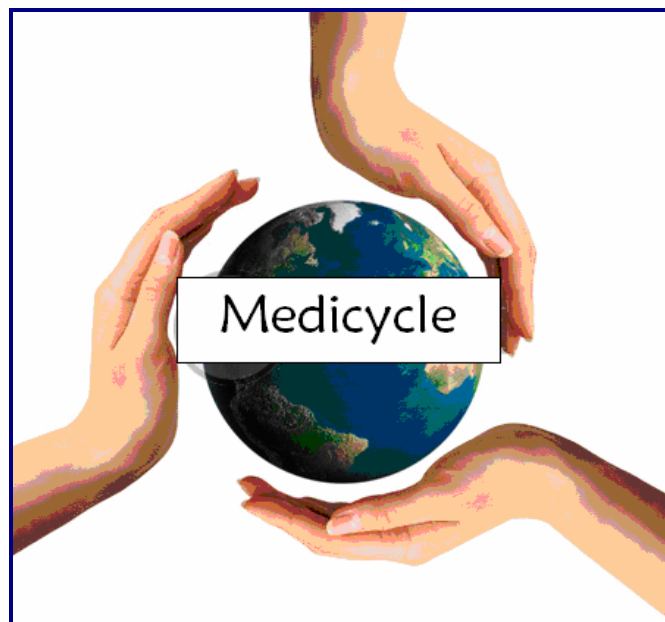


Proposal for the Global Enterprise Experience 2008

Recycling medical supplies- The Medicycle Corporation



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1. EXECUTIVE SUMMARY

The aim of this business concept is to create a profitable business venture which meets the needs of the world poor. It needs to be affordable to people in the world's poorest countries that live on \$2 or less a day. This business concept aims not only to meet an important need of the world's poor by making medical supplies more easily accessible and affordable, it also aims to improve the environment by reducing medical waste and using a recycling process which reduces harmful chemicals polluting the environment. While the business concept needs to be able to be applied to many different countries, we have chosen to focus on a specific market in the Third World, which is Ethiopia. There are many countries which this business model could be applied to; however, we do not have the time to discuss all of these options. It is important to note that we intent to expand our business into other countries once we are established.

2. BUSINESS OVERVIEW

BACKGROUND

Every day clinics in developing and Third World countries are unable to deliver the proper medical care due to a lack of medical instruments and equipment. At the same time, huge amounts of medical waste are discarded and thrown away every year in developed countries. Many of these medical devices are able to be recycled and reused, benefiting Third World countries that have shortages of medical supplies. A single-use device is a medical device that is meant to be used only on one patient for a single procedure. The US Food and Drug Administration established some new guidelines in 2000 for the sterilization and re-use of these single-use devices (FDA, 2008). The US FDA suggests around 25% of all US hospitals reprocess devices, and 45% of the biggest hospitals in the country use this practice (Cook, 2008). For this reason, our business model will have two components. Our business will be based in the US, and this is where will collect the used medical waste and reprocess the medical supplies for reuse. We will then sell the medical instruments and products in the US market, and in Ethiopia.

DEFINITION OF BUSINESS

Aims

Our main aim is to help people in the Third World by offering low cost recycled medical supplies and devices to hospitals and suppliers. This will increase the availability of medical supplies and help many people who suffer day to day from lack of basic medical equipment. As well as supplying countries in the Third World, we will also supply hospitals in the United States. This will be at a higher price. The aim is that the sales in the US will help subsidise the Third World market. Another key aim of this business is to improve the environment. Our business will also reduce the amount of medical waste which is being thrown away by hospitals every year. We will use a recycling process which does not use harmful chemicals.

Demand

The demand for medical supplies in Africa is enormous. Almost all medical supplies are highly sort after throughout Africa. We identified Ethiopia as a market that is in desperate need. According to statistics provided by the CIA World Factbook, Ethiopia has 1.5 million people living with HIV/AIDS, and the country's GDP per capita (purchasing power parity) is only \$800. The medical facilities in Ethiopia are some of the worst in the world. Our studies have identified that there is also significant demand in industrialized countries such as the United States. This is because the cost of recycled medical supplies can significantly be reduced by up to 70%.

