

The Development of a Knowledge-Intensive Nursery Within a Knowledge-Deprived Region: The Case Study of Piante Faro

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Abstract

In this paper, the authors intend to examine the factors and practices that allowed a once-small enterprise to become an internationally recognized brand leader, focusing on the company's knowledge management and use of innovation. This case will map the interplay of local and external knowledge, and the evolutionary nature of the development of a company knowledge base within a knowledge-deprived region. Piante Faro started operations in Sicily about 35 years ago as a retailer of interior and exterior plants suitable for Mediterranean and cold European climates. The company focuses on the development of five key factors: effective utilization of local natural resources; an effective and proactive global search for and utilization of technological knowledge, combined with local investment and innovation in R&D relevant to local operations; and an active search for global market opportunities. The integration and management of these five factors have stimulated a remarkable entrepreneurial international growth, defining the characteristics of a unique and internationally recognized brand in its field, while acting in a socially responsible manner and supporting local economic development.

Introduction

International entrepreneurship is a relatively new academic area that still has a number of research gaps. Chief among them is the process of opportunity identification on the part of the entrepreneur (Styles and Seymour, 2006), as well as the process of knowledge accumulation and organization across functions (Ravasi and Turati, 2005), all the while developing appropriate social capital (Yamada, 2006). This paper will address all those issues. Companies - small and large, established and new - have a tendency to utilize knowledge that is in their physical and psychological proximity (Brockman and Morgan, 2003; Rosenkopf and Almeida, 2003). Such a “local” search might not be the best option for an entrepreneur or for a company operating within a knowledge-deprived region (Audretsch and Lehmann, 2005; Gellynck, Vermeire and Viaene, 2007; Kristiansen, 2007). To resolve this need and to facilitate learning, the company (or the entrepreneur) needs to engage in “importing” from or recombining with external knowledge sources (Cowan, Jonard and Zimmermann, 2007; Mackinnon, Chapman and Cumbers, 2004). For such “importing” of knowledge to be effective - and considering the “sticky” nature of knowledge (van der Bij, Song and Weggeman, 2003) - the company, or the entrepreneur, needs to have or to create the appropriate (and creative) framework of opportunity (Gaglio and Katz, 2001; Eckhardt and Shane, 2003) within their social context (Floyd and Woolridge, 1999; Galunic and Rodan, 1998). This suggests that knowledge acquisition and utilization; strategy planning and implementation; and innovation, financial, marketing and technology aspects of the business opportunity are dimensions of interest (Hitt et al., 2001B). This case will map the interplay of the local and the external knowledge and the evolutionary nature of the development of a company strategy and knowledge base within a knowledge-deprived region.

Research Methods

This research uses a single case study method, utilizing unstructured, in-depth face-to-face interviews and complementary phone and email short communications with key stakeholders. This method was preferred for two reasons. The company is a unique example of a knowledge-intensive business within an industry (nurseries) that is not traditionally seen as innovative and entrepreneurial, within a region that is appropriately seen as knowledge-deprived and within a complex social environment (Sicily). The authors were also in a unique position to have direct access to the founder as well as to a number of key stakeholders within the company.

The authors used a deductive approach to case study (Yin, 1994; Rowley, 2002) in developing the historical-transformation method to study knowledge acquisition and learning within the company. The authors used three earlier studies that researched similar situations to confirm and validate their approach (Bhaskaran, 2004; Connell, 2004; Pech and Cameron, 2006).

Research questions were developed by the second author based on extensive literature review; the interviews were conducted and summarized by the first and third authors. This summary was then reviewed by the second author and additional questions were generated until the data became redundant. The findings were then juxtaposed with theory to either confirm earlier theories or similar findings or to suggest new findings.

Company Background

Piante Faro started operations in Carruba di Riposto (Catania, Sicily) about 35 years ago as a retailer of plants for Mediterranean and cold European climates suitable for interior and exterior decoration. At inception the company operated locally with a handful of employees and 5,000 square meters of land. Today the company employees 300 people, operates a total area of 500,000 square meters and has an annual turnover of 25 million euros, 80% of which is generated by exports to 32 European and Middle Eastern countries.

