

Developing a Business Incubator Model for an Entrepreneurial University: The Case of Bindura University of Science Education

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Abstract. This paper provides an overview of the development of a Business Incubator Model at Bindura University of Science Education and its role and effectiveness in supporting the development of new enterprises with high growth potential. Successful development of the BUSE Business Incubation unit involves; development of entrepreneurship programmes and courses, having enterprise development in place of industrial attachment, offering business and financial advisory services, mentorship programmes, entrepreneurial research output and networking with funding organisations. The prospective benefits for the development of the Business Incubation Unit are; transformation of BUSE from a “traditional university” into an “entrepreneurial university” thus achieving the BUSE 2014-2018 strategic plan objective of developing a fully-fledged entrepreneurship department. In addition, BUSE Business Incubation Unit will generate third stream revenue for the university, assist in the eradication of unemployment and poverty through the creation of successful and sustainable enterprises, increase government tax revenue, and thus promote the (Zim-ASSET) objectives.

Keywords: Business Incubation, Bindura University of Science Education (BUSE), Entrepreneurship, Commercialization.

1 Introduction

Zimbabwe is facing a challenge of high unemployment rate and thus poverty. According to Zimbabwe National Statistics (2016), the unemployment rate in Zimbabwe increased to 11.3% in 2016 from 10.7% in 2011. Additionally, in 2011, 21.4 % of Zimbabwean population was living on less than US\$1.9 a day (World Bank Development Indicators, 2016). This is a higher rate compared to the world’s average of 13.5% in the same year. Furthermore, the universities in Zimbabwe continue to churn out graduates every year who cannot get employment due to limited jobs opportunities and lack of entrepreneurial skills to engage in self-employment. The percentage of unemployed graduates of Bindura University of Science Education stands at 32% (BUSE Alumni, 2017). Moreover, there is lack of skills by entrepreneurs to utilize the potential available resources, underutilization of available

ACRID 2017, June 20-21, Victoria Falls, Zimbabwe
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DOI 10.4108/eai.20-6-2017.2270037

resources, under performance of enterprises especially small-scale agriculture and high rate of business failure in Zimbabwe. The inadequacy of Zimbabwe's education system in addressing the unemployment challenge stimulates the need to change to advanced educational systems which can offer solutions.

BUSE wants to be part of the solutions (employment creation and poverty eradication) but not part of the problem (churning out graduates every year who cannot get employment). In an attempt to offer permanent solutions, BUSE is developing a Business Incubator Model for an entrepreneurial university. The major drivers of the programme are; transformation of BUSE from a "traditional university" into an "entrepreneurial university", thus achieving BUSE 2014-2018 strategic plan set objective of developing a fully-fledged entrepreneurship department. Other drivers include; generation of third stream revenue for the University, development of financially viable and self-sustainable enterprises, job creation, addressing the Zimbabwe Agenda for Sustainable Socio-Economic Transformation (Zim-ASSET) objectives and ensuring societal development as a result of the existence of BUSE rather than just becoming an ivory tower.

According to the National Business Incubation Association (NBIA), "Business incubation catalyzes the process of starting and growing companies, providing entrepreneurs with the expertise, networks and tools they need to make their ventures successful. The main goals of business incubation centres are; to establish the successful start-up companies that will leave the incubators financially viable and self-sustainable, in addition to job creation, commercialization of new technologies and wealth creation for economies.

It is widely known that business incubation is a tool for economic development. In support of this view, the Finscope survey (2012) acknowledged the crucial role played by Small to Medium Enterprises (SMEs) in the economy and the need to harness and optimise their potential. Hence, strategies should be put in place to mobilise and enable SMEs growth and development. Similarly, the World Bank Report (2015), states that SMEs play a major role in most economies, particularly in developing countries. Formal SMEs contribute up to 45% of total employment and up to 33% of national income (GDP) in emerging economies. These numbers are significantly higher when informal SMEs are included. SMEs are estimated to be contributing 40% of the Zimbabwe's total gross domestic product (GDP) (Newsday, 2015). It is therefore believed that setting up and running an incubation unit is one of the many strategies that can ensure entrepreneurs reach their full potential resulting in a ripple effect on the economy.