Business Model

Our product consists of a special service which includes:

- ✔ Collection of used medical waste from hospitals in the US
- ✔ Special selection of medical supplies and devices based on FDA standards
- ✔ Sterilization of the medical supplies through the use of a safe thermal pasteurisation process
- ✔ Use of intense quality control systems at all stages of the recycling process
- ✔ Delivery of new sterilised medical supplies to US hospitals through an outsourced medical transport company
- ✔ Distribution of the most highly demanded medical supplies to Ethiopia hospitals and suppliers. There is a possibility that we could join a strategic alliance with a supply company in Ethiopia who could distribute our product for us
- ✔ Strong promotion of the product and company image

RECYCLING PROCESS

We will use a thermal pasteurisation process to recycle the medical supplies. Thermal pasteurisation cleans and disinfects medical supplies through the use of hot water at temperatures of 170 degree. There are two key benefits of using a thermal pasteurisation process rather than ethylene oxide (which is most commonly used). Firstly, this method is safer because it allows us to clean and wash the medical supplies before pasteurisation, which is not possible with the other methods. Secondly, ethylene oxide is a chemical sterilisation and can be poisonous to the environment, and may cause harm to staff working with the medical supplies.

Recycling Process (Huys, 2008)



After the medical supplies have been used, either in an operating room or treatment room, the materials need to be collected and transported to our reprocessing centre. To save on costs we will outsource this service. The next step involves cleaning the medical instruments and materials. Cleaning removes both visible signs of dirt and debris, as well as the large amounts of micro-organisms which may include disease-causing agents. Inspecting the instruments and double-checking them is next. The sterilised medical supplies are then packaged and stored. This is in order to prevent recontamination. Packaging is done in a way that allows the sterilisation agent to reach the medical supplies. Once the medical instruments have been packaged, they are ready to be sterilised. At the end of the sterilisation process, the instruments and supplies are removed from the sterilisation machine. The medical supplies are then stored in a sterilised storage area. The medical supplies then need to be transported in closed trolleys or container systems. Additional measures need to be taken to ensure the safe handing over of the supplies to the hospitals. Throughout this process a strict quality assurance process will need to be implemented. We estimate that around 10% of all medical supplies which will go through this sterilisation process will not be safe for re-sale.

3. MARKET ANALYSIS

MARKET OVERVIEW

The market strategy will focus on several different markets. First we will acquire used medical supplies from first world countries (USA) and then sterilize them through a pasteurization process. These medical supplies will then be redistributed throughout these first world countries at a discounted rate, providing the lower class with the ability to receive affordable healthcare. By providing the developed countries with discounted medical supplies, we can offset our costs of distributing to underdeveloped countries. (Ethiopia is our target market) This will allow us to distribute medical supplies and equipment to these countries at a cost that they can afford. Because we are able to offset these costs, we can provide underdeveloped countries with much better supplies and equipment than what they received before.

COMPETITORS

There are several competitors within our markets, some of which being churches or organizations making cash donations or recycling the supplies themselves. The People of the United Methodist Church in Munster, Indiana, (USA) have recently created a program in which they recycle the medical supplies for developing countries. We have a competitive advantage here because we are focusing on lesser developed countries than who they are.

Another competitor is 4 the World. 4 the World is a U.S.-based non-profit organization providing support to under-developed communities throughout the world by empowering local people to collaborate, learn new skills, and improve their own communities. 4 the World currently has a medical centre in Ethiopia that is in need of used or recycled medical supplies. Instead of this being a competitor, they can be viewed as a strategic alliance, in which we could use as a distribution hub for our supplies throughout the Ethiopian region.

There are a few others in Ethiopia, Afework International Group and Eyasu drugs and Medical Supplies Imp and Distributor. Both of these could also be viewed as a strategic alliance. The largest competitors will be the US (or Europe) based recyclers donating to these underdeveloped areas. Due to the type of location (Ethiopia) and the amount of current medical supplies, they simply cannot receive enough donations to cover all the supplies needed. This provides us with a sustainable competitive advantage, with the possibility of providing these foreign medical distributors with sole distribution rights to their area. This will help to build our business as well as strengthening their community.

