.
- b. Reference is also made with the SMEs in Turkey which have been strengthened through SME policies in their technological capacity. Increased Internet use help industrial SMEs to procure raw materials and capital goods more efficiently and trim their costs and boost productivity, control production processes and manage inventory.

#### 2. **Informative**:

- a. The website with regard to its home page provides information for SME and its strategy (Vision and Missions). Such information are normally provided on website to indicate the purpose of the site.
- b. However, reference is also made with regard to the SME Kenya, Online News Portal (Online Newspaper) which serves as a library source for all SMEs accessing information to empower them and enrich their knowledge about operating their businesses including SMEs and Finance; SMEs and IT.
- c. The link to **Events** also is informative to SME web audience and has been taken the Kenyan website as mentioned in 1(b) above.

### 3. **SME Networking:** This interactive feature has been observed from the followings:

- a. The One Stop Information portal for SMEs in Malaysia which provides information on all aspects of SME Development including Financing, Advisory Services, Training Programmes, Business, networking opportunities and other SMEs Developmental Programmes.
- b. "SME Corporation Malaysia" which shares dialogues/information sharing sessions with the Presidents of Women Entrepreneurs Associations. The Register and Login features in the research study of this project enable the sharing of ideas in the forum.
- c. Besides, the SME Corp, "Innocert" enables SMEs to participate, share ideas and benefit from financial support and guidance of managing their finance.

### 4. Entrepreneur Learning Corner:

a. **Financial Template**: This feature is the main purpose of this developed prototype. Inspirations have been based on various country experiences. For instance, the financial template has been referenced from the Kenya Internet Exchange Point which allow SMEs to use Quick Book in an affordable price; the Etisalat Nigeria/Yuuzoo Singapore operate an e-commerce platform and the five mobile digital product including the SME Accounting App.

#### b. Tutorials:

- i. This feature has been inspired from the Hong Kong SME support Centre, HKTDC SME center, which provides important information and professional advices to new SMEs, about how they should proceed in order to start a good business and is also equipped with updated trade information, 35 electronic databases, and business facilities. In this project, the tutorials developed are mainly basic accounting practices to help SMEs in Mauritius.
- ii. Referring to the Government agencies namely Action Community for Entrepreneurship (ACE), Infocomm Development Authority of Singapore

(IDA) and Startup Enterprise Development Scheme (SPRING SEEDS) where they provide different programmes and schemes to assist SMEs in the provision of training to flourish their key skills to encourage innovation and the usage of technology.

#### The findings can be summarised as:

- 1. **Perception on Financial Literacy:** The respondents' perception on financial literacy show that the owner managers perceive their level of financial literacy to be high where their financial knowledge, skills, attitude and behaviour are rated as good.
- 2. **ICT Adoption and Usage:** SMEs preparedness to use ICT as the majority of the respondents claim that they have access to internet, have their own home page and they have skilled staff or they avail the services of expert in IT. Yet, they do not make enough use of e-banking, e-commerce and only 49% of the sampled firms use the MRA e-filing services for payment of tax.
- 3. **ICT Devices:** It is interesting to note that internet banking is used by most of the respondents while for the latest Fintech devices, namely SMS and mobile banking have not captured the attention of the owner manager. The most traditional forms of communication are the telephone, letter and fax. Alternatively, the most commonly used communication tool in the advent of technology is SMS followed by email and WhatsAPP, and text message. Thus, it observed that users can make us of the proposed IT platform related to the financial assistance strategy.
- 4. **Social Media:** The majority of the respondents are an active user of facebook, 83% of the cases make use of facebook as a marketing tool showing a low penetration of the other social media.
- 5. **Financial Knowledge Score:** The average Knowledge score of SME owners show a below average performance in terms of financial knowledge.
- 6. **Accounting Records:** The most popular records that are kept by the firms is the receipts and payments while there are still 50% of the sample firms that keep the transactions in a log book and some 39% use the company's bank account to keep track of the business

transactions. The system of transactions recording is a combined both manual and computerised showing a readiness of the SMEs to adopt computer applications to facilitate the business operations.

- 7. **Budgetary Provision:** Budgeting is viewed as an important financial planning tool for the smooth running of businesses. 22% of the respondents base their budgeting on their cash availability while 29% allocate budget as per revenue generated during the month.
- 8. **Profit calculation:** Majority of the respondents keep track of their firms profit either in house (58%) or by outsourcing (18.5%). 11.2% of the respondents use their bank balance as a reference to profit measurement, thus suggesting that they face the profit cash illusion, while 12% do not keep track of the business performance.
- 9. Costing and Pricing of Products/Services: Majority consider the costs of production when devising their pricing strategy either in house (corresponding 52%) or by outsourcing (43%). 52% of the cases use the most popular cost plus pricing while they supplement it with other pricing strategies such as price taker and price discrimination.
- 10. **Financing Mechanisms/Awareness:** SMEs tend to use more traditional sources of finance rather than debt factoring, foreign currency loans. The Mauritian SMEs have recourse to bank overdraft and family loan to meet unpredictable financial difficulties. Lack of awareness on the alternative financing options includes debt factoring, angel investing, grants and credit union. 45% are not aware about grants. Except for bank loan, some 30% do not about the related costs of the financing modes, implying a financial education gap.
- 11. **Financial Education and Assistance:** 48% of the respondents confirm that they would need training on business education. SMEs perceive the use of ICT to facilitate access to business templates that would prove beneficial to manage the business finance. The survey points to the lack of support from the banks and support agencies, and there is a low satisfaction level (46%) with regards to the financing solutions provided by their banks.

#### **6.2** Future Work

The features of this research project can be further improved in the next phase with the following functionalities:

- a) **Short Video Clips**: Additional free short video clips in relation to basic, intermediate and advanced accounting lessons need to be added in the entrepreneur learning corner on the website for entrepreneurs.
- b) **SME Finance Advisor:** This functionality enables SME *to book* an SME Finance Advisor; this is in line with the Singaporean Accounting and Corporate Regulatory Authority (ACRA) website providing practical FAQs and guides whereby SMEs seek expert advise through SMEs centers managed by experts in different areas of business like entrepreneurship development, branding and technology.
- c) **SME Peers**: this functionality will facilitate to *share an Experience* among SME peers through Chat facility;
- d) **SME Quotes:** Insert SME quotes of the day on money management and/or motivational thoughts for entrepreneurs;
- e) **Complaints**: this feature facilitate to send a complaint;
- f) **Qualifications:** this feature facilitate to *Get Qualified* (learn for advanced qualifications in collaboration with universities / ACCA)
- g) **Training**: this feature facilitates Experienced entrepreneurs to offer their services/trainings. This feature is a paid service feature for registered and logged in web entrepreneurs' users;
- **h) Accounting Standards:** this feature includes all the accounting standards that entrepreneurs need to know when managing their SMEs;
- i) Accounting Software: this feature can be included with collaboration of providers of accounting packages where the entrepreneur can buy (eg QuickBooks), Cloud Accounting Software;
- j) **SME Case Studies:** this feature shall include Share, Success Stories, Best practices of entrepreneurship in the country;
- k) **Others Adds On**: Corporate Social Responsibility (CSR) (eg. SME *Donation for a Good Cause*).
- With reference to the project of Digital Malaysia that enables SMEs to make payment effective by using e-payments and support SMEs for cloud computing and the RHB

retail group that provides the E-Retail package services of **Business Current Account**, **Merchant card terminal**, Accounting **Software**, **Customized Insurance**, same strategic facilities can be developed for SMEs in Mauritius.

The next phase shall become a unique platform where FIs and related stakeholders provide their inputs in this system to facilitate learning.

### 6.3 Chapter Summary

This chapter has highlighted the main findings of this research study and the future work elaborates the possible improvements of this recommended website which can be paid and unpaid features.

### References

Almeida, P., (2004). Small Firms and Innovation, Entrepreneurship in the 21st Century. In *Conference Proceedings*, 26th April.

Alexandra, V., (2013). Factors of social networking use as a business tool among micro-enterprises. 2013 International Conference on Research and Innovation in Information Systems (ICRIIS), 1(4), pp. 227 - 231.

Ariyo, D. (2008). "Small firms are the backbone of the Nigerian Economy". Africa Economic Analysis, Academy of Management Journal, Vol. 1, No 1, pp. 109-124.

Ayyagari, M., Beck, T. and Demirguc-Kunt, A., (2007). Small and medium enterprises across the globe. *Small business economics*, 29(4), pp.415-434.

Beal, D.J. and Delpachitra, S.B., (2003). Financial literacy among Australian university students. *Economic Papers: A journal of applied economics and policy*, 22(1), pp.65-78.

Beck, T., Demirguc-Kunt, A. and Levine, R., (2005). SMEs, growth, and poverty: cross-country evidence. *Journal of economic growth*, 10(3), pp.199-229

Berger, A.N., and Udell, G.F., (2006), "A more complete conceptual framework for SME finance", China Banking Regulatory Commission (CBRC) (2006), Strengthening Regulations, Improving City Commercial Bank's Reform and Development.

Bergeron, F., Raymond, L. and Rivard, S., (1999). *The concept of fit in information systems research*. Facult des sciences de l'administration de l'Universit Laval, Direction de la recherche.

Bridge, J. and Peel, M., (1999). "A study of computer usage and strategic planning in the SME sector", International Small Business Journal, Vol. 17 No. 4, pp. 82-7.

Bruque, S. and Moyano, J., (2007). Organisational determinants of information technology adoption and implementation in SMEs: The case of family and cooperative firms. *Technovation*, 27(5), pp.241-253.

Bur'ca, S. Fynes, B and Marshall D., (2005), "Strategic technology adoption: extending ERP across the supply chain", *Journal of Enterprise Information Management*, Vol. 18 No. 4, pp.427-40.

Chen, J., (2006). Development of Chinese small and medium-sized enterprises. *Journal of Small Business and Enterprise Development*, 13(2), pp.140-147.

Creswell, J.W., (2007). Five qualitative approaches to inquiry. *Qualitative inquiry and research design: Choosing among five approaches*, 2, pp.53-80.

Cunningham, L.X. and Rowley, C., (2010). Small and medium-sized enterprises in China: a literature review, human resource management and suggestions for further research. *Asia Pacific Business Review*, 16(3), pp.319-337.

Denzin, N.K. and Lincoln, Y.S., (2008). *The landscape of qualitative research* (Vol. 1). Sage Publication.

De Vos, A.S., (2002). Combined Quantitative and Qualitative Approach. In De Vos, A.S. (Ed.) Strydom, H., Fouché, C.B. & Delport, C.S.L. *Research at Grass Roots for the social sciences and human science professions.* 2 *nd ed. Pretoria*: Van Schaik Publishers

Fraser, S. and Wresch, W., (2005). National competitive advantage in e-commerce efforts: A report from five caribbean nations. *Perspectives on Global Development and Technology*, 4(1), pp.27-44.

Garikai, B.W., (2011). Growth of SMEs in Developing Nations: Special Reference to AGOA. Common Market for Eastern and Southern Africa (COMESA), Zambia.

Ghauri, P.N. and Grønhaug, K., (2005). Research methods in business studies: A practical guide. Pearson Education.

Ghorecha, V., and Bhatt, C., (2013). A guide for Selecting Content Management System for Web Application Development. *International Journal of Advance Research in Computer Science and Management Studies*, 1(3), pp. 13-17.

Guba, E.G. and Lincoln, Y.S., (1994). Competing paradigms in qualitative research. *Handbook of qualitative research*, 2(163-194), p.105.

Hall, G., (1992). Reasons for insolvency amongst small firms—A review and fresh evidence. *Small Business Economics*, 4(3), pp.237-250.

Hallberg, K., (2000). A market-oriented strategy for small and medium scale enterprises (Vol. 63). World Bank Publications.

Ives, B. and Mason, R.O., (1990). Can information technology revitalize your customer service? *The Executive*, 4(4), pp.52-69.

Jutla, D., Bodorik, P. and Dhaliwal, J., (2002). Supporting the e-business readiness of small and medium-sized enterprises: approaches and metrics. *Internet Research*, *12*(2), pp.139-164.

Kalam, A.A., (2010). The scientific Indian: A twenty-first century guide to the world around us. Penguin UK, pp. 56, 73, 226

Kalochristianakis, M., Varvarigos, E., Vassilakis, K. and Paraskevas, M., (2012), July. Considerations for successful enterprise information systems deployment—The case of the Greek School Network. In *Service Systems and Service Management (ICSSSM)*, 2012 9th International Conference on (pp. 118-122) IEEE.

Kapurubandara, M. and Lawson, R., (2006). Barriers to Adopting ICT and e-commerce with SMEs in developing countries: an Exploratory study in Sri Lanka. *University of Western Sydney, Australia*, 82, pp.2005-2016.

Karadag, H., (2017). The impact of industry, firm age and education level on financial management performance in small and medium-sized enterprises (SMEs) Evidence from Turkey. *Journal of Entrepreneurship in Emerging Economies*, 9(3), pp.300-314.

Korzyk Sr, A., (1998). A decision-making model for securely conducting electronic commerce. *Virginia Commonwealth University JG VanDyke and Associates, http://csrc. nist. gov/nissc I*, 998.

Kruger, R.A., (1994). Focus Group: Practical Guide for Applied Research. Sage Publications

Lal, K., (2002). E-business and Manufacturing Sector: A Study of Small and Medium-sized Enterprises in India, *Research Policy*, 31(7), pp. 1199-1211.

Lal, K. and Peedoly, A.S., (2006). Small Islands, New Technologies and Globalization: A Case of ICT adoption by SMEs in Mauritius, *UNU-MERIT*, pp. 1-39.

Laudon, K.C. and Laudon, J.P., (2011). Essentials of management information systems. Upper Saddle River: Pearson.

Leedy, P.D. and Ormrod, J.E., (2001). Practical research: Planning and research. *Upper Saddle*.

Macpherson, A., Jones, O., Zhang, M. and Wilson, A., (2003). "Re-conceptualising learning spaces: developing capabilities in a high-tech small firm", *Journal of Workplace Learning*, *Vol.15 No.6*, pp. 259-70

Mandell, L. and Klein, L., (2009). The impact of financial literacy education on subsequent financial behavior.

Mazur, G.H., (1998), August. Strategy deployment for small and medium enterprises. In *Proceedings of the International Symposium on Quality Function Deployment*. Sydney, August.

McLafferty, I., (2004). Focus group interviews as a data collecting strategy. *Journal of advanced nursing*, 48(2), pp.187-194.

Morgan, D.L., (1996). Focus groups as qualitative research (Vol. 16). Sage publications.

Nielinger, O., (2003). Fact Sheet: ICT-utilisation of Small and Medium Enterprises (SME) in Tanzania. *Institute of African Affairs, Hamburg, Germany*.

Noctor, M., Stoney, S. and Stradling, R., (1992). Financial literacy: a discussion of concepts and competences of financial literacy and opportunities for its introduction into young people's learning. *National Foundation for Educational Research*.

Nunoo, J. and Andoh, F.K., (2012), August. Sustaining small and medium enterprises through financial service utilization: Does financial literacy matter. In *Unpublished Paper*) presented at the Agricultural & Applied Economics Association's (2012) AAEA Annual Meeting, Seattle, Washington.

Oakey, R.P., Rothwell, R. and Cooper, S., (1988). The management of innovation in high-technology small firms: innovation and regional development in Britain and the United States. Quorum Books.

Oke, A., Burke, G. and Myers, A., (2007). Innovation types and performance in growing UK SMEs. International Journal of Operations & Production Management, 27(7), pp.735-753. Chatzoglou, P.D., Vraimaki, E., Diamantidis, A. and Sarigiannidis, L., (2010). Computer acceptance in Greek SMEs. *Journal of Small Business and Enterprise Development*, 17(1), pp.78-101.

Ozigbo, N.C. and Ezeaku, P., 2009. Adoption of information and communication technologies to the development of small and medium scale enterprises (SMEs) in Africa. *Journal of Business and Administrative Studies*, *1*(1), pp.1-20.

Parthasarathy, S. ed., (2010). Enterprise Information Systems and Implementing IT Infrastructures: Challenges and Issues: Challenges and Issues. IGI Global.

Patel, S.K., Rathod, V.R., and Prajapati, J.B., (2011). Performance Analysis of Content Management Systems - Joomla, Drupal and WordPress, *International Journal of Computer Applications*, 21(4), pp. 39-43.

Pissarides F., Singer, M., and Svejnar, C., (2003). Objectives and constraints of entrepreneurs: evidence from small and medium size enterprises in Russia and Bulgaria, *Journal of Comparative Economics* 31(3), pp. 503-531.

