

# The Leader Company's Innovation Strategy and its role within the Aerospace Industry in Sao Jose dos Campos – Brazil

(Javier Efrain Gonzales Alarcón)<sup>1</sup>, Geilson Loureiro<sup>1</sup>

**Abstract** This paper analyzes the strategic innovation of a real company, which will be called "The Leader Company" for reasons of privacy and fairness, and verifies its performance in the aerospace industry in Sao Jose dos Campos - SP, particularly Avibras Aerospace SA, the Command for Aerospace Technology (DCTA), the Brazilian Aeronautics Enterprise SA (EMBRAER) and the National Institute for Space Research (INPE). It is concluded that "The Leader Company" constantly reinvents itself and has a strong strategy of corporate acquisitions and partnerships in order to rely on expertise from within and outside the company. It was also concluded that its performance in the aerospace industry in Sao Jose dos Campos is very early, and also the use of "The Leader Company" solutions in the companies verified, are still underdeveloped, thus, opportunities for "The Leader Company" on those institutions.

## Keywords

Databases, Strategy, Innovation, Aerospace

## 1 Introduction

In this chapter we can see the context in which the company acts under study and also highlights the greatest features of the main companies and institutions related to aerospace.

Since the Revolution of Information Technology (IT), which began in the 1970s, the world has been observing a growing role of IT companies. This action is seen in the four corners of the world due to globalization (Friedman, 2007).

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<sup>1</sup> J. E. Gonzales Alarcón (✉), G. Loureiro  
Aeronautics Institute of Technology - ITA, Brazil  
e-mail: [jega9999@hotmail.com](mailto:jega9999@hotmail.com), [geilson@lit.inpe.br](mailto:geilson@lit.inpe.br)

One of the companies operating in the area of Information Technology with a focus on software, since the 1970s, is The Leader Company. Founded in 1977, The Leader Company is the largest business software company in the world. His leadership in the IT market is the result of historical continuous technological innovation.

The company has offices in over 145 countries with headquarters in California; United States of America, so that in September 2008, the number of employees reached 85,000. Its division in Latin America includes Argentina, Chile, Peru, Brazil, Mexico, Miami, Venezuela, Colombia, Costa Rica and Puerto Rico. The Leader Company's Brazil headquarters is located in Sao Paulo and the company has offices in Belo Horizonte, Brasilia, Porto Alegre and Rio de Janeiro (ORACLE, 2009).

Since the launch of the first relational database in the world in 1977, The Leader Company has contributed to the technological revolution that permanently changed the business of the modern era. It was the first software company to develop and deliver solutions to the corporate market of Information Technology 100% qualified for the Internet.

Thus, the focus of this paper is to analyze the innovation strategies of The Leader Company and verify its performance in the aerospace industry in Sao Jose dos Campos - SP, a town located in the Paraíba Paulista Valley.

The city of Sao Jose dos Campos has great merit in the state of Sao Paulo. It was in the 1970s that there was a decentralization of the metropolitan area in the state toward the region of Paraíba Paulista Valley, especially in the city of Sao Jose dos Campos. The installation of the General Command for Aerospace Technology (CTA), the Brazilian Aeronautics Enterprise SA (Embraer) and Henrique Lage Refinery (REVAP) contributed to accelerate the industrialization of the city, including attracting additional industrial plants (SEADE, 1992; CIESP, 2007).

The aerospace sector is well developed city. In this study, will be verified Avibras, CTA, Embraer and INPE, with respect to The Leader Company's solutions they use.

The Avibras develops and produces systems and high-tech materials. It is the pioneer in Brazil in the aerospace sector and has achieved significant success by equipping the Brazilian Armed Forces and other nations with advanced weapons systems.

The General Command for Aerospace Technology (CTA), formerly the Aerospace Technical Center, is an aeronautical research center in Brazil, which aims at the realization of technical and scientific activities related to teaching, research and development of aerospace in the interest of the Ministry of Defense.