Business incubation process involves providing common facilities such as physical space, business advisory services, financial services and "people connectivity" to facilitate the operations of selected entrepreneurs and assist them until graduation when they have capability on their own. Business advisory services are aimed at assisting the entrepreneur with management issues such business planning, financial management, marketing and regulatory compliance. Financial services range from seed loans or taking equity into the business whereas "people connectivity" includes mentorship by experienced business professionals, knowledge sharing with like-minded entrepreneurs and links to business relationship and opportunities.

The objective of this paper is to provide an overview of the development of a Business Incubation Model for an Entrepreneurial University (The Case of Bindura

University of Science Education) and its role and effectiveness in supporting the development of new enterprises with high growth potential. The paper is structured as follows: Section 2 provides a review of the literature on the Business Incubations, Section 3 provides the sources of differentiation of BUSE Business Incubation Unit, Section 4 describes the objectives of the development of BUSE Business Incubator Unit, Section 5 shows the methodology for achieving the BUSE Business Incubation objectives, Section 6 illustrate the BUSE Business Incubation Model and Section 7 provides the conclusion.

2 Literature Review

2.1 Definition of a Business Incubation Centre

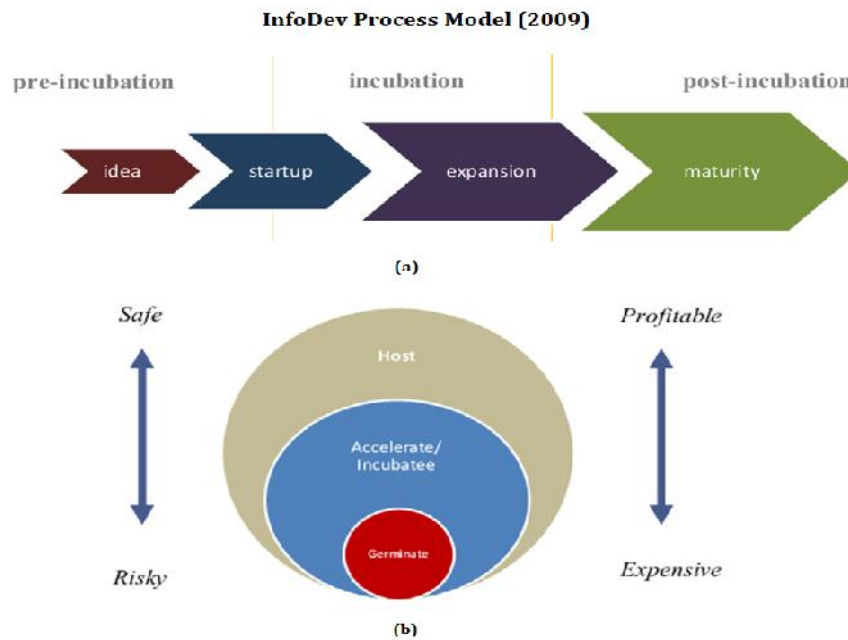
According to Obaji *et al* (2015) an incubator is a mechanism in which babies who are born prematurely are kept warm and safe under controlled environment. In the same vein business incubation is a programme targeted at keeping young entrepreneurial firms warm and safe through an array of support services, until they are strong and sufficiently mature to move out of the incubator and flourish on their own. The key driver for a business incubation programme is to encourage entrepreneurship (Rice and Mathews, 1995). Incubation is a support process that nurtures the development of beginning and emerging companies through a range of resources and services. The primary goal of a business incubator is to produce organizations that will leave the incubation program as a self-supporting organization compared to during the start-up period when they are most vulnerable (Barrow, 2001). The primary reason for beginning and emerging organizations to join an incubator is to build successful enterprises and to connect and network within their community (Totterman and Sten, 2005).

Business incubation first started in the United States in 1959 in Batavia, New York and now it's widely being used as an instrument for encouraging entrepreneurs and helping start-ups (Hacket and Dilts, 2004; Lewis, 2001). Graduates of a business incubator potentially create jobs, revitalize neighbourhoods, commercialize new technologies, and strengthen the local economy. Business incubators reduce the risk of small business failures and assist in the development and growth of existing companies (Allen and Rahman 1985). Policymakers in developed countries usually facilitate knowledge-sharing across sectors by creating stronger incentives for commercialization and Research and Development (R&D). It is in this same vein that Zimbabwe using BUSE can utilize the know how to establish its own unique Business incubation unit.