Reid, R.S. and Harris, R.I., (2004). Family-owned SME Growth in Scotland: a comparison with the UK. *Caledonian Family Business Centre, University of Glasgow Caledonian, Scotland.* 

Robson, C., (1993). Real world research: A resource for social scientists and practitioners-researchers. *Massachusetts: Blackwell Pushers*.

Ruzzier, M., Hisrich, R.D. and Antoncic, B., (2006). SME internationalization research: past, present, and future. *Journal of small business and enterprise development*, 13(4), pp.476-497.

Scott, D. and Jun, W., (2006). Developments and prospects for rural finance in China. *Stanford Center for International Development Working Papers*, (292).

Stantchev, V. and Scherz, M., (2004). Net business environment for small and medium-sized enterprises. In *IADIS International Conference ECOMMERCE*.

Storey, D.J. and Cressy, R., (1996). *Small business risk: A firm and bank perspective*. Centre for Small and Medium Sized Enterprises, Warwick Business School.

Stroeken, J.H.M. and Knol, E.W.H.C., (1999). *The stimulation of the diffusion and adoption of information technology in small and medium-sized enterprises through IT scenarios*. Research Report-Eindhoven Centre for Innovation Studies (ECIS), Eindhoven University of Technology (EUT). http://fp. tm. tue. nl/ecis/Other/RepStroeKnol. pdf.

Torres-Machí, C., Chamorro, A., Pellicer, E., Yepes, V. and Videla, C., (2015). Sustainable pavement management: Integrating economic, technical, and environmental aspects in decision making. *Transportation Research Record: Journal of the Transportation Research Board*, (2523), pp.56-63.

Wakode, B.V., and Chaudhari, N.D., (2013). Study of Content Management Systems Joomla and Drupal, *International Journal of Research in Engineering and Technology*, 2(12), pp. 569-573.

Wallis, M., (2006). Relating Kenyan manufacturing SMEs' finance needs to information on alternative sources of finance. *South African journal of information Management*, 8(1), pp.1-12.

Whitley, R., (1992). Societies, firms and markets: the social structuring of business systems. *European business systems: Firms and markets in their national contexts*, pp.5-45.

Yin, J.Z., (1994). Managing process innovation through incremental improvements: empirical evidence in the petroleum refining industry. *Technological forecasting and social change*, 47(3), pp.265-276.

Yin, R.K., (2009). Case Study Research, Design & Methods 4th ed.

Zheng, C., O'Neill, G. and Morrison, M., (2009). Enhancing Chinese SME performance through innovative HR practices. *Personnel Review*, *38*(2), pp.175-194.

Zikmund, W., (2000). G.(2000). Business research methods, 6.

## Web references

1 Million for Work Flexibility. (2017). 5 Benefits of Telecommuting For Employers and Employees - *1MFWF*. [online] Available at: <a href="http://www.workflexibility.org/5-benefits-of-telecommuting-for-employees/">http://www.workflexibility.org/5-benefits-of-telecommuting-for-employees/</a>, [Accessed 16 Mar. 2017].

Abdel Maksoud, Samer and Mohamed Abdel Aziz Youssef (2003). "Information and Communication Technology for SMEs in Egypt", SME Development Unit, Ministry of Foreign Trade. [online] Available at: <a href="http://www.sme.gov.eg/webpubeng/ICT.pdf">http://www.sme.gov.eg/webpubeng/ICT.pdf</a>, [Accessed on 10 March, 2017]

Access to EU Finance - European Commission. [online] Available at: <a href="http://europa.eu/youreurope/business/funding-grants/access-to-finance/search/en/">http://europa.eu/youreurope/business/funding-grants/access-to-finance/search/en/</a>, [Accessed on 10 March, 2017]

Annual Report - EU SMEs 2015-16.pdf. [online] Available at: <a href="http://ec.europa.eu/DocsRoom/documents/21251/attachments/1/translations/en/renditions/native">http://ec.europa.eu/DocsRoom/documents/21251/attachments/1/translations/en/renditions/native</a> = , [Accessed on 11 March, 2017]

Anon, (2017). [online] Available at: <a href="http://www.devenitif.com/sites/default/files/pdf/DEVENITIF\_SME\_Guide\_October\_2014.pdf">http://www.devenitif.com/sites/default/files/pdf/DEVENITIF\_SME\_Guide\_October\_2014.pdf</a>, [Accessed 16 Mar. 2017].

Anon, (2017). [online] Available at: <a href="http://www.gov.hk/en/about/abouthk/factsheets/docs/telecommunications.pdf">http://www.gov.hk/en/about/abouthk/factsheets/docs/telecommunications.pdf</a>>, [Accessed 16 Mar. 2017].

Anon, (2017). [online] Available at: <a href="https://www.linkedin.com/company/kitos">https://www.linkedin.com/company/kitos</a>, [Accessed 19 Mar. 2017].

B.I.A.S (2016), *Bahamas Information Access System Limited*. [online] Available at: <a href="http://www.bias-bahamas.com/services/">http://www.bias-bahamas.com/services/</a>, (Accessed on 17 March, 2017)

Bahamas Local.Com (2016), *Bahamas SME Development Economic Plans*.[online] Available at: <a href="https://www.bahamaslocal.com/newsitem/48463/Bahamas\_SME\_Development\_and\_Economic\_Diversification\_Plans.html">https://www.bahamaslocal.com/newsitem/48463/Bahamas\_SME\_Development\_and\_Economic\_Diversification\_Plans.html</a>, (Accessed on 15 March, 2017)

BBC NEWS (2017), *Panama country profile*. [online] Available at: <a href="http://www.bbc.com/news/world-latin-america-19888936">http://www.bbc.com/news/world-latin-america-19888936</a>,[Accessed 15 March 2017]

Biz4afrika.com. (2017). *Biz 4Afrika*. [online] Available at: <a href="http://www.biz4afrika.com/">http://www.biz4afrika.com/</a>>, [Accessed 18 Mar. 2017].

BTC (2016), *Small and Medium Business/Enterprise*. [online] Available at: <a href="https://www.btcbahamas.com/business/sme">https://www.btcbahamas.com/business/sme</a>, (Accessed on 17 March, 2017)

Buhalis, D. and Deimezi, O., (2003). Information Technology Penetration and E-commerce Developments in Greece, *With a Focus on Small to Medium-sized Enterprises. Electronic Markets*, 13(4), pp.309-324. [online] Available at: <a href="https://www.researchgate.net/publication/30930603\_Information\_Technology\_penetration\_and\_ecommerce\_developments\_in\_Greece\_with\_a\_focus\_on\_Small\_to\_Medium-sized Enterprises>, [Accessed on 25 February, 2017]

Business Dictionary (2017), Portal. [online] Available at: < http://www.businessdictionary.com/definition/portal.html>, [Accessed on 19 March 2017]

Business Domain Name & Hosting | SME Portal. [online] Available at: <a href="https://www.smeportal.sg/content/smeportal/en/services/information-technology/Business-Domain-Name-Hosting.html">https://www.smeportal.sg/content/smeportal/en/services/information-technology/Business-Domain-Name-Hosting.html</a>, [Accessed on 15 March, 2017]

CACCI. 2003. Recommendations on SME Development for Submission to the APEC Business Advisory Council (ABAC), www.cacci.org.tw/... /2003%20Vol%201/ CACCI%20 Recommendations%20on%20SME%20to%20ABAC.PDF. Accessed February 3, 2010.

C&W Business (2017), Panama. [online] Available at: < http://cwcbusiness.com/countries/panama/>, [Accessed on 18 March 2017]

CentralAmericaData.com (2017), BUSINESS INFORMATION, from<a href="http://www.centralamericadata.com/en/article/home/10300\_New\_SMEs\_in\_Panama">http://www.centralamericadata.com/en/article/home/10300\_New\_SMEs\_in\_Panama</a>[Accessed 16 March 2017]

Cherono, L. (2017). Microsoft launches Biz4Afrika: *Online Portal for Africa SMEs*. [online] Available at: <a href="http://www.techweez.com/2015/04/01/microsoft-launches-biz4afrika-portal/">http://www.techweez.com/2015/04/01/microsoft-launches-biz4afrika-portal/</a>, [Accessed 18 Mar. 2017].

Cheung, T. (2017). World-class business infrastructure | English. [online] Available at: <a href="http://www.investhk.gov.hk/why-hong-kong/world-class-business-infrastructure.html">http://www.investhk.gov.hk/why-hong-kong/world-class-business-infrastructure.html</a>, [Accessed 16 Mar. 2017].

Cio.co.ke. (2017). Liquid Telecom Kenya to roll out home, SME connection packages - CIO East Africa. [online] Available at: <a href="http://www.cio.co.ke/news/main-stories/liquid-telecom-kenya-to-roll-out-home,-sme-connection-packages">http://www.cio.co.ke/news/main-stories/liquid-telecom-kenya-to-roll-out-home,-sme-connection-packages</a>,s [Accessed 18 Mar. 2017].

DriveMyWeb | SME Portal. [online] Available at: <a href="https://www.smeportal.sg/content/smeportal/en/services/2016/drivemyweb.html">https://www.smeportal.sg/content/smeportal/en/services/2016/drivemyweb.html</a>, [Accessed on 18 March, 2017]

En.wikipedia.org. (2017). Hong Kong Broadband Network. [online] Available at: <a href="https://en.wikipedia.org/wiki/Hong\_Kong\_Broadband\_Network">https://en.wikipedia.org/wiki/Hong\_Kong\_Broadband\_Network</a>, [Accessed 16 Mar. 2017].

Environment, energy and transport - European Small Business. [online] Available at: <a href="http://ec.europa.eu/small-business/finance/environment-energy-transport/index\_en.htm">http://ec.europa.eu/small-business/finance/environment-energy-transport/index\_en.htm</a>, [Accessed on 19 March, 2017]

EPICOS SAGeneral Information. [online] Available at: <a href="http://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">http://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">http://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">http://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">http://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">http://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">https://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">https://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">https://emits.sso.esa.int/emits/owa/!ViewData.baseData?pentityid=32350&parea=O&cname=&conu=&groupName=GeneralInformation&ul=Guest&pSME=Y">https://emits.sso.esa.int/emits.go

European Commission (2007), Document of Strategy Panama. [online] Available at: <a href="http://eeas.europa.eu/archives/docs/panama/csp/07\_13\_en.pdf">http://eeas.europa.eu/archives/docs/panama/csp/07\_13\_en.pdf</a>, [ Accessed on 18 March 2017] p.77

ExcelERPIT, (2015). Realign Your Resources for Excellence. [online] Available at: <a href="http://www.excelforte.com/products/enterprise-resource-planing-erp-software-sme-singapore/">http://www.excelforte.com/products/enterprise-resource-planing-erp-software-sme-singapore/</a>, [ Accessed on 18 March 2017]

Federal Communications Commission. (2017). Telecommunications Act of 1996. [online] Available at: <a href="https://www.fcc.gov/general/telecommunications-act-1996">https://www.fcc.gov/general/telecommunications-act-1996</a>>, [Accessed 18 Mar. 2017].

Gilat Satellite Networks (2012), About Cable & Wireless. [online] Available at: < http://www.gilat.com/Cable--Wireless-Panama-selects-Gilat-for-broadband-network-for-public-schools-nationwide>, [Accessed on 18 March 2017]

Greece (2016) SBA Fact Sheet.pdf. [online] Available at: <a href="http://www.ggb.gr/sites/default/files/basic-page-files/Greece%202016%20SBA%20Fact%20Sheet.pdf">http://www.ggb.gr/sites/default/files/basic-page-files/Greece%202016%20SBA%20Fact%20Sheet.pdf</a>, [Accessed on 9 March, 2017]

Greece Explores Cross-border E-commerce Opportunities with China's Alibaba, Partnerships Announced - GTP Headlines. [online] Available at: <a href="http://news.gtp.gr/2016/09/15/greece-ecommerce-chinas-alibaba/">http://news.gtp.gr/2016/09/15/greece-ecommerce-chinas-alibaba/</a>,[Accessed on 10 March, 2017]

Greek SMEs are laggards in information technology | Business | ekathimerini.com. [online] <Available at: http://www.ekathimerini.com/211348/article/ekathimerini/business/greek-smesare-laggards-in-information-technology>, [Accessed on 13 March, 2017]

Greek\_profileportfolio.pdf. [online] Available at: <a href="http://www.crr.cz/Files/Docs/EEN/EEN%20Bulletiny/2016/Greek\_profile%20portfolio.pdf">http://www.crr.cz/Files/Docs/EEN/EEN%20Bulletiny/2016/Greek\_profile%20portfolio.pdf</a>,[

Accessed on 17 March, 2017]

Hktdc.com. (2017). Hong Kong Small and Medium Enterprises Association - Hong Kong | HKTDC. [online] Available at: <a href="http://www.hktdc.com/manufacturers-suppliers/Hong-Kong-Small-and-Medium-Enterprises-Association/en/1X08030R/">http://www.hktdc.com/manufacturers-suppliers/Hong-Kong-Small-and-Medium-Enterprises-Association/en/1X08030R/</a>, [Accessed 16 Mar. 2017].

Hktdc.com. (2017). SME Centre. [online] Available at: <a href="http://www.hktdc.com/mis/smecentre/en/HKTDC-SME-Centre.html">http://www.hktdc.com/mis/smecentre/en/HKTDC-SME-Centre.html</a>, [Accessed 16 Mar. 2017].

Hong-kong-economy-research.hktdc.com. (2017). Information Technology Services Industry in Hong Kong | HKTDC. [online] Available at: <a href="http://hong-kong-economy-research.hktdc.com/business-news/article/Hong-Kong-Industry-Profiles/Information-Technology-Services-Industry-in-Hong-Kong/hkip/en/1/1X000000/1X006NLI.htm">http://hong-kong-economy-research.hktdc.com/business-news/article/Hong-Kong-Industry-Profiles/Information-Technology-Services-Industry-in-Hong-Kong/hkip/en/1/1X000000/1X006NLI.htm</a>, [Accessed 16 Mar. 2017].

http://aisel.aisnet.org/cgi/viewcontent.cgi?article=1061&context=bled2005

http://www.eib.org/attachments/dalberg sme-briefing-paper.pdf

http://europa.eu/youreurope/business/index\_en.htm

http://eventura.com/blog/five-benefits-fully-integrated-information-system/

http://www.emeraldinsight.com/doi/full/10.1108/01443570710756974

http://www.indjst.org

http://www.information-age.com/rise-chief-innovation-officer-leading-way-transformational-innovation-123457889/

https://www.kmu.admin.ch/kmu/en/home.html

http://www.node4.co.uk/blog/uk-smes-are-facing-up-to-the-it-infrastructure-challenge/

http://www.primeminister.kz

https://www.sap.com/uk/solution/sme-business-software.html?campaigncode=CRM-GB17-PPC-PPCGBCA&source=ppc-UK-GB-SEO-GOO&gclid=CJGLlo-ppc-UK-GB-SEO-GOO&gcli

Bt9ICFWMKGwodvCUC7A&gclsrc=ds

http://www.s-ge.com/switzerland/export/en/blog/how-smes-boost-their-efficiency-data-and-cloud-computing

http://www.s-ge.com/switzerland/export/en/blog/how-smes-boost-their-efficiency-data-and-cloud-computing

http://www.sme.gov.eg/sme\_statistical\_information.htm

https://www.switzerland-innovation.com/sites/default/files/2016-06/Switzerland\_Innovation\_Imagebroschuere\_Doppelseiten\_160302.pdf

http://www.telegraph.co.uk/business/sme-home/importance-of-infrastructure-for-smes/

https://www.thecompanywarehouse.co.uk/blog/what-is-an-sme

https://wordpress.org/

Infocomm Media Development Authority, (2017). Small and Medium Enterprises. [online] Available at: <a href="https://www.imda.gov.sg/industry-development/programmes-and-grants/smal-and-medium-enterprises">https://www.imda.gov.sg/industry-development/programmes-and-grants/smal-and-medium-enterprises</a>, [Accessed 03 03 2017].

