Faculty of Science Education

The Challenges Faced by Businesses in Education

A Case Study of Mobile Science Labs International

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ABSTRACT

This research is a case study of Physics Mobile Labs International, in which a telephone interview and a questionnaire was used to gather information and thematic analysis was used to investigate what challenges were faced by Zimbabwean educational business enterprises in starting, growing, and sustaining their development.

The mobile science labs concept is an international innovation but on the international scene it is funded by private organizations and governments grants. The Zimbabwean implementation is beset with lack of financial support from both private firms and the government. In spite of these financial setbacks, Mr Chauke came up with a pushcart which can be loaded with science equipment and can be folded into the corner of an ordinary classroom.

NUST followed Chauke and mounted a gas supply to the mobile platform and went on further to get government support in the marketing of their mobile science lab. In spite of the effort by NUST to mass produce the product, the main challenges faced by any new business still crop up and without addressing those challenges mobile science labs as a business enterprise in Zimbabwe has no future at all.

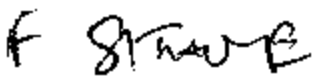
The main challenges stem from social, political and economic environment in which businesses are born, grow and are sustained. The economic challenge comes from lack of training in business management. The political challenge comes from entrepreneurs who undermine the role of the government in supporting businesses. The social challenge comes from failure of the entrepreneur to adapt to the fast-changing social landscape.

Recommendations made were as follows:

Businesses do not exist in vacuum but are created and sustained in a financial, political and economic environment. The entrepreneur must seek to line up his or her business with the national development strategy in order to be politically relevant, that way he or she will find government support. The entrepreneur must research widely on the product which is intended to be sold and do market research in equal measure, that way he or she will be economically relevant. Social relevance demands knowledge of 21st century communication tools such as using social media for advertising products and services.

DECLARATION

I, Farai Sithole, do hereby declare that this thesis has been the result of my own original efforts and investigations and such work has not been presented elsewhere for the purpose of degree assessment. All additional sources of information have been acknowledged by means of references.

Student : 

Date : 01/01/24

APPROVAL FORM

The undersigned certify that he has supervised the study, read the dissertation and has approved its submission for marking after confirming that it conforms to the departmental requirements.

Dr. RM Rusike (supervisor) 

Date 19/02/24

DEDICATION

I dedicate this work to the Family of God in Heaven and on Earth, to God the Father of all, to Jesus Christ the First Born from the Dead and LORD of all.

I dedicate it to Sinikiwe , Petra , Charity and Gift my nuclear family and to Babamunini Tapiwa, Savimbi,, , Cames, Baba mukuru Rhodes and Fungai and to tete Edith and Tambudzai.

I dedicate it to my life coaches , Rhodes and Peter Kaerezi .

I dedicate it to schools and college I worked in Dekezi High , Thekwane High , Plumtree High , First Class of schools and the Jewel Family of MTC.

ACKNOWLEDGEMENTS

I would like to express my sincere gratitude to my project supervisor, Dr Rusike, who exhibited patience and guidance throughout the research process. In addition, I would like to thank Mr Muti (not his real name) owner of Physics Mobile International for setting aside his time to respond to my interview questions concerning his business.

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CHAPTER 1

INTRODUCTION AND BACKGROUND

1.1 Introduction to the study

Science offers many business opportunities for investors who are interested in the education sector. Every secondary school in Zimbabwe is expected to have a science laboratory and indeed Zimbabwean private schools' pride themselves in having state of the art science laboratories. A private school with a fully equipped science laboratory has a competitive edge over others who do not and can attract more students from families who believe in engineering, medicine and technical skills-oriented jobs.

Setting up laboratories and equipping them is very expensive for most schools and government run public schools struggle to do so. This leaves many public schools and rural schools in Zimbabwe poorly equipped and poorly staffed to run a successful science department. This is an opportunity for entrepreneurs in the education sector.

Some individuals, organisations and companies have taken the science laboratory from the fixed building into a mobile truck, van, boat, cart or airplane in an innovation called mobile science labs. It is an international undertaking involving countries like USA, India and some African countries. What comes to the mind of an entrepreneur is can the mobile science labs innovation be undertaken as a viable sustainable business in the education sector?

1.2 Background to the study

Whilst the concept of mobile science labs is revolutionary and supports the competence-based curriculum rolled out by the Zimbabwean government from 2015, as a business idea it is beset with many challenges. On paper it has enormous potential considering the fact that the education market is huge both globally and locally but somehow its implementation in Zimbabwe has been beset with many challenges.

In Zimbabwe the concept has been realised on three fronts: as a sole business enterprise by a science teacher, as a college vision by NUST in line with education 5.0 innovation and industrialisation and on a private front by an organisation running laboratories from storage containers.

The teacher science entrepreneur, Mr Chauke of Mzilikazi High School Bulawayo developed his own concept of mobile science lab by inventing a foldable push cart which can be loaded with a variety of science apparatus providing a mobile science workbench. NUST modified the cart and added a gas supply to the mobile unit. The mobile container solution is run by a private organisation and operates like a private company offering technical solutions to schools facing challenges in setting up their own laboratories.

Statement of the problem

The purpose of this study is to explore the viability of mobile science labs as a business in Zimbabwe. It seeks to investigate the challenges faced by entrepreneurs in this field and how these can be overcome.

In this study an education business based in a big town of Zimbabwe was selected for case study. The business name was altered to protect the client and is coded as Physics Mobile International, founded by Mr Muti (whose real name is withheld for personal reasons). The company has an email address which was used to set up a means of communication between the author and the business owner.

1.3 Main research question

This study is aimed at finding out the business opportunities available in the education sector in Zimbabwe and identify the problems associated with running such businesses in a financially sustainable way. It is my aim to set up my own company, register it and run it applying the lessons learned in this research.

Sub-research questions/objectives

(i) To assess business opportunities available in the education sector in Zimbabwe

(ii) To assess the advantages science education presents to educational businesses

(iii) To evaluate the extent to which mobile science labs answers the question of shortage of labs in Zimbabwean schools

(iv) To assess the extent to which the business concept of mobile science labs been embraced in Zimbabwean schools

(v) To assess the main business challenges faced by an entrepreneur pursuing mobile science technology in

(a) starting the business

(b) running the business

(c) growing the business

(vi) To evaluate how these challenges are being addressed by the thriving businesses

1.4 Assumptions

This study is predominantly qualitative in nature and therefore assumptions rather than a single hypothesis shall be explored rather than investigated.

- ⇨ It is assumed that the major challenges faced by businesses in the education sector is limited capital
- ⇨ It is assumed that many people do not venture into Edu-business because they assume that education is a service rather than a business
- ⇨ It assumed that government policies concerning educational services limit those who venture into Edu-business

1.5 Significance of the study

This study is important to me personally because I believe it will equip me with the proper knowledge to set up and run an educational business. It will also help those who are already running educational businesses by highlighting common problems. Sharing these challenges with other people running the same business will result in collaboration between business owners and where people collaborate, solutions are easier to find.

1.6 Limitations of the study

The research project was self-funded therefore only one business was investigated as a study in case. The time period for the investigation was limited to three months, from September to November which is the final semester of the course. The researcher was able to get a face-to-face interview with the business owner in the month of August to get permission to conduct the research.

1.7 Delimitations of the study

This is a case study and therefore it will focus on one business. Interviews with the business owner is the primary source of data.

1.8 Research methodology

The research approach chosen for this study is qualitative research in which issues of business interest are explored, examined and used to solve problems faced by businesses in the educational sector. Interview questions were prepared and presented to the business owners. The responses were processed by classifying types of responses and reference to literature to seek how such problems were handled by more successful business people.