The company is located in the flat lands between Mount Etna and the Mediterranean Sea. Mount Etna protects the area from cold northern winds while also providing year-round water for irrigation. The region's volcanic soil (from Mount Etna) is rich in minerals. These elements create a unique, world-class, natural environment that, when properly managed, is ideal for mass cultivation of quality Mediterranean plants (for example: olive, lemon and palm trees, evergreen herbal and aromatic plants, as well as several kinds of interior decorative plants). Piante Faro maximizes the utilization of these natural resources to both serve and stimulate demand from northern Europe's largest distributors, retailers (for instance, Ikea, Carrefour, Leroy Merlin, Metro, Aldi, Lidl and others), and garden centers. Large retailers in countries such as the United Kingdom, the Netherlands and Spain, as well as large clients located in developing markets such as the Middle East and Russia, are also interested in Piante Faro's products.

Piante Faro set itself within this business dynamics focusing on leveraging its assets (soil and geographical location; agricultural roots with love for nature and good work ethics of local workers) while marginalizing the liabilities (lack of proper logistical infrastructure; lack of proper knowledge specifically related to Mediterranean plants originating both from local workers or local educational and training facilities; lack of proper funding to make mid-to long-term investments) realizing that it was possible to manage the former by developing a sound business strategy.

Industry Background

Since the 1970s the global demand for Mediterranean plants has constantly increased. Traditionally, producers were located in Spain, France and Italy; large commercial companies operated as intermediaries between small, local producers and international customers. The commercial companies focused on sales and distribution, while the producers focused on production. The lack of direct contact between customers and producers was a barrier to innovation of production practices as well as for recognition of changing market needs; this was a first pivotal realization made by the company founder, Mr. Venerando Faro: There was room for growth and development within a customer-focused mass production market of Mediterranean plants.

Starting in the 1980s, nursery producers started to attend international trade shows, increasing direct visibility to customers, network development and new need recognition opportunities. At the same time, customers began to take an interest in visiting producers at their production facilities, again, increasing the likelihood for the growers to become more attuned with actual market needs. Those face-to-face reciprocal meetings enhanced the mutual learning possibilities (as suggested by, for example, Dubini and Aldrich, 1991 and by Hitt et al., 2000). The growers could show their capabilities and the buyers could estimate their growth potential. Those face-to-face meetings also created trust and mutual respect for

capabilities. Product quality was an essential focus, as was mass quantity production and a variety of offerings.

Knowledge Management

As a producer, Piante Faro took full advantage of these new market dynamics, skillfully acquiring, managing and implementing technical and marketing knowledge to utilize the best characteristics of its natural environment. Piante Faro's founder had an intuition about these dynamics. He traveled extensively to learn the best practices and techniques relevant to the field.

The key learning tool was face-to-face interaction with professionals. Accomplishing this required strong passion, genuine respect for other work and talent, an ever-present sense of humility, and genuine human personal touch and empathy. (The company's founder successfully shared these qualities with the 300 employees who are part of the organization today.)

In fact, this know-how was acquired (knowledge internalization – e.g. Tsai and Lee, 2006) through frequent visits and direct interaction with producers from different countries, such as France and (most importantly) the Netherlands (the land of specialized and successful nurseries for centuries). In the Netherlands, the natural environment requires producers to constantly focus on technological innovation to reduce the negative influence of climatic factors. At the same time, Dutch growers receive strong support from the government directly and indirectly via extension services (Nieuwenhuis, 2002). Through focused observation the founder was able to overcome the difficulties of coming from a knowledge-deprived region, and acquired key knowledge focusing on increasing effectiveness, lowering day-to-day production costs, and utilizing advanced technology and automation systems to maximize greenhouses effectiveness. For all of this, proper financing was essential. The development of a dependable customer base, specifically the development of a reliable source of payment in terms of deadlines, became a matter of survival. This need progressively stimulated Mr. Faro to develop, beginning in the late 1970s and early 1980s, a broader market because of the lack of financial dependability of Italian customers (traditionally in Italy, purchasing payment terms are set to 60, 90, 180 days from shipment and such deadlines quite often are not fully met, typically requiring an additional 30 days for payment processing and other delays). This is the main, matter-of-survival reason that brought Piante Faro to focus on a potential customer base beyond Sicily into Southern Italy at first, then Northern Italy and eventually foreign markets (consistent with Blomstermo, Eriksson and Sharma, 2004 findings that it is easier for a company to go internationally when its local experience is relatively short, as well as with the evolutionary, gradual, step-by-step process of increased commitment to international markets, see for example, Leonidou and Katsikeas, 1996). This process contributed to expanding the company knowledge base through increasingly frequent interaction with customers and competitors (international trade fairs) and, most importantly, inviting potential foreign customers to visit the company's operations in Sicily. Since the very beginning of these foreign prospect visits, the goal of the company has been twofold: 1) impress the prospect through showing the quality, care and organization of the operations (similar to what Lounsbury and Glynn, 2001 called "cultural entrepreneurship" for purpose of building legitimacy); 2) take advantage of, and actively seek, the prospect's feedback in order to keep improving the mass production processes (learning from alliances and strategic networks, e.g., Gulati, 1999). All of these stimulated the development of a steady learning process that has since become an integral part of the company's organizational culture. The