Information and communication technology (ICT) infrastructure for small and medium enterprises (SMEs) networks: achievements and work-in-progress from three European projects - IEEE Xplore Document. [online] Available at: <a href="http://ieeexplore.ieee.org/document/758600/">http://ieeexplore.ieee.org/document/758600/</a>, [Accessed on 18 March, 2017]

Information Technology | SME Portal. [online] Available at: <a href="https://www.smeportal.sg/content/smeportal/en/services/information-technology.html">https://www.smeportal.sg/content/smeportal/en/services/information-technology.html</a>, [Accessed on 12 March, 2017]

Infrastructure and secretariat services - European Commission. [online] Available at: <a href="https://ec.europa.eu/growth/tools-databases/smeip/service/infrastructure-and-secretariat-services">https://ec.europa.eu/growth/tools-databases/smeip/service/infrastructure-and-secretariat-services</a>, [Accessed on 16 March, 2017]

International Living (2016), Panama Tops The Charts In Technology And Internet Coverage. [online] Available at: <a href="https://internationalliving.com/2014/12/panama-tops-the-charts-intechnology-and-internet-coverage/">https://internationalliving.com/2014/12/panama-tops-the-charts-intechnology-and-internet-coverage/</a>, [Accessed on 17 March 2017]

Investopedia (2017), Small And Midsize Enterprises – SME. [online] Available at:<a href="http://www.investopedia.com/terms/s/smallandmidsizeenterprises.asp#ixzz4bUSFgDrd">http://www.investopedia.com/terms/s/smallandmidsizeenterprises.asp#ixzz4bUSFgDrd</a>, [Accessed 16 March, 2017]s

'IT infrastructure in greece for SMEs' on SlideShare. [online] Available at: <a href="https://www.slideshare.net/search/slideshow?searchfrom=header&q=IT+infrastructure+in+greece+for+SMEs&ud=any&ft=all&lang=\*\*&sort=>, [Accessed on 17 March, 2017]

'IT infrastructure in greece' on SlideShare. [online] Available at: <a href="https://www.slideshare.net/search/slideshow?searchfrom=header&q=IT+infrastructure+in+greece">https://www.slideshare.net/search/slideshow?searchfrom=header&q=IT+infrastructure+in+greece</a>, [Accessed on 13 March, 2017]

Kenya, P. (2017).Portals (SMEs & Corporate) - Webcrunch Kenya. [online] Available at: < https://webcrunch.co.ke/portals-smes-corporates/>, [Accessed 18 Mar. 2017].

Kushukova SJ (2003). Initiatives for E-commerce capacity Building of SMEs in Kazakhstan, From: *Initiatives for E-commerce capacity buildings of Small and Medium Enterprises central Asia, ADB Working Paper No: 187.* Retrieved August 10, 2010. [online] Available at: <a href="http://www.adbi.org/files/2010.01.25.p187.financial.crisis.trade.sme.central.asia.pdf">http://www.adbi.org/files/2010.01.25.p187.financial.crisis.trade.sme.central.asia.pdf</a>, [Accessed 18 Mar. 2017].

kyero, (2013). World Bank Lists Top Countries for SMEs. [online] Available at: <a href="https://news.kyero.com/2013/1/world-bank-lists-top-countries-for-smes/914">https://news.kyero.com/2013/1/world-bank-lists-top-countries-for-smes/914</a>, [Accessed 02 03 2017].

Lifewire (2017), The Role of Fiber Optic Cables in Computer Networking and the Internet. [online] Available at:< https://www.lifewire.com/fiber-optic-cable-817874>, [Accessed 17 March 2017]

Maina, P. (2017). Accounting software's that your SME can use. [online] Available at: <a href="http://www.kuzabiashara.co.ke/accounting-software-that-your-sme-can-use-14411/">http://www.kuzabiashara.co.ke/accounting-software-that-your-sme-can-use-14411/</a>, [Accessed 18 Mar. 2017].

Management Information Systems (MIS): IT Infrastructure: *Hardware and Software (Review Chapter 4)*. [online] Available at: <a href="http://nadyameivira.blogspot.com/2010/11/it-infrastructure-hardware-and-software.html">http://nadyameivira.blogspot.com/2010/11/it-infrastructure-hardware-and-software.html</a>, [Accessed on 9 March, 2017]

Maps of World (2017), Major Languages of Panama. [online] Available at: < http://www.mapsofworld.com/panama/society-and-culture/language.html>, [Accessed 15 March 2017]

Mehongkong.com. (2017). *Hong Kong's superb infrastructure provides convenient to MICE visitors*. [online] Available at: <a href="http://www.mehongkong.com/eng/why-hong-kong/superb-infrastructure.html">http://www.mehongkong.com/eng/why-hong-kong/superb-infrastructure.html</a>, [Accessed 16 Mar. 2017]

Meske C., Stieglitz S. (2013) Adoption and Use of Social Media in Small and Medium-Sized Enterprises. In: *Harmsen F., Proper H.A.* (*eds*). [online] Available at: http://www.moci.gov.lr/2press.php?news\_id=135&related=7&pg=sp>, [Accessed 16 Mar. 2017]

Mg/Chambers LC Advocates & Solicitors Singapore, n.d. SMEs and Their Valuable Contribution to Singapore's Economy. [online] Available at: <a href="http://www.lawfirm.com.sg/info/smes-and-their-valuable-contribution-to-singapore-economy/">http://www.lawfirm.com.sg/info/smes-and-their-valuable-contribution-to-singapore-economy/</a>, [Accessed 26 02 2017].

Mg/Chambers LC Advocates, n.d. [Online]. Singapore Business Review, 201. Govts set a new parameter to define SMEs. [online] Available at: <a href="http://sbr.com.sg/retail/more-news/govt-sets-new-parameters-define-smes">http://sbr.com.sg/retail/more-news/govt-sets-new-parameters-define-smes</a>, [Accessed 03 02 2017].

Mytopbusinessideas.com. (2017). 10 Small Business Investment Opportunities in Hong Kong | MyTopBusinessideas.com. [online] Available at: <a href="http://www.mytopbusinessideas.com/hong-kong/">http://www.mytopbusinessideas.com/hong-kong/</a>, [Accessed 16 Mar. 2017].

Njoroge, E. (2017). Mobile apps driving growth of SMEs - Capital Business. [online] Available at: <a href="http://www.capitalfm.co.ke/business/2012/04/mobile-apps-driving-growth-of-smes/">http://www.capitalfm.co.ke/business/2012/04/mobile-apps-driving-growth-of-smes/</a>, [Accessed 18 Mar. 2017].

OECD (2017), Country Fact Sheet. [online] Available at: < https://www.oecd.org/gov/lac-panama.pdf>, [Accessed on 19 March 2017]

Open Data Portal for the European Structural Investment Funds - European Commission. [online] Available at: <a href="https://cohesiondata.ec.europa.eu/countries/GR#">https://cohesiondata.ec.europa.eu/countries/GR#</a> [Accessed on 9 March, 2017]

Panama Today (2016), Panama City. [online] Available at: < http://www.panamatoday.com/life-style/57-panamanians-are-connected-internet-1756> [Accessed on 19 March 2017]

Rodakinias, P., Skayannis, P. and Zygoura, A., (2008). Greek SMEs in the Information Society: *ICT Use and Integration in the Region of Dytiki Makedonia*. [online] Available at: <a href="https://www.researchgate.net/publication/265142047\_Greek\_SMEs\_in\_the\_Information\_Society\_ICT\_Use\_and\_Integration\_in\_the\_Region\_of\_Dytiki\_Makedonia">https://www.researchgate.net/publication/265142047\_Greek\_SMEs\_in\_the\_Information\_Society\_ICT\_Use\_and\_Integration\_in\_the\_Region\_of\_Dytiki\_Makedonia</a>, [Accessed on 17 March, 2017]

Singapore Business Review, (2016). Singapore to splurge \$2.82 billion on tech infrastructure, ITsecurity in 2016. [Online] Available at: <a href="http://sbr.com.sg/information-technology/news/singapore-splurge-282-billion-tech-infrastructure-it-security-in-2016#sthash.fzMduatC.dpuf">http://sbr.com.sg/information-technology/news/singapore-splurge-282-billion-techinfrastructure-it-security-in-2016">http://sbr.com.sg/information-technology/news/singapore-splurge-282-billion-techinfrastructure-it-security-in-2016</a>, [Accessed 28 02 2017].

Singapore, (2017). Going al out to help more SMEs go digital. [online] Available at: <a href="http://www.straitstimes.com/singapore/going-al-out-to-help-more-smes-go-digital">http://www.straitstimes.com/singapore/going-al-out-to-help-more-smes-go-digital</a>. Trade Chakra, 208. Infrastructure In Singapore. [online] Available at: <a href="http://www.tradechakra.com/economy/singapore/infrastructure-in-singapore-105.php">http://www.tradechakra.com/economy/singapore/infrastructure-in-singapore-105.php</a>, [Accessed 25 02 2017].

Small-Medium Enterprises (SMEs) | Planet. [online] Available at: <a href="http://www.planet.gr/sector/small-medium-enterprises-smes/">http://www.planet.gr/sector/small-medium-enterprises-smes/</a>, [Accessed on 10 March, 2017]

SME Performance Review - European Commission. [online] Available at: <a href="https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review-2016">https://ec.europa.eu/growth/smes/business-friendly-environment/performance-review-2016</a>, [Accessed on 14 March, 2017]

Sme.hktdc.com. (2017). HKTDC SME Portal. [online] Available at: <a href="http://sme.hktdc.com/en/index.html">http://sme.hktdc.com/en/index.html</a>, [Accessed 17 Mar. 2017].

Smestoday.com. (2017). Small Medium Enterprises Today - *What belongs to Caesar*. [online] Available at: <a href="http://www.smestoday.com/entrepreneurship/533-what-belongs-to-caesar.html">http://www.smestoday.com/entrepreneurship/533-what-belongs-to-caesar.html</a>, [Accessed 18 Mar. 2017].

Statcounter (2017), Operating System Market Share in Panama. [online] Available at: < http://gs.statcounter.com/os-market-share/all/panama>, [Accessed on 19 March 2017]

Statistics on small and medium-sized enterprises - Statistics Explained. [online] Available at: <a href="http://ec.europa.eu/eurostat/statistics-explained/index.php/Statistics\_on\_small\_and\_medium-sized\_enterprises">http://ec.europa.eu/eurostat/statistics-explained/index.php/Statistics\_on\_small\_and\_medium-sized\_enterprises</a>, [Accessed on 22 February, 2017]

Success.tid.gov.hk. (2017). SUCCESS - SMEs in HK. [online] Available at: <a href="https://www.success.tid.gov.hk/english/aboutus/sme/service\_detail\_6863.html">https://www.success.tid.gov.hk/english/aboutus/sme/service\_detail\_6863.html</a>, [Accessed 16 Mar. 2017].

Synergix E1 | SME Portal. [online] Available at: <a href="https://www.smeportal.sg/content/smeportal/en/services/2016/synergix\_e1.html">https://www.smeportal.sg/content/smeportal/en/services/2016/synergix\_e1.html</a>, [Accessed on 17 March, 2017]

Techopedia (2017), Enterprise Software. [online] Available at: < https://www.techopedia.com/definition/7045/enterprise-software>, [Accessed on 19 March 20107]

Techopedia (2017), IT Infrastructure. [online] Available at: <a href="https://www.techopedia.com/definition/29199/it-infrastructure">https://www.techopedia.com/definition/29199/it-infrastructure</a>, [Accessed on 08 March 2017]

TechTarget (2000-2017), Information Technology. [online] Available at: <a href="http://searchdatacenter.techtarget.com/definition/IT">http://searchdatacenter.techtarget.com/definition/IT</a>, (Accessed 16 March, 2017)

The balance (2017), Small Business Information, from :<a href="https://www.thebalance.com/sme-small-to-medium-enterprise-definition-2947962">https://www.thebalance.com/sme-small-to-medium-enterprise-definition-2947962</a> (Accessed on 15 March 2017)

The environment and business - European Small Business Portal. [online] Available at: <a href="http://ec.europa.eu/small-business/most-of-market/environment-business/index\_en.htm">http://ec.europa.eu/small-business/most-of-market/environment-business/index\_en.htm</a>, [Accessed on 16 March, 2017]

The Telegraph Business (2017), SME Home. [online] Available at::<a href="http://www.telegraph.co.uk/business/sme-home/importance-of-infrastructure-for-smes/">http://www.telegraph.co.uk/business/sme-home/importance-of-infrastructure-for-smes/</a>, (Accessed on 17 March ,2017)

Tribune 242 (2014), Long Lasting benefits Promised By Sme Act. [online] Available at: <a href="http://www.tribune242.com/news/2014/aug/28/long-lasting-benefits-promised-by-sme-act/">http://www.tribune242.com/news/2014/aug/28/long-lasting-benefits-promised-by-sme-act/</a> (Accesses on 15 March, 2017)

What is an SME? - European Commission. [online] Available at: <a href="http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/">http://ec.europa.eu/growth/smes/business-friendly-environment/sme-definition/</a>, [Accessed on 20 February, 2017]

Worldometers (2017), Panama Population. [online] Available at: <a href="http://www.worldometers.info/world-population/panama-population/">http://www.worldometers.info/world-population/panama-population/</a>, [Accessed 15 March 2017]

Worldometers.info. (2017). Hong Kong Population (2017) - Worldometers. [online] Available at: <a href="http://www.worldometers.info/world-population/china-hong-kong-sar-population/">http://www.worldometers.info/world-population/china-hong-kong-sar-population/</a> [Accessed 16 Mar. 2017].

# Appendices A: Institutions, Services /Financial Schemes to SMEs / Country Experiences

## **Appendix A1: Services provided by different Institutions**

	Services	Information	
SMEDA	General Business Development	Initial screening exercise to identify the	
	Services	requirements of the SMEs, provide appropriate	
		information to potential entrepreneurs, assist in	
		the drafting of a Business Plan, and make the	
		link with the various licensing bodies, as	
		required.	
		Seasoned Business Consultants make a SWOT	
	Specialised Business Development	diagnosis of the SMEs current situation, provide	
	Services	technical assistance and financial support	
		schemes.	
		seriemes.	
	Licensing, Permits, Clearances and Registration Unit	License issuing bodies will be responsible for the	
		issue of the required permits, clearances within	
		the minimum delay.	
	Training	Basic Management, Costing and Pricing,	
		Marketing & Selling Techniques, IT	
		Other Business Related Fields	
	Business registration	Every person who operates an SME may apply	
		for registration. SME may be in the form of Sole	
		Proprietor, Company, Commercial Partnership or	
		Co-operative society.	
Mybiz(The one-	- General Business Development	responsible for the screening of projects,	
1.1,012(1110 0110	Concrat Business Bevelopment	responsible for the selecting of projects,	
stop shop)	Services Unit	determining the needs of SMEs, offering	

	- Licensing, Permits, Clearances and Registration Unit	entrepreneurs and proposing support in drafting the business plan.  responsible for the application and the granting of permits and licenses from ministries, local authorities, public utilities, among others.
	-Specialized Business Development Services Unit	responsible for providing expert technical advices, assistance for the development, growth of business projects.
	-Export, International Markets and Trade Promotion Unit	responsible to explore potential products and markets for exports.
Enterprise Mauritius	Mission: Identify, organize, and provide access to information.  Vision: Strive to become a first-stop trade information centre for enterprises.  Values: Friendly, accessible service and responsive to the needs of the business community  -Go Export	<ul> <li>Entrepreneurial skills</li> <li>Production / operations</li> <li>Product development</li> <li>Financial readiness</li> <li>Export marketing and Export strategy</li> <li>Export procedures and documentation.</li> <li>Legal contracts and Mediation</li> </ul>
SMIDO	Registration of SMEs	SMIDO receives and processes applications from entrepreneurs for an SME Certificate.  Holders of an SME certificate benefit from the following incentives:  Corporate Tax Rate of only 15%  Exemption of Customs Duty on raw materials

	as per schedule list
	No Customs Duty on production equipment
	Two Customs Duty on production equipment
Export Assistance Scheme	This sale was a support of CME and dust
	This scheme encourage export of SME products.
	Financial support is offered to SMEs to enable
	them forward samples of their products abroad to
	prospective buyers. 50% refund on airfreight,
	subject to a max.ofRs 2000 twice a year, is
	provided.
Feasibility Study Grant	The Feedblike Control Control
Scheme	The Feasibility Study Grant Scheme aims at
	boosting the startup of new Small and Medium
	Enterprises (SMEs), encourage existing ones to
	expand and/or diversify. A grant, equivalent to
	50% of the initial operating costs of a feasibility
	study for a viable project, is available to SMEs.
	The max.amount granted is Rs. 75,000.
	Training is regularly conducted at SMIDO for
Skills Development Programmes	both potential and existing entrepreneurs.
2	· Entrepreneurship Development Programmes
	(EDPs)
	· Setting-up and Management of SMEs
	· Accounting for SMEs
	· Costing and Pricing
	· Financial Management
	· Export Marketing
	· Packaging of SME Products
	· Inventory Management
	· Production and Operations Management
	· New Technologies
	Maintenance of production equipment
	Legislation relating to SMEs
	· ICT

		· Human Resource Management	
		· Strategic Management	
		Strategie management	
		· Starting a small business	
		Permits and clearances needed to start a	
	Information, Documentation	business	
	&Publications	· Financial options, incentives and/or expansion	
		schemes available to entrepreneurs	
		· SME support institutions and services offered	
		· Other issues pertaining to the running of a	
		small business Business opportunities for joint	
		venture	
	Business Counselling and Facilitation	Business Development Officers (BDOs) assist	
		entrepreneurs to craft their business idea, to	
		prepare a business plan and to set up their	
		enterprises, conduct regular monitoring of SMEs	
		to take stock of their concerns	
	Technical assistance	Technical assistance is available at SMIDO	
		Technology Services Centre. Specialised and	
		customised parts are fabricated for SMEs, and, a	
		repair and maintenance service provided. To	
		upgrade technical skills of entrepreneurs, short	
		training courses are organised in areas such as	
		Workshop organisation, Machine operations and	
		Maintenance.	
		Such forums are meant to achieve the following	
		targets:	
	Business Forums	Increase in favourable trade between Mauritius	
	2 desired a statio	and other countries	
		Formation of joint ventures to export towards	
		the SADC and COMESA markets.	
		and STEE und Covies a markets.	

