

THE STRATEGIC ADAPTATION IN THE CONSTRUCTION INDUSTRY: A CASE STUDY IN THE TOWN OF PASSO FUNDO (RS)

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ABSTRACT

Through a case study this paper describes how a company from the Building Industry, located in Passo Fundo, Rio Grande do Sul, Southern Brazil, strategically adapted the perception of its dominant coalition. The study was developed through a qualitative research, using Pettigrew's (1987) methodology and the three strategic dimensions: context, content and process. Besides the qualitative character (Trivinõs 1992) and the contextual analysis (Pettigrew 1987), the longitudinal and historical vision were also used (Kimberly 1976; Salama 1992). Due to the methodology adopted, our concern was not to generalize, in a statistical sense, the results of this study. What we aimed at was to present elements to aid in the explanation of the strategic adaptation process of the analyzed organization.

KEY WORDS

Strategic Adaptation. Civil Construction. Strategic Change

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INTRODUCTION

The Brazilian Building Industry, like several other industrial sectors, has been experiencing relevant environmental changes in the last decades. The environment has been characterized by uncertainty and intense competition. As a result, the managerial perspective of construction companies has been adapted to new circumstances, in order to accompany environmental transformations, i.e. actions aiming to adapt the companies to the environment have been implemented. This has led to deep changes in the strategies of these organizations, which are necessary for the organizational survival (Rossetto 1998).

Most of the literature on strategic change in the building industry (Lansley 1987; Tatum 1988; Morrison 1989; Nam e Tatum 1989; Lansley e Riddick 1991; Hensey 1991; Gross 1991; Betts e Ofori 1994; Farah 1992; Werna 1993; Fellows 1993; Ofori 1994; Yates 1994) does not take into account the strategic decision process, nor the strategic operations management process of organizations that operate in an environment that is turbulent and strongly influenced by the government, as is the case of the Brazilian building firms.

This paper takes a closer look at how the Brazilian building firms adapt to their particular environment and also reveals the relevance of the strategic operations management process for the survival and success of these firms, according to the perceptions of the managers involved.

LITERATURE REVIEW

ORGANIZATIONAL ENVIRONMENT

The current state of growing economical, political and social changes, has led to the need of reviewing organizational configurations in order to adapt them to the current turbulent and changing environment. A bureaucratic organization no longer responds appropriately to the new values that have progressively been established over the years. It is necessary for a new organizational configuration to be planned gradually, considering that this new reality is just beginning. The need to introduce the notion of change and innovation in organizations cannot just be a passing fashion, it is a question of survival and the possibility of success.

The organizations are a part of human life and they must allow critical, conscious and creative learning, using new change strategies with a new base of values. Thus, there seems to be a clear need to find ways to develop the learning capabilities of organizations through a process that includes critical thought and action. This will provide them with the conditions to respond quickly to the demands that are presented today, with the added advantage of being able to foresee possible alterations that may happen in the future.

Thus, the passage from a stable environment into a turbulent one, as experienced in this country, involves strategic changes that leading to dramatic alterations in the norms, structures, processes and goals, and also deep alterations in the construction of the social reality. This vision suggests that organizational change should involve a cognitive reorientation of the organization, reflecting discontinued perceptions, structures and contexts that occur through alterations in the interactions of deliberate and emerging processes (Mintzberg and Waters 1985).

The elements of the general environment affect all organizations through factors that can be classified as technological, economical, political and social (Fahey and Narayanan, Stoner and Freeman 1995). Many authors refer to the general environment as macro-environment, including, besides the ones cited above, cultural, demographic, legal and ecological elements.

In the analysis of the environment, however, there are attempts to distinguish the elements that are directly relevant to the organization from those that indirectly influence it. The former, explicitly relevant, are known as part of the *specific environment* of the organization (Miles 1980) or *direct environment* (Stoner and Freeman 1995). The latter, potentially relevant, are commonly denominated *general environment* (Miles 1980) or indirect (Stoner and Freeman 1995).