According to (InfoDev, 2009), Business Incubation Programs are aimed at promoting economic development by supporting start-up companies and their development. These programs offer services to support the establishment and development of small and medium companies. The services offered are divided into four such as; 1) start-up consulting and business planning; 2) consulting in all areas

important for business development and growth; 3) consulting for and/or access to financing; and training and 4) networking.

2.2 Processes involved in Business Incubation



Business Incubation Blog, <http://worldbusinessincubation.wordpress.com/>, Ryzhonkov Vasily

Fig. 1. Processes Involved in Business Incubation

“Germinate” is the earliest stage where your entrepreneurial ideas come. This is also the riskiest part of the venture because high uncertainty exists due to lack of knowledge and capabilities. Entrepreneurs and business incubators should invest time and effort mostly. The second stage is “pre-incubation” where the main goal is to help an individual with an idea. This is the riskiest and expensive stage of the process. Very few incubators can afford this kind of activity where they can access public support or private risk capital. This is often required in high-tech innovation industries and with incubators closely attached to universities. The third stage of the process is “incubation”. This is where an idea has graduated to a plan, with a team, and operations have begun. Consequently start-ups started scaling and expansion. Risks are still high, investments here are expensive and still don’t bring any profit. Incubators help in a search of business model, provide business assistance, build the team, provide resources, access to networks, and capital sources. The last stage is the Post-incubation where a profitable company merely seeks a particular type of facility. There is basically no need for intervention by an incubator, but experience shows that incubators still help companies. For instance, many companies continue to rent spaces

in an incubator. As authors accentuate for some incubators “this relationship with mature companies can be a crucial strategy to assist with and subsidize their other programs.” Companies are mature, and safe.

2.3 Impact of Business Incubation

UK Business Incubation (2001) measured the impact of incubators on the local economy and work force in the United Kingdom. The survey revealed that an incubator's client businesses provided an average of 167 jobs per incubator and were home to an average of 30 client businesses. Most (60%) incubators also operated outreach services, helping and advising companies located outside the walls of the incubator. Incubators operating outreach activities supported an average of 106 additional businesses. Across the sample, an average of 75% of client companies turned over up to £500,000, but only 1.5% had a turnover of more than £5 million. More importantly, companies housed within UK incubators had an average success rate of >80% compared with the national average of <50% of all small- and medium-sized companies registered and trading in that year.

Also, Al- Mubarak (2013) reviewed the literature on business incubation in China, Bahrain, Jordan, Morocco and Syrian Arabic Republic focusing on the identification of the incubators as tool for economic development. The author found that 1) business incubators provide support for start-up companies, 2) graduated companies tend to have a greater probability of success and 3) graduated companies have a significant positive impact on economic development.

The Small Business Administration of the U.S. Department of Commerce reported that only 20% of new businesses are still in operation after the first five years due to undercapitalization and lack of proper management skills. In contrast, a series of landmark evaluations of Economic Development Administration (EDA) funded programs revealed that 87% of all incubator graduate firms remain in business, indicating that business incubation can be a highly effective economic development tool to create wealth and improve community and national competitiveness. A 1997 study funded by the EDA concluded that business incubation programs help to build healthy, lasting firms and they do it for a low cost.

In general, the mission of any business incubator is to increase the successful development of emerging businesses in sectors that are supported by a nation's unique areas of opportunity. Ideally, businesses that graduate from an incubator move out into the community and contribute to the overall vitality, diversity, and growth of the economy. Incubators provide environments that allow a nation to take an active role in growing their own businesses that will lead to job creation. These new businesses and the new jobs they produce create wealth through multiplier effects and new tax generation that ultimately benefits the community beyond the individuals directly employed by incubator businesses and graduates.