		· Improved sourcing of raw materials and		
		technology on better terms		
		Demonstration and spillover effects of regional		
		collaboration of SMEs		
		· Transfer of technology, job creation and skills		
		diffusion		
		A number of studies on various issues are		
	Applied Research	conducted for the benefit of SMEs.		
		A survey of training needs of SMEs will soon be		
		conducted to provide input to the design of future		
		training programmes.		
		SMIDO provides advice and consultancy on		
	ICT Support	computerisation and ICT needs. Training		
		sessions and awareness programmes on ICT are		
		conducted for SMEs to help them take advantage		
		of the opportunities offered by recent		
		developments in the ICT sector.		
MCCI	Booster Micro Credit Loan Scheme	To finance projects with value addition		
Wicci	Booster Wilero Credit Edan Scheme	including:		
		merading.		
		Small enterprises in the manufacturing,		
		agricultural, agri-business, handicraft,		
		Small tourism and tourism-related		
		activities		
		Small plant nurseries		
		Vegetables, fruits and flower cultivation		
		on a small scale		
		Kindergartens		
		Small livestock breeding activities		
		ICT and ICT-related activities		
		Services including training		
		E-commerce		

Maximum Loan Amount	<ul> <li>Small trades (excluding hawkers)</li> <li>Working capital requirements for manufacturing/ processing/handicraft or other projects with value addition up to a ceiling of Rs 75,000</li> </ul>
Interest Rate	Rs 150,000 (covering up to 100% of cost of project)
Repayment Period	Frederey
Moratorium Period	Repo Rate + 3 % p.a
Committee	Up to 5 years
Security	Up to 1 year
Eligibility	General Floating Charge, Decreasing Term Assurance
	<ul> <li>Entrepreneurs registered with NEF, SMEDA, AREU, IVTB, Tourism Authority, NCB etc</li> <li>Women entrepreneurs registered with NWEC or NEF</li> <li>Laid-off workers in the EPZ or other sectors</li> <li>Any other micro/small entrepreneurs holding a Business Registration Card and having a viable project</li> <li>Existing value-added activities requiring working capital finance</li> <li>Any other project with value addition recommended by NEF, NWEC or SMEDA</li> </ul>

## **Appendix A2:** Banking Services and Financial Schemes to SMEs

Financial Institution	Services	Information
MauBank	- Eligible Sectors	ICT and other export services
		Manufacturing
		Bio-Farming
		Renewal and Green Energy
		Handicraft
		Aqua-culture
		Key Repo Rate less 1% p.a. (presently 3%)
	-Interest Rate	For the first 4 years. Thereafter Key Repo
		Rate plus 2% p.a. (presently 6%) over the
		remaining 6 years
	-Financing	Up to 90% project value
	1 munemg	
	-Project Value	Up to a maximum Rs 20M
	-Tenor	Up to 10 years including moratorium period
		Up to 2 years on capital including a maximum of
		6 months on interest
	-Moratorium	• • • • • • • • • • • • • • • • • • •
		No processing fees
		Only registration charges apply
	-Fees	
		No personal guarantee will be requested from
		beneficiaries. Security will be restricted to fixed
	-Security	and floating charge on the assets of the borrower.
SBM	Eligibility	Small Enterprises with turnover not
		exceeding Rs 50.0M

	The scheme is applicable to sectors where
	there are value additions, but excludes
	Trading, Real Estates, Financial Services
	and luxury items such as luxury vehicles
	Banking facilities falling within the scope of the
E. Wels	above scheme include Term Loans, Working
Facilities	Capital Finance, Bills Discounting, Finance
	Leases and Import Loans
	Depending on project viability
Maximum facility	REPO RATE plus 300 basis points, i.e. presently
	7.40 % p.a.
Interest rate	7.40 % p.a.
	A
	Acceptable collateral to the bank
Security	
Security	offers the cash flow to pay supplier who requires
	full or part payment for the purchase of the
	goods.
Import Loan	SBM Term Loans are offered for business
	expansion, capital expenditure and for fixed
	assets acquisition, can be structured to meet
	business needs and available cash flow.
Term Loan	tailor-made competitive financial leasing
	facilities to SMEs for the financing of vehicles
	and equipment, with features:
	the asset may act as collateral
Leasing/Asset	tailored solutions to meet your cash
Financing	flow
	monthly rental payments

		• up to 7 years for SME	
		SBM Bank Overdraft offers a revolving line of	
		credit to meet business needs, with features:	
МСВ	Bank Overdraft Credit facilities	<ul> <li>instant cash flow solutions</li> <li>monthly interest payment</li> <li>revolving line, reviewable periodically</li> <li>easy to use</li> <li>use as and when required</li> <li>New loans, Import Loans &amp; Overdraft</li> <li>Renewals on loans, import loans &amp; overdraft</li> <li>Rate: 7.0% [Key Repo rate (4.0%) + 3%]</li> </ul>	
	Processing fees Sectors	<ul> <li>Fully waived</li> <li>Manufacturing inclusive of craft by hand / foot, cultivation of food vegetables or flowers, livestock breeding,</li> <li>Services sector (Inclusive of hotel and restaurants)</li> <li>Cooperative society</li> </ul>	
DBM		Loans which do not fall under the Micro Financing Scheme and which are above Rs 250,000 and up to Rs 3 million will go through the normal Project Financing. The different sectors to be financed under project financing scheme are as follows: Agriculture, Fishing, Manufacturing, Trade & Services, Transportation, Health, Construction, Tourism, Professionals, ICT, and Green and Renewable Energy.	

#### **Mauritius Business Growth Schemes**

**Start Up Entrepreneurship Schemes:** This new scheme is to foster the spirit of creative and innovative Entrepreneurship to all Entrepreneurs who may not have the necessary income to jump start into starting an innovating Company. The key overall objective is to pay a basic monthly salary of Rs20,000/- (twenty thousand) for a maximum period of one year to creative entrepreneurs who may not otherwise have the necessary income to jump into starting an innovating company.

**SME Financing scheme**: To assist SMEs in raising finance from commercial banks to meet their working capital needs and their expansion as well as to create new jobs.

#### **Main Terms:**

#### For SMEs with turnover less than Rs 10M

- The scheme includes new overdrafts and bank loans as well as renewal of existing, IMLs and FBDs.
- 70% guarantee provided by government (SIC).
- Interest rate at repo + 300 basis points presently at 7.9%.
- SMEs apply directly to banks.
- Scheme monitored by Bank of Mauritius.
- Banks may at their discretion request for collateral excluding occupying house of promoter either in terms of fixed and/or floating charge.

#### For SMEs with turnover above Rs 10M but less than Rs 50M

- The scheme includes new overdrafts and bank loans as well as renewal of existing, IMLs and FBDs.
- 35% guarantee provided by government (SIC).
- Interest rate at repo + 300 basis points.
- SMEs apply directly to banks.
- Scheme monitored by Bank of Mauritius.
- Banks may at their discretion request for collateral in terms of either fixed and /or floating charge.

## **Leasing Modernisation Scheme (acquisition of equipment and machinery**): Acquisition and Modernisation of Production Equipment

LEMS	Eligibility Criteria	Contribution	Guarantee provided	Maximum leasing
		of client	by SIC	amount (exc.
				VAT)
I	Turnover less than Rs 50m	10%	30% on cost of assets	Rs 10m
II	Turnover between 50 and Rs 150m	15%	15% on cost of assets	Rs 25m
III	Turnover over Rs 150m	20%	No guarantee	Rs 75m

Interest rate: 7.25%

## **Appendix A3:** Country Experiences of Fintech Adoption by SMEs

#### **African Experiences**

Etisalat Nigeria and Yuuzoo Singapore have launched an e-commerce platform, SME Arena to facilitate growth of SMEs in Nigeria, allowing SMEs to converge network, collaborate, showcase their product and interact with customers and business partners in digital segment, thereby enhancing efficiency, productivity and profit optimization. The partnership gives Yuuzoo prime access to the booming e-commerce and social networking market in Nigeria, with a specific focus on the huge SME market Yuuzoo's business strategy is to provide turnkey platform that offer ecommerce, social networking and entertainment to partners with large customer bases, and gain access to Etisalat's 24 millions Nigerian subscribers and the Nigerian population is 182 millions. To deepen online business in Nigeria Mobiz, a mobile website optimized for all features and smartphones for SMEs enable them to trade their goods and services at reduce hosting cost. The Bank of Industry in Nigeria launched five mobile digital product including the **SME Mobile App**, the SME Accounting App, the Online loan application portal, the Loan application tracking system, and SME Customer portal, is a user friendly, simplified and menu-driven accounting tool that does not require formal accounting knowledge by the entrepreneur who can download this app and generate basic financial statement such as balance sheet, profit and loss account and cash flows on mobile phone. Another offering is the SME Mobile App based on the country's high GSM teledensity and improved internet access to information on their mobile phones and banks' services.

In Egypt, most SME's have hosted simple static web-based solution. Most of the portals are informational portals providing customers with information about the company profile, contact information, products or services information, company location and limited catalogue capabilities. Medium sized firms have IT included in all sales transactions (quality control, order tracking, maintenance, sales, and e-procurement). Besides, using social networking groups such

as Facebook, Instagram, Twitter and others impose free of cost option to SME's, showing platforms to market their products/services and communicate with end customers and product providers. Advertisements, quick memo and instant customer feedbacks are being shared on these sites.

In Nairobi, the use of packages from liquid's data center which is directly connected to the Kenya Internet Exchange Point allows SMEs to receive flawless messages through advanced level of connectivity to SMEs. SMEs have seized the opportunity to explore its use and become more productive and competitive, with the potential to impact how businesses are conducted and how information is accessed. SMEs benefit from global markets, and adopt innovative ways of marketing to customers which ultimately lead to improved Customer Interactions whereby SMEs engage in real-time dialog with customers and build loyalty and even to help create, refine and enhance products and services. SMEs can thus create their own website and advertise their products and services and benefit from bulk SMS in case of sending new information to customers at free costs. Moreover, Quick Book as accounting software is available in an affordable price helping SMEs to reduce human made errors, saves time, gives extra details like generating sales, improves customer relationships, and reduces burden with routine tasks.

Kenya IT and Outsourcing Service (KITOS), a Trade Association representing Kenyan Information Technology and IT Enabled Services (IT &ITeS) member companies, is a platform through which local SMEs engage with government, other domestic and international players in the industry ecosystem by connecting SMEs to the networking opportunities, training for business growth, helping position and market IT &ITeS companies for growth in the local market and inclusion in government procurement, build export capacities and explore foreign markets, with main objective to be a strong ITeS industry body that contributes to the creation of enabling environment and developing capacity of the businesses.

WebCrunch ecommerce helps in keeping SMEs data fresh based on real time facts, rules and policies from SMEs portal system and have portal administrator manage by a corporate web presence. These services are scalable and the portals help in information sharing, attract customers,

suppliers and employs access 24/7 the information needed and optimize handling costs, improving customer service levels, and strengthening relationships, delivering customers real time information regarding stock availability, delivery times, and order statuses, technical information related to products and services, historical transaction data, financial and commercial data.

The Kenya Agricultural Commodity Exchange (KACE) has established a cell phone service called "Kilimo Hotline" which mainly aimed in promoting agricultural products, for trade information through SMS whereby SMEs can receive market information on who is selling what, at what price, who is buying; extension messages or place advertisement to buy or sell agricultural commodities through the service. Information delivery is improved, reducing costs and improving quality of service to customers thus increasing efficiency and effectiveness.

Also, SME Kenya, Online News Portal (Online Newspaper), a user friendly, active, informative and resourceful site serve as a library source for all SMEs where they access information to empower them and enrich their knowledge about operating their businesses. The portal are news, happenings, events/ activities in Kenya; SME ventures and breakthroughs; government initiatives / incentives for SMEs; products and services from corporate companies that apply to specifically to SMEs; in-depth interviews and coverage of successful SMEs in Kenya; SMEs and Finance; SMEs and IT; Import and Export tools & services; legislation and SME Tax matters; news on SME activities around the region and globally; and Pullouts geared towards timely issues and connects local SMEs to large businesses and provides access to the skills and finance needed to raise standards.

The Biz4Afrika.co.ke online hub, a Microsoft initiative helping SMEs across Africa aiming to meet SMEs needs at three entry points the start, growth and acceleration phases by aggregating relevant online services, complemented by valuable information, resources and leanings. The Biz4Afrika portal is designed to be a one-stop-shop for SME's, where it helps drive SMEs growth and support the African SME sector as a whole. With free online courses from Microsoft,

discounted offers, valuable resources and a host of information on all aspects of starting and growing a business, its aim is to create a connected community of entrepreneurs who can benefit Africa's economy in the long run. It offers SMEs great information like resources, free online courses and business directory.

Launched in 2009 in Algeria, a support program signed between the Ministry of Small Business and Craftsmanship and the European Commission, comprised of three components (i) Direct support to SMEs in selected areas (general upgrading, upgrading in terms of quality and skillful usage of ICT); (2) support to the supporting institutions (Ministry of SMEs and its agencies, departments, and organizations representing SME); (3) Support for the establishment of a quality system, including the structures in charge of standardization, metrology, accreditation, inspection and certification and support for technical centers. The Technology Center Sidi Abdallah, developed under the ICT Development Support Project supported by the World Bank comprises of three technology parks. A cyber park was also established, along with a "Technobridge Incubator" in the technology park to support start-up of new companies and innovative SMEs and while provide development support to the Ecole Centrale des Postes et Telecommunications and the Institut National des Telecommunications (INT) in offering courses on cyber entrepreneurship and ICT management with aim to increase wealth through promoting competitiveness and innovation culture in both small and large businesses (MEPI, 2009). The government thus focuses to strengthen national capacity of consulting and engineering, modernize the structures of management training; including the creation of specialized centers for training and development of business managers and develop the SMEs incubators (MoF website). The national Agency for Research and Technological Development is the national innovation agency whose objective, besides working with universities' incubators, is to distribute subsidies to inventors and promote all sort of efficient partnership entreprises, between universities, and research labs.

#### **Asian Experiences**

The SME-info is a One Stop Information portal for SMEs in Malaysia provides information on all aspects of SME Development including Financing, Advisory Services, Training Programmes, Business and Networking opportunities as well as other SMEs Developmental Programmes/initiatives by the Government and the Private Sectors. Enabling e-Payment for SMEs and Microenterprises under the Digital Malaysia initiative aimed to increase the adoption of e-Payment among SMEs helping them to accept e-Payment via means of simplifying the acquisition process, lower its cost, accelerate adoption of e-Payment with the distribution of affordable Point-of-Sale (POS) terminals where the e-Payment merchant outlets points targeted are the operators of `pasartani', small restaurant, night market, flea market and cottage industries, amongst others.

"SME corporation Malaysia" is a Central Coordinating Agency supervised by the Ministry of International Trade and Industry Malaysia. It formulates overall policies and strategies for SMEs coordinating implementation of SME development programs across all related Ministries and Agencies. It acts as a central point of references for research and data dissemination of SMEs providing advice for new and existing SMEs. Its main objectives are to provide financial assistance, advisory services, infrastructure facilities, market access and other support programs, aiming to formulate different strategies for SMEs and facilitating their tasks and give them the complete chance of success. SMEs can use diagnosis tools for rating their success and guides their development towards their Brand name through Branding and Packaging mobile gallery. The sharing of dialogues and information sharing sessions with the Presidents of Women Entrepreneurs Associations is also possible.

To facilitate the financing of businesses a certification programmer initiated by the SME Corp called the "Innocert" has set up so as to encourage entrepreneurs to venture into high technology and innovation-driven industries. It organizes many activities where many SMEs participate and compete in various activities. Idea sharing by SMEs enable them to get a certificate awarded under the Programme identifies and verifies innovative companies internationally. SMEs benefit from

financial support and guidance of managing their finance. They are taught transaction recording in order to facilitate their accounts set up at the end of financial year and also how to use different technological programs and hardware to manage their daily transactions.