1.9 Conceptual framework

The framework for the study is qualitative case study in which a single business is examined by means of interview questions probing attitudes, opinions, views and facts from the business owner concerning the nature of his business visa vice the current economic climate.

1.10 Definition of key terms

Entrepreneur: "Peter Drucker defines an entrepreneur as one who always searches for changes, responds to the changes occurring in the environment and exploits them into opportunities", (Rusike, 2023)

EdTech: Abbreviation for Educational Technology, which means an invention designed to operate in education.

Copyright:
Copyright ownership gives the owner the exclusive right to use the work, with some exceptions. When a person creates an original work, fixed in a tangible medium, he or she automatically owns copyright to the work. It is one form of intellectual property. (google, 2023)

Mobile science labs: it is science on wheels, (mahindra, 2023)
In Zimbabwe it is the concept that science experiments can be packaged into mobile units that can be brought to remote areas, such as schools with none or limited laboratory facilities.

SME : small to medium business enterprise. In Zimbabwe smes refer to businesses made up of one owner and very few employees less than ten

Cash flow :use of finance in the daily operation of a business

Management : Planning , directing and monitoring of business activities

Capitalisation : Use of credit from a bank or investors to run the business

1.11 Organisation of the study
The study is organised into introduction, problem statement, literature review, methodology, data presentation, evaluation, resources and appendices.

CHAPTER 2

REVIEW OF THE LITERATURE

2.1 Introduction

This chapter sets out to examine the process and problems encountered by new business start-ups in general then projects the problems into the field of education. It is a didactic overview of past and current literature in the field and it identifies the most common theoretical frameworks in the literature and assesses their contribution to explaining the process of starting up a new business and how to keep it running. In short it seeks to unravel the challenges faced by entrepreneurs in setting up businesses and keeping the business running in a successful way.

"Education is a business, its more than a business, it's a big business. It is so big that it affects the economy". (Russo, 2018) . This statement was made in a TEDx talks meeting in Delaware, USA in 2018 concerning the USA education system in general. He emphasised that everyone is affected by the education system, a loaded statement which when unpackaged in the economic context implies that the whole world is the market for businesses in education. Education is a global business which involves everyone regardless of race or nationality. If one can identify a need in society then one can capitalise on that need and in the process of meeting the social need one can run a viable business.

One is tempted to ask that if education offers so many business opportunities what would a typical educational business opportunity be like. According to (Lepeska, 2023) , one could start a tutoring business, home schooling service or a business which supports local schools such as uniform making, or stationery suppliers. The tutoring business can be taken online via blogs, YouTube, zoom, WhatsApp and Google classrooms. There are more robust online learning platforms like Moodle which accommodate full online courses, assessment and administration.

When focus is directed towards science education the market opens to educational technology businesses or EdTech for short. According to (spload.com, 2023) the global market value for EdTech exceeds U$D 6 trillion with the USA taking 23% of the global market share. EdTech is a growing business and investment in the market is most likely to yield dividends. In Zimbabwe

some businesses have invested in laboratory equipment supplies whilst some have gone on further to provide fully functional laboratory services through a facility called Mobile Labs.

2.2 Business opportunities in Zimbabwe

"Businesses don't start with simple ideas, but instead they start with problems to be solved or opportunities to do something better," (companyregistrations.co.zw, 2023). The reason for starting a business should be the desire to solve a social problem rather than the selfish desire to realize a financial profit. In seeking to satisfy that need ideas can come up as a solution to the problems at hand. In other words, we must have a moral reason to set up a business apart from the selfish desire to make a profit for ourselves.

Mescon and Edwin (2021) asserted that crisis fuels entrepreneurship, and no country in Southern Africa is as crisis ridden as Zimbabwe. This indicates that Zimbabwe is fertile ground for starting new businesses, (zim.gov.zw, 2022) . The president made it clear that everyone is welcome to invest in any sector in Zimbabwe, thereby opening all avenues for anyone to explore. The new paradigm ushered in through Education 5.0 encourages all institutions to industrialize including the education sector. This has opened doors to teachers and students to engage in income generating projects as part of the mainstream educational process.

Despite the availability of business opportunities in Zimbabwe the main challenge is lack of entrepreneurs with enough foresight to identify opportunities as they arise to capitalize on them. This is because successful businesses are driven by the passion of the entrepreneur rather than other external factors such as competition and the desire for profit. As one philosopher put it, business is set up to solve socio-economic problems rather than for mere profit.

Education in Zimbabwe provides many great opportunities for business entrepreneurs in Zimbabwe considering the fact that there are 10 000 primary and secondary schools with a total enrolment of 4.7 million students, (newsday, 2023). A simple calculation based on provision of basic stationery such as a pen implies a multi-million-dollar business market. When other factors such as provision of school uniforms, transport services, student accommodation services, tutoring services and mobile science laboratories, the market becomes more than a multimillion-dollar business. In short, a business in the education sector has all the properties of any successful venture, the foundation of which is a huge market base.

2.3 Business ideas in Education

The default side hustle for the ordinary teacher is private tutoring which is popularly known as "extra lessons". According to (igi-global, 2023) extra lessons are lessons given to school pupils outside the normal school hours with the intention of improving their understanding of key concepts from their syllabi. One can start a tutoring service after school hours or during the holidays. Some teachers get as much as five times their normal salary from these extra lessons, (startupbiz, 2019)

To formalise this kind of side hustle one has the option of registering a private school and indeed many private schools began as some teacher's side hustle. One such example is Helena Schools which is owned by Helena Holdings (Private Limited) a company whose CEO is Rudo Kumirai , (Lionesses-of-Africa, 2022) . It is easy to set up a company in Zimbabwe thanks to the National Development Strategy 1 under the new dispensation of the second republic, (zim.gov.zw, 2022)

2.4 Challenges faced by businesses

In the USA, about 20% of small businesses fail in their first year, 30% fail in their second year, 50% in their fifth year while 70% fail within their 10th year, this is according to US Bureau of Labor Statistics, (Nwokike, 2023) . In Zimbabwe, due to the persistent financial crisis, which climaxed in 2008, higher figures would be expected such as 80%, 70% and 50% respectively. Even though conditions of setting up a new business in Zimbabwe has improved, the financial crisis is the main obstacle faced by many businesses.

According to (Linkedin.com, 2022) there are seven common reasons why businesses fail; namely lack of passion for the business, lack of cashflow strategies, lack of market research, lack of expertise, not having a good team, poor planning and overexpansion. All these factors point to the owner of the business as the main cause of business failure. The failure can be traced back to lack of vision, mission and values on the part of the business owner or in short lack of business education.

"Business is passion, planning, and funding combined ", (Jones, 2023). It is apparent from this loaded statement that a business must be driven by the owner's passion, and run on a strategically charted path and be fed by a healthy cash flow. This means that the business must have a clear vision, sound values and have a reliable partnership with the banks or investors. In other words, the business owner must have a sound business education and have critical thinking skills.

It is apparent from these observations that a business which is set up without taking these important factors into account, may grow too fast and run out of working capital, or employ too many workers too soon and fail to meet its financial obligations. For the same reasons a business may exhaust its working capital in the process of acquiring business assets or in the production of too many goods too soon and hence flooding the market.

In summary it comes to light that most businesses fail due to ignorance on the part of the business owner. Such people lack passion for the business because they do not have adequate knowledge of the market. In addition to that they will fail to plan adequately for the business and hence fail to anticipate problems which arise due to logistics. Not only that such business people fail to gather a qualified team to work together to run the business and as a result inefficiencies will arise in the business leading to failure.