STRATEGIC ADAPTATION

For Cunha (1996), organizational adaptation can be understood as a process of reciprocal adjustment between the organization and its environment. The reciprocity of the process presupposes that the organization modifies just as much as the environment: the organization, in the attempt to answer the demands of the environment in which it is immersed, and the environment, as it is shaped by the organization when in search of service of its needs (Lawrence and Dyer 1981).

From the studies of Pettigrew (1987) and Mintzberg (1979), among others, it can be considered that organizational adaptation involves several levels not only of the organization, but also of the environment, being influenced as much by internal coalitions as by external coalitions (Mintzberg 1973).

The Contingency approach is represented mainly by the work of Burns and Stalker (1961), Lawrence and Lorsch (1968) and Woodward (1965). The first authors' study tried to demonstrate how the structures of the companies they studied were continually adapted and adjusted to the marketing strategy. Burns and Stalker (1961) verified the existing relationship between the administrative practices and the external environment of the industries.

In the attempt to fill the gap left by the Theory of Contingency, the Organizational Theory came up with two perspectives that have been conducting the debate concerning the process of organizational strategic adaptation: the first one is the determinist vision that interprets the environment as the great determinant of success and organizational survival, taking away from the organization the capacity to choose its strategies; on the other extreme we find the voluntary vision, which gives to the organizational actors the capacity to choose and create the conditions for change to take place (Acuña and Fernandez 1995).

Regarding this discussion, many authors state that the terms voluntarism/determinism cannot be interpreted as a dichotomy. In reality, organizations as well as the environment create pressures for change, leading us to interpret such concepts in a *continuum*. Thus, in a *continuum*, we can find interpretations that will be more or less voluntaristic (or deterministic).

STRATEGIC CHANGE

Very a little is known about the strategic changes in organizations, there is a wide gap between theoretical discussions and the real behavior of organizations.

According to Pettigrew (1987), the process of change refers to the actions, reactions and interactions among the several parts that make up the organization that take it from its present state to its future state. For the author, it is crucial to adopt this concept of process in the study of strategic change. For him, the level of analysis cannot be the arbitrary event of the decision, abstracted from a series of other decisions and actions of which that event is part. If it that were the case, there would be serious empirical and analytical limitations to the study. Thus, the object of analysis should be the continuous process that develops within a certain context, so that the study of the strategy should have a vocabulary that is more connected with change than with choice.

Several authors emphasize the importance of historical analysis. Salama (1992), for instance, outlines the importance of the analysis of the organizational biography in the understanding of the processes of change.

Besides the question of time, Giddens (1989) points out the need to consider the spatial constitution of social life, in other words, organizational change does not take place in a vacuum, but within a specific context. According to the author, the explanation of phenomena in social sciences possesses, above all, a contextual nature. Thus, when studying the process of organizational adaptation, it is necessary to understand the influence of factors that are external and internal to the organization, in other words, its context.

The context, according to Pettigrew and Whipp (1991), can be divided into external and internal. The external context refers to the social, political, economical and competitive ways in which the organization operates; the internal context relates to the structure, the corporate culture and the political context within the organization, where the ideas for change to appear .

In this study, the contents include the organizational aspects that were modified during a period of gradual, increasing and continuous changes (Jennings and Seaman, 1994) in the process of organizational adaptation. The change in such aspects corresponds to a response of the dominant coalition, operated through the strategies used to deal with the perceived or subjective environment .

Therefore, the dimension of the content of the changes, according to Topping, quoted by Rossetto (1998), can be: a) strategic change at corporate level, when it involves a realignment of the domain product/market of the organization (Ansoff 1977); b) strategic change at business level, when there is a modification of the competitive decisions in the specific domain product/market (Bourgeois, 1980) and c) strategic change at cooperative level, when it involves a variation in the cooperation degree between an organization and other organizations in the environment (Nielsen, 1988).

METHODOLOGY

This study starts with a hermeneutical qualitative methodology and seeks to analyze organizational change, treating the process as a sequence of events that describes how strategies change through time. We also adopt a teleological theory, through which process objectives are defined “interactively by the actors, many times in a conflicting and subjective way” (Van of Ven 1992; Cunha 1996, p.18).

