

# An Examination of the Simulated Case of Electrical Motors Company through Modern Business Strategic Analysis

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## ABSTRACT

Business analysis is used to identify and articulate the need for change in how organizations work, and to facilitate that change. Entrepreneurs often utilize this technique to identify and figure out the solutions that will maximize the value delivered by an organization to its stakeholders. With the purpose of practicing the theoretical knowledge about strategic analysis, this work carefully chose several different analysis models under the assistance of my instructor, Professor Lin Giralt from Rice University. This research first scanned the overall circumstance and the information of the dilemma of development that E.M.Co confronted at the end of the last century. Then SWOT, PESTLE, Porter 5F, VRINO, SMART Goals, et al were utilized in the process of analyzing the future development plan of the enterprise through the perspective of mission and vision, proposed tactic, marketing, innovation and differentiation, the core competencies, and the main structure of the management.

**Keywords:** *business analysis, strategic analysis, analysis models, future development plan*

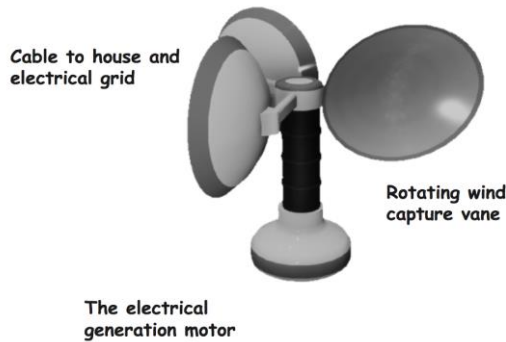
## 1. INTRODUCTION

Modern business analysis is across all levels of an organization and may be involved in everything from defining strategy, to creating the enterprise architecture, to taking a leadership role by defining the goals and requirements for programs and projects or supporting continuous improvement in its technology and processes. Specialized knowledge to act as a guide and lead the business through unknown or unmapped territory is necessary for the business leader in order to get it to its desired destination [1]. The value of business analysis is in the realization of benefits, avoidance of cost, identification of new opportunities, understanding of required capabilities, and modeling the organization. Through the effective use of business analysis, we can ensure an organization realizes these benefits, ultimately improving the way they do business. In this case, the E.M.Co was facing the challenge that whether or not this company should enter the North American market in order to accomplish the globalization of the business and which market should this company enter. Through careful consideration, I decided to choose the small market as the entrance point to the new market. All of the details of the analyzing process are listed below.

### 1.1. Background of E.M.Co

E.M.Co was a privately owned Italian manufacturer of Electrical Motors that was founded in 1967 in Italy. This company aimed in serving consumers the products with high quality, reliability, and customizing ability. The main products are AC & DC Motors which were sold 2,200 annually, Winches for Rope Lifts and Elevators that were produced in China by a 43% owned joint venture, and Permanent-Magnet Direct-Drive (PMDD) & Hybrid Drive Synchronous Generators which the firm had begun R&D for using Wind Turbine in this field [2].

**1.2. New Product**



**Figure 1** Product Picture

As Figure 1 shown, this product is a small electrical motor that generates electricity when the wind turbine turns in the house and feeds electricity to the house, and the excess generation is fed to the city’s electrical grid.

**1.3. Available Markets for Entering**

Large Turbine Market Segment:

This market is composed of multinational companies developing MW class of wind turbines for distributed energy applications [2]. 90% of the capacity in the U.S. was offered by the two market leaders.

Compared with fossil fuel energy, the Production Tax Credit (PTC) law for wind energy, which is less economical for wind energy, will be applied to this market.

Small Turbine Market Segment:

This market is shared between a few leading manufacturers which are more than 80 companies in the U.S. [2].

This market does not qualify for the PTC law, and there is no federal equivalent credit for this market.

**1.4. Current Challenges**

With the goal of entering the small wind turbine market segment, there are several inevitable challenges [2].

The vertical integration among the top five turbine manufacturers aimed to decrease production costs and manage product innovation.

The volatility of the PTC has a negative influence on not only the wind industry but the overall industry investment

The margins and cost-cutting should be controlled at a relatively low level

There is a shortage of qualified laborers and installed technicians that are familiar enough with this industry.

**1.5. Opportunities Evaluation**

Although some difficulties exist in this industry so far, there are still many opportunities for E.M.Co to capture.

The rapid growth of the consciousness of renewable energy among both the government and the public is great news for the industry.

Those dominant incumbent competitors have not realized the potential of wind generation. Thus, E.M.Co has a chance to possess the market share as much as possible.

The spread of environmental protection in the world has pointed the way for the development of wind power generation

**1.6. Proposed Tactics**

The first step E.M.Co should take is starting a joint venture with a local power company that already had a tremendous amount of resources of potential clients—the local residents. To fulfill this target, the company may share equity to achieve the alliance and seek support from local governments regarding renewable energy benefits. Then the company should get the list of potential clients from the partner and investigate the market through this list. Improving the product with the outcome of market research is the next job. After that, it is necessary to launch the new an edited product in the market.

