



Implementation of the Comprehensive Entrepreneurship Model for the Internationalization of Eco-Efficient Companies

José G. Vargas-Hernández¹ and Olga Nayeli Aceves Alvarez²

1 & 2. Research professor, Department of Administration
University Center for Economic and Managerial Sciences,
University of Guadalajara, Mexico

Abstract: *The objective of this paper is to analyze the functioning of the integral model of entrepreneurship in a new model of companies that are currently emerging, which aim to be eco-efficient. Therefore, this work aims to study the central perspectives of technology that are based on the phenomenon of entrepreneurship and thus develop a strategy that adapts to companies with an ecological basis to achieve internationalization. This article will analyze a particular company, which specializes in the area of ecological composition, where no chemical product is used to produce the composition, everything that is marketed is made up of a base of alpaca and other organic compounds.*

Keywords: Integral model, eco-efficiency, internationalization

1. Introduction

Currently there is a new business model which has as the objective to be eco-efficient. Eco-efficiency is defined as the production of products and services at competitive prices that meet human needs and provide quality of life, while the ecological consequences and the use of numerous resources during the life cycle are progressively reduced. level equivalent, at least, to the estimated capacity of the planet (World Business Council for Sustainable Development, 1991).

On the other hand, it is mentioned that ecoefficiency has the purpose of establishing a production of manufactured products of high durability, reducing the intensity in the application of energy for the production of goods and services, maximizing the use of raw materials, managing and dispose of hazardous materials and waste in an efficient and environmentally acceptable manner, have management systems and environmental quality, as well as procedures in occupational safety and health, among other provisions, that will bring them financial benefits and competitiveness (Cantú, 2008, page 78).

In both definitions, the authors agree that eco-efficient companies should have as their main objective, to develop quality products at competitive prices, as well as to reduce the

environmental impact of producing or offering their products and services. Castro (1998) mentions that ecoefficiency aims to address three relevant aspects that correspond to: 1) the total quality, which involves productivity and quality in the company, 2) the preservation of the environment, which is related to the sustainable development; 3) occupational health and safety (Castro, 1998).

Once having a clear idea of what an eco-efficient company is, it is analyzed why this type of ecological-based companies, which, although they contribute to the environment, have many barriers when it comes to wanting to expand into new markets. Most of the companies that adopt the ecoefficient stance, are small companies which have very clean transformation processes because most of their processes are handcrafted and do not have great waste, in the same way the materials used by this type of companies They are biodegradable and do not harm the environment, they are always very concerned about the sustainable development of the planet.

But due to this type of factors, these eco-efficient companies face many barriers in the course of their business career, the barriers can be technological, financing, governmental, imitation, among many other barriers that may be found along the way. Therefore, in this work an eco-efficient company dedicated to organic compost will be analyzed,

through the integral model of entrepreneurship to analyze which are the factors that slow down or that help the internalization of companies with an ecological base.

2. Hypothesis

The companies of ecological base present major difficulty at the time of wanting to internationalize, in comparison to the companies of industrial base.

3. Background of the problem

In 1903, the first nitrogenous fertilizer was created, which is made from calcium nitrate, but it was not until the 20th century when ammonium nitrate became an important fertilizer, which became the leader. According to Garden Guides (2012), modern production of chemical fertilizers began in 1842 when John Lawes discovered a process of treating phosphate rock with sulfuric acid to produce superphosphate. During the 1960s, ammonium phosphate fertilizers gained popularity with the improved development of manufacturing, today it is the most widely used.

This has developed many negative factors in our lands such as soil infertility, the development of acid soils, the increase of microorganisms that instead of helping the plants causes damage, since it consumes all the organic matter and soil nutrients surrounding, as well as the pollution they generate to groundwater. Because of this, people nowadays have become aware of the damage that this causes both to the planet and to human health. The use of chemical fertilizers alters and modifies the PH of the plants, as well as its molecular structure which develops changes in the appearance of the food, as well as the creation of new microorganisms that when consumed by humans develop new diseases. Factors of this type have caused many companies to change their way of working, promoting a sustainable development to the environment.

