Innovation and Entrepreneurship through Business Incubation – Developing a Business Plan for Aunt Diana's EM Derivatives, a Start-Up Small and Medium Enterprise (SME)

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Aunt Diana's EM Derivatives is a start-up SME (small and medium sized enterprise) business that has benefited from the targeted support services provided by Polytechnic of Namibia. These services have been orchestrated by an incubator management team from the Department of Agriculture with the goal of empowering a former student to start a business that produces and markets derivatives of Effective Microorganisms (EM) in Namibia. The company has the potential of commercialising EM derivatives, providing Namibians with an environmentally friendly alternative to chemical products and strengthening Namibia's economy. Critical to the creation of Aunt Diana's EM Derivatives is the continuous assistance by the support team in the provision of a business plan, management guidance and technical assistance tailored to the young entrepreneur and owner of the company. Using Aunt Diana's EM Derivatives as a case study, this paper discusses the process of developing the company's business plan and the unique incubating services that Polytechnic of Namibia can provide to create the right environment for nurturing young entrepreneurs to create start-up companies.

Introduction

Innovation is increasingly becoming a priority for governments, NGOs, private firms and institutions of higher learning, in most countries throughout the world to spur economic growth (Lalkaka, 2001). The idea that innovation fosters economic growth is broadly accepted and shared by economists and institutions of higher learning including Polytechnic of Namibia. Furthermore, empirical evidence is increasingly showing that young, innovative enterprises should be supported (Global Entrepreneurship Monitor 2003, AIFI, 2001). More importantly, in many developing countries, small and medium sized enterprises (SMEs) are gradually becoming generators for innovation and economic growth (Beck et al 2005). A survey of international practices in small business development had revealed that the business incubation approach could be effective (Lalkaka and Bishop, 1996, Lalkaka 2001). Today, business incubators are recognized as essential for strengthening the development of start-ups SMEs (Kjærgaard and Borup, 2004). These structures have developed across the world, and are widely accepted as places where professionals offer an organised and resourceful environment for young, entrepreneurial firms.

Business incubation is a dynamic process of business enterprise development. Incubators nurture young firms, helping them to survive and grow during the start-up period when they are most vulnerable. Incubators provide hands-on management assistance, access to financing and orchestrated exposure to critical business or technical support services (NBIA, 2004). However, Namibia has little entrepreneurial dynamism, and the role of business incubators will be essential for spurring economic growth. Furthermore, the primary barrier to economic growth in Namibia is not scarce labour or land, but a scarcity of young dynamic entrepreneurs and access to capital (Ashipala & Haimbodi, 2003) The Business Incubation Unit of the Business Innovation Centre planned for the Polytechnic of Namibia can provide the needed support services for SMEs. By exploring the interaction between business

incubation and students innovative ideas, this paper contributes to the discussions related to innovation, start-up support services and entrepreneurship.

The Department of Agriculture's Entrepreneurial Support Services

Each year in-service students from the Department of Agriculture at Polytechnic of Namibia present their research findings to stakeholders and the public at large. Some of the students' projects result in new product concepts with market potentials. Products such as spiced organic soup packets and Effective Micro-organism (EM) derivates have been developed by the students. In order to transform some of the students' product concepts into marketable products, the Department created an incubator management team to provide entrepreneurship development support services to the students. The team selects students who are most likely to succeed as entrepreneurs and assists them to develop competencies and skills necessary to recognise market potential or opportunity for their product concepts and identify the needed resources to start a business. After providing this initial support, the team identifies students with products that have future market potential for in-depth focused training and start-up supportive services in product improvements, business plan preparations, basic market research, and search for financial assistance. After receiving the support services, the prospective business owner will have in hand a completed business plan that is of a quality to be reviewed by financial institutions, creditors and experts.