**2. CASE ANALYSIS**

**2.1. Mission and Vision**

Mission and vision are essential for every entrepreneur, because these two elements actually dominate the direction of the entire enterprise.

The mission of the company: E.M.Co. works on serving electrical motors of wind turbine generation to all people which could contribute to environmental conservation and facilitate the progress of a renewable generation, and the Residential Market is its key focus.

The vision of the company: E.M.Co. looks forward to possessing over 15% of the small turbine market in three years which could help the firm to have a foothold for entering the large turbine market.

**2.2. SWOT Analysis**

SWOT analysis is a situational analysis based on internal and external competitive environments and circumstances. It is to list the main internal strengths, weaknesses, and external opportunities and threats

closely related to the research subject through investigation [3].

For E.M.Co, the advanced technology of their products is the Strength. However, they are lack labor and cannot find an appropriate entering point to the market, which is their Weakness. But there are some opportunities for them which is that the wind turbine generators' market was a blank for E.M.Co. to exploit. The threat that this enterprise should pay attention to is that the large cooperations that have already occupied many market shares.

### **2.3. PESTLE**

PESTEL analysis model, also known as overall environment analysis, is an effective tool to analyze the macro circumstance. It can not only analyze the external environment but also identify all the forces that have an impact on the project [4].

From the Political aspect, although there is no PTC support from the government, E.M.Co aligned with the government on the environmental concerns; from the Economical aspect, the worldwide economic trends actually favor the entry of renewable energy; from the Social aspect, renewable energy is right on the trend of the world development because it is environmental friendly; from the technological aspect, the technology of the wind turbine that E.M.Co has is advancing in the industry and will continue developing; from the legal perspective, there is surely no legal problem with the enterprise; and from the environmental perspective, utilizing renewable energy lands on a sweet spot.

### **2.4. Porter 5F**

Porter 5F is a fantastic tool for a company to define its attractiveness to the consumers in the market [5].

Threat of Substitutes: LOW This company has held a very advanced technology of wind turbine generator

Threat of New Entrants: LOW There are already many competitors here, more ones are not influenced; Qualified Manufacturers would be held by all of the current Integrators

Bargaining Power of Suppliers: LOW for the wire companies, necessary manufacturing components, but HIGH for the power company because they controlled the resources of residential clients; total evaluation = MEDIUM

Bargaining Power of Customers: LOW Figuring out a reasonable price aftermarket research will be fine for customers and each household has no bargaining power

Competitive Rivalry: MEDIUM The increasing production from the U.S. integrators versus our alliance with the power company

### **2.5. VRINO [6]**

Valuable: Our Wind Turbine Generator technology is a new development and is more efficient, so it is a valuable capability.

Rarity: Our Capability is not shared with others, it is for our exclusive use

Imitability: E.M.Co would definitely apply for a patent for its High-Tech products limiting Imitability.

Non-Substitutability: Wind Turbine Generator is right on the track of the trend of Renewable Energy and other technologies cannot substitute for our efficiency.

Organization: this firm has already established a quite mature and stable organizational system to use this technology.

### **2.6. SMART Goals**

The existence of SMART criteria is to help employees to work more clearly and efficiently, but also to provide assessment objectives and criteria for managers to carry out more scientific and standardized assessments on employees in the future, which can guarantee fairness and openness of the assessment.

Specific: Occupy over 15% of the small turbine market first as a foothold for further development

Measurable: The sales' amounts and customers' quantities could clearly display the firm's progress

Attainable: Collaborating with the local Power Company, E.M.Co could enter the market quickly and start the business with its original resources

Relevant: All of E.M.Co's conceptions are in the effort to serve people with advanced renewable energy generation products which would be environmentally friendly and our goals are directly relevant to this