learning contributed to an improvement in the company's reputation, allowing it to build regionally recognized innovative brand equity to support the company's growth. This effect is partially a result of this industry being a close-knit network of close relationships, meaning that despite its global spread, knowledge is freely shared by the different industry players.

Relationship Capital

Foreign customers and retailers began visiting Piante Faro in the early 1990s. Initially, customers were skeptical that a small producer from a Sicilian village could provide them quality, mass produced plants and trees, (Note that the combination of high quality standards and mass production was a real innovation to the field. Piante Faro was able to implement it taking full advantage of the geographical settings along with methodical production methods fueled by the vision that the market was ready for it.) But before long, Piante Faro was able to overcome these doubts by focusing on concrete practices; its organizational culture is rooted in learning-by-practice and a customer service philosophy that never promises things the company cannot deliver. Seeing these values, large foreign distributors soon realized the company's potential, and Piante Faro's reputation grew by word of mouth. The company participated in yearly international trade shows, with the primary goal of convincing as many people as possible to visit their production facilities and - mostly at the beginning of this process, during the early 1990s - the persuasion efforts were particularly difficult because of Sicily's negative international criminal reputation. Mr. Faro also overcame this problem with patience, honesty and transparency in all interactions with customers and suppliers. By visiting the nurseries, customers themselves became a reliable and practical source of marketing ideas, as well as practices and techniques to improve the company's production.

Human Capital

These contributions fueled the company's focus on innovation by constant improvement, research and development essentially based on trial and error and a strong passion for the field showed daily by all Piante Faro workers and managers (what Read and Sarasvathy, 2005 identified as entrepreneurial deliberate practice) - people who have become key to the company's success. People with only a secondary education and who are selected not on the basis of their education, knowledge and know-how specific to the field (in fact, in practical terms this knowledge was not present at all since the area traditionally had been focusing on growing lemon and orange trees, not Mediterranean plants), but rather for the attitudes needed to develop and properly spread knowledge and innovate: love for nature; passion for real-world practical knowledge; a sense of patience and focus on effective work methods within the trial-and-error dynamics; and people skills necessary to develop teamwork and identify proper individual roles on the basis of individual talents and practical abilities. All that supports Hill et al., 2001A findings that transfer of knowledge within the company has a direct and indirect impact on performance by building human capital, and that new knowledge creation and exploitation is where the real challenge in knowledge management for entrepreneurs resides (Coulson-Thomas, 2004).

Today, the company has 20 different functional operations; each operation has a hands-on manager leading a team of 10 to 40 people. Each manager has full responsibility for the operations he or she is in charge of and reports on a very frequent basis to the company's top management.

During the last few years the company has begun to hire university graduates in the field of agriculture and chemical research applied to agriculture, since applied chemistry is increasingly becoming relevant to quality and standardized mass production. The local university (Catania) features a faculty specialized in such fields; through the years the knowledge coming from the university has shown to be rich in theoretical terms yet lacking the practical, hands-on knowledge useful to Piante Faro. Also, until now the university has not been able to properly train people in the very subtle relationship-based ability to interact and acquire knowledge from suppliers, customers and prospects. Still, most of the innovation in production processes originates from extensive traveling, on the field observation of foreign operations and constant dialogue and feedback from experienced customers and prospects.

