

## INNOVATION MATTERS? A CASE STUDY RESEARCH ON THE BRAZILIAN TELECOMMUNICATIONS MARKET ABOUT THE IMPACT OF INNOVATION ON THE COMPANY FINANCIAL RESULTS

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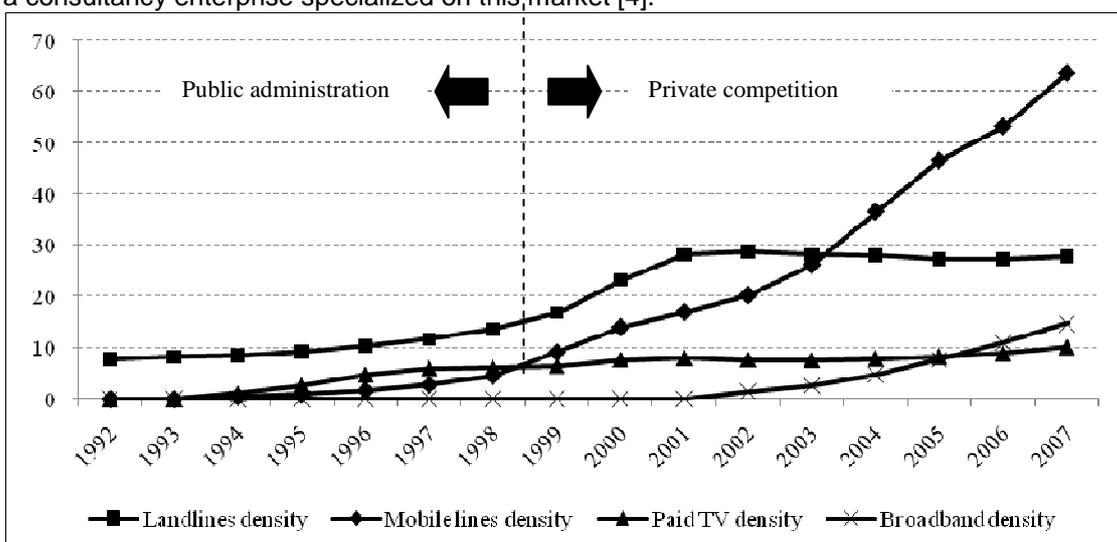
### Abstract

The purpose of this article is to analyze innovation impacts on financial results in Brazilian telecommunications companies. Using a case study research, which organization selected was the one that presented the best financial results from 1999 to 2007 (the industry was public until 1998), the research focused on determine if innovation was a critical factor for achieving competitive advantage on this market. Accepted as one of the sources for competitive advantage [1,2], innovation seems to have no impact on this market in this period. Other strategies, as cost reduction and a strong focus on increasing profitability were the main reasons for success on the market.

**Keywords:** Innovation, competitive advantage, telecommunications.

### 1 Introduction

Until 1997, the Brazilian telecommunications market was public. Landlines and also mobile ones were considered items of extravagance by many people. In the end of 1997, the government conducted a process that made this industry private, with free competition by the companies that bought the rights and structure to operate on the country. The impact of this process is shown on figure 1, where the main indexes of the market are compared on both periods (public and private). After 1997, it can be noticed a strong evolution on those indexes. On landlines, for example, in after four years of competition the market reached its greatest value of density by 100 citizens; 22.6 in 2002. In that period (1999 to 2002), the average growth of this index was 16%. From 1995 to 1998, the average was 10%. The industry expansion can also be analyzed by the growth on mobile lines in operation. Considered a luxury item in the first years of the new century, in the end of 2007 the density was 63.6 by 100 people. In this index, the market directs to 1 mobile phone for each person in the next years. The other products that complete the competition on the market (paid TV and broadband internet access) are increasing its volumes either, but in a slower rhythm, and its density is by 100 domiciles. Data from landlines, mobile phones and paid TV are provided by Anatel (Brazilian Telecommunications Agency), a government organization [3]. Broadband internet numbers were provided by Teleco, a consultancy enterprise specialized on this market [4].