The company Mary's Poop is an innovative company with a sustainable base and with an eco-efficient purpose, which is dedicated to organic compost made from alpaca feces and other ingredients such as fungi and cassava, 100% organic, the company was founded in 1994 It started as a small company with only 3 alpacas, today, 25 years later, it has 150 alpacas and they intend to continue growing in the near future. Mary's Poop is located in Virginia and is known

only in her region, but it is looking for new strategies to expand and export its products around the world. Therefore, this new eco-efficient business model will be analyzed in the context of the integral model, analyzing in this way the tripod of the strategy, which integrates considerations based on industry, resources and institutions (Vargas, 2017, p. 184).

4. Theoretical-conceptual framework

A. Industry-based considerations

When analyzing industry-based considerations, the framework of Porter's five forces is analyzed, which takes into account factors such as rivalry between firms, barriers to entry, the power to negotiate with suppliers and buyers, as well as the substitute products.

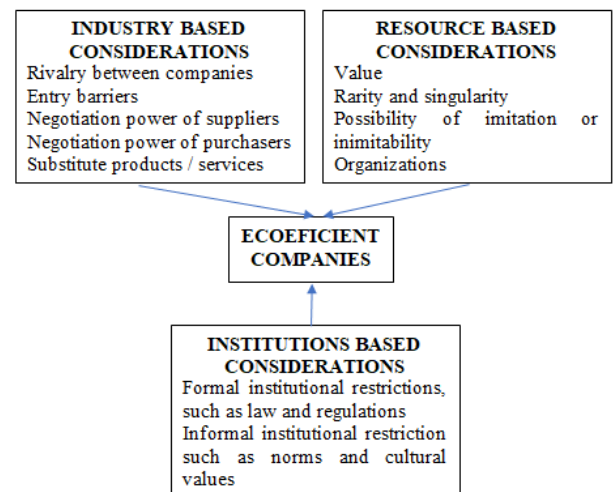


Figure 1: Eco-efficient companies

Source: Vargas, J. (2017). *Análisis de la Gestión Estratégica*. México: Universitario.

1) The rivalry between companies

When talking about the rivalry of companies, it is referred to the struggle that companies face every day to obtain a position before consumers. These battles can be for prices, quality in products, advertising battles, etc. On the other hand, the author Huyghebaert mentions that the rivalry between firms generates a direct impact on the likelihood that a business will be successfully undertaken, as well as having an impact on the existence of barriers to entry, since fewer firms exist in one industry more complicated will be the entry of new firms (Huyghebaert, 2004).

The company to analyze is dedicated to organic compost made from alpaca feces, as it is an innovative product, it does not have much competition, but if there is competition in relation to the substitute products that would be all chemical fertilizers, due to the a great variety of substitute products that are available in the market, it is difficult to compete for price in the same way as being a small company is not even positioned in the mind of the consumer when thinking of an organic fertilizer. Nowadays fertilizers and other chemical products for the treatment of the soil represent 15.7% of the income of the Nurseries and gardens industry in 2019. The industry as a whole has experienced a rapid growth in recent years, thanks to the constant increase in disposable income per capita and the consumer segment strengthened.

A decent part of the US market has been occupied by large companies such as Scotts Miracle-Gro Company, Walmart and Lowe's. Because economies of scale, as well as large corporations can maintain a low cost while offering affordable prices. Price competition among large companies has led to slow growth throughout the sector and low profit margins. Some less profitable companies have been forced to leave the industry. Successful companies are those able to compensate the highest prices by offering a deeper knowledge of the product and superior customer service.

Over the next five years, the nursery and garden store industry is expected to continue to grow, as economic conditions are expected to remain stable. As the disposable income per capita increases, the consumer will be able to invest more time and money in the appearance and operation of their gardens. It is also expected that the industry will benefit from a growing demographic interest in small plants, gardening and organic horticulture.