Further, the project of Digital Malaysia enable SMEs to make payment effective by using e-payments. This help them not to move unnecessary, more secure, less risks of fraud and robbery. Such e-platform facilitates entrepreneurs to make payment to different stakeholders using simply their mobile, laptops and even their tablets. Malaysia support SMEs for cloud computing providing shared computer processing resources and data to computers and other devices on demand, enabling all computers to have access to different data and access different computer networks.

The well known RHB retail group has introduced a package for its customers especially in Malaysia so as to provide them with a full support and also with special agents who can respond to any of their query anytime via different communication techniques. The RHB provides many facilities in the retail pack which is known as E-Retail package. It provides the following services **Business Current Account** (work out their own current account), **Merchant card terminal** (facilitates payments by using cards), **Accounting Software** (allows detailed tracking of financial transactions and near instantaneous reporting and analysis), **Customized Insurance** (insurance facilities stating that banks covered all the risks that can occur depending on which type of coverage).

Accounting IT implementation in China's SMEs has relatively low success rate due to various preseason: relatively low development degree of marketisation, economically backwardness, apart from characteristics of SMEs, including small-size, poor credit reputation, weak innovation capability. SMEs to adopt accounting IT are influenced by their perception of the characteristics of electronic means. Those who perceive accounting IT should be superior, compatible and easy to understand, to be more willing to adopt electronic means.

Sagamihara City government in Japan has made incubation and showroom demo lab, where the leading firms of robots can demonstrate their products while SMEs can use it hands on before they could implement at their factory, and also make planning to engage system integrator companies and connect them to SMEs in advancement to promotion of products and services by system integrator. Such city government funds and grants, incubation centre help SMEs to overcome labor shortages and also to move towards the smart and advanced manufacturing for the changing market needs. Use of "cloud sourcing" to gain the human resources needed from outside the company and the "cloud Funding" to procure funds.

Furthermore, Hong Kong has an SME support Centre, known as the new HKTDC SME centre providing important information and professional advices to new SMEs, about how they should proceed in order to start a good business and is also equipped with updated trade information, 35 electronic databases, and business facilities. Access to the database is through one of the networked computer workstations set up in the SME centre. SMEs are equipped with interactive functions on their websites or social networking pages, such as discussion forums, are likely to be more innovative and creative (Wirtz, 2010). Access to internet allows SMEs to open online businesses like e-bay. They display their products online and then allow customers to choose and buy and effect payment online itself and allows them to be profitable.

In Singapore, the Accounting and Corporate Regulatory Authority (ACRA) website have practical FAQs and guides. SMEs seek expert advise through SMEs centers which are managed by experts in different areas of business like entrepreneurship development, branding and technology. Government agencies like Action Community for Entrepreneurship (ACE), Infocomm Development Authority of Singapore (IDA) and Startup Enterprise Development Scheme (SPRING SEEDS) have put into action different programmes and schemes to assist SMEs in the provision of training to flourish their key skills to encourage innovation and the usage of technology. SMEs Go Digital aims to contribute up to 70% of the cost of technology purchases, topped at \$30,00 per SME helping them to be more complete with more progressive needs such as

cyber security, data analytics and artificial intelligence (Singapore, 2017). Singapore are offering cloud based business platforms, and numerous incentives, training and support programmes to push SMEs. MasterCard's Research on SMEs in Singapore found that SMEs that use technology more extensively in their business. E-payment system help SMEs pivot from a simple offline entity to a safe-and-secure integrated ecosystem made up of online transactions, customer database system, inventory management, and customer engagement platform, enabling them to reach its customers in Singapore.

Furthermore, the government of Taiwan provides internet connectivity to SMEs for their information sharing via same network to do better and faster research, set up websites, conduct ecommerce, and set up video conferences. SMEs get access to (i) Enterprise Resource Planning (ERP) to attain real-time management information such as human resources (HR), manufacturing, inventory, marketing, sales, accounting, and tax; (ii) Customer Relationship Management (CRM) helping SMEs to combine people and technology to maximize external relationships with functionality including sales contact management, order entry, customer service and support, field service and data mining, (iii) Supply Chain Management (SCM) including e-procurement helping the procurement of raw materials and delivering of finished products and helps to reduce error rates, and increase efficiency, (iv) Enterprise Application Integration (EAI) involves different types of ERP and other software systems through a common problem in order to coordinate the processing, storing, and transmitting of information, (v) Rapid Prototyping and Manufacturing (RPM) decrease the new product design phase from 90 days to just three days, reduce the cost and time required to convert a new product design to a rapid manufacturing process, (vi) Knowledge Management (KM) systems help SMEs to organize and share employees' knowledge helping them to take better manage their HR. The SME Administration (SMEA) help taiwanese SMEs to be nationally recognized and facilitate their service/product promotion through an online portal to reduce their marketing and also advertising costs.

Interestingly, SMEs in India benefit from (i) "SME Indian Council" launched by Facebook, comprising of 12 small business entrepreneurs from different geographies, who run their entities

with innovative business goals and objectives; (ii) **Google and Tolexo Partnership** is an e-commerce platform launched in June 2014 by a firm named IndiaMART for SMEs, to spur the growth of B2B online business, the partnership of Google and Tolexo are giving Indian SMEs a platform to ease their operations; (iii) **Alibaba's Reseller Programme** as an e-commerce Alibaba is pushing Indian SMEs upscale growth with its "Reseller Programme", which is a P2P online platform enabling Indian buyers to source their raw materials from China and other countries at cheaper rates; (iv) **Power2SME** empower Indian SMEs in buying large quantities of raw materials at lower prices. Further, it is observed that the SME trends in 2017 are the rise of SME focused B2B e-commerce, amalgamation of e-commerce and m-commerce, and improving SME lending with growth in the Fintech firms.

#### **European Experiences**

The Italian SME networks in the Emilia Romagna and Friuli venezia regions are supported by younger and larger entrepreneurs. The Italian Trade Commission (ICE) is the Government agency whose overall aim is to increase the international competitiveness of Italian SMEs providing technical assistance and information to Italian industry and its partners. Information forwarded to Italian SME's includes details of current EU strategies, aid programmes, projects and calls for proposals and tenders. In addition, the Brussels office formulates initiatives to assist Italian consultancy companies in developing their networking with regard to future participation in international tenders.

SMEs in Turkey have been strengthened through SME policies in their technological capacity. Increased Internet use help industrial SMEs to procure raw materials and capital goods more efficiently and trim their costs and boost productivity, control production processes and manage inventory. Key Enabling Technologies (KETs) support to access knowledge for SMEs to generate innovative solutions in products, processes and services. In Belgium, the Commission created a web tool to help SMEs find technological service centres active in the field of KETs to speed up

the commercialisation of their innovation ideas to enforce their business. From the website, a client uses it to book the company. The website helps the company to generate more customers, prove credibility, serves as a place for a potential investor to explore business and create awareness to customers through social media pages.

#### **American Experiences**

The government of Panama initiative is to facilitate citizens and SMEs to incorporate technology in a substantial way. The objectives are to modernize the state, promoting digital inclusion and improving international competitiveness. The Government of Panama has been using cloud computing since 2011, and is exemplary as drivers of rapid adoption of cloud technologies in Central America. CRM software is being used by SMEs in Panama which helps enterprises to manage business processes such as customer data, customer interaction, access business information, employees and marketing, enabling to track emails and conversations with potential customers and managing business contacts, assets or resources, and helping to monitor the activities of the business on social media to boost up sales.

#### **Appendices B:** Focus Group

#### **Appendix B1:** First Focus Group

Target Audience: Students Studying BSc (Hons) Management

#### The set of questions were:

- 1. As a young entrepreneur, do need information about financing your SMEs?
- 2. If yes, where do you gather these information?
- 3. Have you come across an integrated platform providing financial information for SMEs to guide you?
- 4. Do you think such a platform is important for your SME growth and development?
- 5. What are the specific information you require on such platform?

#### **Appendix B2:** Second Focus Group

The University of Technology Mauritius (UTM),
under the Mauritius Research Council (MRC) Small Scale Research Grant,
is pleased to invite you for a Focus Group on the

Financial Education Needs of SMEs in Mauritius.

In collaboration with

Venue: SMEDA, Coromandel
Day & Date: Friday 17th March 2017

Time: 10 am to Noon

#### Research Team

- 1. Principal Investigator: Assoc Prof. Dr. D. Kesseven Padachi (UTM)
- 2. Research Collaborator: Dr. Diroubinee Mauree-Narrainen (UTM)
- 3. Research Collaborator: Mrs Aleesha Boolaky (UTM)
- 4. Research Assistant: Mr Dev Sobhun
- 5. Student: Mr Vidurath Auchraje (UTM)



#### **Problem Statement**

- It is observed that despite several assistance, SMEs still lack the necessary financial knowledge which causes a major hindrance in their growth potential.
- Lack of access to external finance (Pissarides et al., 2003; Lin and Lin, 2001; Beck & Demirguc-Kunt, 2006; Manson & Mat, 2010), technology, innovation and expertise (Lall & Peedoly, 2006) regulatory and tax constraints (Levy, 1993; Djankov et al., 2000) cause SMEs to face problems of low productivity and competitiveness;



#### PROJECT TITLE:

# Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium Enterprises in Mauritius

The University of Technology, Mauritius in collaboration with the Mauritius Research Council Under SMALL SCALE RESEARCH & INNOVATION GRANT SCHEME

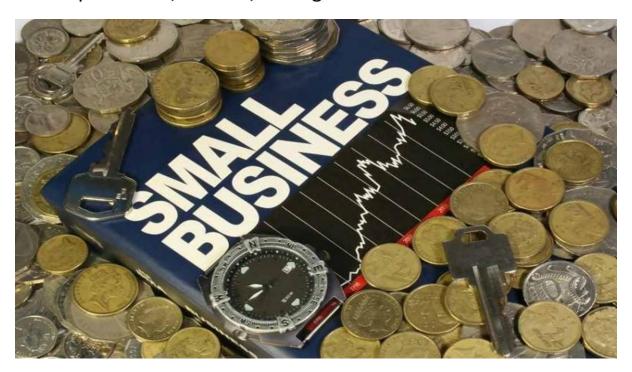


The goal of the study is in line with the government mission statement, to improve the financial literacy of SMEs owners in Mauritius.

We aim to find an integrated financial assistance strategy for SMEs in Mauritius in view of enhancing the financial sustainability, growth & development of SMEs business entities, with one stop platform acting as an information source.

# **SPECIFIC OBJECTIVES:**

- 1. Gauge the financial awareness & knowledge of SMEs to better identify gaps in financial education
- 2. Establish the **training needs** for the financial literacy assistance strategy
- 3. Assess the **current national IT infrastructure** for such knowledge sharing practice for SMEs with regard to their financial knowledge
- 4. Develop an **IT solution** to contribute to the financial education of SME's with purpose to assist them in their operational/tactical/strategic endeavours

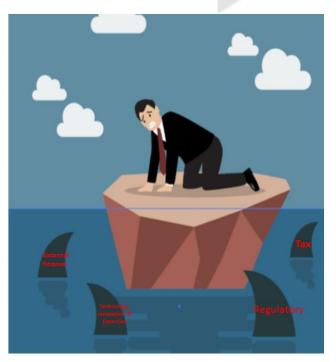


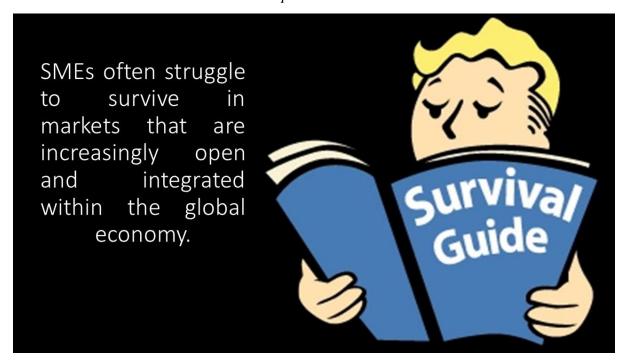
#### Introduction

- Most policymakers deem the health of the SME sector to have a highly importance for an economy.
- Small and Medium size Enterprises (SMEs) contribute to 37% of GDP by producing around Rs 120 billion of output annually and employ 250,000 men and women per year.
- The long term sustainability of Mauritius need to be preserved by achieving large participation of SMEs in our economy.
- Several financial schemes and facilities, training skills and logistics are being provided by Authorities to further promote SMEs.

#### **Problem Statement**

- It is observed that despite several assistance, SMEs still lack the necessary financial knowledge which causes a major hindrance in their growth potential.
- Lack of access to external finance
   (Pissarides et al., 2003; Lin and Lin, 2001; Beck & Demirguc-Kunt, 2006; Manson & Mat, 2010), technology, innovation and expertise (Lall & Peedoly, 2006) regulatory and tax constraints (Levy, 1993; Djankov et al., 2000) cause SMEs to face problems of low productivity and competitiveness;





# Objective of Focus Group

To gauge the **Financial Awareness** and **Knowledge** of SMEs to identify gaps in financial education.



# Tea Break





Please provide your inputs during the discussions.

- 1. How do you handle your business finance (Money Management)?
- 2. How do you handle your daily Cash Inflows and Outflows (Cash Flow Management)?
- 3. What are your main sources of finance (access to finance)?
- 4. What are the different business supports you use (insurance, training, guidelines)?
- **5**. Do you use ICT as an enabler in your business? If Yes, How?



Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium

Enterprises in Mauritius

**Appendices B3: Focus Group Organised for Financial Institutions** 

**Appendix B3.1:** Sample Letter

Dear Sir/Madam

Subject: Invitation for a "Focus Group" on Financial Education

We are a team of researchers at the University of Technology, Mauritius (UTM) working on research

projects under the MRC Small Scale grants on Enhancing Financial Education of

(i) Young professionals in the advent of Fintech development

(ii) SME owners

We believe that, as a stakeholder engaged in providing financial education, your institution can bring forth

valuable insights that would help us to gauge into the financial literacy and financial education needs of the

targeted population. The findings are expected to provide inputs for the analysis and for the formulation of

recommendations to policy makers.

In this connection, we are pleased to invite you or a representative of your institution to participate in a

focus group as per details below:

Venue: Conference Room/Board Room, University of Technology, Mauritius, La Tour Koenig Pointe aux

Sables

Date and Time: Wednesday 12th June 2017, from 13.30 to 15.00 hrs

We would be grateful if you could confirm your participation through email by Friday 7th July 2017 at latest.

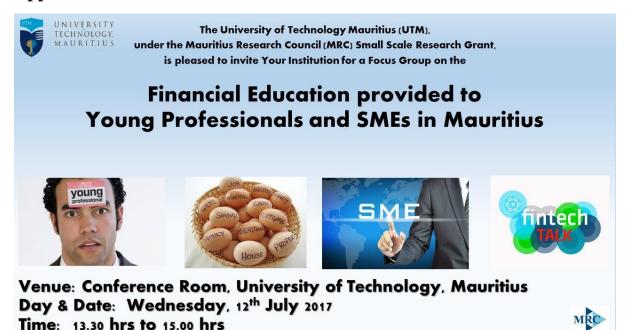
Thanking you

Dr K. Padachi

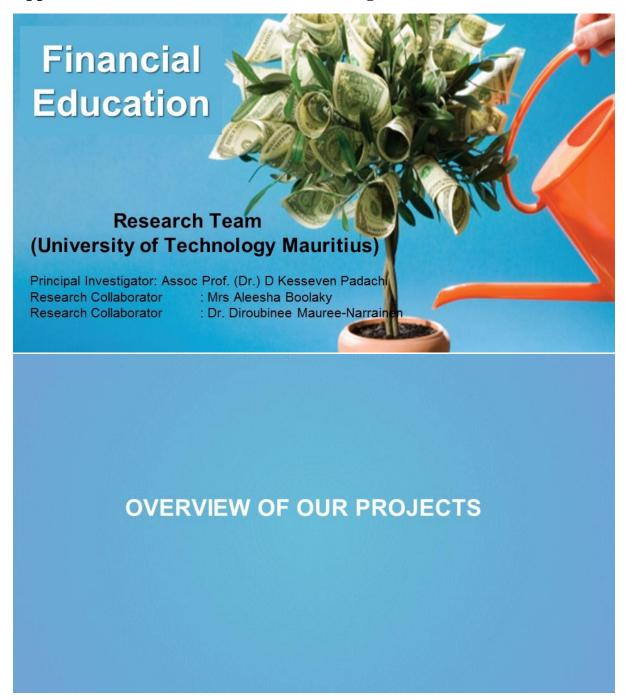
(Principal Investigator)

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#### **Appendix B3.2: Invitation e-Card**



**Appendix B3.3: Presentation Slides for targeted FIs** 



Our two research projects under the MRC Small Scale Research and Innovation Grants are entitled:

- (i) Enhancing Financial Education in the advent of Financial Technology Innovations: A Study of Young Professionals in Mauritius
- (ii) Feasibility Study of an Integrated
  Financial Literacy Assistance Strategy
  for Small Medium Enterprises in
  Mauritius





# **Projects Objectives**

The objectives are to

- (a). Assess the financial literacy of the target groups;
- (b). Assess the extent of use of financial technology
   (i) in the businesses of SME Owners;
   (ii) for the basic money management, financial planning and investment decisions for young professionals;
- (c). Determine the financial education needs of the 2 targeted populations;
- (d). Propose financial education solutions.