2.4 Table 1. Current State of Entrepreneurship within other Universities

Entrepreneurial Universities	Strategies
Massachusetts Institute of Technology	<ul style="list-style-type: none"> • Students from all faculties and disciplines with unique ideas apply to the Legatum Centre for Development and Entrepreneurship at MIT and they are interviewed. • Successful applicants get fellowships and further training and coaching. Students graduate with two qualifications i.e Entrepreneurship qualification and the specialisation they enrolled for.
Babson College	<ul style="list-style-type: none"> • Students are placed into teams based on different expertise, gender, religion, specialisation and interest. • Each team is given \$3000 to start a project and they also get faculty support and coaching and during the gap year they work on the project. • If students are successful at the end of the year they pay back the \$3000 and the rest goes to charity. • Where the students make a loss the university writes off the debt.
Anglia Ruskin University	<ul style="list-style-type: none"> • The University enrolls students for a Bachelor of Arts and Postgraduate Degree programmes in Entrepreneurship.
University of Plymouth	<ul style="list-style-type: none"> • The university works with existing communities and small businesses to enhance their entrepreneurial capacities.
Stellenbosch University and Nelson Mandela Metropolitan Universities	<ul style="list-style-type: none"> • The two universities have introduced postgraduate degrees by research in entrepreneurship.
Ibrahim Babangida University (Nigeria)	<ul style="list-style-type: none"> • The University has developed an Enterprise Development Centre and students pass through the centre and are trained in Entrepreneurship and it is a compulsory programme.

2.5 Table 2. Challenges Faced by Business Incubators

Challenges	Sources
1. Selecting and attracting adequately skilled professions	Cullen et al (2014)

2.Lack of entrepreneurial skills	Morrison et al, (1999)
3.Lack of growth and sustainability for businesses incubators	Scaramuzzi (2002); Lalkaka and Shaffer (1999)
4.Lack of access to technology based facilities	Caleb et al. (2012)

3 Sources of Differentiation of BUSE Business Incubation Unit

The first source of differentiation of BUSE Business Incubation Unit is that it will follow the university mandate of promoting science education. Therefore enterprises which will be developed will be science based. Additionally, the incubator will use technology extensively for example; adopting advanced technologies like the climate smart technology, green technology and industry technology. Furthermore, BUSE Business Incubator will benefit from regional comparative advantages. Since Bindura is a nickel/gold mining and arable area, enterprise development will be emphasised in commercial agriculture and nickel/gold mining. Moreover, the Business Incubator will have access to human capital expertise from different faculties of the University who will contribute to knowledge and running of the incubator. Lastly, the incubator will forge strategic partnerships with organisations such as the centres of excellence and funding agencies which can contribute to knowledge and efficient running of the unit.

4 Objectives of the Development of BUSE Business Incubation Unit

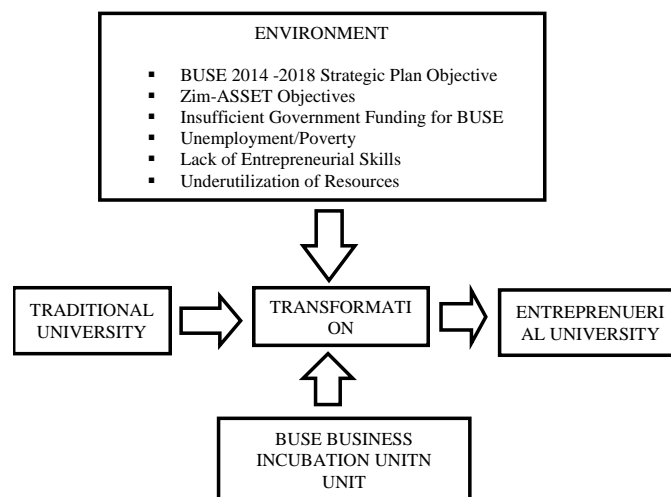


Fig. 2. Objectives of the Development of BUSE Business Incubation Unit

The objective of the development of BUSE Business Incubation Unit is driven by the environment both at University level and national level. From the university environment point of view, the development of the business incubator aims at

transforming BUSE from a “traditional university” into an “entrepreneurial university”. An “entrepreneurial university” is defined as a university that has the ability to innovate, recognize and create opportunities, work in teams, take risks and respond to challenges (Kirby, 2002a). BUSE Business Incubation Unit will be structured in such a way that it stimulates and supports the development of entrepreneurial mind-sets and skills among the students, staff and community and impact entrepreneurial skills willed to exploitation of the available resources. The development of the business incubator is also motivated by the achievement of the objective of the BUSE 2014 -2018 Strategic plan of a fully-fledged entrepreneurship department.