The main subject, originated from of the breaking up of the proposed research problem, follows Pettigrew’s (1987) suggestion that reaffirms the need to study the process, the context and the content of strategic changes.

This research project is aimed at studying organizational change using the conceptualist analysis proposed by Pettigrew (1987), which considers that in the study of change it is essential to take into account the involvement among context, process and content. This proposal also considers that the understanding of the dynamics of certain relevant historical events in the organization's past can be used as a foundation for understanding the current process of change.

In order to understand the historical and social process the concepts from the organizational field were used, composed by institutional and technical-economic dimensions, according to Rossetto (1998). The former are characterized by the elaboration of norms and rules that push the organization to conform to them if it wishes to obtain legitimacy from the environment, including actors such as the government, community organizations, labor organizations, among others; the latter are related to changes in products or services produced by an organization in the market, which bring rewards for the organizations that manage their work process in an efficient and effective way.

Initially, we worked with with informative materials already available from previous studies, such as dissertations and theses, and with organizational documents, specialized magazines and information obtained from government departments and SINDUSCON (local association of contractors).

The analysis of the available material was the basis for the development of the following steps to be taken and to build a picture of the context and the life history of the organization to be studied, characterizing the objective environment in which it developed. After the examination of this material, the interviews began in order to obtain data on the subjective environment of the organization through the analysis of the perception of the dominant coalition.

The interviews were the main source of information of the study following Yin's (1984) orientation. At first, it was not possible to specify the number of interviews to be carried out, neither the necessary duration. What could be foreseen was that the interviews would be recorded and very loosely structured, respecting the characteristics of qualitative interviews, which give the informer the freedom to report the data that he considers most relevant and, at the same time, they help the researcher to understand the phenomenon according to the interviewees' interpretation.

THE PROCESS OF STRATEGIC ADAPTATION OF THE COMPANY GIACOMINI ENGINEERING AND CONSTRUCTION LTD.

Initially, we present the structure of the company Giacomini Engineering and Construction Ltd., with the determined strategic periods and the respective critical events that characterize them, followed by the reconstruction of the history of the organization; outlining the changes that occurred, while, at the same time, we carried out a theoretical analysis of each period of the process of strategic adaptation.

CHARACTERIZATION OF THE COMPANY

The organizational structure of the company Giacomini Engineering and Constructions Ltd., varied minimally since its foundation, being characterized as a lean organization, with a low turn over of employees, who are well qualified, and master the new construction techniques utilized by the company, making competitiveness in the market possible.

PERIODS OF THE PROCESS OF CHANGE AND STRATEGIC ADAPTATION

During the period that this longitudinal study lasted (1980 to 1999), the company Giacomini Engineering and Constructions Ltd., made adaptations in the organizational field, through the adoption of several strategies. In order to explain that process of change and adaptation, critical events that most influenced the strategic changes adopted by the organization grouping them in strategic periods stand out. The critical events identified and used as criteria, as proposed by Cunha (1996), are the following: emphasis and time dedicated to the theme by the interviewees, their perception of the future consequences of events and their importance in the process of strategic adaptation.

The critical events were grouped in strategic periods in the process of change, and a theoretical analysis was carried out relating the facts to the literature review and to the description of the environment where the Building Industry is situated. The strategic periods of the organization characterized the group of decisions taken by the company that established a pattern of strategic behavior. In the longitudinal study (1980-1999), four strategic periods were identified, which were preceded by another period, between 1974 and 1979, the Creation of Giacomini (Table 1). They are described and analyzed based in the revised theory.

Table 1: Strategic Periods (1974-1999)

Description	Period
1. Creation of Giacomini	1974-1979
2. Organizational learning in residential and commercial buildings	1980-1985
3. Market development	1986-1991
4. Consolidation in the construction sector	1992-1996
5. Re -directional planned strategy	1997-1999

Source: primary Data (2000).