This year, the incubator management team identified EM derivatives as potential products that can be successfully produced and marketed in the Namibia by one of the students. EM is a liquid containing different types of naturally-occurring micro-organisms that create the right conditions to support each other and out-compete harmful pathogens, while producing useful substances such as vitamins, enzymes, hormones, amino acids and anti-oxidants that create a reducing environment (Higa, 1996). EM has a wide diversity of applications, including the improvement of soil conditions for better plant growth, treatment of waste water, control of pests and diseases, improvement of animal growth, enhanced compost production, freshening of air and reduction of odours (Sangakkara, 2001). As part of their in-service training, Agricultural students at the Polytechnic of Namibia have gained experience in the production and application of EM in various agricultural research environments (Zimmermann, 2006).

The team provided focused tailored start-up support services to one of the selected students to establish Aunt Diana's EM Derivatives, a sole proprietorship. Critical to the creation of Aunt Diana's EM Derivatives as a start-up company is the continuous assistance by the team in the provision of a business plan, management guidance, technical assistance and consulting tailored to the young entrepreneur and owner of the company. Using Aunt Diana's EM Derivatives as a case study, this paper discusses the development of the company's business plan and the unique incubating services that Polytechnic of Namibia can provide to create the right environment for nurturing young entrepreneurs in the creation of various start-up companies.

The Business Plan Development Process

In the development of Aunt Diana's EM Derivative's business plan, the prospective young entrepreneur and owner of the company was provided with focused guidance in preparing the business plan. The support team assisted the young entrepreneur to prepare the following parts of his business plan:

- The General Description of Aunt Diana EM Derivatives
- Aunt Diana EM Derivatives Product Lines
- Aunt Diana EM Derivatives Marketing Plan
- Aunt Diana EM Derivatives Operational Plan
- The Financial Plan of Aunt Diana EM Derivatives

Developing General Business Description of Aunt Diana's EM Derivatives

The company's mission statement followed by its goals and objectives, its intended market and its most important strengths and competencies are key components addressed in the general description part of a business plan for start-up SMEs including Aunt Diana EM Derivatives (McKeever, 2007). Mckeever (2007) indicates that the foundation of providing a general business description for start-up companies depended on addressing various questions including:
What business will the company be in? What is the mission of the company? What are the company's long-term goals? What are the company's progress markers such as production targets, annual sales, etc. needed to attain the long-term goals? What are the company's core strengths and competencies? What factors will make the company succeed? What are the company's major competitive strengths? What experience, skills, and strengths does the young entrepreneur have to operate the company?

The responses provided by the young entrepreneur enabled the support team to help him develop the general business description of the company. Aunt Diana's EM Derivatives is a small start-up business that will produce and market profitable Effective Micro-organism (EM) products to satisfy the needs of Namibian farmers, households, and environmental management businesses. Its mission is to be a leading producer and marketer of high quality EM derivatives in Namibia at affordable and competitive prices to satisfy its customers at a profit. Its broad goal is to be a leader in the production and marketing of high quality EM derivatives in Namibia. Its specific objectives include:

- To produce high quality EM derivatives using the most appropriate technology
- To control about 30% of the Namibian EM market within five years
- To maintain profit margin of about 25% over total costs within three years

A survey of the Namibian EM market by the young entrepreneur and owner of Aunt Diana's EM Derivatives reveals that reveal that there is a growing demand for EM products in the agricultural, household and environmental management sectors. Furthermore, the absence of competitors in the EM market provides enormous opportunities to be exploited. The major strength of Aunt Diana's EM Derivatives is the experience of its key personnel. The owner and the senior advisor to the company have long experience in producing and applying EM products.

Product Lines for Aunt Diana's EM Derivatives

This portion of a business plan describes the company's products including specific attributes (features, uses, quality) that will give the company a competitive advantage. In completing this portion of the business plan the team assisted the young entrepreneur to identify the inputs and uses of the company's products lines. The core business of the company is built around four main EM product lines - Multi EM (MEM), Bokashi, EM5, and EM3-in-1. Table 1 shows the product lines, their raw materials and benefits.