Innovation and Economic Development

The collaborative relationship with customers, as well as the culture of a learning organization, has generated a unique interplay between the applied agricultural technology and marketing to create a unique business strategy and product portfolio focusing on a constant hands-on innovation in the way those plants are grown and delivered to markets. Since the very beginning of the company, operations technology has been utilized to fully leverage and sustain the proper productive ecosystem within the local area. Originally, the know-how required was lacking locally, and as such, was acquired through the extensive traveling and the development of strong relationships with local and foreign suppliers. Also, whenever possible Piante Faro has helped local suppliers (for example, small machine manufactures utilized for green house operations) learn from foreign sources of knowledge and use that knowledge to customize tools and technology suited for the local environmental needs. Other times it has been necessary to directly involve northern Italian (mostly from Pistoia) and foreign specialized suppliers in order to build technological automated systems (for example, systems utilized to change the green house layout relating it to weather conditions). In all of this the Piante Faro organizational attitude has always been one of “humble learning and questioning in order to learn”. Step by step, such technology integration and shared knowledge has allowed utilizing in a more innovative and effective way (see for example Hoopes and Postrel, 1999) the local natural resources; this has allowed them to focus on marketing efforts (international trade fairs, invitation of prospects to visit the company) in new markets.

The major goals of innovation at Piante Faro are: increasing variety of plants, lowering prices by methodically developing a larger mass production, and increasing consistency for customers in terms of production output standards. To achieve those goals, collaborating and co-development with customers and potential prospects, is essential because it forms the basis of a mutually rewarding relationship ensuring mutually desirable levels of production quality, quantity, variety and dependability (in terms of production and logistics). Through the years Piante Faro’s brand has become globally recognized as a leader in its field because of the unique combination of variety (currently over 80 varieties), extensive mass production, and dependable standards of quality and appearance.

Innovation in technology, production and marketing are all means related to achieving a key pivotal goal: the ability to foster and develop long-lasting, mutually trusting relationships with customers and suppliers. This is a kind of trust that develops on real perceptions: deadlines and mutually set standards of quantity and quality met, and a genuine effort to understand people from other cultures and countries as people long before as

customers or suppliers. This is a kind of trust that very often stimulates the development of long-lasting, real friendships on an individual basis. According to Mr. Faro all of these are possible and sought-after because of the deep “agricultural hands-on approach roots” of the field - roots that cannot be fully understood by people or companies that operate solely and purely on a commercial basis.

These are the same roots that brought Piante Faro to consistently reinvest profits in order to make the company grow in terms of technology and market reach. Recently, the company made a new investment of 50 million euro to create a new logistics platform to better serve North European customers, and Piante Faro is proud to point out that the investment was made with no contribution from public Italian or European funds. It is a way to show the self-reliant action and customer-driven mindset of the company; a kind of mindset that, within the dynamics of globalization, has proven to be very successful within a region still struggling (economically and socially).

Business Strategy-Target Market

When the appropriate level of knowledge and focus on the characteristics of production is lacking on the customer side, Piante Faro has learned to make the proper choices and decisions in order to preserve its strong identity as an actual overall producer (from the seed to the full-grown product) of Mediterranean plants. A case to prove this point: The company has chosen to no longer supply a large global retailer because it realized that the retailer began to consider plants similarly to furniture, requiring unrealistic consistency in the appearance of a particular kind of plant. It became evident that this very important customer did not have, or chose not to have, proper field knowledge, and this lowered the contents of the dialogue between Piante Faro and the customer. Piante Faro realized that strategically, for the long term, it was better to sever the relationship with the customer and focus on serving the needs and wants of customers able to supply proper meaningful feedback and dialogue. Piante Faro’s management is fully aware that the success of the company depends upon its ability to understand the needs of the customer, learn from them, and serve them; yet the success and growth of the company has been determined by the actual level of knowledge for the field present within these interactions. In other words, thinking strategically, a customer that buys large quantities yet shows no love or interest in understanding the dynamics of the growth process is not an asset for the actual growth of the company. This is also why all of Piante Faro customers, no matter where in the world they are from, make at least one visit per year to Piante Faro operations. This is an industry in which no one player (producers, customers, suppliers) can afford to disregard the actual day-to-day practical issues relevant to research, production and logistics integration.

Piante Faro’s marketing approach has always been no-nonsense and hands-on: The goal is not simply to impress customers and prospects with lavish stands at the international trade shows; rather the goal is to invite customers and prospects to see for themselves what Piante Faro is working on and, through dialogue, what Piante Faro can do for them and for their projects. This is why fluent knowledge of at least English and French has become essential for Piante Faro salespeople. This is also why Piante Faro has chosen not to have regional sales agents, but to instead manage sales and marketing with personnel based in Sicily, very knowledgeable (once again hands-on knowledge) in the field and willing to travel extensively in order to better understand the customers’ needs and invite prospects to visit the production operations. Piante Faro’s culture sees traveling as a way to learn, to understand, to

question constructively what the company is doing, and to actually open the companies to the dynamics of globalization seeking them rather than being afraid of them.