# **Objectives of Focus Group**

- 1. To Investigate into the Financial Literacy Programmes delivered by financial institutions (FI) in Mauritius.
- 2. To discuss how FI contribute to the Financial Education in the light of (Fintech) Development for the following target populations:

#### (i) Young Professionals



(ii) SME Owners



# Theme 1: Your Financial Literacy Programmes (FLP)

- 1. What is the
  - (i). Rationale, (ii). Motivation, (iii). objective for conducting FLP?
- 2. What are the features of your FLP?

(Ea: Content, mode of delivery

- 3. Who is your target audience and what is the outreach strategy?
- 4. How do you conduct the FLP?
- 5. Who are the people who conduct the FLP to the targeted customers? (outsource / internal)

## Theme 2: Outcome of the FL Programmes

- 1. To what extent the FLP are meeting the objectives of your organisation?
- 2. What has been the customers responses/ feedback to the FLP?
- 3. How efficient have been the FLP in enhancing financial literacy of the two targeted segments of customers?
- 4. Were there any KPI efficiency measured?

# Theme 3: Improvement of FLP

- 1. What would you improve in the FLP if you had the opportunity to do so?
- 2. How efficient would an e-platform for delivery of financial education for both segments be in Mauritius?
- 3. (i) Would your organisation be willing to support such initiatives?
  - (ii) If Yes, in what ways?



Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium

Enterprises in Mauritius

Appendix C 1: **Survey Form for Target SMEs** 

Dear Respondents,

The University of Technology, Mauritius is conducting a survey on the above mentioned theme under the

Small Scale Research Grant of the Mauritius Research Council (MRC). The target population is the SMEs

of Mauritius. The main aim of this study is to improve the financial literacy of Small and Medium Enterprise

(SME) owners in Mauritius by finding an integrated financial assistance strategy for SMEs in Mauritius. In

line with the aim of the Government of Mauritius, this project also aims at enhancing the financial

sustainability, growth and development of SMEs in Mauritius.

We believe that your contribution will support us to achieve the study objectives by filling this

questionnaire. This survey attempts to assess your financial and ICT literacy levels practiced in your

organisation. Please rest assured that all information provided will be dealt with strict confidentiality and

used for research purpose only. The survey instrument consists of 43 questions, sub-divided into 5 sections.

The estimated time to complete the survey is around 30 minutes. For any further query you may contact us

by email or call us on 207-5250.

Thanking you.

The Research Team:

Associate Professor (Dr) KessevenPadachi (Principal Investigator),

Dr. DiroubineeMauree-Narrainen (Research Member),

MrsAleeshaBoolaky (Research Member),

Mr Dev Sobhun (Rsearch Assistant, Part time)

MrVidurathAuchraje (Research Student)

MrAkshaySeewooruthun (SME Consultant and Advisor)

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SECTION A	<b>A</b> :	PRO	FILE					
1. Gender:	○ Male	) Fema	ale					
2. What is yo	our Age Gr	oup?C	) 18-35 (	36-50	<b>∑</b> 50 and a	oove		
3. Your High	nest Educat	ion Le	vel?					
O Degree	○ Techni	cal/vo	cational		Seconda	ry School	O Primary	School
4. What is yo	our yearly t	urnove	er?					
O<10	million (	10 - 2	5 million	<u> </u>	49 million	)>50 million		
5. What is yo	our firm's c	urrent	legal stat	us? (Tio	ck as approp	riate)		
	e proprietor	ship	(	) Partn	ership	O Privat	te Companies	0
Cooperatives	S							
6. SME Busi	iness sector	:						
○ Agricultur <b>€</b>	Automob	ile	O Cateri	ing Serv	vices 01	Education (	Event services (	Wedding/tent)
Financial Se	ervices (	) Grap	hic desig	n	Healthca	re OICT S	Services Mechan	ical
Multimedia (	services	Printi	ng Servic	es () R	estauration (	Textiles (	) Video Editing	
Others(please	e specify): _							
7. What do y	ou conside	r to be	your leve	el of fin	ancial litera	cy? (Tick as	appropriate)	
Note: Financ	cial literacy	y is a c	combinati	ion of a	wareness, k	nowledge, ski	ills, attitudes and l	behavior needed
to make sour	nd financial	decis	ions, in o	rder to	achieve indi	vidual financ	ial wellbeing	
	Very bad	Bad	Neutral	Good	Very good			
Awareness								
Knowledge								
Skills								
Behavior								

#### **Section B:** Financial Attitude/Behavior

1. Who is responsible and keep track for the day-to-day decisions about money in your business?

	Responsible	Keep Track
Your Accountant		
Yourself		
Your business partner		
Your spouse		
Any other		

2. What type of records do you keep for your business? (Tick all that apply)
All receipts issued and payments made Note down receipts and payments in a log book
Remember the main transactions  Use my bank account to keep track of transactions
None Others(please specify)
3. How do you decide on your budget amount? (Tick one only)
Based on your cash at bank Based on revenue made during the month
○ Based on future revenue ○ Based on Exigencies / Needs
I do not have a budget
4. How do you calculate your profit/loss for your business? (Tick one only)
Revenue less cost (based on records kept)
O Look at the bank account at the end of the year and compare with the previous year
ODo not keep track of profit/loss
O Profit/Loss calculation is being outsourced by someone else
5. (i) Do you know how much it costs you to make your product/service your customer?
○ Yes ○ No
(ii) If No, move to Q7 below.
6. Did you calculate the figure yourself or did you require help to do it? ( <i>Tick one only</i> )

# Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium Enterprises in Mauritius Yes, I calculate it myself No, I get help from somebody else O I do not know the cost 7. How do you decide to the rate at which you will sell your product/service your client? (Tick all that apply) I calculate based on my cost plus a mark-up I look at the prices set by the competitors and I re-adjust my pricing I ask for help from my accountant/someone else to calculate the cost and determining the mark up I just set a price based on the money I need to cover my cost I set price for privileged customers Others (please specify) () Yes O No 8. (i) Do you reassess your cost/pricing regularly? (ii) How often do you do this exercise? ( Never Once a year O Half yearly O Every time there is an increase in cost of production

9. Which of the following financing options have you used? (*Tick all that apply*)

Others (please specify)

(iii) If No, move to Q9 below.

Financing options	To start your business	Currently	In case of financial difficulty	Never
Bank loan				
Bank Overdraft				
Debt factoring				
Leasing				
Credit Cards				
Privileged Cards				
Angel investing				
Loan from family/ friends				

Grants from financing institution		
Credit Union		
Bank Guarantee		
Foreign Currency (FCY) Loans		
FCY Cards		

#### 10. How far do you agree with the statement: 'I understand the mechanisms of the financing options'

Financing Option	Strongly Aware	Aware	Somewhat	Not Aware	Not Aware
			Aware		At All
Bank loan					
Bank Overdraft					
Debt factoring					
Leasing					
Credit Card					
Angel investing					
Loan from family/ friends					
Grants from financing institution					
Credit Union					

#### 11. For the following financing options, rate your awareness experience of the costs/charges?

Financing Option	Strongly Aware	Somewhat Aware	Aware	Not Aware at All
Bank loan				
Bank Overdraft				
Debt factoring				
Leasing				
Credit Card				
Angel investing				
Loan from family/ friends				
Grants from financing institution				
Credit Union				

#### **Section C:** Financial Knowledge

1.	Suppose you have Rs100	in a savings account an	d the interest rat	e is 10% p.a. Aft	er 1 year how much
	money do you have in the	at account?			
	Exactly Rs 120	○Exactly Rs 11 ② Mo	re than Rs 120	ODon't Know	
2.	Suppose you have Rs100 money do you have in the	•		•	er 2 years how much
		-			
	Exactly Rs 120	○Exactly Rs 11① Mo	re than Rs 120	ODon't Know	
3.	When an investor spread	s his money among diffe	erent assets, the r	isk of losing mo	ney
	Decreases Increases	) Stays the same Don't	Know		
4. ]	If repo rate increases, it wi	l Increase the cost of	any loan () Dec	rease the cost of	any loan
С	Increase the cost of any lo	oan on variables interest	rate⊖Don't Kn	ow	
5. <b>'</b>	Which of the following co	st is deductible as a busi	ness expense?		
С	Advertising Business t	rave Employee compe	ensation Off	ice equipment	
С	All of the above				
6. 4	A company has more cash	today when (Tick one of	nly)		
С	Consumer pay their bills	sooner O Pro	fit increases Acc	count receivable	increases
С	Retained earnings increas	ses ODon't know			
7.	The best description of a b	palance sheet is (Tick on	e only)		
_	A list of what you own an	d what you owe	( Fluctuations	s of assets over a	certain period of
С	Number of employees the	e company has	All of the ab	ove	ODon't know
8. '	Which financial statement	show that the company	was profitable w	ithin a given per	iod? (Tick one only)

	Enterprises in Ma	uritius		
nent of Cash Flows	O Balance Sheet	O Income Statement		
nent of Financial Position	ODon't know			
: ICT Adopti	on and Usage			
ICT qualifications do you	hove? (Tick all that ar			
	`		C.	
•	•			omputer Studies
gree Level ☐ None Oth	ers (please specify)			
e tick as appropriate for the	e following questions:			
Question			Yes	No
Ooes your company have a wr	itten IT plan and strategy	?		
Oo you have access to the Inter	rnet?			
Oo you have a website?				
Are your staff computer literat	e?			
Oo you have expert people usi	ng ICT in the company?			
Oo you have a computerized d	atabase to keep record yo	our business transactions?		
Oo you use ICT for your banki	ng transactions?			
Oo you use e-filing for your ta	x returns?			
Oo you make use of any specif	ic e-commerce site for y	our business transactions?		
	•	•	) Do N	Not Keen
			, <b>D</b> 0 1	vot recep
•			Spe	eakers
			Брс	ouncis
	Q · · · · ·	. 337		
tick your Operating system	platforms (Tick all the	at apply)		
please specify)				
	ICT Adoption  ICT Qualifications do you be a puter Studies at SC Level gree Level None Other tick as appropriate for the Question  Ooes your company have a write poor you have access to the Interpolation of your staff computer literate poor you have a computer literate poor you have a computer literate poor you have a computerized do you use ICT for your banking you use e-filing for your tare poor you make use of any specific do you record your daily of Manual Partly Manual	nent of Cash Flows	ICT Adoption and Usage  ICT qualifications do you have? (Tick all that apply)  uputer Studies at SC Level Computer Studies at HSC Level IC3  gree Level None Others (please specify)  ue tick as appropriate for the following questions:  Question  Ooes your company have a written IT plan and strategy?  Oo you have a website?  Or you have a website?  Or you have a computer literate?  Or you have a computer literate?  Or you have a computerized database to keep record your business transactions?  Or you use ICT for your banking transactions?  Or you use e-filing for your tax returns?  Or you make use of any specific e-commerce site for your business transactions?  do you record your daily operation activities? (Tick one only)  Manual Partly Manual Both Computerized and Manual teick all your ICT devices: Monitor CPU Printer  Inputer data storage Keyboard Scanner Mouse Hard disk drive top Tablet Projectors Others (please specify)  Lick your Operating system platforms (Tick all that apply)  Very MAC OS Ubuntu/Open Source OS	ment of Cash Flows

Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium

6. What type of Network you use in your printers)? ( <i>Tick all that apply</i> )	r office for interconnecting	devices	s (e.g. Comp	uters/Lap	otops,
Stand-alone Local Area Network Others (please specify)			WiFi		
7. What are the social media you use for you facebook Twitter LinkedIn You	your marketing needs? (Trough out the angle of the angle		nat apply) Others		
8. How often do you use the Internet for?	(Tick as appropriate)				
	Very Often	Often	Sometimes	Rarely	Never
Email					
Advertising					
Customer service					
Resources sharing					
Information gathering					

9. How do you protect your information? (Tick all that apply)

Administrative support

Marketing Needs

customers)

from customers)

Voice/ Video conferencing

Human resources/ Personnel

Business and strategic planning

Video conferencing via the Internet

Research/ Development/ Design and production

Information gathering (getting information from suppliers)

Market and product research (including feedback from

Transaction (send remittances to suppliers, receive orders

Use of password	Backup	Lock door	Use of data encryption	Antivirus	
Safekeeping at Bank	Others(pleas	se specify)		•••	
10. What type of Inter	net connection	do you make use	of? (Tick all that apply)		
Cable Connection	ADSL	Wi-Fi	Others (please specify)		

11. How often do you use the following software applications? (please note that you need to tick the most conversant first)

	Very	Often	Sometimes	Rarely	Never
	Often				
Word Processors (MS Word)					
Spreadsheets (MS Excel)					
Presentation Software (MS PowerPoint)					
Email Software					
Groupware					
Web Search Engine (eg. Google)					
Databases					
HR software					
Enterprise Resource Planning software					
Payroll					
Quick Book					
Sage					
Marketing system					
Customer Relationship Management software					
Sales software					
Antivirus					
Acrobat Reader					
Global Distribution System (GDS)					
Others (please specify)					

12. On a daily basis, approximately how many hours do you use a computer? (*Tick one only*)

		Very Often	Often	Sometimes	Rarely	Never
Automated Teller Machine (ATI	M)					
Internet Banking						
Mobile Banking						
SMS Banking						
Point of Sale (POS)						
Credit cards						
Debit Cards						
Smart Cards						
Others (please specify)	_					
4. For what purposes do you					-	1
	Check	Monitor	Remittances	Money		hers
	Statement	Loan		Transfer to	(p	lease

Automated Teller Machine (ATM)

Internet Banking

Mobile Banking

SMS Banking

Others (please specify)

Accounts

15. How often do you use the following communication tools?

	Very Often	Often	Sometimes	Rarely	Never
Email					
Fax					
Letter					
Telephone					
SMS					
Skype					
WhatsApp					
Others (please specify)					

Section E:	Financial Education	and Assistance
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1.	(i). Did you	ı get any	training or	n business finance?	Yes	O No
	(ii). If Yes	, from w	hich institu	ntions? (Tick All that ap	pply)	
	SMEDA	NICE	ACCA	Enterprise Mauritius	MyBiz	
	Others (pl	lease spec	cify)			

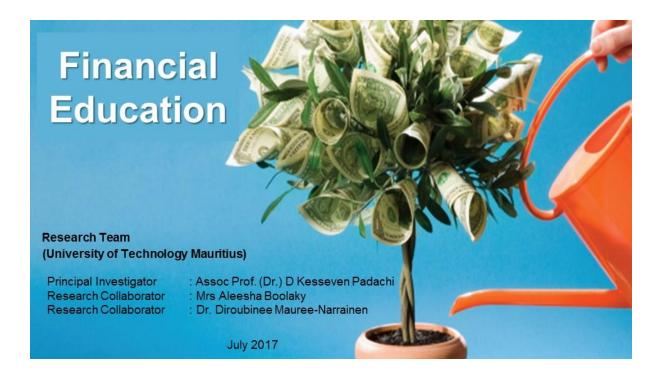
2. How far do you agree with the following statements?