STRATEGIC PERIOD 1: THE CREATION OF GIACOMINI (1974-1979)

In the strategic period 1, the Creation of Giacomini, from 1974 to 1979, three critical events were identified that influenced decision making in the course of the adaptation process, which are: the creation of Giacomini (1974), construction of small residences (1974) and emphasis on public works (1976).

In this period, the company was influenced by several factors: the construction of small residences, the partners' experience in public works and the large volume of government resources available for road infrastructure.

In 1974, with the creation of Giacomini, a configuration strategy was adopted, which was denominated gestalt strategy (Mintzberg, 1978). This strategy's characteristic is to place the company in a market niche, developing activities in the branch of public works, a knowledge that the partners had already acquired as employees of DAER (State Department of Public Roadworks).

It also adopted a business strategy (Bourgeois, 1980) through which tried to master the construction technique, beginning with small residences, while it waited to acquire the technical conditions to enter in the field of public construction projects, which was the big business of that time, due to the large amount of available resources (external resources).

In 1976, fulfilling the technical requirements, it began to direct its business almost exclusively to public works, rendering services for DAER and for CINTEA (Regional Department of Public Roadworks). With this attitude, the company passed through a corporate strategic change denominated by concentric diversification (Ansoff 1977), beginning in the activity of public works the *core business* of the organization.

STRATEGIC PERIOD 2: ORGANIZATIONAL LEARNING IN RESIDENTIAL AND COMMERCIAL BUILDINGS (1980-1985)

In the strategic period 2, *Organizational learning in residential and commercial buildings*, from 1980 to 1985, two critical events that influenced decision making in the course of the adaptation process were identified: the beginning of the construction of residential buildings (1980) the beginning of the construction of commercial buildings (1982).

That period was influenced by the following factors: difficulties in the sector of public works and the acquired experience in small constructions acquired in the town of Soledade.

With the start of its work in the residential and commercial construction sector, even if in small scale, the company adopted a corporate strategy of diversification (Ansoff 1977), still maintaining its core business (public works), which represented 80% of the revenue.

STRATEGIC PERIOD 3: MARKET DEVELOPMENT (1986-1991)

In the strategic period 3, *Development Market*, from 1986 to 1991, five critical events were identified that influenced decision making in the course of the adaptation process: strategic alliance (1986), the beginning of the building project development (1986), redefinition of the product mix (1988) and the search for a new market (1991).

In this period, the company was influenced by several factors: difficulties in the public works sector, the leader's enterprising style, the acquired experience in small constructions acquired in Soledade and the conviction of the existence of a promising market in Passo Fundo.

With the economical-financial uncertainty established in the country that went through the effects of the Cruzado Plans I and II, when extra charges quickly took control of the Building Sector. As the resources were all directed to the market of financial assets, leading to scarce availability of financing, the practice of self-financing became an alternative in the market to respond to the clients' needs. Furthermore, the learning period in residential and commercial construction was characterized by a change that radically altered the actions of the company, which Tushman and Romanelli (1985) and Ginsberg and Grant (1985) called "revolutionary" because, besides affecting the strategy, it also affected the processes, changing the company entirely.

With the crisis in the sector of public works, caused by the lack of public resources and the end of the cycle called the *Brazilian Miracle*, along with the constant delays in the payments for services rendered by CINTEA, the company was being forced to redirect its business almost exclusively to the construction of buildings. With this decision, the company was solving its *entrepreneurial problem*, which according to Miles and Snow (1978), consists in the determination of the market/product domain.

In this period, the company began to build a group of stores and commercial rooms, in Passo Fundo, RS, with a medium term sales system (24 instalments) at a fixed price, in partnership with Luiz Pagnunsat's Real Estate Luiz. Thus adopting, according to Nielsen (1988), a cooperative business strategy or strategic alliance (Lewis 1992). The company also adopted, according to Bourgeois (1980), a strategy at business level, which is self-financing. This new form of sales was very successful, because, until then, direct sales were made at a at the maximum of ninety days. In that period, the company adopted a prospective behavior of innovation and of leadership. From then on, other companies began to copy Giacomini's way of working, generating, according to DiMaggio and Powell (1983), a process of institutional mimetic isomorphism that is widespread in the sector.