Embraer is an aircraft manufacturer for commercial, executive and military. It is the world's third largest, behind Boeing and Airbus, and one of the largest exporters in Brazil.

INPE is a research unit of the Ministry of Science and Technology's its mission is to produce science and technology in the areas of space and terrestrial environment and offer unique products and services for the benefit of Brazil. The activi-

ties currently undertaken by INPE seek to demonstrate that the use of science and space technology may influence the quality of life of the population and the development of the country.

The division of this work is given as follows. In addition to this introductory section, section 2 presents the methodology; section 3 provides a literature review with the characterization of The Leader Company. Section 4 presents the performance of The Leader Company Aerospace in Sao Jose dos Campos - SP. Section 5 presents the concluding remarks of this work.

## 2 Methodology

The methodology of the present research is the case study of four institutions working in the aerospace sector. We consulted corporate sites, The Leader Company data, documents and websites of those institutions.

## 3 Literature Review

In this chapter the literature review is made of the background and progress of the company under study, also concepts related to technology innovation, business strategy, corporate environmental trends and business challenges.

### 3.1 The Leader Company Corporation

The Leader Company Corporation is a company that develops enterprise software. Its main product is the management system relational database called The Leader Company Database.

The company offers complete and integrated solutions for IT, including database, application servers, business applications, collaboration solutions, application development tools and consulting services, training and support. It serves about 300,000 organizations around the world.

The integrated portfolio of IT solutions from The Leader Company is divided into four categories: Database, Fusion Middleware, Business Applications and Services.

Between The Leader Company customers worldwide are: General Motors (U.S.), General Electric (USA), Intel Corporation (USA), HP (Belgium, England and USA), Phillips (Belgium, Netherlands and USA), Yahoo (USA), Alcatel (France) and British Gas (England).

The Leader Company is present in Brazil since 1988, following the strategy of expansion and growth of the corporation in Latin America and focuses on the indirect sales of corporate IT. The company develops customized solutions for businesses of all sizes the most important segments of the market, combining its know-how, experience and skills specific to their business partners around the country.

The Leader Company in Brazil has more than 600 partners and / or suppliers, including retailers, developers, and others. Indirect sales are strategic to the company (The Leader Company, 2009).

Some of The Leader Company customers in the country are: Alcoa, TAM, Ticket, Tigre, Telefonica, Xerox, Usina Nova America, Elucid, General Motors, Sky Brazil, L'Oreal, CVC, Toyota Bank, Schahin Engineering and Unilever.

### 3.2 Technological Innovation

Technological innovation plays an important factor to enhance the competitive advantage of a company, whether as a technological leader or as licensing of technology, as well as one of the main ways to compete in the market (Porter, 2003).

According to the Survey of Technological Innovation - PINTEC, of the Brazilian Institute of Geography and Statistics - IBGE, technological innovation is defined by the market introduction of a new or improved product, or alternatively, the introduction in the company of a new or improved process.