Statement	Stron	Disag	Neut	Ag	Stron
	gly	ree	ral	ree	gly
	Disag				Agre
	ree				e
Understanding finance is important for my business					
I need regular basic financial tutorials					
The use of ICT improves access to basic accounts templates would help me					
manage business finance better training in finance					
My bank provides counselling for better managing my business finance					
I am satisfied with the financing solutions provided by banks					
I am satisfied with financing grants provided by support institutions					

3.	Any Other Comments:

- THANK YOU -

#### **Appendix C2:** Focus Group with Authorities



# **Appendix D:** Content Management System features

# **Appendix D1: Word Press Features**

Features	Details
Latest Version	4.4.2
Hosting Environment	Can be hosted on a standard shared
	Linux/Apache/MySQL/PHP environment.
Hosting Requirements	Compatible with Linux, Windows and Macintosh OS
	Requires MySQL as a database and PHP as a scripting
	language
Installation Time	Less than 10 minutes
Documentation Support	Large amount of documentation, including live chat with
	WordPress representatives, published books, online forums,
	video tutorials, is available
Plug-in/Add-on Support	43,427 community-contributed add-ons available at the
	official
	WordPress directory of plug-ins
	( <u>https://wordpress.org/plugins/)</u>
	Community ratings and reviews are also available
Design Flexibility	Hundreds of pre-packaged graphical themes available on the
	official WordPress website
	Provides a high degree of flexibility in site appearance and
	layout
	Supports all webpages that can be designed via HTML and
	CSS
Structural Flexibility	Supports an unlimited number of pages in a hierarchy of
	unlimited levels

Search Engine Support	Available: Based on a keyword search
	Does not perform search in documents hosted on the
	website
Multi-Language Support	Add-ons available to perform automatic webpage translation
Interface Languages	Administrative interface available in 61 different languages
Comment Functionality	Allows website visitors to post comments
	Provide the option of blacklisting/whitelisting website
	visitors, hence preventing them from commenting
Blog Support	Registered visitors can create their own personal blogs on
	the website
	Supports multi-author blogs
	Add-ons available to allow website visitors to befriend each
	other and create groups
Learning Curve	Relatively easy to learn
	Relatively high reliance on plug-ins compared to Joomla
Security Update	Security vulnerabilities are not published on WordPress.org
	Updates occur frequently
	No official process for evaluating add-ons or themes for
	security issues beyond community ratings.

# **Appendix D 2: Joomla Features**

Features	Details
Latest Version	3.5
Hosting Environment	Can be hosted on a standard shared
	Linux/Apache/MySQL/PHP environment.
Hosting Requirements	Compatible with Linux, Windows and Macintosh OS
	Requires MySQL as a database and PHP as a scripting
	language or Oracle as a database and Microsoft SQL as a
	scripting language
Installation Time	Less than 30 minutes
Documentation Support	Less support available compared to WordPress and Drupal
Plug-in/Add-on Support	Over 7000 extensions available at the official Joomla
	directory of extensions ( <a href="http://extensions.joomla.org/">http://extensions.joomla.org/</a> )
	Community ratings and reviews are also available
Design Flexibility	Has no official template repository, but has numerous third-
	party sites offer templates
	Provides a high degree of flexibility in site appearance and
	layout
	Supports all webpages that can be designed via HTML and
	CSS
Structural Flexibility	Supports an unlimited number of pages in a hierarchy of
	maximum 3 levels
Search Engine Support	Available: Based on a keyword search, using any word, all
	words or exact phrase matching.
	Search result can be ordered by date, popularity,
	alphabetically and by section.
	Searches can be limited by section, for example only
	showing articles, or news feeds

	Does not perform search in documents hosted on the
	website
Multi-Language Support	Add-ons available to perform automatic webpage translation
Interface Languages	Administrative interface available in 100 different
	languages
User Interface	Simple to use
	Highly customisable
Comment Functionality	Primarily does not allow website visitors to post comments,
	but an add-on can accommodate this feature
	Provide the option of blacklisting/whitelisting website
	visitors, hence preventing them from commenting
Blog Support	Registered visitors can create their own personal blogs on
	the website
	Supports multi-author blogs
	Add-ons available to allow website visitors to befriend each
	other and create groups
	Difficult to monitor activities
Interface Languages	Administrative interface available in 100 different
	languages
Learning Curve	Relatively difficult compared to WordPress
	Operates using a WYSIWYG interface
	Low reliance on add-ons compared to WordPress and
	Drupal for a standard website since the majority of basic
	features are already available in the Core System
Security Update	Security vulnerabilities and updates are published on
	Joomla.org
	Updates occur frequently

The Joomla community has introduced a "Vulnerable
Extensions" list, which contains all add-ons that were
previously flagged by security third-parties. These add-ons
are subsequently removed from the official Joomla directory
of extensions until the security issue is fixed

# **Appendix D3: Drupal Features**

Features	Details
Latest Version	8.0.5
Hosting Environment	Can be hosted on a standard shared
	Linux/Apache/MySQL/PHP environment
Hosting Requirements	Compatible with Linux, Windows and Macintosh OS
	Requires MySQL or PostgreSQL as a database and PHP or
	Microsoft SQL as a scripting
Installation Time	Less than 30 minutes
Documentation Support	Considerable amount of documentation, including published
	books, online forums, video tutorials, is available
	Less support available compared to WordPress
Plug-in/Add-on Support	33,430 add-ons available at the official Drupal directory of
	extensions ( <a href="https://www.drupal.org/">https://www.drupal.org/</a> )
	Community ratings and reviews are also available
Design Flexibility	Hundreds of pre-packaged graphical themes available on the
	official Drupal website
	Provides a high degree of flexibility in site appearance and
	layout
	Supports all webpages that can be designed via HTML and
	CSS
Structural Flexibility	Supports an unlimited number of pages in a hierarchy of
	unlimited levels
Search Engine Support	Available: Based on a keyword search
	Does not perform search in documents hosted on the
	website
Multi-Language Support	Add-ons available to perform automatic webpage translation
Interface Languages	Administrative interface available in 69 different languages

Comment Functionality	Primarily does not allow website visitors to post comments,
	but an add-on can accommodate this feature
	Provide the option of blacklisting/whitelisting website
	visitors, hence preventing them from commenting
Blog Support	Registered visitors can create their own personal blogs
	Supports multi-author blogs
	Add-ons available to allow website visitors to befriend each
	other and create groups
Learning Curve	More or less same as WordPress
	Does not operate using a WYSIWYG interface
	Relatively high reliance on add-ons compared to Joomla for
	a standard website
Security Update	Security vulnerabilities and updates are published on
	Drupal.org.
	Updates occur frequently
	The Drupal community has a security team to review
	contributed Add-ons. The community subsequently
	publishes a known vulnerabilities list

# Appendix E - Functional Testing

# Registration

When a user registers himself he will be directed to the login page for validating his newly created credential

Test Case ID	Test Case Objective	Test Case Description	Expected Result
1	Check the interface link between the Register and login module	Enter details for registration and click on the register button	To be directed to the login page

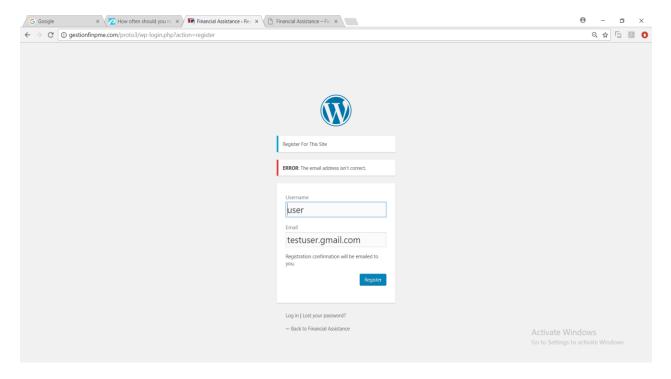


Figure E1: Unsuccessful Registration

# Login

When a user login to the website he normally should be redirected to the main page.

Test Case ID	Test Case Objective	Test Case Description	Expected Result
1	Check the interface link between the Login and Main page loading module	Enter details for login and click on the login button	To be directed to the main page

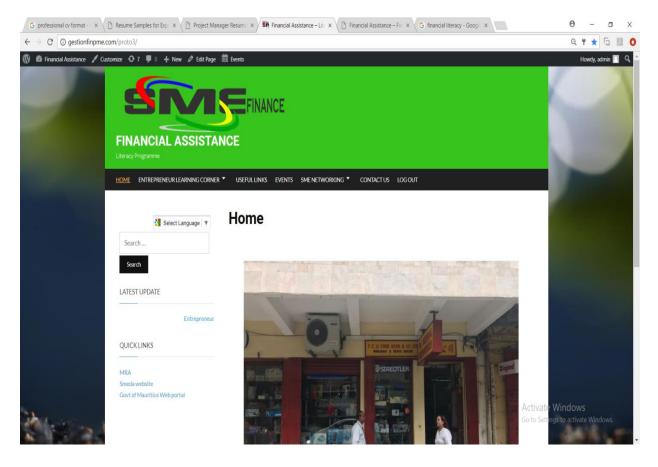


Figure E2: Main Page

# **Chat Room**

Test Case ID	Test Case Objective	Test Case Description	Expected Result
1	Check the interface link between the chat and other online users	Click on chat page and type text to start chat session	To view other available users on the chat room

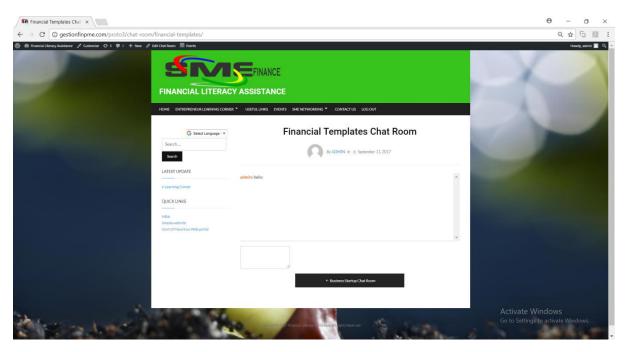


Figure E3: Chat Room

# **Appendix F:** System Integration Testing

Different test cases were designed for this exercise and users were approached to perform the test. The scenario and test result as depicted as per below table:

ID	Test Cases	Pass/Fail	Tested	Date
	User Registration.(Successful Registration)		By	Tested
1	Test Procedure:	Pass	Emmanuel	15/10/17
	Try to register with username and email address			
	Click on register menu			
	Username: user			
	Password: user@1234			
	Expected Results:			
	Redirect to Lgin Page			

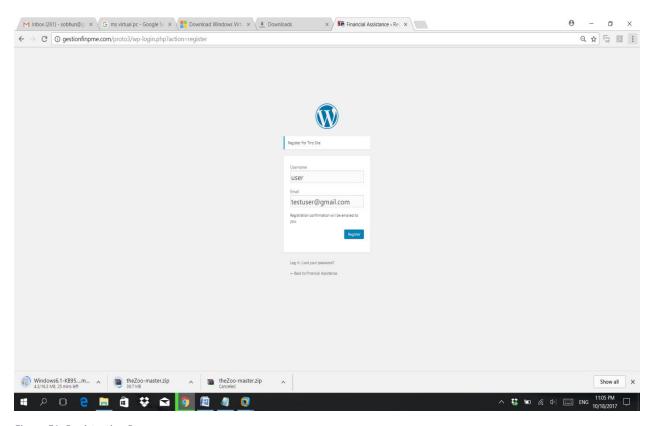


Figure F1: Registration Process

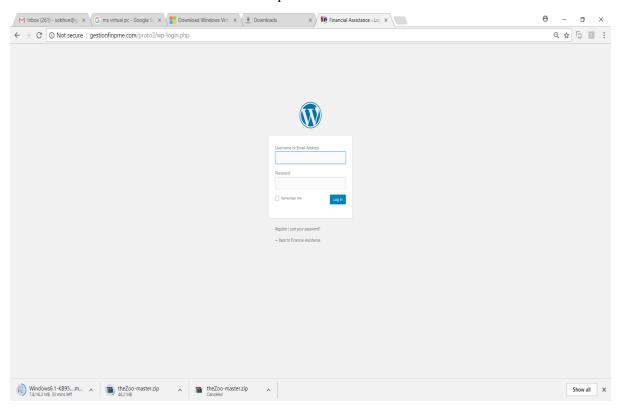


Figure F2: Redirection to login page after successful registration

ID	Test Cases	Pass/Fail	Tested By	Date Tested
	User Registration (Invalid Fields - email)			
2	Test Procedure:	Pass	Emmanuel	15/10/17
	Username: user			
	Email: testuser.gmail.com			
	Expected Results:			
	Email address was incorrect message to be			
	displayed			

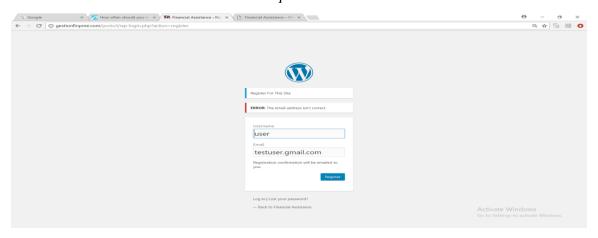


Figure F3: Registration with invalid email address

ID	Test Cases	Pass/Fail	Tested By	Date Tested
	User Login (Invalid Username/Password).			
3	Test Procedure:	Pass	Emmanuel	15/10/17
	Login with a corporate user account.			
	Username: user			
	Password: user			
	Expected Results:			
	The password you entered for the username			
	"user" is incorrect			

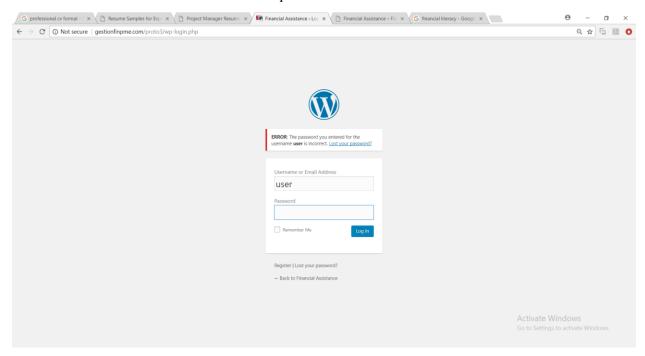


Figure F4: Invalid username/password

ID	Test Cases	Pass/Fail	Tested	Date
	User Registration.(Successful Registration)		By	Tested
4	Test Procedure:	Pass	Emmanuel	15/10/17
	Try to register with username and email address			
	Username: user			
	Password: user@1234			
	Expected Results:			
	Redirect to Main Page			

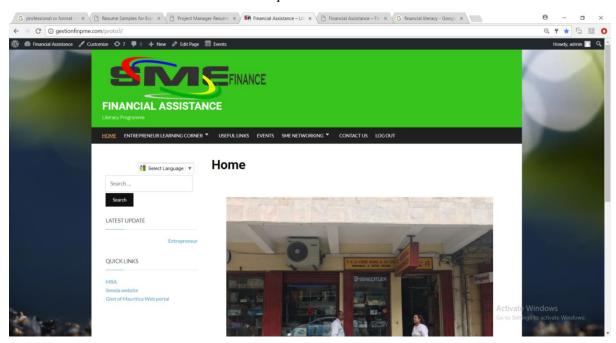


Figure F5: Valid Login - Redirection to Main Page

ID	Test Cases - User Logs out	Pass/Fail	Tested By	Date Tested
5	Test Procedure:	Pass	Emmanuel	15/10/17
	Click on Log out menu.			
	Expected Results:			
	Redirect to home with no user session.			

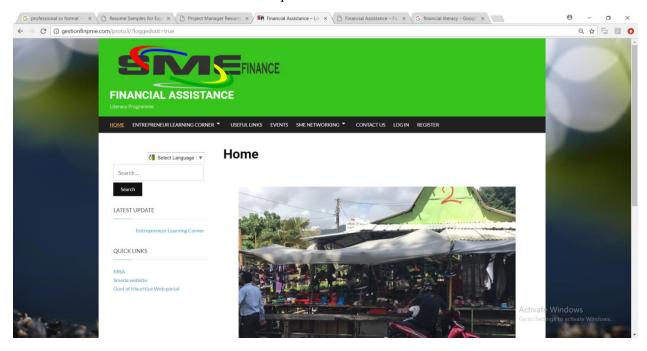


Figure F6: User Logs out

ID	Test Cases	Pass/Fail	Tested	Date Tested
	User View Tutorials		By	
6	Test Procedure: User clicks on view tutorial menu. Expected Results: Page view Tutorials to load	Pass	Emmanuel	15/10/17

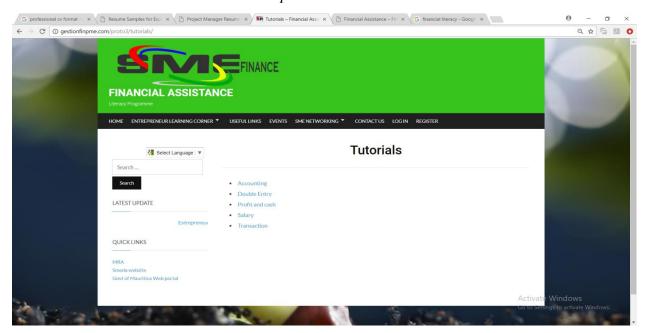


Figure F7: View Tutorials Page

ID	Test Cases	Pass/Fail	Tested	Date Tested
	User Download Financial Templates		By	
7	Test Procedure:	Pass	Emmanuel	15/10/17
	User to click on Download Financial Templates link			
	Expected Results:			
	Financial Templates to start download.			