The change gave place to a new core business: the construction of commercial and residential buildings, financed with own resources and with resources originating from an in house Financial System, generating an expansion of the business, entering the branch of construction of residential and commercial buildings, leaving the previous field(public works), of which only the consultancy services and planning at national level were maintained. With the actual change, the company went through a period of incremental or adaptive changes, having the increment on the corporate strategy - diversification (Ansoff 1977) and incorporation business strategy, (Bourgeois 1980).

Then, in order to be prepared for possible changes in the market, the company made use of according to Mintzberg (1987), deliberate strategies, looking to diversify the type of properties it produced, with a mixture of products that could satisfy the clients' needs, and fell within their budget. With that procedure the company adopted, according to Ansoff (1977), a strategy of diversification at corporate level.

When it started to act in the real estate market in Camboriú SC, the company adopted a corporate strategy of market development (Ansoff 1977).

STRATEGIC PERIOD 4: CONSOLIDATION IN THE CONSTRUCTION SECTOR (1992-1996)

In the strategic period 4, Consolidation in the construction sector, from 1992 to 1996, two critical events that influenced the decision making in the course of the adaptation process were identified, namely: construction of educational buildings (1992) and the beginning of construction of their own hotel compound (1994).

In this period, the company, like others, was influenced by several factors: the Collor Plan to fight hyperinflation, the lack of liquidity in the market due to the financial dryness and the decrease in financing from SFH.

In order to continue operating, the Brazilian civil construction industry looked for alternative marketing strategies?, denominated *Plans 100*, and long-term self-financing plans, using the CUB as contractual currency because it had the cost increases reviewed according to the index of instalments readjustment.

In that period, the possibility of construction by auction came up through the construction of the Branch of Senac of Passo Fundo RS, which the company won adopting a corporate strategy of market development (Ansoff 1977).

Also, because of the devaluation of the national currency and the existence of a large market in construction at the beaches, mainly in Santa Catarina, due to the large numbers of Argentinean tourists who wished to invest in that market in Brazil, an expectation of

demand influenced in the decision of countless companies, that steered their businesses in that new direction.

The company participated in that process, in a strategy that Ansoff (1977) denominated “corporate”, which looked for a market development. Envisioning profitable business in construction in the beach towns of Santa Catarina, Giacomini launched the compound called Costa Sul project, which, besides the construction of residential and commercial units, foresaw a hotel and tourist compound to be explored by their own developer, characterizing a corporate strategy of concentric diversification (Ansoff 1977).

STRATEGIC PERIOD 5: RESTRUCTURING PLANNED STRATEGY (1997-1999)

In the strategic period 5, *Restructuring Planned Strategy*, from 1997 to 1991, five critical events were identified that influenced decision making in the course of the adaptation process, namely: construction by consortium (1997), technological innovations (1997), transfer of projects (1999), returning to the educational construction (1999) and the launching of real estate development (1999).

During this period the company was influenced by several factors: the demand for new quality standards, technological adoption of innovations and a new way of financing from Caixa Economica Federal (*Federal Government Housing Bank*)

This period of strategic restructuring was characterized by gradual, incremental and continuous changes (Jennings and Seaman, 1994), through which the company sought to resolve its business in a planned way. This meant beginning the consortium form of construction, adopting a business strategy (Bourgeois, 1980) and a cooperation strategy (Nielsen 1988).

The period was also characterized by the company’s need to change its course, which was done through a planned strategy. The market started to demand quality products at more accessible prices; to be able to respond to this demand, the company sought to develop new technological production systems, as well as new equipment, which made it possible to decrease costs, have a more rational use of inputs and improve the quality of the products, using a business strategy (Bourgeois 1980).

As part of its corporate strategy (Ansoff 1977), the company partially abandoned Balneário Camboriú’s market, delivering two of their enterprises at the construction stage where they were, and transferring to new developers the responsibility for clients and suppliers. This transference was made in a way that allowed the construction of the properties to be concluded.