Below is a list of companies with which Mary's Poop competes in the United States.

a) Scotts Miracle-Gro Company (OH, USA)

Founded in 1868, Scotts Miracle-Gro Company is a multinational corporation and industry leader in the lawn and garden market. Its products include the infamous Miracle-Gro and a complete line of plant foods. The most popular Miracle-Gro fertilizers are

inorganic, which are much less expensive than organic fertilizers.

b) PacaProGro (CA, USA)

The PacaProGro farm is located in Somis, California, with an estimated 180 alpacas producing alpaca fiber and alpaca manure. Not only sell alpaca fertilizers, but also merchandise made of alpaca fiber, such as hats, gloves, scarves and stuffed animals.

c) Alpaca Grow (VT, USA)

Alpaca Grow is a small family business operated in Vermont that began in 2014. Similar to Mary's Poop, Alpaca Grow sells only alpaca fertilizers.

d) Isolated wood farm (British Columbia, Canada)

Secluded Wood Farm is headquartered in British Columbia, Canada. They sell alpaca fiber and manure products.

e) Alpaca Island Company of Martha's Vineyard (MA, USA)

Island Alpaca Company has more than 15 acres and around 50 alpacas. They sell alpaca fiber and manure products, and they are charging higher prices.

f) Camelot Haven Alpacas (British Columbia, Canada)

Founded in 2002, Camelot Haven Alpacas produces and sells alpaca clothing, accessories, gifts and alpaca fertilizers.

2) Entry barriers

As already mentioned before, Mary's Poop faces competition from large fertilizer companies such as Miracle-Gro and small alpaca farms, due to this there are difficulties when it comes to wanting to enter the US market, as the big brands are doing well positioned in the market, and it would be complicated to unseat them or compete for prices, so that the company in this case could compete for product quality as well as innovation and for the benefits that its product provides.

One of the competing companies of Mary's poop is already positioned in 10 states of North America, and has large sales volumes, being this way the products of Mary's poop and other small alpaca

farms cannot compete by prices and volume, as already mentioned previously, which makes it be handled as an oligopoly market among large companies. These in turn set entry barriers when playing with prices since, if they see that a new product wants to enter the market, they lower their prices in order to continue to have an advantage over others or use promotions which makes them more attractive. the purchase of their products to the final consumer.

It is also important to consider the transaction cost and the transportation cost if working with foreign currencies. If the costs become too high, Mary's Poop products would be less competitive in the foreign market. An alternative to export is the franchise, which allows local alpaca farms to produce Mary's Poop products for a fee.

3) Substitute products or services.

In North America, small competitors own alpaca farms and naturally produce similar products. Geographically, alpaca farms are located in rural areas and seem to serve only local markets. The competitive advantage of "Mary's Poop" is that it is the company with the highest social awareness among all its competitors. And although its product is easy to imitate, it gives it a plus by mixing it with some other ingredients that make the compost a better quality. It is also easy to use as they pack the product inside pod biodegradable which they call Poop + Pod, these only have to be deposited in a container with water waiting for it to dissolve and it starts to water in a normal way.

But there is a high range of substitute products that, although they are not organic, the final use is the same (serve as fertilizer to the plants), sharing with substitute products is complicated since the raw material they are made with are very economical and this it makes the prices of the products accessible to all types of public. On the other hand, the organic products that Mary's poop handles are of a slightly higher price, this is due to the handmade process with which they are manufactured.

4) Bargaining power with buyers

According to Porter, at this point it is defined as the ability of customers to impose prices and conditions of sale (Porter, 1980). This force can be established by customers directly, whether

negotiating a discount or financing model, demanding delivery forms or indirectly which is summarized with competitive purchases.

The bargaining power of buyers may depend on some variables such as a high supply of products and / or services and low demand for them, another may be that the products offered have no differentiation among themselves, etc. At this point, the customer has the option to choose any product or service that is presented to them and that they consider to be the best and meet their expectations. As well as defining what is the maximum price customers are willing to pay for a product or service, as well as some other requirements that could be delivery times, product quality, etc. All this has an impact on the company's profits.

Mary Forte, the owner of Mary's Poop, manages and operates the company and interacts with customers and other interested parties through social networks. Nowadays, online / digital marketing is the most important marketing tool, especially in social networks. For example, use "Pinterest" to communicate with the company's audience. This social networking platform is popular with many users who share images that can be easily shared. Therefore, she can approach her audience and attract their attention and thus know what customers need and adapt to the needs of the market.