Table 1: Main Product Lines for Aunt Diana EM Derivatives

Products	Inputs	Uses
Multi EM (MEM)	Stock EM , Molasses, Water	Environment, Farming, EM derivatives
Bokashi	MEM, Molasses, Water, Bran or Husks	Animal feed, soil improver, odour control
EM 5	MEM, Molasses, Water, Alcohol, Vinegar	Pest control, insect repellent
EM 3-in-1	MEM, Molasses, Water, Garlic, Ginger, Chili, Pepper	Pest control, insect repellent

Most of the raw materials for producing the products are available locally for free or at very reasonable prices. For example Namibia Breweries provides barley bran and husks at very low prices, thus allowing lower selling prices.

Marketing Plan for Aunt Diana's EM Derivatives

Despite the many beneficial uses that EM products have, the support team realised that the company may not succeed without evaluating the Namibian EM market. To attain this, the team provided services to assist the entrepreneur produce a marketing plan.

Research The production and application of EM products by Polytechnic of Namibia students over the past four years indicates that while the use of EM derivates can provide enormous benefits to users, including improving farmers' output, reducing input costs, and prolonging shelf life of agricultural products, EM products are currently unknown to many potential users in Namibia.

Economic Analysis The potential size of the EM market in Namibia includes farmers, environmental management firms, households, public institutions and municipalities. As the only producer of EM derivatives in Namibia, the team projects that the company may be able to control substantial share of the Namibian EM market within five years. The team also acknowledges that the new company faces potential market entry problems including start-up capital and market awareness of the products.

Competition Analysis The team assisted the entrepreneur in applying competitive analysis matrix to identify and compare the company's strengths and weaknesses with major competitors as shown in Table 2. The table also uses a continuous scale (5 = critical; 1 = not very important) to estimate the importance of each competitive factor to the customers.

Table 2: Competitive Analysis of Strengths and Weaknesses

Aunt Diana's EM Derivatives Strengths	Importance to Customer
Knowledge and experience in producing and using EM products	2
Low selling prices of EM products compared to inorganic products	5
Organic EM products are environmentally friendly	4
Multi-uses of EM products	4
Product reliability	5
Locally produced and regularly available	4
Aunt Diana's EM Derivatives Weaknesses	
Lack of operating capital	1
Lack of product awareness in the market	5
Lack of developed customer base and distribution channel in Namibia	2
Competitors Strengths	
Instant results from inorganic chemicals use makes them appealing	4
Already established markets and customer base for inorganic products	4
Competitors Weaknesses	
High prices of inorganic products	4
Inorganic chemical products not environmentally friendly	4
Inorganic chemical products imported – unavailable regularly	4

The low selling prices, reliability, multi-uses, and environmental friendliness of EM products are the company's major strengths. Its weaknesses include lack of product awareness by our target customer base, lack of developed distribution network, and lack of operating capital that must be addressed in order to be successful in the market. Despite these weaknesses, the competitive analysis shows the company has a competitive niche in the market.

Marketing Strategy The competitive analysis enabled the support team to design a marketing strategy for the company. Promotion, pricing, distribution, and sales strategies were the key components of the marketing strategy developed for the start-up company.

Promotion Strategy The competitive analysis shows that lack of products awareness is a major weakness facing the company. Consequently, the initial aggressive promotion strategy will be to raise products awareness. To reach most farmers, advertising will be launched on the national Namibia Broadcasting Corporation (NBC) television. Daily newspapers, agricultural periodicals, radios, trade fares and shows will also be targeted for

the promotion campaign. The image of affordable and environmental friendly organic products with multiple uses will be projected in all media campaigns. These promotional strategies can only be implemented once Aunt Diana's EM Derivatives secures start-up capital or financing.