It also participated in the auction for the construction of the second phase of the campus of Carazinho of Passo Fundo University, adopting a corporate strategy of market development (Ansoff 1977) and with the application of new construction techniques a business strategy (Bourgeois 1980).

With the launch of the “Metropolitan Tower” real estate compound the company started to adopt a corporate strategy of market penetration (Ansoff 1977) and of business (Bourgeois, 1980), when it applies new construction techniques in the undertaking.

CONCLUSION

The main objective of this research project was to study the strategic changes occurring in a civil construction company using a case study.

The case study had as “backdrop” the strategy of contextual research suggested by Pettigrew (1987), according to which the strategic change of organizations should be understood as a political, cultural and educational process; therefore, it should be examined from three points of view: the process, or “how” it changed; the context, or “why” it changed, and the content, or “what” it changed. In this sense, the changes were studied based on the perception of the dominant coalition (Child 1997), i.e., in the way the company reacted in response to its executives' perceptions regarding the objective environment of the organization.

We carried out a national and a local (Passo Fundo) analysis of - of the objective environment of ICC-IF, showing the main events and their characteristics during this time (1980-1999), trying to identify the subjective environment, built from the perceptions of the dominant coalition, and the objective environment. Thus the dimension of the context was studied. Still looking to rescue the history of the company, emphasizing the main strategic answers given by it since 1980, establishing correlations among these environments (Child and Smith 1987) and rescuing, in this manner, the dimension of the process and content.

Five strategic periods in the adaptation process were identified, which were analyzed theoretically, seeking to explain the changes in the company strategies. In the theoretical analysis, we have tried to explain the changes based on the theoretical references proposed.

The first period, the *Creation of Giacomini*, was characterized by a configuration strategy, denominated gestalt strategy (Mintzberg, 1978) followed by incremental changes. The company adopted a business strategy – mastering construction techniques (Bourgeois, 1980) and a corporate strategic change denominated concentric diversification (Ansoff 1977). As it started to work in the field of public works, the company defined its *core business*.

The second period, *Organizational Learning in residential and commercial buildings*, was characterized by incremental changes where the company adopted corporate strategies of diversification (Ansoff, 1977), maintaining its *core business* (public works).

The third period, *Market Development*, was characterized by changes that radically altered the actions of the company, which Tushman and Romanelli (1985) and Ginsberg and Grant (1985) denominated “revolutionary” because, besides affecting the strategy, they also affected the processes, leading the company to change entirely, resolving its entrepreneurial problem. According to Miles and Snow (1978), this consists in the determination of the market/product domain, which change gave place to a *new core business*, generating an expansion of the business by entering the branch of residential and commercial building construction.

With the change already in place, the company went through a period of incremental or adaptation changes, where it adopted a cooperative business strategy (Nielsen 1988) or strategic alliance (Lewis 1992). It also adopted a strategy at business level (Bourgeois, 1980), the generating of self-financing, which, according to DiMaggio and Powell (1983), is a process of institutional mimetic isomorphism widespread in the sector.

Furthermore, along with the incorporation regime, the company adopted a corporate strategy - diversification (Ansoff 1977) - and a business incorporation strategy (Bourgeois, 1980), followed by a corporate strategy of market development (Ansoff 1977), when it began to act in Camboriú.

In the fourth period, *Market Consolidation*, the company adopted a strategy Ansoff (1977) denominated as “corporate”, which sought after a market expansion, followed by corporate strategic changes of market diversification and concentric diversification (Ansoff 1977).

The fifth period, *Re-directional planned strategy*, characterized by strategic redirecting changes, denominated gradual, incremental and continuous changes, (Jennings and Seaman, 1994), carried out in a planned way, tried to resolve its business. Therefore, it adopted business strategies – consortium production and technological innovations (Bourgeois, 1980) and corporate strategies of market development (Ansoff 1977), with the transference of projects to other companies, building in the educational field and corporate (Ansoff 1977) and business (Bourgeois 1980) strategies in the launch of the real estate developments.