At national level, the development of the BUSE Business Incubator is aimed addressing the (Zim-ASSET) objectives which are aimed at bringing recovery to the Zimbabwean economy. The business incubator will be a catalyst for economic activity locally, nationally and internationally through entrepreneurial skills development, enterprise development, promotion of technology transfer and innovation and job creation. This will help address the challenges of lack entrepreneurial skills, underutilization of available resources, unemployment and poverty which are currently facing the nation.

Additionally, the development of the Business Incubator is also aimed at generating third stream revenue for the University and increasing government revenue. Third stream activities are revenue-raising activities that academics undertake alongside their normal traditional work of teaching and research. This objective will be achieved through charging rental and consultancy fees to incubatees. Government revenue will be increased through development and formalization of small and medium enterprises.

5 Methodology

5.1 Methodology for Achieving the BUSE Business Incubation Objectives

In order to attain the above objectives, BUSE Business Incubation unit will offer the following programmes; a certificate in micro, small and medium enterprise management, a diploma in entrepreneurship, an undergraduate degree in entrepreneurial studies and a masters’ degree in entrepreneurship. In addition, the incubation unit will offer short courses and workshops on entrepreneurship to the community. The above are aimed at equipping students and community with entrepreneurial knowledge and skills.

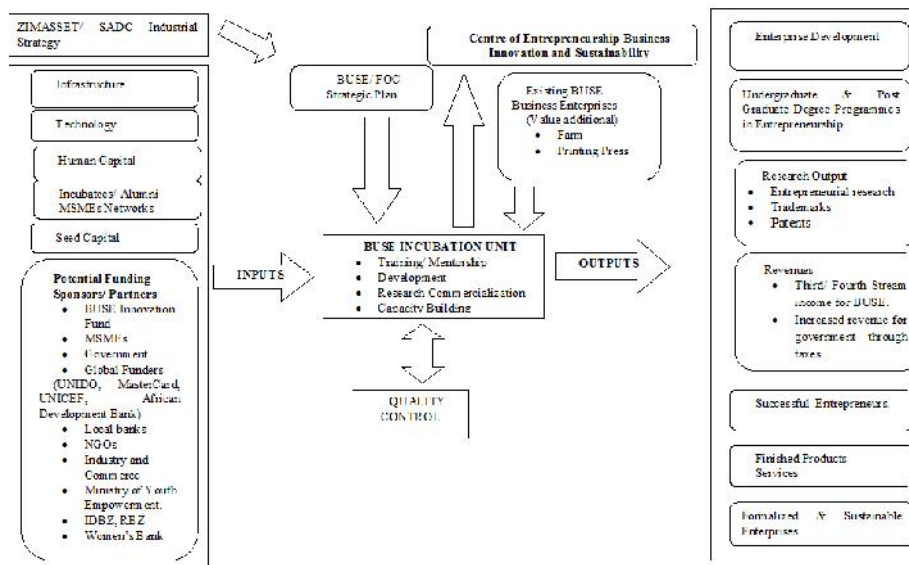
Furthermore, BUSE Business Incubator Unit will offer support and advice in enterprise start-ups and development. This will range from; 1) providing incubation facilities in the form of office space, use of equipment and machinery, 2) offering business advisory services which are aimed at assisting the entrepreneur with management issues such business planning, financial management, marketing and regulatory compliance, 3) offering financial services ranging from seed loans or taking equity into the business and 4) providing networking which includes mentorship by experienced business professionals, knowledge sharing with like-minded entrepreneurs and links to business relationship and opportunities.

Moreover the Business Incubator will make available an incubator manager and team whose role is to nurture the client businesses and helping them to build networks of support.

5.2 Effectiveness of BUSE Business Incubator / Quality Control

The appropriate indicators for measuring the effectiveness of BUSE Business Incubation Unit as a tool for stimulating the creation and growth of innovation enterprises will be; number of innovation enterprises created, viability of the enterprises, revenue size for the enterprises, growth rate of the enterprises, investment size attracted (as a proxy for the perceived market value of the enterprises) and performance comparison between innovation enterprises created and other businesses in the same sector.

6 BUSE BUSINESS INCUBATION CENTRE MODEL



6.1 Operationalization of BUSE Business Incubation Model

The BUSE Business Incubation Unit will be housed in the Centre of Entrepreneurship Business Innovation and Sustainability.