Piante Faro has come to realize that European and Middle Eastern countries have begun to increase their demands for Mediterranean plants since tourism has expanded the country's economic system (this is the reason why, for example Turkey, Cyprus and Russia are fast developing markets for Piante Faro), and the company has learned to customize its products and services to these specific tourism-based customers' needs essential to ensuring the success of future business projects. For example, Piante Faro recently won a bid to decorate Cyprus's new and renovated airports.

These recent events demonstrate that the company is eagerly focusing on new markets and particularly new market niches; niches ready to fully appreciate the value-adding efforts not only from a production and logistics perspective, but increasingly also from the informed and intentional marketing focus to serve customers' unique needs originating from different cultures, different traditions, and different climates around the world. This focus increases marketing complexity while requiring a refined managerial mindset, and it is fueling the acceleration of the flow of knowledge that has characterized the company's marketing success and the successful development of an internationally recognized brand name and reputation. Knowledge and utilization of the unique assets of the land has been the first driving force and the competency of the company. Knowledge of techniques and technologies to maximize productivity of the land assets and increase plant varieties was the next driving force and competency of the company. Refined managerial knowledge of foreign markets and ways to identify international opportunities is the company's third and current driving force. Continued openness to learning from a broad range of sources and the utilization of innovation represents the key factor to the effective knowledge management dynamics present within the company. Table A and Figure A (in Appendix A) summarize the key milestones to these dynamics and their interconnections.

Conclusions

This case illustrates how, in a knowledge-deprived region, a visionary entrepreneur (McGrath and MacMillan, 2000) and a transformational leader (Chen and Barnes, 2006) has been able to build a knowledge-intensive, successful and growing company by mixing vision, technological and marketing knowledge acquisition mixed with action-based learning and innovation, while being socially responsible and supporting the development of the local economy. Piante Faro's growth and success is a wonderful example of dynamic entrepreneurship developed through a proactive and visionary interaction (what McGrath and MacMillan, 2000 called "entrepreneurial mindset") within global market forces overcoming the constraints of a knowledge-deprived region. The company focuses on the development of five key factors: effective utilization of local natural resources; an effective and proactive global search for and utilization of technological knowledge combined with local investment in innovative R&D relevant to local operations; and an active search for global market opportunities (see a high-tech example in Amit and Zott, 2001). The integration and managing of these five factors has stimulated a remarkable entrepreneurial international growth, defining the characteristics of a unique and internationally recognized brand in its field, while acting in a socially responsible manner and supporting local economic development.