2.5 Problems of businesses in Zimbabwe

"Small businesses in Zimbabwe make up 94% of the country's business population but only contribute 15% to the country's economy due to a high failure rate during the first 5 years", (Sibanda, 2016) . This means that sustaining a business in Zimbabwe is difficult as the chance of it failing is very high. An entrepreneur in Zimbabwe has to start a business with the knowledge that it can fail any time because of factors peculiar to Zimbabwe and therefore it is very important to find out the challenges faced by business startups in Zimbabwe.

According to, (Matanda & Chidoko, 2017) "Many SMEs in Zimbabwe are closing down due to business failure, and of those still existent few are successful with the remainder merely surviving.". This begs the question 'why are Zimbabwean SMEs continuously failing to break even and grow? " . The core problem in the Zimbabwean scenario was lack of capitalization and rigid registration and licensing procedures.

(Karedza, Sikwila, Mpofu, & Makurumidze, 2014) point out that the major factors behind failure of SMEs in Zimbabwe were limited access and cost of finance, lack of entrepreneurial, management and marketing skills, lack of market information and business knowledge. In short, the business owner is the major factor behind the failure of his or her own business. To this list, (Chinembiri, 2011) adds that Zimbabwean SMEs have weak legal and regulatory structures which makes them vulnerable to attack by the more established formal businesses.

“Private schools fail due to absence of proper planning.”, (BusinessDay, 2014) . A school business requires too many human and non-human resources from desks, chairs, classrooms to teachers and accountants. A school cannot be run effectively without having the basic facilities such as laboratory, computer room, library, teaching aids and without paying the teachers well.

According to (businessday, 2014) school businesses fail due to lack of planning which implies that the business owner is being spontaneous and reactive in his or her business activities rather than proactive and strategic. This is typical of business people who are not driven by passion for what they do but react to external stimuli such as the need to prove one’s marketing abilities in the face of competition

2.5.1 Business and Science

Science education adds an extra factor in educational business offering entrepreneurs the opportunity to manufacture and supply laboratory equipment. According to, (grandviewresearch.com, 2023) “The global laboratory supplies market size was valued at USD 38.1 billion in 2022 and is expected to grow at a compound annual growth rate (CAGR) of 7.5% from 2023 to 2030.” This means that a multi-national company with branches all over the world can expect to wreck in 40 billion dollars per year. In comparison Econet wireless is a 4-billion-dollar business, (paynow.co.zw, 2023) .

There are many companies supplying laboratory equipment in Zimbabwe but the economic situation has forced most of them to close since they do not manufacture the products but import the products from overseas manufacturers using united states dollars.

It is apparent from the fore-going discussion that passion is the foundation of a successful business venture. The entrepreneur should be consumed by his or her business project and take time to carry out market research, seek professional advice and get sound business education to equip him or her to make strategic plans for the growth of the business. Equally as important is assembling of a team of co-workers with enough expertise to handle the financial, human and non-human resources needed to keep the business running.

2.6 Mobile Labs

According to Wikipedia , "A mobile laboratory is a laboratory that is either fully housed within or transported by a vehicle such as a converted bus, RV, or tractor-trailer. Such vehicles can serve a variety of functions, including: Science education ,Science research Air, water, and soil analysis and monitoring Biosafety"

According to, (Harshita, 2023)" A mobile science lab, also known as science on wheels, is a specially designed vehicle equipped with scientific equipment and materials that can travel to different locations to provide hands-on science education and outreach activities."

The functions of mobile science labs are:

- to bring science education to underserved communities, such as those in rural or low-income areas, and to engage students in STEM (Science, Technology, Engineering, and Mathematics) learning outside of the traditional classroom setting.
- they include laboratory equipment, such as microscopes, centrifuges, and spectrometers, as well as materials for conducting experiments, such as chemicals, glassware, and lab manuals. They may also include multimedia resources, such as interactive displays and videos, to supplement the hands-on activities.
- they are designed to be self-contained, with their own power supply and water supply, and are often staffed by trained educators and scientists who provide instruction and guidance to participants.
- They may offer a variety of programs, including field trips, classroom visits, and community outreach events, and may be targeted to different age groups and educational levels.

Mobile science labs offer many benefits to students, educators, and communities, including:

1. Increased access to science education: Mobile science labs bring science education to underserved communities, such as those in rural or low-income areas, that may not have access to traditional laboratory facilities and resources.

2. Hands-on learning: Mobile science labs provide hands-on learning experiences for students, which is an effective way to engage students in science and promote understanding of scientific concepts.
3. Innovative and engaging approach: Mobile science labs provide an innovative and engaging approach to science education, which can help to inspire students to pursue careers in science and technology. By offering exciting and interactive science activities, mobile science labs can help to spark curiosity and interest in science among students.
4. Community engagement: Mobile science labs can also engage communities in science education and outreach
5. Flexibility: Mobile science labs offer flexibility in terms of scheduling and location. They can be designed to meet the needs of specific schools or communities, and can be scheduled to visit at times that are most convenient for students and educators."

In Zimbabwe different individuals and organisations and institutions have implemented this educational mobile science lab in different ways. I will discuss three of these local innovations and will research one of them.

2.6.1 Local Mobile Labs

As mentioned already in the introductory chapter Makomborero science mobile labs, Chauke science mobile labs and NUST science mobile labs have made some impact on Zimbabwean schools in one way or the other in the past five years. The one that I will research as a case study is called Physics Mobile Labs International run by Mr Muti.

2.6.2 Makomborero Mobile Science Labs

Makomborero's concept of mobile science laboratory is conversion of an old shipping container into a well-equipped science laboratory. Their mobile labs are well equipped and they have trained personnel to man the containers who perform the duties of lab assistant as well as science teacher.

The science laboratory accepts form three science students who enrol with them by filling in a form. "For the past few years, Makomborero Zimbabwe has accepted over a hundred students who have gained practical experiences of using science equipment." (makomborero, 2024).

Makomborero does not operate as a business but get sponsorship from international charitable organisations such as GlobalGiving. who pay through PayPal , credit card or wire transfer to the headquarters in Washington, DC20005 in USA.

Whilst Makomborero mobile labs is indeed a solution to the genuine problem of lack of laboratories in Zimbabwean schools it does not offer a sustainable solution because it is based on charity. If the project is to be sustained it means the government has to invest into it and promote it as part of the ministry of education science outreach program.

2.6.3 Chauke's mobile lab solution

According to (Sunday-News, 2022) Chauke began his mobile science laboratory as a solution to the local problem of local schools which offered science without adequate laboratory facilities. As a former teacher in those schools, he had full knowledge of what was missing and what needed to be supplied and his passion for the subject and hence the business was key to the successful launch of his business. Because of his vast experience in teaching science, he was able to modularise his lab and make containers small enough to be pushed on wheels, which he called the Sci-Cart which is able to serve about 20 students at once. His Sci-cart mobile lab was valued at USD$850-00 which is affordable to any rural school.

Chauke's mobile lab challenges

Launched in October 2022 the Sci-cart only made headlines once in the Sunday news and thereafter it was not heard of again. It appears, Mr Chauke did not engage legal and regulatory systems to protect his intellectual property. Neither did Mr Chauke approach the government through its organs which offer funding to projects. In addition to that Mr Chauke did everything by himself from crafting the cart in his backyard to marketing the product on foot which clearly limited the size of his market to his immediate neighbourhood. The news headline did not promote his product rather it alerted his competitors who instantly capitalised on the innovation.

2.6.4 NUST's mobile labs

It appears as if NUST capitalised on Chauke's innovation and took the concept to a higher level as reported in (TheHerald, 2022) . In the news report 13 secondary schools in Beitbridge rural districts received NUST mobile lab units from the government. This indicates that NUST after refining Chauke's mobile lab sold the products to the government, using financial privileges which Chauke failed to access maybe because he did not seek expert advice on the matter.