**Figure 1: Industry Evolution. Sources: Anatel and Teleco**

The registered growth can be viewed as a product of the new competition scenario created by the market opening in 1998. So, the first objective of this paper is to identify which company

had the best profitability results after the market became private (and competitive). After that, the goal was to verify if innovation had a key role on those results. So, literature review was directed to investigate innovation role on achieving and maintaining competitive advantage (superior financial results). And, to accomplish these two different objectives, the research had two methodological procedures, specific to achieve the proposed goal.

The industry profitability is defined by five strengths, which define strategies for competition in this industry [5]. The relationship between these strengths defines market average profitability. So, some companies perform better than market average, obtaining superior financial results, achieving competitive advantage [2]. The origins of competitive advantage are based on strategic or spontaneous pillars, coming from the environment or luck (spontaneous) or appearing from strategies of competition and partnership [6].

Innovation is one of the sources of competitive advantage [1]. It can be described as some new factor created that allows any kind of advantage on competition. However, innovation is not the only source of competitive advantage. It can also be achieved by evolution (improvements on all the value chain) and by the conditions of the domestic environment.

Innovation is also analyzed as the opportunity to create new markets, which brings a higher market share on the future [7]. The Stackelberg model illustrates the potential connected to innovation, because the production level of the competitors is defined by the production level of the first player on the market [8]. Other authors also refer to innovation as one of the sources for competitive advantage [9]. The experience curve and scale economy are examples of benefits generated by innovation. But the experience curve must be managed carefully, because the focus on cost reduction can inhibit investments on new opportunities (innovation), making the organization vulnerable on the future [10].

In research that investigated innovation impacts on performance in the Wuhan East Lake High-Tech Development Zone, in the optoelectronics industry, it was concluded that innovation is positively related to firm performance and also with positional advantage. Additionally, the greater the competitive intensity, stronger is the impact of innovation on company performance [11]. When compared with other variables that can determine the firm performance (marketing competency and manufacturing competency), innovation seems to have more influence on the overall performance result [12].

Finally, to increase (or capture) the benefits of innovation, companies should do what it takes to relate complementary marketing assets to innovation. This association between marketing assets and innovation helps to difficult the imitation process by the competitors [13]. Intangible assets, such as a well-trained sales force, superior after-sales service, brand name or channel development can help to create and sustain first-mover's reputation. From this point of view, it can be presumed that a good marketing strategy can protect the investment made on new products development.

## 2 Methodology

This research had two different methodological procedures. As the main objective of this paper was to verify innovation impacts on company's financial results, the first step of this research was to define which organization would be the target of the study. To achieve such goal, an industry rank was composed. In this rank, it was possible to define which company had the best financial result in the analyzed period. Then, with this definition, a case study was conducted on this enterprise, to verify if innovation was a key success factor to achieve and sustain competitive advantage.

The financial performance rank was composed with all organizations that make public its financial results on Brazilian telecommunications market. Hence, companies which main service was land or mobile telephone terminals were analyzed to establish the rank. Sample with this criteria is showed on table 1. It is important to mention that all these companies compete together, because mobile telephone service is accepted as a substitute for landlines and the entry of mobile telephone service providers on the market changed the profitability of other organizations [14]. In addition, recently most of the companies listed below have bought license to sell internet or paid TV services, offering product bundles.

**Table 1 – Companies Analyzed to Establish Industry Rank**

Company (Commercial Name)	Company (Official Name)	Main Service
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Brasil Telecom	BRASIL TELECOM PARTICIPAÇÕES S.A.	Land/Mobile lines
Telefônica	TELECOMUNICAÇÕES DE SÃO PAULO S/A-TELESP	Landlines
Oi	TELE NORTE LESTE PARTICIPAÇÕES S/A	Land/Mobile lines
Embratel	EMBRATEL PARTICIPAÇÕES S.A	Landlines
Vivo	VIVO PARTICIPAÇÕES S/A	Mobile lines
TIM	TIM PARTICIPAÇÕES S.A.	Land/Mobile lines
Telemig	TELEMIG CELULAR PARTICIPAÇÕES S.A.	Mobile lines

All financial results available were used to define industry rank. CTBC was not considered because its first results were published in 2005. The adopted criteria to evaluate financial performance was the profitability grade (PG). The PG was used because it includes indexes that make clear company's economic situation [15]. This grade is calculated as following:

$$PG = 0,2 \times ATG + 0,1 \times NMG + 0,1 \times ROAG + 0,6 \times ROEG; \text{ where:}$$

ATG is asset turnover's grade;

NMG is net margin's grade;

ROAG is return on asset's grade;

ROEG is return on equity's grade.