From the analysis of the company’s strategic periods, one can infer that strategic operations management decisions, like the ones concerning the development of lean construction systems, were relevant to the company’s survival and effectiveness only in the fifth strategic period, according to the managers.

Thus, the initial proposal of this paper, which was to take a closer look at the relevance of lean construction to this kind of company, was achieved. Only in the last strategic period, business strategies related to operations management, e.g. production for consortium and technological innovations, showed to be important to managers in order to enable the company to operate according to competitive standards imposed by the environment.

REFERENCES

- Açuña, E. and Fernández, F. (1995). “Análise de mudanças organizacionais: utilidades para políticas sociais”. *Revista de Administração Pública*, São Paulo, 29 (2) 80-109.
- Ansoff, H. I. (1977). *Estratégia empresarial*. São Paulo: McGraw-Hill, 230 pp.
- Betts, M., Ofori, G. (1994) “Strategic Planning for Competitive Advantage in Construction: the Institutions”. *Construction Management and Economics*, 12, 203-217.
- Bourgeois, L. J. (1980). “Strategy and environment: a conceptual integration”. *Academy of Management Review*, 5(1) 25-39.
- Bowditch, J. L. and Buono, A. F. (1992). *Elementos do comportamento organizacional*. Atlas, São Paulo, 245pp.
- Burns, T. and Stalker, G. (1961). *The management of innovation*. London: Tavistok.
- Child, J. (1997). “Strategic choice in the analysis of action, structure, organizations and environment: retrospect and prospect”. *Organization Studies*, 18 (1).
- Child, J. and Smith, C. (1987). “The context and process of organizational transformation. Cadbury limited in its sector”. *Journal of Management Studies*, 24 (6), 565-596.
- Cunha, C. J. C. A. (1996). *Adaptação estratégica organizacional em ambiente turbulento*. Programa de Pós-Graduação em Engenharia de Produção - Departamento de Engenharia de Produção e Sistemas. Universidade Federal de Santa Catarina, Florianópolis.

- DiMaggio, P. J. and Powell, W. W. (1983). "The iron cage revisited: institutional isomorphism and collective rationality in organizational fields". *American Sociological Review*, 48, 147-160.
- Farah, M. F. S. (1992) "Processo de Trabalho e Construção Habitacional" (*Work process and housing construction*). São Paulo, Postgraduate Program in Social Sciences, University of São Paulo. Doctoral Thesis
- Fellows, R. F. (1993) "Competitive Advantage in Construction: Comment. Construction". *Management and Economics*, 11, 71-72.
- Giddens, A. (1989). *A constituição da sociedade*. São Paulo, Martins Fontes.
- Ginsberg, A. and Grant, J. H. (1985) "Research on strategic change: theoretical and methodological issues". *Academy of Management Proceedings*, 45 (1), 11-15.
- Gross, J. G. (1991) "Codes, Standards, and Institutions - Pressures for Change". *Journal of Professional Issues in Engineering Education and Partice*, 112 (2), 75- 87.
- Hensey, M. (1991) "Essential Success Factors for Strategic Planning". *Journal of Management in Engineering*, 7 (2), 167-177.
- Jennings, D. F. and Seaman, S. L. (1994) "High and low levels of organizational adaptation: an empirical analysis of strategy, structure and performance". *Strategic Managment Journal*, 15, 459-475.
- Kimberly, J. R. (1976). "Issues in the design of longitudinal organizational research". *Sociological methods e research*, 4 (3), 321-347.
- Koskela, L. (1992) "Aplication of the New Production Philosophy to Construction". *Center of Integrated Facility Engineering (CIFE)*, Stanford University, Technical Report, 72.
- Lansley, P. R. (1987) "Corporate Strategy and Survival in the UK Construction Industry". *Construction Management and Economics*, 5, 141-155.
- Lawrence, P. and Dyer, D. (1981). "Toward a theory of organizational and industrial adaptation". Working paper (Graduate School of Business Administration) Harvard University, Boston.
- Lawrence, P. and Lorsch, J. (1968). *Organizations and environment*. Boston, Harvard University Press.
- Miles, M. B. and Huberman, M. A. (1984). *Qualitative data analysis: a source book of new methods*. Bervely Hills, Sage.
- Miles, R. H. (1980). *Macro organizational behavior*. Glenview, Illinois, Scott Foresman and Company.
- Mintzberg, H. (1973). "Strategy-making in three modes." *California Management Review*, Winter, 16 (2) .
- Mintzberg, H. (1979) "An emerging strategy of "direct" research". *Administrative Science Quarterly*, 24, 582-589.