Global Links is a non-profit organization specializing in recycling surplus medical supplies and equipment to needy hospitals and clinics in Latin America and throughout the world. Remedy (Recovered Medical Equipment for the Developing World) is an organization dedicated to collecting and recycling medical supplies for donation to developing countries. They supply free In-service Teaching Packets to all requesting hospitals. Packets consists of an audio-visual presentation, computer data basing software, written information for all participants, descriptions of our policies & procedures, and a list of over 300 U.S.-based charities that may be interested in receiving recovered materials. Recyclers World has an area for buying and selling used medical equipment.

4. COMPETITIVE ADVANTAGE

While there are companies in the US and Ethiopia that recycle medical supplies, no business like ours currently exists. There does not appear to be a medical recycling business that has two core business models, one in the First World which is charged a higher rate and one in the Third World which is subsidised by the other market. We will have a greater corporate image by being seen to help reduce costs in the US and benefiting the poor, reducing costs in Africa and making medical supplies more available, and at the same time improving the environment.

Many businesses which recycle medical supplies in Ethiopia are not-for-profit businesses. The main objective of not-for-profit businesses distributing in Ethiopia is supplying, not quality. In Ethiopia we will have a quality differentiation strategy to gain competitive advantage. Our business will ensure that African nations not only have access to larger quantities of medical supplies, but that they have a quality guaranteed product. We offer a guaranteed quality assured product. It is beneficial for us to maintain quality standards as we will be making a profit based on this strategy. Quality, safe products are crucial to reduce the spread of diseases such as HIV/AIDS which is rife throughout Ethiopia. A core reason for the spread of HIV/AIDS is unsanitary medical devices.

To create a competitive advantage in the US market we will combine cost leadership and differentiation. We will offer a cheap product which has 70% price reduction compared with average medical supply prices. Differentiation will be achieved by offering a clean green company image. The US market is increasingly more concerned with protecting the environment. Our business will ensure that there is less medical waste being thrown away into landfills, and at the same time we will be using a clean green pasteurisation process which will reduce the number of poisonous toxins entering the atmosphere.

5. GOALS AND OBJECTIVES

OBJECTIVES SHORT TERM

- ✔ Try to gain funding from local governments to help with start up costs
- ✔ Develop our business model
- ✔ Recruit staff in the US who are committed to our business ideals
- ✔ Develop a high quality recycling system that is efficient
- ✔ Find an alliance partner in Ethiopia who can distribute our products
- ✔ Create a recycling medical supplies culture in Third World
- ✔ Use global standard quality system to assure product safety

OBJECTIVES LONG TERM

- ✔ Develop our pasteurisation process to keep up with new technologies and innovations
- ✔ As the business becomes established and we are making a profit, we should develop the business to become even more environmentally friendly
- ✔ Expand our US operations to collect waste from more hospitals
- ✔ Expand US sales
- ✔ Continue to promote and grow our organization in other industrialized countries which have more experience and competitive recycling medical markets
- ✔ Expand the business into more third world countries, starting with expansion throughout Africa
- ✔ Share our experience with global health organizations to promote our business
- ✔ The ultimate long term aim of the business will be to create African subsidiaries which recycle medical supplies from their local area and distribute back to the hospitals themselves

6. VENTURE STRATEGY

MARKETING STRATEGY

The marketing strategy is the position that our company will adopt related to the fixing price, promotion, publicity, product design and distribution. It will be important to increase efficiency. The product is recycled medical supplies which have been carefully selected, sterilised and re-sold. To promote the product we will need to show how efficient and effective recycling medical supplies is. This will involve emphasising the reductions in costs, which will be important in both the US and Ethiopian markets. We will also need to promote the quality of the finish product. Here we will need to give our customers a quality assurance guarantee. Promoting the health benefits will also be important. Another key advantage of our business which we need to capitalise on, particularly in the US market, is the environmentally friendly aspect of our business.

The price will be a fixed average. In the US it will be fixed at an average of \$4.00 an item, and in Ethiopia it will be \$0.40. These figures are easy to remember and promote. Reducing the complications of using our service will be important to gain customer buy in. We will use two strategies. Firstly, we will start by offering a low price due to the new service concept that we are trying to spread, and once it is recognized, we could increase the price. Secondly, we will focus on a high income target such as the US. They already have knowledge of the Sterilization process; therefore it should be easier to offer high prices.