Every grade is calculated, year by year, where the grade represents the proximity of company's index to the closest percentile of all indexes available. It means that, if a company has a index value closer to the value that divides 70% of all indexes available; its grade on such index is 7. So, every organization is evaluated by a score that goes from 0 to 10. With the industry rank done, the selected company to be the target of the case study research was the one that presented the best performance on the period.

On the case study, besides organization's annual reports, interviews with employees responsible for strategic planning and its execution were made to improve research's results. The case study is a research strategy that looks for a phenomenon inside a real context, in situations that occurrence and context are not clearly defined [16]. In that case, the author recommends the use of multiple sources of information. Case studies can be applied when the examiner works with a specific case or it can be considered also to explain a particular situation [17]. The method also conserves macro and significant characteristics of real events, and is useful when the objective of the research is to explain a determined situation [16]. The results can be better when multiple sources of information are used during this type of research [18].

Finally, this research can be described as being quantitative and qualitative, because the choice of the company to be the target of the case study was made by quantitative criteria, but the analysis conducted after this choice was qualitative. So, sample can be classified as double-phased, because a second study was made in a reduced sample [19].

### 3 Results and discussion

Main data of the industry is showed on table 2, where the sector evolution can be analyzed.

**Table 2 – Brazilian Telecommunications Market Evolution**

Analyzed items (in BRL billions)	1999	2000	2001	2002	2003	2004	2005	2006	2007
Total assets	69,4	82,6	95,0	101,1	105,1	106,5	104,6	111,5	116,1
Net worth	44,0	46,5	44,9	45,1	42,7	41,8	44,9	49,6	51,1
Net profit	1,6	3,7	1,0	0,2	2,8	3,5	4,0	4,5	6,4
Net Sales	26,9	35,2	42,7	47,3	55,3	62,4	66,5	72,3	78,3

After becoming private, the sector registers growth on its main indexes. Besides the growth on services available (figure 1), the sector almost duplicated its assets in nine years. The years of 2001 and 2002 were the worst for the industry, registering the lowest profit levels on the

period. But after that, profits and all other indexes are increasing. Net sales, for example, increased 14,3% per year.

Table 3 exhibits the final PG for every company, and also the PG for the sector (sum of all companies). As can be observed, only one organization presents a PG better than the sector in every year of analysis.

**Table 3 – Profitability Grades**

Company	1999	2000	2001	2002	2003	2004	2005	2006	2007
Brasil Telecom	4,7	4,1	4,6	4,2	2,0	2,4	2,0	4,2	5,2
Telefonica	6,7	8,4	7,2	6,0	7,0	10,0	10,0	10,0	9,0
Oi	1,0	4,2	3,2	2,4	2,3	4,4	5,2	7,2	7,6
Embratel	9,4	8,5	2,2	1,8	5,0	1,4	3,4	2,4	4,6
Vivo	3,7	5,4	1,6	2,6	0,8	2,6	0,6	2,8	1,4
Tim	7,2	2,0	7,2	9,9	10,0	7,4	7,9	1,6	2,8
Telemig	1,7	2,2	8,8	7,3	8,9	7,6	5,7	5,8	4,6
Sector	5,2	6,6	4,0	4,2	4,8	5,0	4,8	6,2	5,1

In this time interval, of all seven players on the market, three presented results better than the market average (sector PG) in greater part of years. However, this can't be seen as a sustainable competitive advantage. A sustainable advantage continues even with competitor trying to break it [1]. Only Telefonica presented a superior performance during the time. TIM and Telemig reached final PGs better than the market in 6 and 5 occasions, and the rest of the organizations performed worse than the market in a greater part of the years. Vivo was the worst case, achieving lower results in all years of analysis.

So, to accomplish research objectives, Telefonica was the organization chosen to be studied in a deeper approach, in the case study. The case study was conducted in a way that it could be possible to identify if innovation was the main reason to achieve the sustainable advantage identified in the industry.