2.6.5 Physics Mobile Labs International (code name)

Chauke's mobile lab innovation caught on with other entrepreneurs such as Mr Muti of Town X in Zimbabwe. The concept is different from Chauke's business model because Mr Muti is a qualified laboratory technician and has technical expertise in handling laboratory apparatus. In his business Mr Muti is able to supply laboratory equipment, rent laboratory equipment and provide mobile services to institutions in need of help. It is the purpose of this study to get in-depth knowledge of how Mr Muti is running his business.

2.7 Research gaps

According to, (snhu, 2023) "A research gap is a question or a problem that has not been answered by any of the existing studies or research within your field. Sometimes, a research gap exists when there is a concept or new idea that hasn't been studied at all." It is apparent that research gaps in educational business research must arise from new conditions imposed by covid 19 restrictions which forced many businesses to go online and to reduce direct contact between humans in the market place.

It is clear from the foregoing discussions on the local implementation of the mobile science lab that it is a far cry from the international versions. Much research needs to be done on how Zimbabwe can tap into this innovation and convert it into a successful business which can benefit the nation, SADC and the whole of Africa.

The mobile labs innovation is a new idea which creates a gap in educational business research. The current literature indicates that the concept is big business overseas but is dominated by mobile medical testing laboratories. This is because overseas schools are built complete with laboratories which are adequately supplied with equipment, and therefore the concept of mobile labs in developed countries is different from those in developing countries. The Zimbabwean model is typical of all developing countries which suffer from poor infrastructure and poor educational funding.

To address research gaps instruments were devised to probe into educational businesses of interest of which Science Mobile Labs International was targeted as a case study. The interview questionnaire instrument was crafted from lectures by Dr Rusike of Bindura State University, (Rusike, Visit and Interview an Entrepreneur: Suggested Approach., 2023)

2.8 Summary

In this chapter a presentation by other scholars of findings and analyses related to this study was made to lay the foundation of this research. A review on problems associated with starting and growing a business in the education sector was used to come up with a research framework which can be used to solve problem at hand. The research framework will be discussed in the following chapter, which is chapter three.

CHAPTER 3

RESEARCH METHODOLOGY

3.1 Introduction

This chapter describes the method that was used to carry out the study. It highlights the research design, the research paradigm and the methods used to gather the data. It discusses the research strategy used and any ethical considerations.

3.2 Research design

The research design implemented in this study is that of case study of a single business which was directly accessible to the researcher. The bounded theory approach was used in this study confining the area of study to the town of Bindura, where the business is located and time period to six months, which is the duration of the semester of the author's study. Further, this study employed an interpretivist paradigm in which issues, values and ethics of conducting business were investigated and qualitative data was gathered from a single source in a case study.

The choice of case study was prompted by the need to highlight the main challenges faced by businesses in the education sector. Simple research methods such as interviews and questionnaires would be easy to process and extract information which would highlight the main challenges faced by the business under study.

In this particular case the case study would be used as a model which all other businesses in the education sector could draw inspiration from. The author has the intention to open his own educational business based on this research.

According to, (openlearn, 2023) research strategy focuses on an in-depth investigation of a single case or a small number of cases and information is sought from different sources and allows a composite and multifaceted investigation of the issue or problem. In this study the case study of an educational business which majors in school laboratory services was carried out using qualitative research approach.

3.3 Research Strategies

The business under investigation was purposively selected for a case study due to a number of limiting factors such as time, distance, funding of the research and purpose of the research. The type of data which was handled in this research was purely qualitative, which was associated with issues, values and ethics of running a successful business in an educational setting.

The main instrument used in gathering the data was interviews by telephone, WhatsApp and email. According to, (NIH, 2023) "*Interviews* are used to gather information from individuals 1-on-1, using a series of predetermined questions or a set of interest areas. "The interview questions were drawn from Dr Rusike's lectures compiled in a document named "Visit and Interview an entrepreneur: Suggested Approach."

The data was studied for recurring themes which were then coded and presented with samples from the raw data to confirm the themes. According to, (userpilotblog, 2023) Content analysis is a method of qualitative data analysis that involves systematically analyzing a text to identify certain features or pattern and thematic analysis is used to identify patterns and themes in data. In this study an inductive approach with semantic view was utilized because the author believed in obtaining themes from the data itself rather than starting with some hypotheses which is required for deductive thematic approach.

3.4 Data Trustworthiness

Measures were taken to ensure that the data obtained was credible, dependable and objective through use of multiple instruments such as printed questionnaire, telephone interview, WhatsApp meeting and face-to-face interview. The responses from the multiple instruments were tabulated and coded to check for any recurring themes. After the data was analysed, feedback was elicited from the participants to clarify any ambiguities.

3.5 Ethical considerations

Permission was sought with the college and the business man involved for the research to be carried out. The letter from the college is attached in the appendices and the participant's consent was recorded in the questionnaire which he answered. Measures were taken to protect the privacy of the participants were such was required.

A code name, Mr Muti was used to protect the business owner and the company name was also coded as Physics Mobile Labs International.

3.6 Summary

In this chapter a presentation of theoretical and practical procedures related to this study was made to enable a valid and objective execution of the research. The suitable research design, data collection methods, and data analysis methods were highlighted. The research instruments and data collection procedures were outlined Data presentation, analysis and interpretation will be discussed in the next chapter.

CHAPTER 4

DATA PRESENTATION, ANALYSIS AND INTERPRETATION

4.1 Introduction

This chapter presents the study results, analysis and discussion. Information was obtained from telephone interview, WhatsApp questionnaire and by email. The results were processed using content analysis and thematic analysis to extract critical data.

4.2 Presentation, analysis and interpretation of results

The following are results of the telephone interview held with the founder of Physics Mobile Labs International, Mr Muti.

Analysis of the telephone interview and completed questionnaire identified the following themes:

(i) business capitalization, products and services
(ii) business market
(iii) marketing strategies
(iv) advertising
(v) cash flow
(vi) profits

4.2.2 Mobile Labs Business Capitalization, Products and Services

The selling point in Mr Muti's business is the innovation of a mobile laboratory which to him meant bringing the science practical experience to the door-steps of the customers. The telephone interview seemed to imply that Mr Muti's concept of Mobile Labs was more of service provision and equipment supplies unlike the prototype marketed by Mr Chauke or the more advanced version marketed by NUST.

It further revealed that the business had no business capitalization of any kind in that he had no bank to cushion his business and to keep his business running in all seasons. According to (Matanda & Chidoko, Effectiveness of Zimbabwe's Small and Medium Enterprise Policy: A comparative study, 2017) , "major drawback to SME growth and sustainable development in Zimbabwe is lack of capitalization."

Mr Muti's business provides goods and services in the form of laboratory equipment which they can assemble or order from overseas on request. Their services center around science laboratory training for lab hands and laboratory assistants in addition to offering full Physics and Chemistry practical lessons to their customers, who happen to be schools in need of science practical. The main challenge faced by the business is lack of working capital in order to keep stock for customers who want to buy laboratory equipment. In that regard they have to first get cash from their customers in order to begin assembling or ordering the equipment. In most cases they have to order raw materials from overseas using United States dollars.

The researcher asked Mr Muti if he had ever heard of Chauke's mobile labs or NUST's mobile labs and his answer was no. This is a disadvantage to Mr Muti because NUST already has a patent on a mobile pushcart mobile science platform that is gas-powered an idea which first originated with Mr Chauke. Failing to brand and patent his product led to Mr Chauke losing the business to NUST which is now the leader in that area.