- Mintzberg, H. and McHugh, A. (1985). "Strategy formation in a adhocracy". *Administrative Science Quarterly*, 30 (1), 160-197.
- Mintzberg, H. and Waters, J. A. (1985). "Of strategies, deliberate and emergent". *Strategic Management Journal*, 6, 257-272.
- Morrison, P. (1989) "Managing Change in the Midst of Economic Uncertainty". *Journal of Management in Engineering*, 5 (2), 192-202.
- Nam, C. H., Tatum, C. B. (1989) "Toward Understanding of Product Innovation Process in Construction". *Journal of Construction engineering and Management*, 115 (4), 517-534.
- Nielsen, R. P. (1988). "Cooperative Strategy". *Strategic Management Review*, 9, 475-492.
- Ofori, G. (1994) "Formulating a Long-term Strategy for Developing the Construction Industry of Singapore". *Construction Management and Economics*, 12, 219-231.
- Pettigrew, A. (1985) "Contextualist research: a natural way to link theory and practice". In: Lawler III, E. E. et al. (Eds.). *Doing research that is useful in theory and practice*. San Francisco: Jossey-Bass.
- Pettigrew, A. (1987). "Context and action in the transformation of the firm". *Journal of Management Studies*, 24 (6), 649-670.
- Pettigrew, A.; Whipp, R. (1991). *Managing change for competitive success*. Oxford, UK: Blackwell.
- Rossetto, C. R. (1998). *Adaptação estratégica organizacional: um estudo multicase na indústria da construção civil – setor de edificações (Organizational strategic adaptation: a multi-case study in the construction industry)*. Florianópolis. Federal University of Santa Catarina. Doctoral Thesis
- Salama, A. (1992) "The use of organization biography". *Management Education and Development*, 23 (3).
- Stoner, J. A. F. and Freeman, R. E. (1995). *Administração*. Rio de Janeiro: Prentice-Hall do Brasil.
- Tatum, C. B. (1988) "Technology and Competitive Advantage in Civil Engineering". *Journal of Professional Issues in Engineering*, 114 (3), 256-264.
- Thompson, A. A. Jr.; Strickland III, A. J. (1992). *Strategic management, Cases*. 6. ed. Boston: Irwir.
- Triviños, A. N. S. (1992). *Introdução à pesquisa em ciências sociais: a pesquisa qualitativa em educação*. São Paulo, Atlas.
- Tushman, M. L.; Romanelli, E. (1985). "Organizational evolution: a metamorphosis model of convergence and reorientation". In: Staw, B. M.; Cummings, L. L. (Eds.). *Research in organization behavior*. Greenwich: JAI Press.
- Van de Ven, A. H. (1992). "Suggestions for studying strategy process: a research note". *Strategic Management Journal*, 13, 169-188.

Werna, E. (1993) “The Concomitant Evolution and Stagnation of the Brazilian Building Industry”. *Construction Management and Economics*, 11, 194-202.

Woodward, J. (1965). *Industrial organizations: theory and practice*. London, Oxford.

Yates, J. K. (1994) “Construction Competition and Competitive Strategies”. *Journal of Management in Engineering*, 10 (1), 58-69.

Yin, R. K. (1984). *Case study research: design and methods*. California, Sage Publications Inc.,

Zucker, L. G. (1987). “Normal change or risk business: institucional effects on the “hazard” of change in hospital organizations, 1959-79”. *Journal of Management Studies*, 24 (6) 671-700.