### 3.1. Case Study – Telefonica

Besides the documents published by the organization, as annual reports and financial results, two interviews were made with two executives indicated to be responsible for developing new products and projects for the company. These executives are also responsible for the financial results of the organization, because on the budget definition, every product have its financial goals. Residential products director and strategic projects planning director were the employees who contributed to the case study.

Both executives don't see the company as an organization that reaches superior financial results by being innovative. The main reason for the observed performance is its management over its resources. Some statements exemplify the reasons for achieving and maintaining the competitive advantage more clearly:

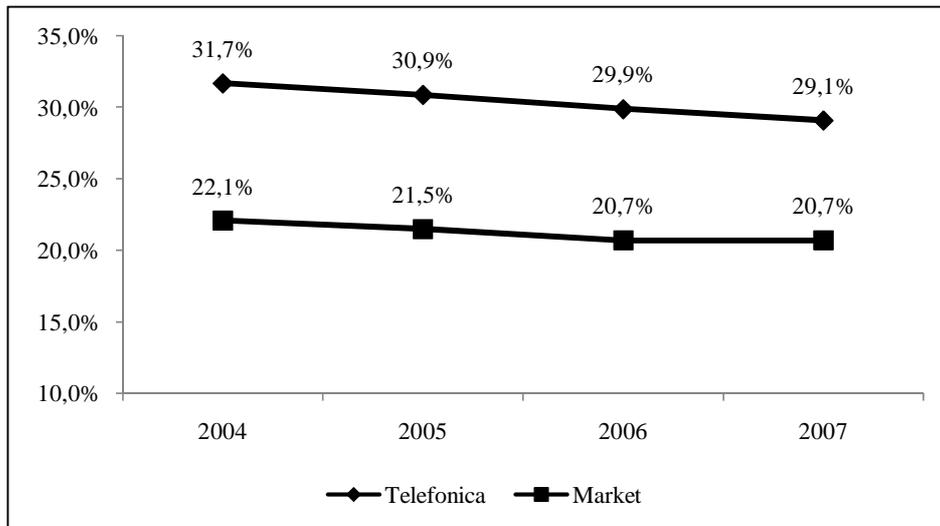
*"Here (in the company) an efficiency improvement process was conducted in a more intense form, if compared with other companies in the industry. It's more a plan to reduce costs than to create new opportunities. And new opportunities bring a lower profitability. And the objective here is always to maintain the profitability."* (Residential Products Director)

*"This group has a strength, which is its financial management. So, every decision here is coherent, taken with a special attention to the shareholder return on investment."* (Strategic Projects Planning Director)

This statements reveal that, probably, the key factor for achieving competitive advantage is evolution [1], because it can be noted that an improvement on value chain processes and also a strong culture of management oriented to financial results conduct the organization to this observed superior performance. In this point of view, what protects the company's advantage are intangible barriers, since the organization does not consider itself as being innovative or even that its advantage comes from its environment. Its strategy can be defined as a cost strategy [2].

The market evolution reveals a lot about company's strategy in the last years. After efficiency growth to reduce costs, the organization goes through a transformation instant, as its main

product (fixed lines) begins to decrease on this market. Even with penetration indexes higher than the market, fixed lines are decreasing, as showed on figure 2.



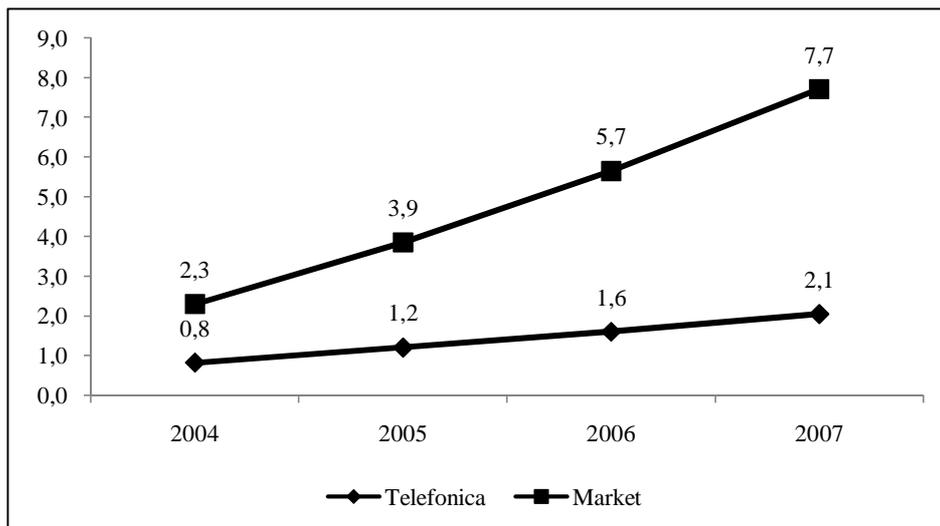
**Figure 2: Fixed lines desity (by 100 habitants) – Telefonica vs. Market. Sources: Anatel and Telefonica**