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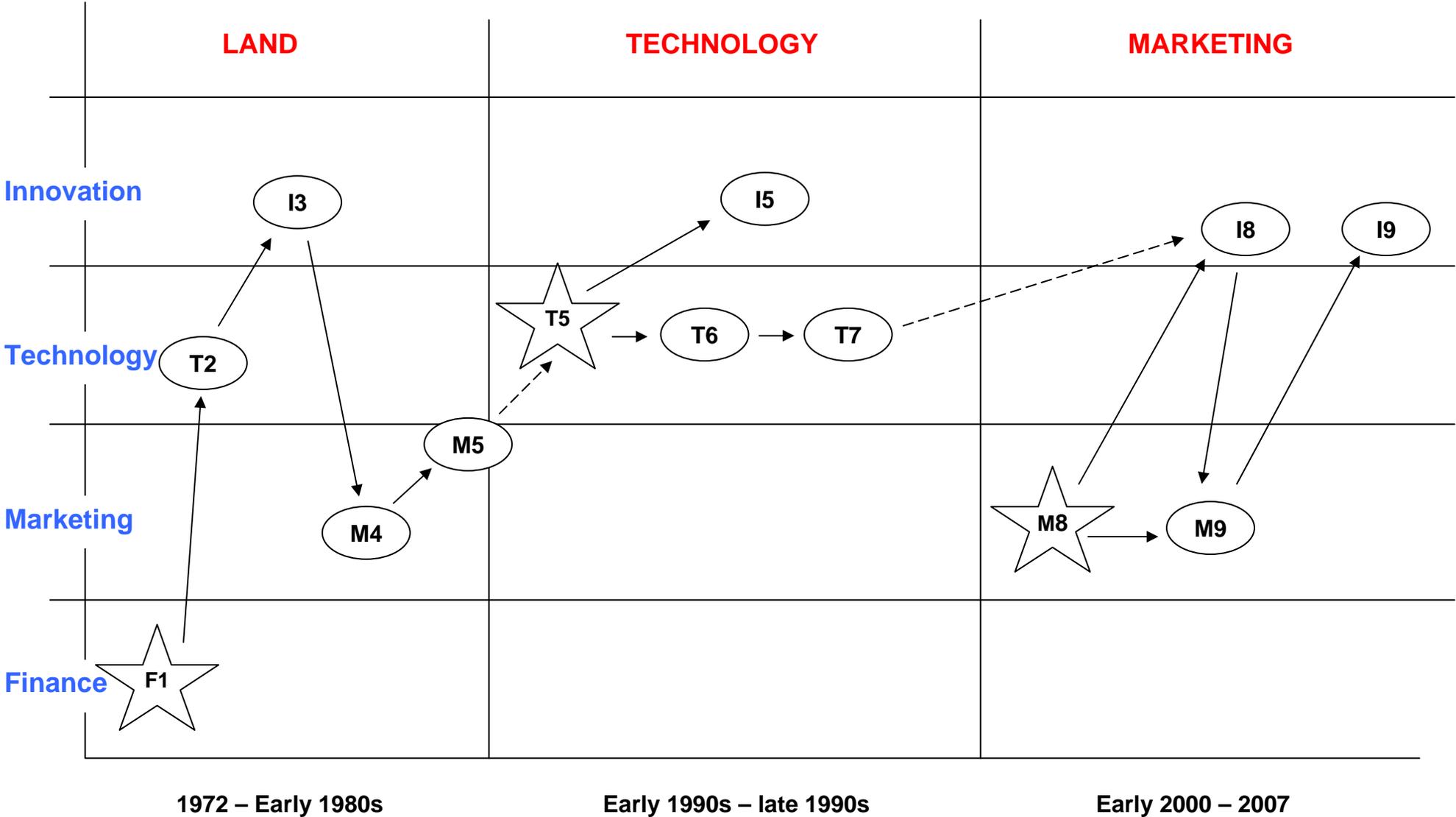
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Appendix A

TABLE A

Year	Finance (F)	Marketing (M)	Technology (T)	Innovation (I)	
1972 (1)	From the inception, the company reinvested all of the profits in buying land near mount Etna.	The company starts as a retailer of local traditional plants - focus on local market.	The company is utilizing traditional light structured greenhouses.		LAND
mid 1970s (2)		Focus on Southern Italy market as a wholesaler.	The company is progressively investing in technology and human resources.		
Late 1970s (3)	Cash flow issues arise: the actual terms of payment from Italian customers are over 180 days and are not dependable.	Focus on Northern Italy market - visits from Northern Italy customers (wholesalers Pistoia).	The company is utilizing larger and better built greenhouses.	The company expands the variety of plants offered by planting plants from Australia, South Africa, America.	
early 1980s (4)		Focus on European market. First trade show, Padua (Italy) 1980-82.			
early 1990s (5)	Cash flow is much improved thanks to the foreign sales, payments are dependable, 30 days - this allows for an increase in technological investments.	First foreign customers visiting and purchasing from Germany and the Netherlands.	Use of systems to control temperature and humidity within greenhouses - systems already in use in Northern Italy but mostly used in the Netherlands.	Use feedback from foreign customers; focus on quality, standardization and innovating with mass production. Mass production with such a variety of plants (over 80), quality and standardization, is a real innovation within the field.	TECHNOLOGY
mid 1990s (6)		First foreign trade shows: Germany (Essen) Valencia (Spain) (1990-91) - development of Middle East market (Lebanon).	Use of special machinery to move large plants.		
late 1990s (7)	Cash flow continues to improve because of the financial dependability of foreign sales.		Continuous improvement of electronic automatic systems for temperature, light and humidity control.		
early 2000s (8)		Further development of the Middle East market (Emirates) and Turkey, Cyprus.		Continuous focus on quality improvement and research to expand plant varieties.	MARKETING
2007 (9)		Trade shows in Russia and development of the Russian and Eastern European market. Increased focus on customers' special needs and on market niches.		New logistics platform to better serve North European customers - one-of-a-kind within the Mediterranean area.	

FIGURE A



 = Major Business Driver
 = Event