Pricing Strategy Environmental friendly with multiple-use themes will be used to position the products in the market place instead of pricing. Pricing strategy will be based on cost-plus 25% mark-up. Using this strategy, the company's price will still be about 40-70% less than competitive inorganic prices on the market.

Distribution Channel Strategy Initially products will be marketed from the production site. However, to secure a substantial share of the market, marketing will be expanded throughout Namibia using the following strategies:

- Solicit distributing agents in the farming areas to market its products on commission basis
- Enter into negotiations with agricultural input suppliers such as AGRA, to market its products to farmers, gardeners, and the general public at a mark-up
- Enter into forward contractual agreements with public institutions and private enterprises to buy the EM products at wholesale prices

Sales Forecast The sales forecasts for Aunt Diana's EM Derivatives depend on estimated demand and its production levels. Table 3 shows the best and worst quarterly sales forecast. The sales for the first year are estimated at $1,692,989 and $1,148,210 respectively for the best and worst guesses.

Table 3: Worst Guess Sales Forecast - Proportion of Monthly Productions

		Bokashi	EM 3 in 1	EM 5	Multi EM	Total Sales
Unit Prices		$2.06	$ 17.11	$ 19.21	$23.17	
Selling Unit		Kg	Litre	Litre	Litre	
Monthly Output		12000	800	4800	800	
Quarter 1	30%Pdn	$ 22,220	$ 12,322	$ 82,982	$ 16,681	$ 134,206
Quarter 2	60%Pdn	$ 44,440	$ 24,645	$ 165,965	$ 33,362	$ 268,412
Quarter 3	80%Pdn	$ 59,253	$ 32,860	$ 221,287	$ 44,483	$ 357,885
Quarter 4	87%Pdn	$ 64,191	$ 35,598	$ 239,727	$ 48,189	$ 387,707
Total		$190,104	$105,425	$ 709,961	$142,715	$1,148,210
	Best Guess Sales Forecast - Based on 100% Monthly Productions					
Unit Prices		$1.89	$ 14.60	$ 18.79	$20.66	
Quarter 1	87%Pdn	$ 68,041	$ 35,048	$ 270,582	$ 49,576	$ 423,247
Quarter 2	80%Pdn	$ 68,041	$ 35,048	$ 270,582	$ 49,576	$ 423,247
Quarter 3	90%Pdn	$ 68,041	$ 35,048	$ 270,582	$ 49,576	$ 423,247
Quarter 4	90%Pdn	$ 68,041	$ 35,048	$ 270,582	$ 49,576	$ 423,247
Total		$272,166	$140,206	$1,082,347	$198,326	$ 1,692,989

Operational Plan Development for Aunt Diana's EM Derivatives

In this section of the business plan, the team assisted the young entrepreneur to evaluate the operations of the business, its staff and production processes.

Production Process The products will be produced in Windhoek where there are abundant sources of raw materials from local processing and retail outlets (Namibia Breweries, Fruit and Vegetable City, etc.).

Production Targets Production targets during the first year of operation are shown in Table 4 below. These production targets will be increased over time as the company gains experience and substantial market share and as sales volumes increase over time.

Personnel The day-to-day operations of the company will be handled by a team of officers. This team will consist of the young student entrepreneur and company owner, who has more than 4 years in EM production and application, a sales manager, a cashier, and production supervisor.

Table 4: Projected Production Levels

EM Products	Unit	Weekly Output	Monthly Output	Yearly Amount
BOKASHI	kg	3000	12000	144000
EM 3 IN 1	litre	200	800	9600
EM 5	litre	1200	4800	57600
Multi EM (MEM)	litre	200	800	9600

Financial Plan

The financial plan the team developed for Aunt Diana's EM Derivatives consists of a 12-month profit and loss projection, a three-year profit and loss projection, a three year cash-flow projection, and a projected balance sheet. These together provide a reasonable estimate of the financial future of the company.