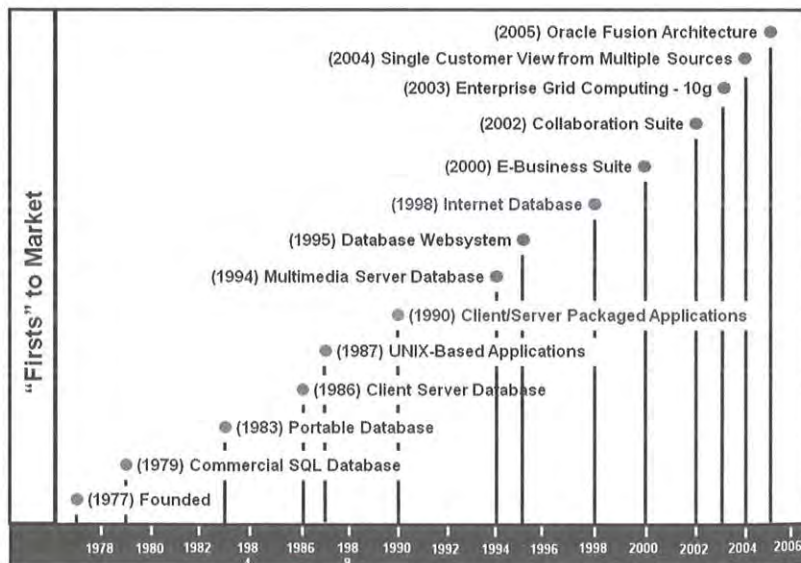


Fig. 1 Product Innovation The Leader Company. Source: Oracle (2009).

The Oslo Manual defines four types of innovations: product innovations, process innovations, organizational innovations and marketing innovations. The minimum requirement for an innovation is that the product, process, method or organizational marketing are new or significantly improved for the enterprise (OECD, 1997).

A product innovation is the introduction of a good or service new or significantly improved with respect to its characteristics or intended uses. Include significant improvements in technical specifications, components and materials, incorporated software, user friendliness or other functional characteristics.

A process innovation is the implementation of a method of producing or distributing new or significantly improved. Include significant changes in techniques, equipment and / or software.

An organizational innovation is the implementation of a new organizational method in business practices of the company, the organization of the workplace or in its external relations.

A marketing innovation is the implementation of a new marketing method involving significant changes in product design or packaging, in product placement, promotion or price fixing.

With respect to marketing innovation since 2007, The Leader Company has The Leader Company TV, which consists of a web site that transmits videos on The Leader Company products, solutions and other highlights, in order to further promote the brand of the enterprise.

With respect to product innovation, since its creation, as shown in Figure 1, The Leader Company stands out against competitors offering various solutions, and even today, has a continuous process of development in IT.

According to Schumpeter (1934), economic development is driven by innovation through a dynamic process in which new technologies replace old ones. According to the author, radical innovations shape major disruptions, while incremental innovations continue the process of change.

In the case of The Leader Company, with the exception of the beginning of its activities, most of its innovations are configured as incremental, considering that its flagship product, The Leader Company Database, is now in its eleventh version (Oracle, 2009).

In the literature of innovation there is a distinction between technology-push and market-pull. Technology-push means that a new innovation occurs through research and development without considering the needs of customers. In contrast, an innovation based on market-pull is developed through research and development in response to an identified need in the market (Martin, 1994). In this context, The Leader Company qualifies as a company that mixes orientation: technology-push and market-pull.

### 3.3 Business Strategies

Among The Leader Company's business strategies are: alliances, partnerships and acquisitions. As The Leader Company seeks to maintain its position of the first company in technology and applications, rather than compete with companies that already have certain know-how, The Leader Company's often goes for acquisition of the competitor. However, according to the Oslo Manual, decisions on mergers or acquisitions, even suppose a new organization for the company, should not be considered as organizational innovation (OECD, 1997).

In the aerospace world was possible to verify the acquisition strategy when The Leader Company has acquired Siebel in January 2006. Siebel is the leader in Customer Relationship Management (CRM). Another acquisition that expands the range of products for the aerospace industry was of the company Primavera Software, a leader in Project Management, acquired in October 2008.

The Leader Company also has a tool available on its site that seeks to create an interface with future customers. This is the ThinkQuest who was adopted by educators worldwide as an effective way to engage students in online collaborative learning. This is an interface that promotes the further mark of The Leader Company.

The company is organized around a network of partners. It can be said that not all knowledge is within the company. Part of it is located in a network world, and this network helps to leverage the value of The Leader Company products. Several clients are met with the help of partners. This is the case of Brazil Telecom, The Leader Company was helped by partner Sunrising and in the case of Globo TV that featured the partner G&P.

### 3.4 Environmental Trends

Currently one of the environmental trends of the market is the acquisition of companies by stronger players. Recently, in 2006, Google bought YouTube. There is a tendency for organizations to acquire other companies to increase its portfolio of services. Between March 2005 and June 2009, The Leader Company made 51 acquisitions (Oracle, 2009).

