Dynamic Interaction: Is It a Useful Concept to Explain Performance?

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Summary

Pfeffer&Salancik(2003, p. xii)advocates that one of the cornerstones of inter-organizational exchange relation phenomena is “dynamic interaction”. Evidences from the literature revision indicatehow this notion has been the foundation of relatively limited empirical research, especially from an evolutionary perspective. This article provides a theoretical development on dynamic interaction from an evolutionary perspective and advocates its application as a multidimensional framework of performance influence analysis by organizational mechanisms.

The purpose is to demarcate a concept of dynamic interaction which may serve as a building block for broader theoretical and methodological developments focused on the performance effects. Our research problem is whether dynamic conception is useful to explain business performance.

We take our cue from recent work on RDT considering the insights combination from the Resource-based view (RBV) and RDT (Hillman, Withers, & Collins, 2009). Considering the DCV as an extension of RBV, we use it to present an conceptualization of how, in the process of creating, extending, or modifying its resource-base (Helfat et al., 2007), organizations are engaged of managing their internal and external power relations and interdependencies. From these notions it is possible to build a consistent framework to study different forms of DI patterns and mechanism (Pajunen, 2008). We hope that the notion will bring contributions on performance research. We will follow the theoretical development modes proposed by Whetten(1989).

Following the idea of DI as sketched, we could find a very specific conception of organizational action and interaction over time. Organizations would try to change the external environment by making other agents become more “dependent” on their resource-base. This would possibly be done through the use of capabilities. Organizations would try to reduce their “dependence” on other agents, through the use of capabilities. Some capabilities may be dynamic. Here the interrelationship between different sets of dynamic capabilities and resources distributed

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through the organizational landscape would determine the general trajectory (path) of the organizations, their performance, and their patterns of interdependence.

We may have a model in which complex forms of internal and external interdependence co-determine each other and co-evolve, creating multiple possible configurations and structures of external dependence (e.g. power imbalance vs. mutual dependence) and internal power (e.g. hierarchy vs. heterarchy, degrees of decentralization and autonomy, etc.). Different patterns of power accumulation would have great consequences in the processes of capability development and the development of resources and routines, setting up evolutionary paths of changes or persistence effecting performance. We state that these processes may be resulted of dynamic interaction's patterns which could be empirically studied. This could help us determine how different organizational paths influence performance.

Keywords: performance, inter-organizational exchange relation, dynamic interaction, evolutionary perspective, multidimensional analysis.

1 Introduction

This essay aims to present theoretical and methodological reflections related to an ongoing research. The aim is advance theoretical and methodological issues pertinent to the research work in progress. The theoretical propose is the "dynamic interaction" definition from an integrative theoretical framework based on evolutionary perspective (Aldrich & Ruef, 2006). The methodological propose is to present a two-dimensional organizational event typology and methodological considerations about its application in the context of the research project(Runde & de Rond, 2010). Considering the theoretical and methodological advances made, we try to answer the question that heads this article.

The aforementioned research has a mixed method approach (Creswell, 2010)that began with a quantitative analysis of a databaseas presented in the next topic (topic 2). Next step will be cases studies that seek to examine how organizational trajectory and / or the dynamic interaction influences the performance of the firm. The goal of case studies is to provide plausible evidence whether the organizational trajectory and / or dynamic interaction are phenomena that impact the organizational performance in the the*Great ABC*Region.

Specifically we want to meet three research goals: a) specify the importance of the firm's characteristics, industry, trajectory and management in their performance; b) to establish a practical and theoretical sense of the studied phenomena; c) to analyze historical events that impact organizational performance to show why the organizational history and / or dynamic interaction

impact organizational performance. This work is an attempt to create the analytical framework for the subsequent case studies.

Dynamic interaction is one of the important theoretical constructs to be used in the analysis, which justify conducting this work. As a result we wish to refine the concepts presented based on interaction with experts on the subject. The contributions of work are primarily related to ongoing research. However, we believe that contributions could can be expected to organizational studies and strategic management fields as the work stimulates a current debate considered relevant(Hillman, et al., 2009).