HUMAN RESOURCES STRATEGY

The productivity of our employees will be one of the most important factors of the efficiency and structure of our company. We will need to recruit employees who are passionate about the business, and have a desire to help the Third World. If employees have knowledge of the recycling process and medical knowledge, this will be a benefit.

Training employees will be an important part of our human resources strategy. Our people will be an important raw material in the production process. We will focus on training employees with a medical manipulation technique to ensure that quality will be guaranteed and the end result will be the best recycled product with high safety standards.

Creating an organisational culture will be crucial for success. We need to create an organisation where our employees are passionate about what we do, uphold our high standards, and remain innovative by monitoring our competitors and staying ahead of the technology. A culture of teamwork will be encouraged, as well as a culture of high quality customer service. The structure of the organization will complement these needs. We will require a manager, procurement and logistics, sterilisation team, selection and quality assurance team, sales people, and accounts and finance.

7. FINANCIAL ANALYSIS

SOURCES OF CAPITAL

We will initially fund our business through loans and grants. Due to the nature of our business, we have the opportunity to apply for government grants. For example, a grant of \$70,000 is offered to recycling developments in the South Carolina area in the US. These initial funds will be used to set up a building site where we will operate from, purchase the required equipment which will include the sterilisation machine valued at \$100,000, and to pay for staff costs. After the initial funding we will make money through sales in the US and Ethiopia.

INCOME STATEMENT

	1-6months	7-12months	13-18months	19-24months
REVENUE				
US Sales	\$360,000	\$3600,000	\$360,000	\$360,000
Ethiopia Sales	\$36,000	\$36,000	\$36,000	\$36,000
Less: Cost of Sales (discount)	\$44,000	\$44,000		
Total Revenue	\$352,000	\$352,000	\$396,000	\$396,000
COSTS				
Start up costs	\$200,000			
Sterilisation operation costs	\$35,000	\$35,000	\$35,000	\$35,000
Transport	\$50,000	\$50,000	\$50,000	\$50,000
Packaging	\$20,000	\$20,000	\$20,000	\$20,000
Marketing	\$40,000	\$20,000	\$20,000	\$20,000
Rent	\$40,000	\$40,000	\$40,000	\$40,000
Wages	\$100,000	\$100,000	\$100,000	\$100,000
Loan Repayment	\$35,000	\$35,000	\$35,000	\$35,000
Total Costs	\$520,000	\$300,000	\$300,000	\$300,000
Net Income	-\$168,000	-\$116,000	-\$20,000	+\$76,000

The use of a thermal sterilisation process allows the machine to do more cycles in a day than an ethylene oxide system. This allows us to process more medical supplies therefore increasing our sales. On average a thermal sterilisation machine completes 4,000 cycles a year, with a volume of 100 items per cycle (JSSPOH, 2008). This equates to 400,000 items being processed a year. On average, 10% of recycled items need to be discarded because they do not meet FDA requirements. This means that our predicted annual sales volume is 360,000 units.

We have planned to have two sales prices. The US will be charged \$4.00 per item (this is based on an average), and Ethiopia will be charged \$0.40 per item (based on average). This means that our annual sales for US are estimated at \$720,000 and \$72,000 for Ethiopia. A 10% discount will be offered to all customers in the first year of business as a way of encouraging customers.

We have estimated that \$200,000 will be required for initial start up costs. This will cover the purchase of the sterilisation machine (valued at \$100,000), and other office equipment (JSSPOH, 2008). The cost of maintenance for a sterilisation unit is \$65,000 per annum (JSSPOH, 2008). Transport will be expensive as we are outsourcing both the collection of medical supplies and the delivery. Wages will be one of our highest costs.

BREAK EVEN ANALYSIS

The total number of units which we estimate will be sold per year will be 360,000 units. Our average cost per unit is \$2.20; this is based on \$4.00 per unit in US, and \$0.40 per unit in Ethiopia. Our fixed costs equate to \$450,000 with variable costs equalling \$0.87 per unit. The break even point for our business is 338,345 units. If we sell less than this amount we will make a loss; if we sell more than this amount we will make a profit.

$$FC / (SP - VC) = \text{Break even point}$$

$$\$450,000 / (\$2.20 - \$0.87) = 338,345 \text{ Break even point}$$

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