As an alternative, the organization directs its resources to increase its share on paid TV and internet access. It can be seen as a strategy according to the product life-cycle [20]. For landlines, the goal is preservation. For products like TV and internet, development and growth are the strategies that can maintain the advantage on the future.

*“I think that all that we talked about advantage (efficiency growth) was in the past. It gave a good performance until now. But if you look to the future, it won't be enough. We will have to look for more innovation, new products”* (Residential Product Director)

*“For landlines we have this preservation strategy. Internet access is growth, and... I think it's a mix. Today we are in a small boundary between growth and development for internet access. We have a clear point of view on what we consider the broadband access today. But the next generation of technology structure is not clear yet. On paid TV we have the same scenario.”* (Strategic Projects Planning Director)

This focus on new products growth appears when the indexes of these products are analyzed. This portfolio (internet and TV) goes by a different situation when compared with landlines. As can be viewed on figure 3, which compares the company with the market on internet broadband customers, the market (and also the company) is growing on this variable.



**Figure 3: Internet broadband customers: Telefonica vs. Market. Sources: Teleco and Telefonica.**

As can be observed, the company grows, but in a slower rhythm when compared with the market. It means that its competitors are taking a bigger share of this market, growing in a faster rhythm. It can be concluded that the company chooses to develop this new opportunities, but maintains its dependency on the traditional business (landlines and other earning sources that come from it, as long distance calls and local calls). The contribution of internet services on the whole revenue of the organization was less than 20% in the end of 2007.

*“Here we have a strong management conscience. Brasil Telecom had a lot of shareholders problems that everybody knows about. And that completely changed the company focus. Oi, by having its mobile service too, probably made a lot of decision to grow this new product, even with lower profitability.”* (Strategic Projects Planning Director)

Telefonica’s competitive advantage, as well as derived from internal process more efficient, also had some influence by spontaneous elements [6], that are not necessarily created by the company. Its main competitors chose to follow different strategies (to grow on products with lower profitability, betting on the future of the market) or had internal problems that affected its performance. This factors combination, and not innovation, gave to Telefonica the observed advantage in the period.

#### 4 Conclusions

This research had identified that superior financial results on the Brazilian telecommunications market were not related with innovation. Another strategies, such as cost reduction (focus on operational efficiency), choices to develop new opportunities in a slower rhythm and an adequate strategy according to the product life-cycle were the main reasons for achieving and maintaining a superior economic performance.

So it can be concluded that the organization analyzed on the case study presented the best financial results because it possess a strategic advantage [21], which means that the company planned and utilized its resources according to market evolution in a better way than the other competitors.

The results of this research show that factors like operational efficiency and a clear definition of goals (to increase or to maintain profitability) are important to achieve a superior competitive position in an industry. The market dynamics, like products life-cycle, are significant information sources about what course should take the new investments. As observed, not necessarily the innovation is responsible for superior performance. The analyzed organization clearly chose to wait the market development to invest on new technologies. Innovation is mentioned as critical to maintain company’s competitiveness [7], but the results of this research reveals that a, in specific situations, companies can wait to follow the best alternative available. Sunk cost effect is one of the obstacles to the development of new opportunities [1].

the competition on the analyzed market have changed the relationship between competitive strengths, making companies to search for more defined strategies to accomplish its objectives

[12]. The industry rank made during this research and the later qualitative study about the reasons to achieve and maintain a superior performance on the market suggests that the market have passed, until 2007, through a transformation process. The public administration wasn't directed to produce profit. The superior performance achieved by Telefonica, using a cost reduction strategy, reveals that probably the all the assets and resources were not used in the best way.