The text is organized as follows. The second topic presents the quantitative analysis carried out in order to identify the effects of the firm, industry, trajectory and firm-industry interaction in the performance of the companies represented in the database. The third proposes to carry out a literature review and subsequent theoretical developments in order to conceptualize "dynamic interaction" considering three streams: a) the variance decomposition research stream; b) an integrative theoretical framework based on evolutionary approach; c) dynamic capabilities view. The forth topic presents a two-dimensional event typology considering dynamic interaction as one dimension and organizational path as the other dimensions. Follow the methodological considerations, discussion and conclusion.

2 Firm performance interaction effect

In an exploratory study, Loebel and Zambaldi (2011), using 7-year data (2001-2008) of 124 private firms included in *Quem é Quem no Grande ABC* (2001, 2002, 2003, 2004, 2005, 2006, 2007, 2008)calculated their operational return on assets (OROA) as a measure of the economic performance which one can attribute to the firm's operation. They used a hierarchical model with two levels: industry and firm and which also included size as a control variable and, crucially for our ends, the effect of firms' cumulative performance or cumulative OROA. They did the latter as a potential partial test for some of the theoretical consequences of the dynamic capabilities view as "it would represent the influence of performance accumulated by firms during their observed trajectories in future performance"; a means for trying to analyze "performance as an aggregate measure depending on its own evolution during time".

This measure allowed them to specify the effect of accumulated wealth on firm performance in every sampled period, while previous efforts, such as Eriksen& Knudsen's (2003), had focused only on the last year of observation. Loebel and Zambaldi (2011) found that the "estimated model indicates that the cumulative wealth created by the firm during the years is positively and significantly related to future performance, reinforcing thus the assumption of the

dynamic capabilities perspective that performance is related to the trajectory of the firm". We define this here as the "firm performance trajectory effect", or the influence which past firm performance has on present and future firm performance.

Loebel and Zambaldi (2011) call for further development of the dynamic capabilities approach and path dependence to make better sense of the processes driving this effect. The present paper is an initial response to this call within an explicitly evolutionary perspective.Further analysis was carried out and the partial results are presented in the next topic.

2.1 Further development

The *Great ABC*Region, in the 2000s, was characterized as an industrial southeastern region of *RegiãoMetropolitana de São Paulo* (São Paulo Metropolitan Region – RMSP), Brazil, with domestic product of around 2.4% of GDP, and participation in RMSP's industrial activity around 23%, 13.8% in São Paulo State, and 7.0% in Brazil (Rodrigues & Ramalho, 2007). It has more than five thousand companies and over twenty thousand merchants and service providers; almost half of its jobs are offered in major manufacturing industries (Reis, 2005). The workforce is more than a million people.It is formed by the cities of Santo André, São Bernardo do Campo, São Caetano do Sul, Diadema, Mauá and Ribeirão Pires.

124Private profit-oriented firms listed in the publication *Quem é Quem no Grande ABC* (DIÁRIO DO GRANDE ABC) were the units of analysis in this research, with data relating to a 7-year period embracing 2001-2008. Performance was measured by means of the return on assets (ROA); the use of ROA related measures to represent performance follow the trend of many of the previous studies referenced in this paper, and their results tend to be consistent with those achieved with other measures of performance, such as economic profit or value-based indicators (Hawawini, Subramanian, & Verdin, 2003).

By means of associating the main business activities described for each firm with the three first digits of the CNAE code, the observations were nested in 17 different industries.

Since the study of industry and firm effects on firm's performance has an multilevel nature, with two levels of analysis (industry and firm), hierarchical modeling is a proper method; they are also adherent to situations in which the number of observations are unbalanced among groups (Luke, 2004; Raudenbush & Bryk, 2002; Snijders & Bosker, 1999), which is the case of the sample under study. Because of these characteristics of modeling variance at different levels the recent research in business performance has been applying multilevel modeling as a methodological choice, superior than VCA or ANOVA and ANCOVA.