4.2.3 Business Market

Mr Muti's business is limited to schools around Bindura mainly because of transport logistics and methods used to reach out to schools. He believes in the old method of meeting school heads and science teachers face to face and marketing by word of mouth. In his own words "the local schools are supportive of the business and we have been supplying science equipment and laboratory training to them from as long back as 2012 when the business was registered"

It was apparent from the interview that Mr Muti was running this business alone and had no formal training in running businesses even though he was a qualified laboratory technician. It was obvious to the researcher that Mr Muti lacked knowledge and skills to handle businesses and was in need of such training. He did point out that he was going overseas for more training for running this kind of business.

4.2.4 Marketing Strategies

The interview revealed that Mr Muti was applying a single and simple strategy to his business and as a result the business was experiencing stagnation and recession. His strategy was to market his laboratory skills to schools in need of science practical experience and in addition sell to that school whatever equipment they may need in future. This strategy has serious flaws: limits his market to

a walking distance, once he services one customer, they may not need his services in future, his products can be obtained from other suppliers who may offer competitive prices. In addition to that it is apparent that Mr Muti ‘s product and brand are not patented and therefore there is no legal protection for his product because he has no brand and product to start with.

Chauke had a more workable strategy of making science push carts which can be folded and stored in a small room. He made many such units and approached rural schools to market his invention but due to lack of brand and patent rights he lost the concept to NUST who continue to market the idea aggressively.

4.2.5 Advertising

When Mr Muti was asked how he markets his products and services he revealed that he had a limited advertising strategy, use of business cards and flyers. He would hand out these to schools which he visited and from his own statements, had little impact on the business. If Mr Muti wanted his business to grow he could partner with science teachers all over the country offering them a commission on the partnership. He could open an online advertising platform on TikTok, YouTube and even WhatsApp.

4.2.6 Cash flow and profit

Mr Muti’s business has obvious cash flow problems and little or no profits. This can be attributed to the country’s fiscal policy which dances between the local currency and mixed foreign currencies dominated by the United States dollar. The fiscal policy forces businesses to transact in local currency but the businesses get their raw materials from overseas using foreign currency. This makes operating such businesses as Mr Muti’s laboratory equipment, very difficult. In recent years Zimsec has offered to supply all science equipment needed in science examinations dominating the market share by political advantage.

4.3 Summary

In this chapter thematic analysis of the interview and questionnaire completed by Mr Muti the owner of Mobile Science Labs International, was made and the following themes came up:

Mobile labs products and services, market, strategies , advertising , cash flow and profits. The analysis revealed a number of challenges some stemming from lack of training and some stemming from the country’s fiscal policies which make it difficult for businesses to run efficiently. Apart

from that it appears that the business needs human capital injection and modern platforms for advertisement and marketing.

CHAPTER 5

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

5.1 Introduction

This research was an inquiry into the challenges faced by businesses in the education sector. In chapter one the background to the problem was presented in addition to the statement of the problem. In chapter two literature of previous researches on business opportunities and challenges was presented with the conclusion that Zimbabwean educational sector was full of business opportunities and a possible area to explore was science mobile labs. In chapter three the methodology was presented as a qualitative interpretivist approach in which thematic and content analysis would be used to analyze the data. In chapter four a thematic analysis of the interview held with Mr Muti and a completed questionnaire was presented. The main questions being tackled were on what challenges businesses face in general.

5.2 Summary of the study

It is apparent from this investigation that although business opportunities are available in Zimbabwe there are a lot of challenges which need to be addressed before any can venture into business. The fundamental problem is in the country's fiscal policy which forces businesses to transact in local currency whilst they have to purchase raw materials from overseas using United States dollars forcing them to work with black market foreign exchange rates.

The second challenge is lack of business education on the part of the entrepreneurs. Many businessmen rush to start a business without basic knowledge of how to run a business. Such people run into cash flow crisis in the early stages of the business resulting in stunted growth.

The Mobile Labs concept is an international innovation but overseas it is run by volunteers and operates from three platforms: mobile vans which are fitted with laboratory equipment which move to appointed venues where students can access their services. Secondly, they are available in the form of huge trucks or containers which are moved to designated places making it possible for students to visit and learn science. Lastly, really advanced biotech labs are put in airplanes which can fly to remote places.

In Zimbabwe the innovation was explored by three different organizations: starting with Mr Chauke who decided to put science equipment into a pushcart and bring it to remote schools and schools without laboratories. The main challenge is lack of support from the government.

NUST's version of the mobile labs innovation was to attach a gas supply to a movable table and to supply the equipment to remote schools like those in Beitbridge. Their project worked better because it has government support.

The third organization is Makomborero which is sponsored by international charitable organizations and can afford to bring their services to disadvantaged schools within Harare metropolitan. It is from Makomborero that the government can see the usefulness of mobile science labs and therefore the government must be prepared to support such business enterprises.

5.3 Conclusions

The main conclusion is that Mobile Labs alone cannot operate as a sustainable business because schools can operate without them and in the long run those without labs will eventually build some. The cash flow into such businesses is completely random and the business owner cannot afford to wait for customers to come knocking on the company doors seeking services and equipment and therefore it demands mobility on the part of the business owner moving from institution to institution to try to convince them of the product.

This kind of business will require backup in the form of supplying laboratory equipment or offering tutoring services. A printing business and stationary supplies would be a good support business which can bring in a regular income. The business would work well for a teacher who is still active in the service who can connect with other teachers from school which would need such services.

5.4 Recommendations / Action Plan

This research was carried out as a pilot project to lay the foundation of a more successful educational business. It follows therefore that the following ideas will be pursued in the process.

5.4.1 Business Proposal for a Mobile Science Lab

Executive Summary of the business proposal

(i) Name of business :

Bantu Physics Mobile

(ii) Products and Services :

physics equipment tailored for specific physics experiments ; physics lab manuals ; laboratory training and services. The business must have a website where all manuals are available online for any clients.

(iii) Modus Operandi :

equipment is supplied in modules which are tailored for specific experiments in physics. A manual is provided with each module. A trained lab assistant is ready to train the teacher or carry out the experiment. The services can be purchased in modules or hired. For effective operation in schools the business must work hand in glove with the ministry of education at all levels , from DSI to schools.

(iv) Challenges faced by mobile labs

The main challenge is that the clients , which are poor schools or rural schools operate under strict government instructions and would prefer to seek quotations for an expensive science lab rather than hire a mobile science lab service. This challenge can be overcome if the ministry of education is conscientized that mobile labs offer a cheaper option for rural schools than the standard science laboratory which is expensive for most schools.

(v) Solutions

- ⇨ package science equipment into modules which can be set up quickly and put away after use
- ⇨ each module serves a specific science experiment and is sold separately
- ⇨ schools can purchase modules according to need
- ⇨ schools can bill parents reasonable amounts for science levy rather than a huge lump sum in the name of building an expensive science lab.

- ⇨ Clients subscribe to the company's website and can order products online
- ⇨ The ministry of education must accept mobile science labs as valid alternatives to building expensive science labs

5.4.2 Innovations in the Mobile Science Lab

The study has shown that mobile science lab as a business in Zimbabwe is affected by lack of financial support and therefore is not sustainable like normal businesses. The Makomborero project is a private mobile science lab business but is funded by international charitable organizations. Whilst Mr Chauke's mobile model is a good innovation the schools which form his customer base do not have government approval to take his products seriously. The NUST model on the other hand overcomes funding problems by engaging the government but it lacks the innovative initiative of Mr Chauke and therefore is not sustainable in the long run due to lack of vision.