The 12-Month Profit and Loss Projection The initial evaluation of the company's financial success rests on its 12-month profit and loss estimates. The monthly profit and loss estimate is calculated using the worst guess sales forecast as explained in Table 2, and assuming that the company will produce at 40% capacity during the first month with production rising steadily by 10% every month to 90% capacity by the sixth month. Thereafter, the company operates at full capacity. The operating budget shows that the company will lose during the first six (6) months of operation but start to make profits after the seventh month, although the total loss for the year will be about $83,500.

Three Year Profit Projection Although the 12-month projection is at the heart of the company's financial plan, a three-year profit projection has also been prepared to carry the financial forecast beyond the first year. Table 5 shows that although the company will incur a loss of $83,500 during the first year, years two and three provide consecutive increase of profits from about $64,000 to over $82,000.

Table 5: Operating Budget for Aunt Diana Derivative - 3 Years Estimates

	Year 1	Year 2	Year 3
	S	S	S
Total Revenue	1,148,210	1,770,332	1,770,332
Operating Expenses			
Total Direct Expenses	937,489	1,386,067	1,386,067
Total Indirect Expenses	134,903	167,550	182,782
Total Operating Expenses	1,072,392	1,553,617	1,568,849
Return Above Operating Expenses	75,818	216,715	201,483
Fixed Expenses			
Total Fixed Expenses	159,318	152,611	119,437
Total Fixed and Operating Expenses	1,2317,10	1,706,228	1,688,286
Yearly Net Profit (Loss)	(83,500)	64,104	82,046

Projected Cash Flow Budget Table 6 provides three-year cash flow estimates. Starting with cash on hand of N$5,000, the company will have a cash deficit of N$100,689 during its first year of operation and will have to borrow N$150,000 in order to pay its cash expenses. Years 2 and 3 show cash flow surpluses.

Table 6: Cash Flow Budget for Aunt Diana's EM Company - December 2008

ADD: CASH INFLOWS	Year 1	Year 2	Year 3
	S	S	S
Beginning Balance	5,000	49,311	13,569
Bokashi Cash Sales	190,107	234,408	234,408
EM 3 in 1 Cash Sales	105,425	129,886	129,886
EM 5 Cash Sales	709,963	876,058	876,058
Multi EM (MEM) Cash Sales	107,036	175,913	175,913
Total Cash Inflow	1,112,531	1,416,266	1,416,266
Total Cash Available	1,117,531	1,465,577	1,429,834
LESS: CASH OUTFLOWS			
Operating Expenses (100% expenses paid on Cash)	937,489	1,108,854	1,039,551
Indirect Expenses (75% expenses paid on cash)	121,413	125,662	164,504
Capital Purchases (Amortised for 3 years)	159,318	152,611	39,812
Total Cash Outflow	1,218,220	1,387,128	1,243,866
Total Cash Balance	(100,689)	78,450	185,968
Borrowed Funds Needed ($150,000)	150,000	0	0
Loan Repayment (principal and Interest)	0	64,881	64,881
Ending Cash Balance (Dec 31, 2008)	49,311	13,569	121,087
Debt Outstanding	150,000	85,119	20,238

Discussion and Conclusion

The support services provided by the Department of Agriculture to the young entrepreneur and owner of Aunt Diana's EM Derivates have shown that effective relationship between small business development or incubation and higher institutions can provide a necessary economic environment, in which young entrepreneurial ideas can be nurtured with supportive services at every developmental stage. Aunt Diana's EM Derivates would not have been created if the Department of Agriculture had not provided a focused and tailored entrepreneurial support services to the student entrepreneur and owner of the company.

In many developing countries including Namibia, where entrepreneur dynamism is lacking, entrepreneur development services established at institutions of higher learning can provide a vital help to enterprise development. Therefore, an effective relation between entrepreneur support services at public institutions and enterprise development can create a vital economic environment, in which entrepreneurial ideas can easily be nurtured and developed to spur job creation and economic development.

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