Time-Based: All of the actions in advance would be fulfilled in 3 years

2.7. Organizational Structure

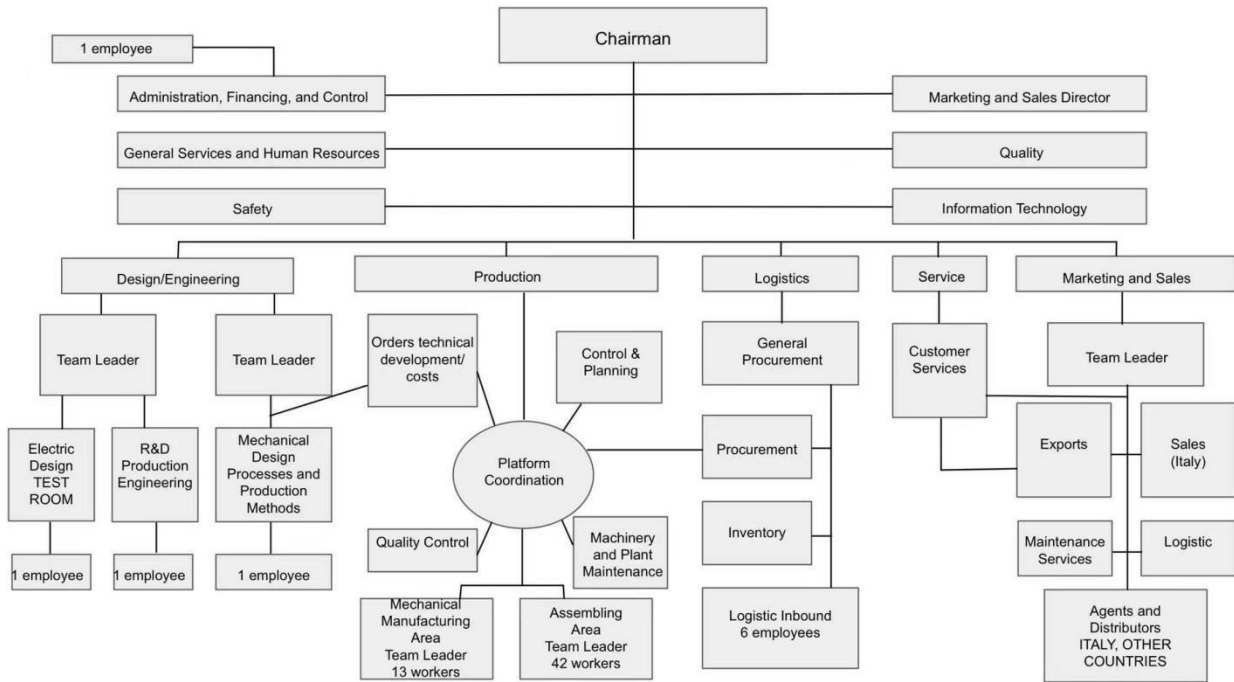


Figure 2 E.M.Co’s General Organization [2]

As shown in Figure 2, the structure of the E.M.Co is quite clear and straightforward. Every department is detailed assigned with specific tasks and professional staff. There is a significant point that the Chairman only needs to hear from the managers of every department. Thus, the leader of the enterprise may not spend much time meeting different kinds of employees or dealing with something not very important. Thus, this structure can help this company to become more efficient.

2.8. Business Canvas Model

Business Canvas Model is a template for businessmen to figure out how this firm creates, delivers, and captures the specific value of this company by listing out Key Partners, Key Activities, Key Resources, Value Proposition, Customer Relationships, Channels, Customer Segments, Cost Structure, and Revenue Streams. The figure below shows these 9 aspects of E.M.Co (Figure 3).

<p><b>Key Partners</b></p> <ul style="list-style-type: none"> <li>Local Power Company</li> <li>Component Suppliers</li> <li>Local Governments</li> <li>Local Installation and Maintenance companies</li> </ul>	<p><b>Key Activities</b></p> <ul style="list-style-type: none"> <li>Achieve alliances with Local Power Company</li> <li>Contract, install and maintain generators</li> </ul>	<p><b>Value Proposition</b></p> <ul style="list-style-type: none"> <li>Offer more efficient use of wind power to generate electricity</li> </ul>	<p><b>Customer Relationships</b></p> <ul style="list-style-type: none"> <li>With the electric power company, we will maintain good relations with the customer base</li> </ul>	<p><b>Customer Segments</b></p> <ul style="list-style-type: none"> <li>Residential households divided into Small, Medium and Large in terms of power use</li> </ul>
<p><b>Key Resources</b></p> <ul style="list-style-type: none"> <li>Advanced Technology</li> <li>Tremendous amount of customers</li> </ul>		<p><b>Channels</b></p> <ul style="list-style-type: none"> <li>Local Power company and our own Sales and Marketing staff</li> </ul>		
<p><b>Cost Structure</b></p> <ul style="list-style-type: none"> <li>Our cost structure is competitive within the industry</li> </ul>			<p><b>Revenue Streams</b></p> <ul style="list-style-type: none"> <li>Our revenue stream consists of charges for the generation of electricity from our residential users</li> </ul>	

Figure 3 Business Canvas Model

### 3. CONCLUSION

#### 3.1. Innovation and differentiation

The E.M.Co's innovation in technology brings tremendous advantages to the company. Firstly, the elimination of the gearbox directly increases the efficiency of the machine. In addition, the mechanical structure with fewer parts decreases the ongoing maintenance costs. Furthermore, the reliability of the product is improved overall, and the design of the turbine comes smaller and more convenient.

#### 3.2. Key Capabilities and Core Competencies

This firm serves the most qualified and most developed environmental-friendly wind turbine generator. Also, the advanced high-tech in the field of wind turbine industry ensures the priority on quality and function of the products from E.M.Co, and the well-established list of clients from the partner offers the E.M.Co a shortcut on the marketing process.

#### 3.3. Vision of the Future

According to the discussion and analysis above, some essential and influential factors of E.M.Co have been concluded above. All of the advantages and disadvantages of this company are analyzed clearly in this paper, and the research showed a positive attitude towards the future development of E.M.Co with the plan of entering the small turbine market segment first. During the whole process of finishing this project, it is very impressive of the assistance of the methods of strategic analysis. Each one of them offers a different perspective of this case that shows the positive elements and drawbacks that may help an entrepreneur to make the right decision during the future business progress. Although this case is written about 10 years ago, the effect of modern business models is still available to be utilized.

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