Assessing all these challenges I came to the conclusion that, instead of putting an entire lab on wheels and driving it to customers

1. come up with manuals for experiments which are compulsory for a specific subject
2. assemble equipment for that experiment or group of experiments
3. each package operates independent of others in modular design
4. package the equipment in a portable container and attach a price tag
5. set up a website where all these modules are advertised
6. each module can have a virtual version in the form of simulations
7. schools can buy or hire modules instead of an entire lab of equipment

5.5 Summary

The ministry must take mobile science labs as an alternative to building expensive science labs and as such must support those businesses which venture into that area.

I as a teacher can set up my own business and seek government support in the process.

6 REFERENCES

businessday. (2014, July). *'School businesses fail due to lack of proper*. Retrieved from https://businessday.ng/author/bdtech/: https://businessday.ng/author/bdtech/

BusinessDay. (2014). *School businesses fail due to lack of proper planning*. Retrieved from https://businessday.ng/: https://businessday.ng/

Chinembiri, T. (2011). *Exploring the role of small and medium enterprises in economic development.* Zeparu.

companyregistrations.co.zw. (2023). *How to start your own business in zimbabwe*. Retrieved from https://www.companyregistrations.co.zw: https://www.companyregistrations.co.zw/blog/start-business-zimbabwe

DishaPaliwal, & . YaminiPaliwal,. (2020). Educational Technology - Concept,Importance and Approaches. *Ilkogretim Online, 19*, 3442-3448. Retrieved from http://ilkogretim-oneline.org

EEA. (2023, october). *Entrepreneurship in education*. Retrieved from https://education.ec.europa.eu: https://education.ec.europa.eu/focus-topics/improving-quality-equity/key-competences-lifelong-learning/entrepreneurship

grandviewresearch.com. (2023). *laboratory Supplies Market Size, Share & Trends Analysis Report*

Jones, R. (2023, October). *Top 10 Reasons Why Businesses Fail*. Retrieved from https://www.business-management-degree.net: https://www.business-management-degree.net/top-reasons-why-businesses-fail/

Karedza, G., Sikwila, M. N., Mpofu, T., & Makurumidze, S. (2014). An Analysis of the Obstacles to the Success of SMEs in Chinhoyi. *European Journal of Business and Management, 6*. Retrieved from www.iiste.or

Kendra, C. (2022). *Maslow's hierachy of needs*. Retrieved from verywellmind.com: https://www.verywellmind.com/behavioral-psychology-overview-4581795

Lepeska, D. (2023). *12 Profitable Education Business Ideas*. Retrieved from https://stepbystepbusiness.com

Linkedin.com. (2022). *7 most common reasons why businesses fail*. Retrieved from https://www.linkedin.com

Lionesses-of-Africa. (2022, July). *Rudo Kumirai, an education change-maker in*. Retrieved from https://www.lionessesofafrica.com/: https://www.lionessesofafrica.com/

mahindra. (2023). *mobile science lab*. Retrieved from https://techmahindrafoundation.org: https://techmahindrafoundation.org/education/mobile-science-lab

Matanda, H. S., & Chidoko, C. (2017). EFFECTIVENESS OF ZIMBABWE'S SMALL AND MEDIUM ENTERPRISES POLICY: A COMPARATIVE. *Journal of Sustainable Development Africa, 19*(13).

Mescon, T., & Edwin, V. (2021). *Entrepreneurship Is an Opportunity for Education*. Retrieved from https://www.aacsb.edu: https://www.aacsb.edu/insights/articles/2021/03/entrepreneurship-is-an-opportunity-for-education

newsday. (2023, May). *zim schools must move with the times*. Retrieved from https://www.newsday.co.zw: https://www.newsday.co.zw/theindependent/opinion/article/200011768/zim-schools-must-move-with-the-times

NIH. (2023). *Design: Selection of Data Collection Methods*. Retrieved from https://www.ncbi.nlm.nih.gov: https://www.ncbi.nlm.nih.gov/pmc/articles/PMC4857496/

Nwokike, F. (2023). *10 Common Causes of Business Failure with Possible Solutions*. Retrieved from https://thetotalentrepreneurs.com: https://thetotalentrepreneurs.com/10-causes-business-failure/

openlearn. (2023). *Research strategy*. Retrieved from https://www.open.edu: https://www.open.edu/openlearn/money-business/understanding-different-research-perspectives/content-section-6

paynow.co.zw. (2023). *how much is econet worth*. Retrieved from https://www.google.com

Rusike. (2023). Types of Entrepreneurs. *ME517 Lecture*. Bindura State University.

Rusike. (2023). *Visit and Interview an Entrepreneur: Suggested Approach.* Bindura: BUSE.

Russo, R. (2018, February). Education is a business. Retrieved from https://www.ted.com/talks/ronald_russo_education_is_a_business

Sibanda, b. (2016). *Sustainability of Small Businesses in Zimbabwe.* Retrieved from https://scholarworks.waldenu.edu/dissertations?utm_source=scholarworks.waldenu.edu%2Fdissertations%2F3207&utm_medium=PDF&utm_campaign=PDFCoverPages: https://scholarworks.waldenu.edu/dissertations?utm_source=scholarworks.waldenu.edu%2Fdissertations%2F3207&utm_medium=PDF&utm_campaign=PDFCoverPages

snhu. (2023, June). *What is a Research Gap?* Retrieved from https://libanswers.snhu.edu/faq/264001#:~:text=A%20research%20gap%20is%20a,t%20been%20studied%20at%20all.: https://libanswers.snhu.edu/faq/264001#:~:text=A%20research%20gap%20is%20a,t%20been%20studied%20at%20all.

sploaD.com. (2023). Retrieved from https://www.businesswire.com: https://www.businesswire.com/news/home/20190130005355/en/2-Trillion-U.S.-Education-Market-Type-Content

startupbiz. (2019, March). *top 7 business ideas for zimbabwe*. Retrieved from https://startupbiz.co.zw: https://startupbiz.co.zw/top-7-education-business-ideas-opportunities-for-zimbabwe/

Sunday-News. (2022). *Chauke - the former teacher who invented Zimbabwe's first mobile science labs*. Retrieved from https://www.pressreader.com: https://www.pressreader.com/zimbabwe/sunday-news-zimbabwe/20221023/282437058048964

Suresh. (2023, February). *25+ Profitable Education Business Ideas with low investment*. Retrieved from https://myinvestmentideas.com: https://myinvestmentideas.com/top-profitable-education-business-ideas-with-low-investment/

TheHerald. (2022, November). *Zimbabwe: Mobile Science Labs to Help Improve Learning*. Retrieved from The herald.co.zw: http://www.theherald.co.zw

The-Zimbabwe-Mail. (2023, september). *nust mobile science lab*. Retrieved from https://www.thezimbabwemail.com/education/nust-creates-a-mobile-science-laboratory/: https://www.thezimbabwemail.com/education/nust-creates-a-mobile-science-laboratory/

topfrancise.com. (2021, November). *The 10 best education based franchise businesses in india 2023*. Retrieved from https://topfranchise.com: https://topfranchise.com/international-franchise-opportunities/asian/franchises-in-india/

unisa.ac.zw. (2023). *research methodology and design.* Retrieved from https://uir.unisa.ac.za: https://uir.unisa.ac.za/bitstream/handle/10500/4245/05Chap%204_Research%20methodology%20and%20design.pdf