According to the Oslo Manual, innovative companies can be divided into those that develop innovations themselves or in cooperation with other companies, especially those that innovate through the adoption of innovations developed by other firms (OECD, 1997).

In this sense, The Leader Company recently acquired Sun. The Leader Company is not enough the absolute leader in this field, this strategic acquisition brought the free database market leader, MySQL, to The Leader Company's portfolio.

In relation to software development, the environment is the tendency to develop secure software, agile and easy to manage. Thus, the version 10g and 11g of The Leader Company Database has the technology grid computing. The Leader Company 11g allows customers to know more about their business and innovate more quickly. The product offers superior performance, scalability, availability, security and ease of management on a grid of servers and industry standard storage and low cost.

The Leader Company Database 11g is designed to be effectively deployed on various platforms. It features automated management capabilities for easy operation and economical and makes the product ideal for transaction processing, data warehousing and content management.

The spread of The Leader Company Database was product of their users in a great way. Moreover, in the Information Age, companies are much more organized network and are always watching what the competition does.

Thus, The Leader Company has gained large space with its product The Leader Company Database, because many customers are in the financial sector such as banks and insurers. This attracts new customers to try the new version, given that the financial sector has approved security software.

In addition to The Leader Company users globally spread its product; there is a strong global spread through The Leader Company training and certifications.

### 3.5 Management Challenges

Due to its aggressive business strategy innovation The Leader Company is constantly watching the progress of their competitors to take the necessary corrective actions to keep the lead.

In The Leader Company, employees are constantly trained and qualified to improve the performance of its activities, so there is constant recruitment of new professionals with specific skills. There is an apprenticeship with the work of their customers, suppliers and partners.

In this respect the strategy is to continuously improve its flagship product which is The Leader Company Database and working with partners and suppliers to meet the technological solutions according to customer needs.

The main challenge for the management of The Leader Company monitoring of new products is the overlap of old products, both in investment and development in the final value of sales. The solution used by the company is the complete use of software to manage your own business, making The Leader Company its own largest customer.

### 3.6 The Leader Company and Concurrent Engineering

Concurrent engineering has the following characteristics (Loureiro, 2009):

- It is an engineering approach that anticipates for the initial stages of product development requirements of the process life cycle.
- Reducing the time of development of a new product.
- Cross-functional teams composed of people from different functional areas of business including staff from customers and suppliers.
- It uses the concept "undermined" or in parallel, what it means is that initiate activities in processes without waiting for completion of the above, based on previous information already registered.

In the 4 types of technological innovation analyzed (product innovations, process innovations, organizational innovations and marketing innovations), we see that Leader Company used the concepts of Concurrent Engineering and considered as a determining factor for the achievement of its leadership.

## 4 The performance of The Leader Company in Sao Jose dos Campos - SP

This chapter will show the performance of the company under study in Sao Jose dos Campos, how is positioned in the major aerospace companies and forecast its future possibilities.

According to The Leader Company Web site, the eleven largest global aerospace and defense use back-office technology and applications for The Leader Company mission-critical. Nine of the ten largest global aerospace and defense use Siebel applications to interact with The Leader Company client.

The Department of Defense of USA, the Department of Homeland Security and NASA rely on The Leader Company applications and technology to operate their agencies. Eight of the ten Ministries of Defense of the largest European Union member nations run The Leader Company applications.

The Leader Company serves several industries, however the focus of this work is the aerospace industry, thus the specific products that The Leader Company offers to the industry are: The Leader Company Customer Data Hub, The Leader Company Database 10g, The Leader Company Flow Manufacturing Project Contracts, The Leader Company Human Resources, The Leader Company Product Data Hub, Spring Enterprise Project Portfolio Management, Product Lifecycle Management, Campaign Management and Siebel Siebel Contact Center and Service (Oracle, 2009).