5) Bargaining power with buyers

In one of his writings, Peng mentions that "when the bargaining power of suppliers becomes too great, business solutions must be found that can reduce it" (Peng, 2012, page 127), this is due to the fact that many options must be available to the purchase of inputs at reasonable prices.

The organic fertilizer based on feces of alpaca does not require many inputs due to the fact that a lot of raw material is not used for its elaboration, so it is not necessary to have a large number of suppliers. But if it is necessary that with the few suppliers that have contact make and establish the negotiation agreements delivery times among many other things, in this way can reduce and to a certain extent eliminate transaction costs.

B. Considerations based on resources

The resources are any input in a productive system in which an output is generated. These can be classified as financial, physical, human, technological, organizational, knowledge, management team experience and customer service, among others. The consideration based on resources groups some indispensable factors for entrepreneurship, some of them are creating value, being unique through the rarity factor among other aspects. For example, in an analysis Peng mentions that it is important to take into account the resources of the company, they have to be oriented to create value, they must have rarity, they must be difficult to imitate and finally business resources have to be immersed in the organization (Peng, 2012).

On the other hand, Barney dogmatizes that the heterogeneity of organizations is due to the possession of resources: i) valuable, which must respond to environmental threats and take advantage of their opportunities; ii) rare or scarce, those that cannot allow obtaining competitive advantages with competitors; iii) difficult resources to imitate, without substitutes and organizational, which means that the company has aspects of order (Barney, 2001, page 41).

The company Mary's Poop, offers the market an innovative product because it is taking the greatest benefit to a product that people see as a waste, and transformed it into a product with added value. The strengths with which this product provides is that they are organic, have a higher performance compared to other fertilizers, is favorable to the environment, is not expensive to produce, something that gives a greater value is that the packaging is biodegradable by what makes the whole product itself is ecological and there is no waste of plastic or any other material that is difficult to decompose, the product is safe for children and pets so anyone can use it.

Therefore, for the considerations based on resources, a SWOT analysis was carried out to analyze both the internal and external factors that provide added value to the firm, as well as the positive and negative factors that can cause the company not to grow rapidly. what was expected.

Table 1: SWOT Analysis

Strengths	Opportunities
Organic products / products without chemicals Excellent performance compared to other inorganic fertilizers environment friendly It is not expensive to produce The packaging is biodegradable Safe for children and pets It is not easy to imitate	Growing trend in organic products Market development Product development Product differentiation
Weaknesses	Threats
Lack of advertising + visibility Small production capacity-challenge for the company at scale The products have limited functions The products are not standardized Hard to forecast production Limited capital and strategic partners Don't go alone Expensive compared to inorganic fertilizers	Regulations that exist for exports Animal diseases Environmental factors may affect production Breach of demand levels Low market level

Source: Prepared by the Authors

In this table it can be seen that the firm has many strengths that make your product different, but also has many threats. This is due to the same rarity of the product which makes it somewhat complicated for sale, likewise the product is easy to imitate, so at any time it could have a lot of competition, which can quickly get to the market firm. In his essay, Porter states that the competitive advantage comes from the value that a company manages to create for its customers, by offering special benefits that compensate a higher price of the product (Porter, 1980).

C. Considerations based on institutions.

When talking about considerations based on institutions, we are talking about the rules of the

game of these, in which the behavior of the company is determined and how they are developed around the world. Peng, points out 5 strategies for an entrepreneurial company to be successful, which can be applied together, and they are growth, innovation, networks, financing / government, and harvest / output (Peng, 2012).

The Mary's poop company integrates some of these strategies such as innovation in their products, as well as networks, since they try to have a wide network to get known as well as to obtain advice and keep growing as the company participates in a program called X-culture where companies are assigned a group of people from different parts of the world, giving advice to companies so they can expand or internationalize at the time the company uses all the networks that are possible for be able to expand. Peng mentions that there is evidence that networks, personal and organizational, represent significant resources and opportunities and that the successful creation of networks can lead to the efficient performance of firms (Peng, 2012, page 13).

Instead, McDougall notes that network analysis builds a very solid foundation and helps identify international opportunities, as well as establish credibility, provide access to critical resources, as well as knowledge and lead strategic and cooperative partnerships (McDougall, 2000).