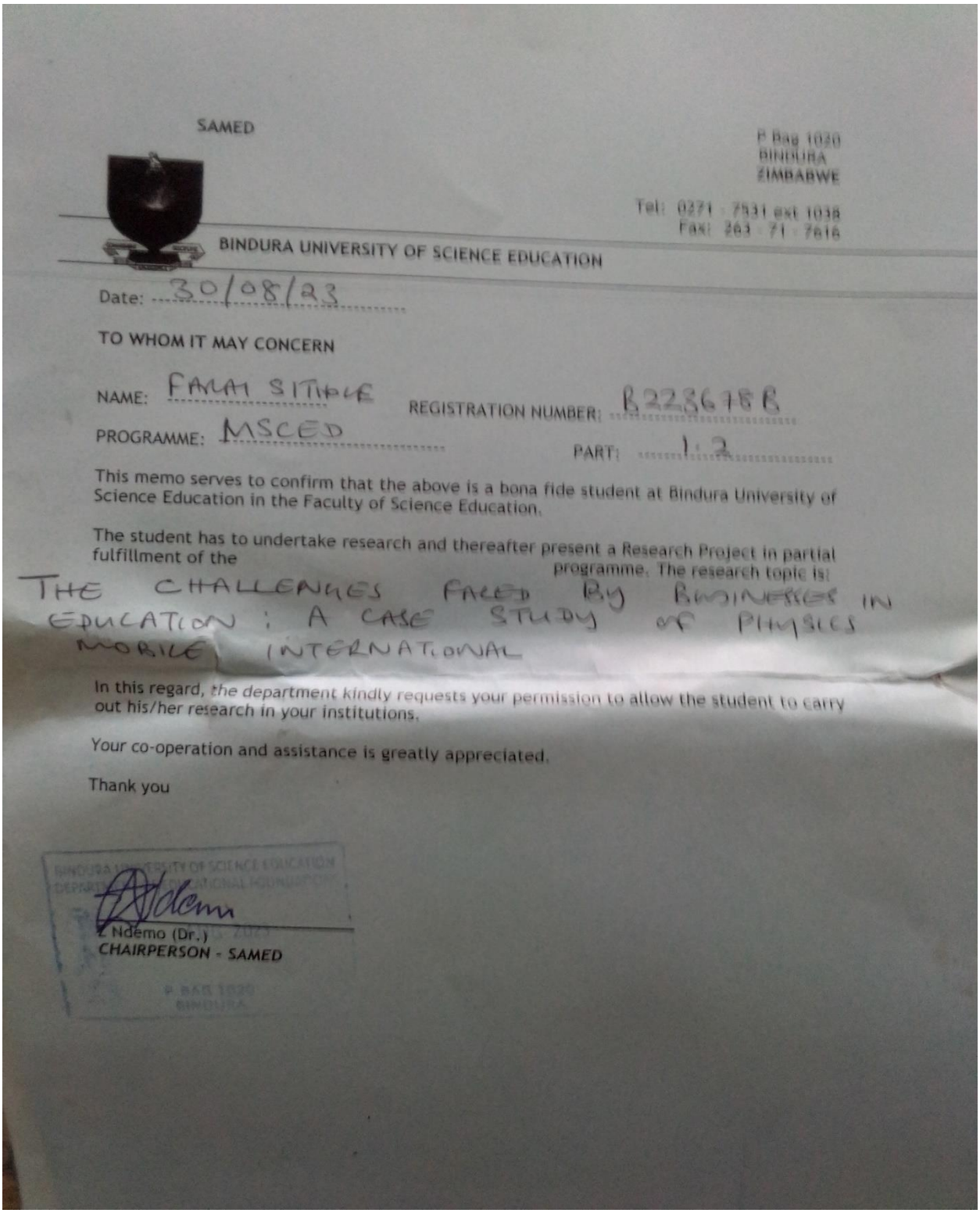
userpilotblog. (2023). *how to analyse qualitative data , methods steps and process*. Retrieved from https://userpilot.com: https://userpilot.com/blog/how-to-analyse-qualitative-data/

zim.gov.zw. (2022). *ZIMBABWE IS OPEN FOR BUSINESS*. Retrieved from https://www.zim.gov.zw: https://www.zim.gov.zw/index.php/en/news-room/latest-news/9-uncategorised/381-zimbabwe-is-open-for-business

7 APPENDICES

7.1 Mobile Labs International Business Card

7.2 Research Approval Letter



SAMED

P Bag 1020
BINDURA
ZIMBABWE

Tel: 0271 - 7531 ext 1038
Fax: 263 - 71 - 7616

BINDURA UNIVERSITY OF SCIENCE EDUCATION

Date: 30/08/23

TO WHOM IT MAY CONCERN

NAME: FAMAI SITHOLE REGISTRATION NUMBER: B2236768

PROGRAMME: MSCED PART: 1.2

This memo serves to confirm that the above is a bona fide student at Bindura University of Science Education in the Faculty of Science Education.

The student has to undertake research and thereafter present a Research Project in partial fulfillment of the programme. The research topic is:

THE CHALLENGES FACED BY BUSINESSES IN EDUCATION : A CASE STUDY OF PHYSICS MOBILE INTERNATIONAL

In this regard, the department kindly requests your permission to allow the student to carry out his/her research in your institutions.

Your co-operation and assistance is greatly appreciated.

Thank you

BINDURA UNIVERSITY OF SCIENCE EDUCATION
DEPARTMENT OF EDUCATIONAL FOUNDATIONS
P BAG 1020
BINDURA

Z Ndemo (Dr.)
CHAIRPERSON - SAMED

7.3 Questionnaire

Personal Details:

Name: _____ **Surname :**_____

Date of Birth :_____ **Designation** (Dr, Mr, Mrs):_____

Citizenship:_____

Name and Type of Business :_____

Employment History:

Questions :

1. What was your life like before you started your first venture?

2. How old were you when you started your business ?

3. Who influenced you to start your business?

4. Who in your family were entrepreneurs and what did they specialise in ?

5. When and under what circumstances did you become interested in entrepreneurship?

6. Describe how you decided to create by starting your venture instead of taking a job with someone else

7. How did you spot the opportunity?

8. What were your goals?

9. Did you have some specialised training eg military experience prior to starting ?
10. In what specific ways was it helpful?

11. Did you have any sales or marketing experience when you started your business ? And how did that affect your business ?

12. Did you find or have partners? What kind of planning did you do? What kind of financing did you have?

13. Did you have a start-up business plan of any kind?

14. How much capital did it take? How long did it take to reach a positive cash flow and breakeven sales volume? If you did not have enough money at the time, what were some

of the ways in which you bootstrapped the venture (bartering, borrowing and the like)? Tell me but the pressures and cries during that early survival period.

15. What outside help did you get? Did you have experienced advisors? Lawyers? Accountants? Tax experts? Patent experts? How did you develop these networks and how long did it take?

16. What did you perceive to be the strengths of your venture? Weaknesses?

17. What was your most triumphant moment? Your worst moment?

18. What were the most difficult gaps to fill and problems to solve as you began to grow rapidly?

19. When you looked for key people as partners, advisors, or managers, were there any personal attributes or attitudes you were particularly seeking because you knew they would fit with you and were important to success?

20. How did you find them?

21. Do you spend more time, the same amount of time, or less time with your business now than in the early years?

22. In terms of the future, do you plan to harvest? To maintain? To expand?

23. Do you plan to ever retire? Would you explain?

24. What were/are the most demanding conflicts or trade offs you face

25. Describe a time you ran out of cash, what pressures this created for you, the business, your family and what you did about it. What lessons were learned?