One of research ideas that came at the end of this article is to analyze the other companies of the market, and not the one that presented the best financial result. Some companies started the period of analysis with PG worse than market average, and then had improved its results. The opposite way also occurred, with companies having losses of performance. It would be interesting to evaluate why some companies had their advantage broken and why others had achieved a superior competitive position after a few years. Maybe innovation played a better role on these companies.

## References

- [1] BESANKO, D.; DRANOVE, D., SHANLEY, M.; SCHAEFER, S. A Economia da Estratégia. 3ª ed. Porto Alegre: Bookman, 2006.
- [2] PORTER, M. E. Vantagem competitiva: criando e sustentando um desempenho superior. Rio de Janeiro: Campus, 1996.
- [3] ANATEL. Números do Setor. Available at: <<http://www.anatel.gov.br/Portal/exibirPortalInternet.do#>>. Accessed in 10 set. 2008.
- [4] TELECO. Banda larga no Brasil – Dados Anuais. Available at: <<http://www.teleco.com.br/blarga1.asp>>. Accessed in 10 set. 2008.
- [5] PORTER, M. E. Estratégia competitiva: técnicas para análise de indústrias e da concorrência. 7. ed. Rio de Janeiro: Campus, 1991.
- [6] MA, H. Anatomy of competitive advantage: a SELECT framework. Management Decision, v.37, n.9, p.709-718, 1999.
- [7] HAMEL, G.; PRAHALAD, C. K. Competindo pelo Futuro - estratégias inovadoras para obter o controle de seu setor e criar os mercados de amanhã. Rio de Janeiro: Editora Campus, 1995.
- [8] PINDICK, R. S.; RUBINFELD, D. L. Microeconomia. São Paulo: Prentice Hall, 2002.
- [9] GHEMAWAT, P. Sustainable Advantage. Harvard Business Review, v.64, n.5, p.53-58, 1986.
- [10] GHEMAWAT, P. Competition and Business Strategy in Historical Perspective. Business History Review, v.76, n.1, p.37-74, 2002.
- [11] HE, W.; NIE, M. The Impact of Innovation and Competitive Intensity on Positional Advantage and Firm Performance. The Journal of American Academy of Business, v.14, n.1, p.205-209, 2008.
- [12] DROGE, C.; VICKERY, S.; MARKLAND, R. E. Sources and outcomes of Competitive Advantage: An Exploratory Study in the Furniture Industry. Decision Sciences, v.25, n. 4, p.669-689, 1994.
- [13] RAO, P. M. Sustaining Competitive Advantage in a High-Technology Environment: A Strategic Marketing Perspective. Advances in Competitiveness Research, v.13, n.1, p.33-47, 2005.
- [14] BALESDENT FILHO, D. Estratégias competitivas pós-privatização para as empresas concessionárias de serviço telefônico fixo comutado (STFC) no Brasil: um estudo de caso. Rio de Janeiro, 2004. 138p. Dissertação (Mestrado em Administração) – Pontifícia Universidade Católica do Rio de Janeiro, Rio de Janeiro.
- [15] MATARAZZO, D. C. Análise Financeira de Balanços: Abordagem Básica e Gerencial. 4ª ed. São Paulo: Atlas, 1997.
- [16] YIN, R. K. Estudo de caso - planejamento e métodos. 3. ed. Porto Alegre: Bookman, 2005.
- [17] GIL A.C. Como Elaborar Projetos de Pesquisa. São Paulo: Atlas, 2002.
- [18] BONOMA, T. V. Case research in marketing: opportunities, problems and process. Journal of Marketing Research, v. 22, n. 2, p.199-208, may, 1985.
- [19] MARCONI, M. A.; LAKATOS, E.M. Técnicas de Pesquisa: Planejamento e Execução de pesquisas, amostragens e técnicas de pesquisa, elaboração, análise e interpretação de dados. 4. ed. São Paulo: Atlas, 1999.
- [20] OLIVEIRA, D. P. R. Planejamento estratégico: conceitos, metodologias e práticas. 19ª ed. São Paulo: Atlas, 2003.
- [21] CHAHARBAGHI, K.; LYNCH, R. Sustainable competitive advantage: towards a dynamic resource-based strategy. Management Decision, v.37, n.1, p.45-50, 1999.