5. Use of fertilizers in Mexico

The use of organic fertilizers in Mexico is not very common, this is because industrial-based companies need chemical products that make plants grow at a faster rate due to market demand. But these fertilizers damage the soil causing them to become unusable after a time for the harvest, in turn the food absorbs these fertilizers that are harmful to the human being in the long run. On the other hand, organic fertilizers bring many benefits for the soil as well as for plants and food, according to a study carried out by SAGARPA, organic fertilizers favorably influence the physical characteristics of the soil (physical fertility); These characteristics are structure porosity, air action, water retention capacity, infiltration, hydraulic conductivity and stability of aggregates.

The following graph shows a comparison made by the National Agricultural Survey (ENA) in which there is an increase in the use of chemical fertilizers in Mexico and a decrease in organic fertilizers.

Table 2: Comparison of the use of chemical and organic fertilizers in Mexico National agricultural survey Agricultural Technology (First part) 86% of agricultural production units carry out agriculture

Employed technology	Percentage	
	ENA 2012	ENA 2014
Type of seed	60.9%	82.2%
Criolla	29.7%	29.2%
Improved	Na	Na
Certified	Na	Na
Transgenic	Na	Na
Seedling	Na	21.0%
Chemical fertilizers	65.5%	68.8%
Natural fertilizers	40.4%	27.5%
Herbicides	61.7%	62.7%
Insecticides	45.3%	48.2%

The sum does not give 100 because each production unit can use more than one technology

Na Not available

Source: INEGI; National Agricultural Survey (ENA 2014)

6. Conclusions

The company Mary's poop has a competitive advantage that differentiates it from other firms, and that is that its product is innovative and ecological, as well as its processes are carried out in an ecological way which makes it an eco-efficient company.

When analyzing the company through the comprehensive method of entrepreneurship, it is observed that just as the company has some advantages in the product also with many threats that are the large companies that are already positioned and that also compete with competitive prices, we also see that although they have a wide network which is using the best way possible, it is necessary to increase that network of contacts so that your business can grow quickly because it has a long time in the market and has grown slowly which is a disadvantage since the rival companies take giant steps in comparison to Mary's poop.

Likewise, it can be seen that due to the culture of planting in Mexico, this company would not be competitive in the country, since most farmers prefer chemical fertilizers and thus produce more in less time than caring for the land and having a product of a higher quality with organic fertilizers.

It is necessary to implement a culture of conscience in Mexico when we talk about caring for the land, since the use of organic fertilizers would not only help the environment, but also people, this is because the foods that are consumed will have better nutrients and they would not be contaminated with pesticides. Today some people started to make their gardens at home, so they grow their own food, this is a good technique because they can be sure that the consumption of food is one hundred percent organic.

References

- Barney, J. (2001). *Is the resource-based "view" a useful perspective for strategic management research? Academy of Management Review 2001, Vol. 26, No. 1.*
- Cantú, P. (2008). Desarrollo sustentable: conceptos y reflexiones. *Universidad Autónoma de Nuevo León. Colección: Tendencias Científicas. ISBN: 978-607-433-117-2*
- Castro, A. (Julio de 1998). *Hacia el desarrollo sostenible y la ecoeficiencia: integración de las normas ISO 9000, ISO 14000 e ISO 18000 diseño de un sistema de gestión ambiental certificable. (Tesis de maestría inédita).* Obtenido de Facultad Regional de Buenos Aires:

<http://posgrado.frba.utn.edu.ar/investigacion/tesis/MIA-1998-Castro.pdf>

- Consejo Mundial Empresarial para el Desarrollo Sostenible. (1991). Ecoeficiencia y sustentabilidad. *Ciencia uanl*, 35.
- Huyghebaert, N. (2004). *Comportamiento estratégico de los titulares en los mercados financieros y la salida de los arranques empresariales.*
- McDougall, P. (2000). *International entrepreneurship.* AMJ.
- Peng, M. (2012). *Global Strategy.* Cincinnati: Thomson South-Western.
- Porter, M. (1980). *Competitive Strategy.* New York: Free Press.
- Vargas, J. (2017). *Análisis de la Gestión Estratégica.* México: Universitario.