26. What do you consider your most valuable assets?

27. Mobile science labs is an international concept . How did you come about your own version ?

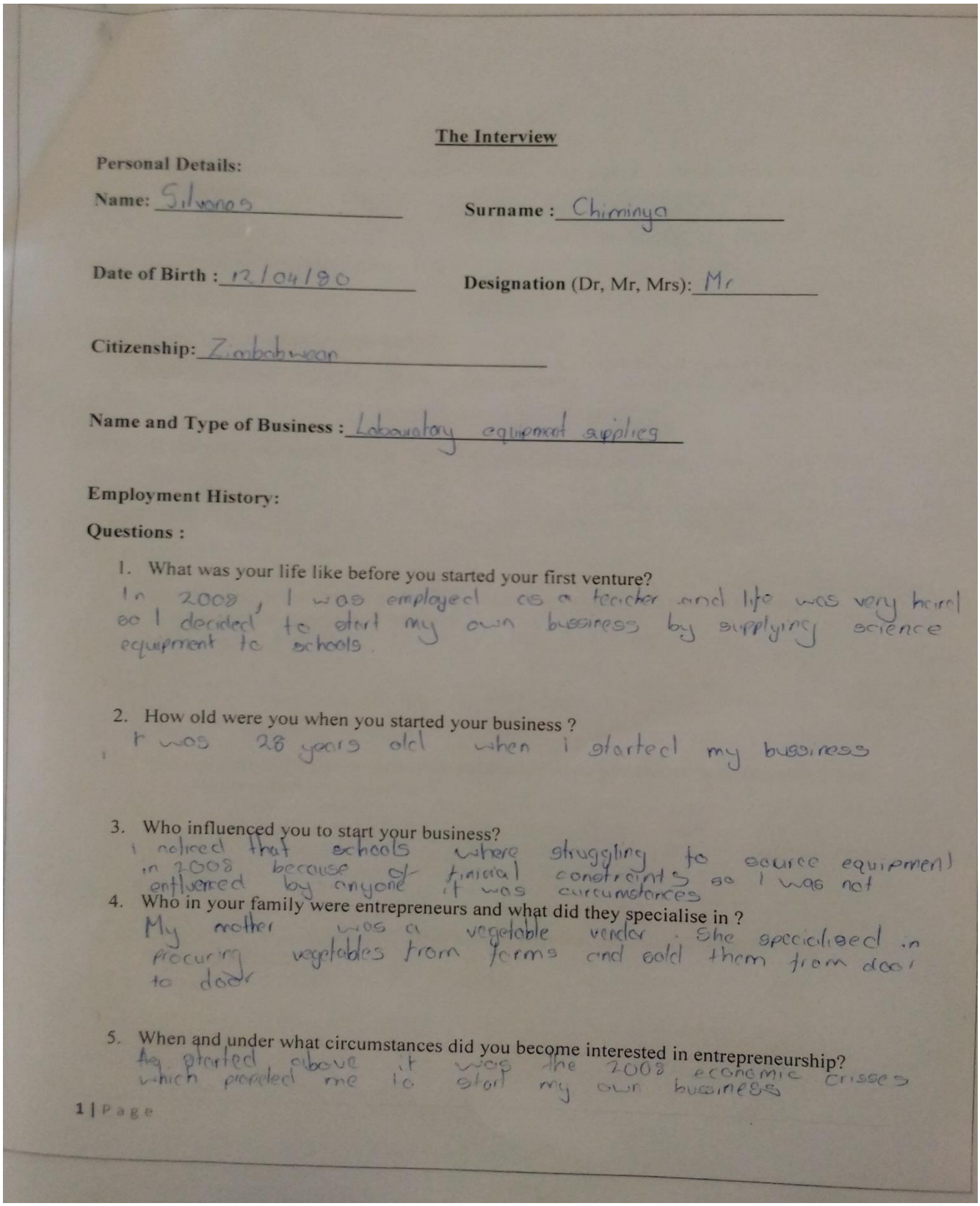
28. Do you know Chauke , Zimbabwe's first mobile science lab inventor who made business news headlines in the 23 october 2022 edition of The Sunday News ?

29. Chauke basically invented a push-cart which could be loaded with laboratory equipment . How is your business different from Chauke's

30. A month later NUST released its own version of mobile labs

31. What measures did you take to protect your business from intellectual theft

32. What are the major challenges of running this kind of business in Zimbabwe



The Interview

Personal Details:

Name: Silvanos **Surname :** Chiminya

Date of Birth : 12/04/80 **Designation** (Dr, Mr, Mrs): Mr

Citizenship: Zimbabwean

Name and Type of Business : Laboratory equipment supplies

Employment History:

Questions :

1. What was your life like before you started your first venture?
   In 2008, I was employed as a teacher and life was very hard so I decided to start my own bussiness by supplying science equipment to schools.

2. How old were you when you started your business ?
   I was 28 years old when i started my bussiness

3. Who influenced you to start your business?
   i noticed that schools where struggling to source equipment in 2008 because of finicial constraints so I was not enfluenced by anyone it was circumstances
4. Who in your family were entrepreneurs and what did they specialise in ?
   My mother was a vegetable vender. She specialised in procuring vegetables from farms and sold them from door to door

5. When and under what circumstances did you become interested in entrepreneurship?
   As started above it was the 2008 economic crisses which prceded me to start my own bussiness

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7.4 RESPONSE TO QUESTIONNAIRE

6. Describe how you decided to create by starting your venture instead of taking a job with someone else

In 2008 it was the pay which you could get paid by someone else could not buy even a loaf of bread so self-employment was the best

7. How did you spot the opportunity?

I was working in the science department by that time and schools were failing to procure science equipments.

8. What were your goals?

Initially I had no specific goals I only wanted to survive but with the time I began to get goals for myself like supply at least 6 schools within Bindura within a single term. Nowadays I have set goals to supply the whole country

9. Did you have some specialised training eg military experience prior to starting ?
10. In what specific ways was it helpful?

I had no military training but I trained as a science teacher and it was helpful because it helped me to identify the opportunities and the sources of the equipments. In most cases I only had to repair broken equipment. So my science training was useful

11. Did you have any sales or marketing experience when you started your business ? And how did that affect your business ?

I had no training in financial management and marketing when I started my business so this slow down growth of my business because I had to learn everything on the goal

12. Did you find or have partners? What kind of planning did you do? What kind of financing did you have?

I financed my own business and had no partners initially

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19. When you looked for key people as partners, advisors, or managers, were there any personal attributes or attitudes you were particularly seeking because you knew they would fit with you and were important to success?
I particularly wanted partners with science training such as teachers and lab assistances I found partnership with headmasters of schools with large laboratories

20. How did you find them?
As a member of the science pannel of teachers and head masters we would meet 3 times a year in preparation on science practicals

21. Do you spend more time, the same amount of time, or less time with your business now than in the early years?
I spent more time now in the bussiness than in the early years because it has expanded to cover schools in other areas

22. In terms of the future, do you plan to harvest? To maintain? To expand?
In future, I expect to expand by opening bussinesss in other provinces of the country

23. Do you plan to ever retire? Would you explain?
By the age of 50 years I should retire from business because I ~~can~~ will have enough money to sell it

24. What were/are the most demanding conflicts or trade offs you face
~~NA~~ There were some schools which demanded compon registration first

25. Describe a time you ran out of cash, what pressures this created for you, the business, your family and what you did about it. What lessons were learned?
In 2018 when the government switched from used and r the company was forced to export its used by buying equipments

26. What do you consider your most valuable assets?
We acquired some laboratory equipment in form of microscope and a container which is used as a laboratory

27. Mobile science labs is an international concept . How did you come about your own version ?

I bought a container, an converted it into a lab
I researched it on the internet

28. Do you know Chauke , Zimbabwe's first mobile science lab inventor who made business news headlines in the 23 october 2022 edition of The Sunday News ?

I have never heard of Chauke. My science lab concept was my own idea

29. Chauke basically invented a push-cart which could be loaded with laboratory equipment . How is your business different from Chauke's

In my business I use a container as a lab

30. A month later NUST released its own version of mobile labs

31. What measures did you take to protect your business from intellectual theft

Since I registered my company I have legal representation

32. What are the major challenges of running this kind of business in Zimbabwe

There are many schools which needs equipment but there is no sponsorship therefore the market is limited.

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