The following research will presented the use of The Leader Company products in the four institutions of the aerospace industry in Sao Jose dos Campos - SP.

### 4.1 The Avibras Aerospace SA

Founded in 1961, with almost five decades, the company had its origins in designing and manufacturing aircraft for the Air Ministry. The Avibras pioneered the Brazilian space research, developing and producing the first family of sounding rockets Probe, Probe I and Probe II B and C, whose entries inaugurated the basis of the "Barreira do Inferno" (Natal - RN) and the Brazilian Space Program (Techno, 2002).

After consulting The Leader Company Corporation, it was found that the Avibras not use any of its products.

### 4.2 The General Command for Aerospace Technology (CTA)

Founded in 1953, is an organization of the Air Force Command, which aims at the realization of technical and scientific activities related to teaching, research and development of aerospace in the interest of the Ministry of Defense.

Its design dates back to the time of Santos Dumont, who in one of his books, had noticed that the region would be an ideal location for a center that could add scientific and technical knowledge to a school that would house their own students.

It consists of four institutes: the Institute of Aeronautics and Space (IAE), the Institute for Advanced Studies (IEAV), the Institute of Development and Industrial Coordination (IFI) and the Aeronautic Institute of Technology (ITA).

In the IAE is used The Leader Company Database. Within the CTA campus there is the Computer Center of Aeronautics of Sao Jose dos Campos (CCASJ), an organization subordinate to the Department of Airspace Control (DECEA), the Ministry of Defense. This CTA guest unit also uses The Leader Company Database.

### 4.3 The Brazilian Aeronautic Enterprise SA (EMBRAER)

The origins and history of Embraer back to the mid-1940 when the Air Ministry consciously decided to implement the Brazilian aeronautical industry (Techno, 2002).

Embraer began as an initiative of the Brazilian government in a strategic plan to implement the aviation industry in the country, in the context of import substitution policies.

Founded in 1969, most of their staff graduated from the Aeronautics Institute of Technology (ITA). In a way, Embraer was born within the CTA.

Regarding The Leader Company solutions, the company uses various internal IT systems supported by The Leader Company Database, and yet, also uses the software Project Management, Primavera acquired by The Leader Company in 2008.

#### 4.4 The National Institute for Space Research (INPE)

INPE was born of the will of some Brazilians to make the country participate in the space race began in the 1950s, and its direction are confused with the economic, social and political context of the country, since it's part and has an active role in recent Brazil's history (Oliveira, 1991).

INPE's mission is to promote and conduct studies, scientific research, technological development and human resource training in the fields of Space and Atmospheric Science, the Space Applications, Meteorology and Space Engineering and Technology, as well as in related fields, as policies and guidelines set by the Ministry of Science and Technology (Brazil, 2008).

INPE uses The Leader Company Database 10g to store corporate data from INPE. The choice of the Management System Database (DBMS) of The Leader Company was a decision taken in the first half of the 1990s at INPE. At the time the information survey was done with the principal DBMS: The Leader Company, Ingres, Sybase and Informix.

Visits were made to representatives of technical managers. Some INPE analysts participated in events that provide more information about managers. Analysts noted that the financial institutions of that era used The Leader Company because of the robustness and security that the product offered.

The systems that access The Leader Company Database at INPE are: SIGECON System (Contract Management), SGP (System Management Processes) SIPLAN (Budget Planning System), SIAD (Administrative Information System), SAEV (System Events) SOPHIA (Library System) and EDM (Electronic Document Management). Other systems are already available on the Intranet based on The Leader Company and others are in the process of migration.

The Intranet have some forms that store information on The Leader Company DBMS. There is work to integrate existing systems. Currently there is a support and maintenance contract with The Leader Company.

In short, in INPE, the performance of The Leader Company is still incipient; having an opportunity for the company to provide more solutions to the Institute.

## 5 Concluding Remarks

Today the challenge for companies is to constantly reinvent itself to survive the market, since the company often cannot sustain for very long with just one product, service or technology, given the ease of copying competitors.