Technology is the application of scientific knowledge for practical purposes, especially in industry. Technology will be extensively used in the BUSE Incubation Unit as new business ideas are developed and nurtured. This will involve advanced technologies such as smart agriculture technologies (mechanisation and irrigation

development), green technology (use of renewable energy like solar, planting drought tolerant crops e.g. genetically modified resilient seeds) among others.

Funding is defined as money provided, especially by an organization or government, for a particular purpose. The model will source funding from all willing partners as depicted in the diagram. Sponsors/ Partners are Individuals or entities who organize and are committed to the development of a product, program, or project. The incubation centre will collaborate with development partners and sponsors to ensure availability of funding for the centre projects as depicted in the diagram.

Human Capital refers to the collective skills, knowledge, or other intangible assets of individuals that can be used to create economic value for the individuals, their employers, or their community: Education is an investment in human capital that pays off in terms of higher productivity. The Business Incubation Unit will have access to human capital expertise from different faculties of the University who will contribute knowledge to run the incubator. These teams are better qualified and can therefore make better strategic decisions necessary for enterprise development.

Seed capital is the funding required to get a new business started. This is initial funding, which usually comes from the business owner(s) and perhaps friends and family, supports preliminary activities such as market research, product research and development (R&D) and business plan development.

Entrepreneurship Programmes; academic and professional development programmes on entrepreneurship education and training will be running within the centre as follows; Certificate in Micro, Small and Medium enterprise management, Diploma in Entrepreneurship, B. Com Degree in Entrepreneurial studies; Elective entrepreneurship course for students across all disciplines. In addition, the incubation centre will offer short courses on entrepreneurship on and off site.

Enterprise development; the BUSE Entrepreneurship Program will provide a selected group of undergraduate students with an opportunity to run a business during their third year of study. The program will provide an opportunity to gain hands-on experience in an entrepreneurial environment through training in real-world business situations. This program will assist students shape their career path in entrepreneurship.

BUSE Business Incubation Unit will spearhead research on entrepreneurship in order to address current issues affecting entrepreneurs. Also, there will be Research Commercialization which refers to the process of transferring research output between a researcher and a commercial partner, including industry, academia, and state and local governments. The research output transfer process typically involves: Identifying new technologies stemming from research activities.

A Mentor is defined as someone who guides another to greater success. The BUSE Business Incubation Unit will recruit a number of successful entrepreneurs, alumnus, and other experts who donate their time to help the incubatees in shaping their business ideas and establishing successful enterprises.

7 Conclusion

In this paper, we provide an overview of the development of a Business Incubator Model at Bindura University of Science Education and its role and effectiveness in supporting the development of new enterprises with high growth potential. The major drivers of the programme are; transformation of BUSE from a “traditional

university” into an “entrepreneurial university”, achievement of BUSE 2014-2018 strategic plan set objective of development of a fully-fledged entrepreneurship department, addressing the unemployment and poverty issues, addressing (Zim-ASSET) objectives and ensuring societal development.

The centre will run academic and professional development courses and facilitate needs driven research in the country by academics and students in the entrepreneurship programme. This will contribute to the development of policies favourable to entrepreneurship growth and development and offering informed research-based advice to Government. The Business Incubation Unit will create an enabling environment through the provision of infrastructure, access to finance and business networks and will facilitate start up support to students, staff and the community. The Incubation Business Unit will facilitate the formalization of the informal sector through development and growth of businesses and transformation from survivalist entrepreneurship to value addition as a way of breaking the poverty cycle. The centre will also disseminate best practices to entrepreneurs through outreach and extension services and also facilitate the marketing of entrepreneurs’ products and services both locally and internationally.

In summary, successful development and implementation of BUSE Businesses Incubation Unit is expected to have the following prospective benefits: transformation of BUSE into an entrepreneurial university, increase in third stream income, increased number of successful entrepreneurs, employment creation, increased number of formalised and sustainable enterprises, increased volume of new products/ services, increased GDP and national development, increased tax revenue and accelerated attainment of the Zim-ASSET objectives.

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Appendix:

Abbreviations

BUSE- Bindura University of Science Education
 Zim-ASSET - Zimbabwe Agenda for Sustainable Socio-Economic Transformation
 SMEs – Small and Medium Enterprises
 RBZ – Reserve Bank of Zimbabwe
 SADC - Southern African Development Community
 UNICEF - United Nations International Children's Emergency Fund
 UNIDO - United Nations Industrial Development Organization