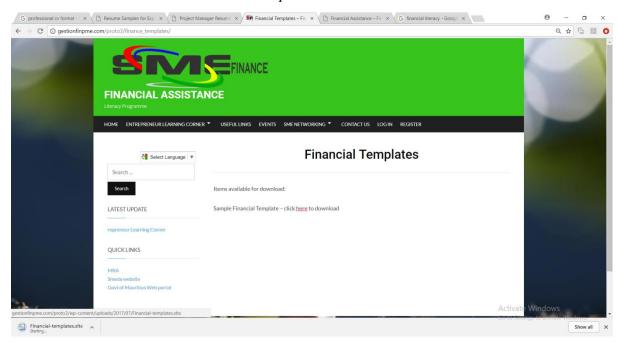


Figure F8: Download Financial Template

ID	Test Cases User Enter Chat Room.(Logged User Only)	Pass/Fail	Tested By	Date Tested
8	Test Procedure: User clicks on Chat room Expected Results: Chat room to load	Pass	Emmanuel	15/10/17

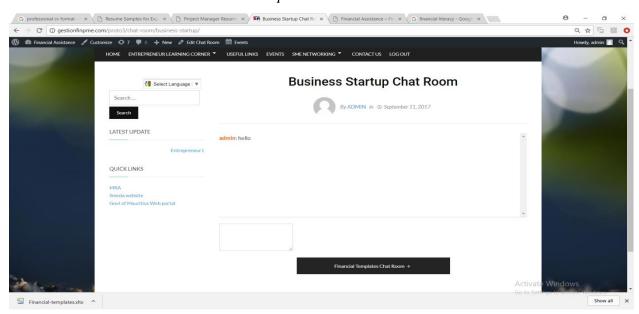
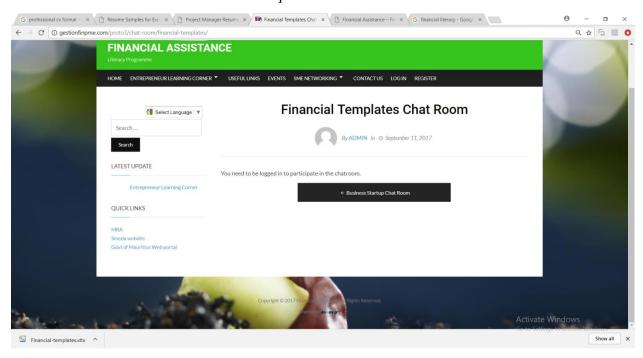


Figure F9: Chat Room

ID	Test Cases	Pass/Fail	Tested	Date Tested
	User Enter Chat Room.(unregistered user)		By	
	Test Procedure: User click on chat room without being logged Expected Results: An error will be displayed "you need to be logged in to participate in the chat room".	Pass	Emmanuel	15/10/17



Figured F10: Chat room -Unregistered users

ID	Test Cases User Enter Contact Us details (Invalid amail address)	Pass/Fail	Tested By	Date Tested
10	User Enter Contact Us details (Invalid email address)  Test Procedure: User enter details invalid details for Contact Us Name: Test Email: test.gmail.com Subject: test Message: test Expected Results: An error will be displayed "a proper email address is required".	Pass	Emmanuel	15/10/17

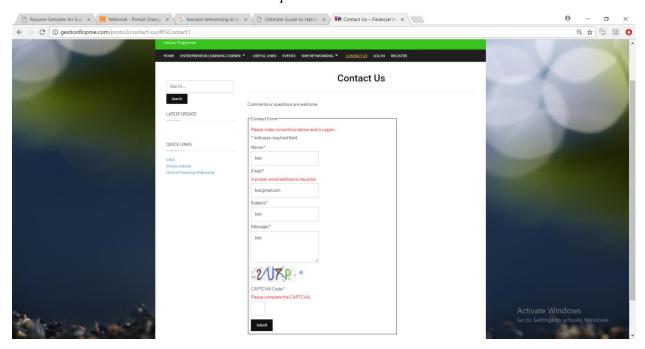


Figure F11: Invalid Details for Contact Us

ID	Test Cases	Pass/Fail	Tested By	Date Tested
	User Enter Contact Us details (Valid fields)			
10	Test Procedure:	Pass	Emmanuel	15/10/17
	User enter details invalid details for Contact Us			
	Name: Test			
	Email: test@gmail.com			
	Subject: test			
	Message: test			
	Expected Results:			
	Message sent and inform user "Your message has			
	been sent. Thank you"			

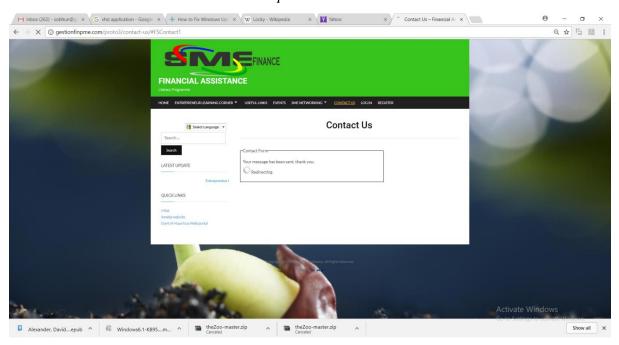


Figure F12: Message sent successfully

# **Appendix G:** Video Script Mounting

Task Shooting of Video Film for SMEs

Script Written by Mr Dany VeekasAjhodha, Film Director

Media Company Armedia Ltd

#### **INTRO**

Opening on Title Card with logo of SMEFINANCE.MU (Music starts)

#### FADE OR FLASH CUT TO >

Establishing shot: The University of Technology building at Pointes aux Sables

#### CUT TO>

INT. UNIVERSITY HALL – DAY (Music still on)

Close-up: Hands of academic member deliver certificate to student's hands. Kevin, in graduation outfit, shakes hands with academic member. Members of the audience clap their hands.

#### CUT TO>

Kevin, holding his certificate, is standing with his parents, all smiling for a photoshoot.

#### FLASH CUT TO >

INT. ROOM – DAY (Music fades out)

Kevin is scrolling over a newspaper, circling job adverts with a red marker.

VOICE OVER: "Kuma bokou ban jeuneskifekfinil'université, Kevin fin retrouve li avec 2 choix: Soit li rod ene travail danssecteurprivéoudansgouvernement,...."

Kevin is thinking: Bubble animation from his head shows a fast-food picture

Feasibility Study of an Integrated Financial Literacy Assistance Strategy for Small Medium

Enterprises in Mauritius

VOICE OVER: "Oubien li lance so propre business..."

FLASH CUT TO >

INT. HOME KITCHEN & DINING-DAY

Hands with knife are chopping vegetables on a cutting board at full speed [Close-up]

Kevin dips his cut vegetables in a wok of hot oil. [High angle shot]

**VOICE OVER:** "Kevin kitidejaenaene passion pour la cuisine in pensepou lance li

dansl'entreprenariat..."

Vegetables & cheese land on a flat circular dough. [Close-up]

Dough covered with ingredients gets into oven [Low angle Shot]

Pizza comes out of oven [Camera in oven]

Kevin proudly carries his pizza on a tray to the dining room where his parents and siblings are

happily waiting around the dining table. Kevin cuts the pizza while his siblings are excited with

mouth-watering impatience to discover his new innovation. Kevin serves the pizza to his family

and sits down. As Kevin talks, animated bubble shows Pizza Signboard of Pizzeria.

VOICE OVER: "Maisavant tout, line decide poudemane so ban parent zot l'opinionlor so l'idée

(l'ambition) "

Animated bubbles pop out of his parents head showing pictures of commercial building, fast food

employee, raw materials, etc"

**VOICE OVER:** "Banla in explique li kipou li kapavdemarrer, li poubizinenelemplacement, ban

travailleurs, acheté so ban matière premiere...

Animated bubbles pop out of his little sister's head showing picture of money

**VOICE OVER** continues: "et surtout...Finance...."

Kevin thinks with a bubble showing money with interrogation marks, while his family is enjoying his pizza with appetite

**VOICE OVER** continues: "Kevin fine alors commence reflechikot li kapavgagnel'argentpou lance so business"

#### FLASH CUT TO >

Presenter standing with SMEFINANCE.mu logo on her right

#### **MAIN BODY**

#### MAIN BODY

#### **Presenter**

"Bonjour et bienvenu sur SMEFINANCE.mu.

SMEFINANCE.mu c'estene platform pour conseil ban entrepreneurs de ban petites et moyennesentrepriseslortousekiconcerne la finance. Coumatoudimouneconé, l'argentc'estene element tres important pour ban business capavdecolerek surtout developer. Et nous l'équipe chez SMEFINANCE.mu, nou la pou aide zot mieuxcomprendre les differents concepts, les differentstermes et aspects de nousysteme financier à Maurice, afinkibanentrepreneurskibiensouventconfronté a ban chalenge financier kapavmieuxgère zot ban entreprise.

Ekaujourdhui, dans ca premier l'episode la, nous poukozlor la grande question que se pose Kevin et tout nou ban entrepreneurs généralement: "Kotkapavgagne finance pou lance zot business ou faire li developper?"

Presenter slides on the left, as videos/animations play on the right

**Dialogues**: Poudemarreekrouleenel'entreprise, finance li important pouacheter ban l'équipement, poulouerenebatiment, pouachetermatiere premiere, poupaye ban employé et pousubvenir à d'autresdépenses qui ban entrepreneurs bizin faire face tous les jours. C'esttressouventeneparcours

du combattant pour ban entrepreneur reussi monte ene capital poucapavdemarrer,

maisenaplusieurs sources de finance qui zot capav considerer poucapavrealise zot projetcependant.

**Videos / Animations:** Shots of different types of businesses

**Dialogues – Family** 

Premierement, certainsentrepreneurskapavgagnerecours a zot ban conjoint, membre zot la famille,

zot ban camaradeou ban connaissance pour emprunte la somme necessaire poudemarre zot

business. Ce type d'emprunt la penal'interetcouma ban la

banquesgeneralement et c'esteneavantage pour l'entreprepreneur.

Cecidit, meme sicestenemethodebiendirecte et facile pou monte ene capital, ilfaut faire bien

attention de ne pas entrerdans des conflitsrelationels dans en estuation oul'entrepreneur commence

gagnedifficultepourembourse le pret.

**Videos / Animations** 

Video related to spouse/family

**Dialogues - Banks** 

Puis, nous ena ban la banque qui offert ban loan a enetauxpreferentiel a ban entrepreneurs,

kottressouvent ban linteretbien bas, et aussi zot enaeneperiodemoratoire, c'est a dire la

banquedonne ban entrepreneur uneouplusieursanneesavantkibanla commence faire 1er

remboursement. Ainsi, ban entreprisegagnesuffisament de temps pou vine autonome, c'est a dire

kapavrouler par zot meme engenerant du profit, avantki zot commence rembourse zot loan.

Cependant, dependant du montant, certainslabanqueexigeenegarantieavant qui zot kapavapprouve

le loan. Garantie la kapavene tierce personne qui kapavrembourse le loan oubienene terrain

oubatiment qui peutetrehypothéquépar la banque, et vendu pour rembourser le loan dans le

casoul'entrepreneur pas pekapaveffectuer le remboursement.

Aussi, si le loan est un pret a long terme, ban la banqueaussioffert des prets a courts

termeconnucomme overdraft a zot banclients entrepreneurs dependant sur l'historique de zot

compteenbanque.

Shots of banks from outside.

May have shot of actors

playing Bank Manager and Entrepreneur

Videos / Animations Shots of house/plot of land

Dialogues – Leasing Companies

Leasing, c'estenel'autre source de financement, ou plus exactementenefacilite de paiementpou ban

entrepreneur, plus souventutilisé pour l'achat des equipementou des vehicules. Normalement, ene

lease se passecomme suit. L'entrepreneurcontacterene leasing company ek li presente so projet.

Unefois le financementapprouvé, c'est au leasing company d'acheter les equipementsou les

vehicules, fourni zot à l'entrepreneur qui de son coté commence payeenemensualite au leasing

company.

Enefois qui tous ban mensualites in payé au leasing company, c'est a dire remboursé le cout total

des achats avec tous les interets, les equipementsou les vehicules deviennent la propriété de

l'entrepreneur.

Videos / Animations Instructive Animation

Dialogues – Trade Credits

Tout comme les leasing companies, ban fournisseurs de matiere premiere biensouventoffert ban

facilités de credit a ban entrepreneurs surtout dans le secteurmanufacturier. Ainsi ban

entrepreneurscapavdeclenche zot production eklivrer zot produits a zot ban client. Unefois le

paiementrecu de zot ban clients, ban entrepreneurs a leur tour maintenantcapavpaye zot

fournisseurs.Le leasing et les facilites de credit, meme si zot ban facilites de paiements et pas

directement des sources de finance, zot quand meme aide ban entrepreneurs obtenir ban

equipementoumatierepoukapavroule zot l'entreprise, et surtout garde zot running capital poupaye

ban lezotdepenses.

Videos / Animations Video at aluminium door maker or Onirik Designs (flower decorators)

**Dialogues – Debt Factoring** 

Tressouvent, ban clients paye ban entrepreneurs à la livraison des produits de cesderniers. Cependant, pour pouvoirproduirecesproduits ban entrepreneurs retrouve zot avec le besoin de paiementenavance. Et certain clients pas pret pour faire enelavance. Danscecas, ene Debt Factoring company oubiencertainesbanques qui offert le service de Debt Factoring poupayelavance necessaire a l'entrepreneur, et reclame la somme du aux clients apres la livraison des produits. Ainsicen'est pas l'entrepreneur qui retrouve li a reclamer le montant du apres livraison au client, maisc'est la Debt Factoring Company ou la banque qui le fait.

Si ce genre de facilitéelimine le stress de courirapres son client pour obtenirpaiementapres livraison, le Debt Factoring estcependantaccompagné de ene commission bien plus elevé que les tauxdinteret sur les loans.

**Videos / Animations** Instructive Animation

**Dialogues** – **Investors**: Venture Capitalists & Business Angels Quelquesfois, c'estbien plus interessant de partagersa passion et sesrisques avec un ouplusieurspartenaires...Ban investisseurspar example c'est ban personne qui possede ban moyen financier qui permette zot investirdans ban entreprise qui zot confiantpouramene profit. Ainsi, ban entrepreneurs kapavprend ban investisseurscommepartenaire pour zot projetd'entreprise, etcesont les investisseurs qui amene le capital necessaire pour rouler

cesentreprises, maiscelacontre des actions dans les entreprises. Evidemment, a la fin de chaqueanneefinanciere, ce sera le moment de partager le gateau, et chaqueactionnaire, que cesoit

l'entrepreneurou les investisseurs, pougagne zot dividend par Entrepreneur explaining his idea to venture capitalist in a luxurious living roomrapport au nombred'action qui zot posseder. Ilest bon de savoir aussi qui ena 2 types d'investisseurs:

Premierement, il y a les venture capitalists qui investienegros capital contreene grand part de

lactionariat de l'entreprise.

Puisena ban Business Angels qui ban reseaud'investisseurs qui partage le risques entre zot meme eninvestissantchacunenesomme pas trop consequent danslentreprisecontre ban petite part d'actionariatafin que l'investissement total atteint le capital necessaire pour demarreroudevelopperl'entreprise.

Animation of business angels

**Dialogues - Grants** 

**Videos / Animations** 

Etfinalement, nous ena ban grants qui ban source de financement non-remboursableoffert par le Gouvernement, les corps para-etatiqueaussibien que les NGOs aux petites et moyennesentreprises de secteurprometteursmais surtout fragile, commel'agriculture, l'aquaculture, la peche, etc, kot ban facteurclimatiquecapav affecter zot recolte a tout moment.

**Videos / Animations** 

Photos & Videos related to fishing, agriculture. Logos of

organisations

FLASH CUT TO >

Presenter standing with SMEFINANCE.mu logo on her right

Conclusion

Presenter

"Et avant de terminer, ilest bon de ressortir, que pour tout application de loan, de grants oumeme pour convaincre ban investisseurspotentielspou vine partenairedans ban projetsd'entreprise, ilestest important pour l'entrepreneurki li monte ene Business Plan qui pouexplique la viabilite de so projet. La SMEDA/MyBizkapav assister ban entrepreneurs danssaexercise la. Et du coté de SMEFINANCE.mu, nous la pou aide ban entrepreneur mieuxcomprendrebanterme financiers dans le business plan. C'estpourquoi nous prochain episode pour consacréal'interet sur les

pretsbancaires, et nous pou details zot le mecanisme de remboursementderrierechaque loan

afinkinou ban entrepreneur morisyenkapavprend la bonne decision kan zot prend

ene loan pou zot petite oumoyenneentreprise.

Sur cemodir zot a tresbientot, et moretrouve zot dans le prochain episode qui zot kapav

consulterlornou site web: SMEFINANCE.mu"

**Music Starts** 

Credits