For over three decades, The Leader Company was ruled by incremental innovations, such as The Leader Company Database that is already in its eleventh version. Also noteworthy the ability to reinvent the company whenever the market launches a new technology like the Internet, systems, languages and architectures such as SOA, ERP, CRM, Java, XML, SCM and BI. Although The Leader Company did not create these new technologies, it has always sought to acquire the company that was rising with this new technology to keep up, or else insert into versions of their products, access and compatibility with these new technologies. Probably the most valuable asset of The Leader Company is its brand, which is reinforced every year by winning new customers seeking security and solutions. The mark still is reinforced when The Leader Company innovates by offering consulting services, training and certification.

In this sense, The Leader Company is emerging as an innovative company that is always reinventing itself, being a model for other companies, and also stood out not only with their main product is The Leader Company Database, but also as the largest enterprise applications and technologies IT world.

The innovation strategies of The Leader Company include older products, as the case of The Leader Company Database, and newer products such as The Leader Company Fusion. The company also invests mainly in partnerships and acquisitions to further strengthen the provision of IT solutions.

Regarding the work in the aerospace industry in Sao Jose dos Campos, The Leader Company operates in three of the four companies verified, and the common product found in the three companies is The Leader Company Database.

In terms of performance, we find a reasonable percentage, however, considering the large amount of products that The Leader Company offers the industry on a global scale, and also that there are specific products for the industry is the fact that this action is still very early, The Leader Company can act more timely, offering products that can add value to customers in this sector.

## 6 References

1. Brasil Portaria nº 897, de 3 de dezembro de 2008. *Diário Oficial da União*. Ministério da Ciência e Tecnologia. Presidência da República, Brasília, DF, 4 dez. 2008
2. Ciesp (2007) Regional São Jose dos Campos. *Guide to Industries 2006-2007*. 3rd ed. 2007
3. Friedman T L (2007) O mundo é plano: uma breve história do século XXI. Rio de Janeiro: Objetiva, 2007, 557 p.

4. Instituto Brasileiro de Geografia e Estatística (2009) IBGE. Pesquisa de Inovação Tecnológica -PINTEC - 2008, Rio de Janeiro: IBGE, 2009, Disponível em <<http://www.pintec.ibge.gov.br/download/InstrucoesPINTEC2008.pdf>> Acesso em 10 ago. 2009
5. Loureiro G (2009) Apostilas de Engenharia de Sistemas, Instituto Tecnológico de Aeronáutica, São José dos Campos, SP, 2009.
6. Martín M (1994) Managing Technological Innovation & Entrepreneurship in Technology Based Firms. John Wiley and Sons, 1994
7. OECD (1997) Manual de Oslo, Proposta de diretrizes para coleta e interpretação de dados sobre inovação tecnológica, versão portuguesa, FINEP, Rio de Janeiro, 2004
8. Oliveira F I (1991) Caminhos para o Espaço: 30 anos do INPE. São José dos Campos, INPE: 1991 112p.
9. Oracle (2009) Disponível em <<http://www.oracle.com>>. Acesso em: 29 de jun. de 2009
10. Porter M (2003) Vantagem Competitiva: criando e sustentando um desempenho superior. Rio de Janeiro: Elsevier, 2003, 25 ed. 12-27p.
11. Schumpeter J (1934) The Theory of Economic Development, Harvard University Press, Cambridge, Massachusetts.
12. Seade (1992) Fundação Sistema Estadual de Análise de Dados. Diagnósticos setoriais da economia paulista: setores de indústria e de serviços. v. 3, São Paulo: Fundação SEADE, 1992, 211 p. (Coleção São Paulo no Limiar do Século XXI)
13. Techno (2002) Rio de Janeiro: Santiago Publicações, 2002-. Trimestral. Tecnologia Aeroespacial no Brasil.Publicação bilingue - português/inglês - Edição 22/2002.