The following model was estimated:

$$ROA_{ij} = \beta_0 + e_{0ij} + (\beta_1 + u_{1j})CumROA_{t-1}$$

where ROA is return on assets of firm *i* in industry *j*; β_0 is the intercept, e_{0ij} is the firm effect; β_1 is the effect of firm size as a control variable (measured as the natural logarithm of the firm's total assets);β_2 is the effect of firm's cumulative performance (cumulative ROA) until the immediately previous year (t -1) to the year (*t*) when $ROA_{ij}$is observed. The variable $CumROA_{t-1}$is calculatedby adding 1 to ROA in all years previous than (t) and then multiplying the results: $(1+OROA_{ij,t-1})$ x $(1+OROA_{ij,t-2})$ x $(1+OROA_{ij,t-3})$ x $(1+OROA_{ij,t-4})$ x $(1+OROA_{ij,t-5})$ x $(1+OROA_{ij,t-6})$. It represents the effect of accumulated performance in previous periods starting with de first year of observation, in an effort similar to that made by Eriksen& Knudsen's(2003) to capture effects of wealth created by the firms in the period under analysis. However, their approach was to consider the cumulative wealth in the whole period, and decompose variance only for observations in the last year of observation, while our equation, on its turn, is panel oriented, so it can explain variance of firm performance occurring in all the observed periods. Also, u_{1j} is the variance of the effect of $CumROA_{t-1}$at the industry level, that is, the effect of past performance may significantly vary among industries. The fact that the cumulative observed creation of value until period (t) is included in the model is an attempt to check for effects suggested by the dynamic capabilities perspective regarding trajectory, since it would represent the influence of performance accumulated by firms during their tracked paths in future performance, as a means of explaining performance as an aggregate measure depending on its own evolution during time. The existence of variance among industries (u_{1j}) of the cumulative past performance effect caters the fact that the influence of the firm´s trajectory on its future performance is partially dependent on its interaction with its environment (presented here with industry as a proxy). So, the effect of previously accumulated ROA until period (t-1), represented in the equation by β_1, was allowed to fluctuate by industry as a means of measuring the interaction effect of past and environment.

We employed Bayesian techniques to estimate parameters by means of a Gibbs sampler with a burn-in period of 1000 interactions out of 30000 and sequential updates after storage of 100 iterations, in order to avoid auto-correlation. According to Tang &Liou(2010), Bayesian inference is consistent to the study about business performance because it deals properly with the presence of outliers, which typically manifest abnormal returns and therefore attract the interest of researchers on strategic management and performance.

We estimated the following equation:

$$ROA_{ij} = -0{,}139 + e_{0ij} + (0{,}195 + u_{1j})CumROA_{t-1}$$

The variance (u_{1j}= 0,005) of the cumulative performance effect among industries and the variance (e_{0ij}= 0,073) of firm are both significant at the level o 5%, as the effect (β_2 = 0,195) of the cumulative ROA is. However, the only contribution of industry in explaining the composition of

ROA in the period under study was related to its interaction with the firm´s trajectory, since we did not find any significance uniquely attributable to the industry level. In other words, industry (and more broadly, environment) only matters at the extent of its interaction with the paths that firms track.

The estimated model indicates that the cumulative wealth created by the firm during the years is positively and significantly related to future performance, reinforcing thus the assumption of the dynamic capabilities perspective that performance is related to the trajectory of the firm. Furthermore, that effect is partially, but significantly, related to the industry in which the firm competes. Thus, the influence of wealth accumulated by a firm in its business trajectory on its performance is mainly attributable to the firm activity, but also to the way it operates and interacts with the specificities of its industry (environment) along its trajectory.

3 Dynamicinteraction and performance: literature review and theoretical foundation

The literature related to dynamic interaction and business performance is distributed along three main strands: 1) works focusing on firm-effect, industry-effect and the interaction between both (Arend, 2009; Bamiatzi & Hall, 2009; Eriksen & Knudsen, 2003); 2) works based in an integrative theoretical frameworkfrom organizational theories(Corcoran & Shackman, 2007; Crubellate, Pascucci, & Grave, 2008; Gomes & Miranda Gomes, 2011; Hall, 2004; Hillman, et al., 2009; Jackling & Johl, 2009; Lin, Yang, & Arya, 2009; Lynall, Golden, & Hillman, 2003; Oliver, 1991, 1997; Peng, 2004; Rossetto & Rossetto, 2005) and integrated around ; an evolutionary perspective (Aldrich & Ruef, 2006)which we aim to emphasize; 3) works developed from the resource-based view and dynamic capabilities view (Arend & Bromiley, 2009; Drnevich & Kriauciunas, 2011; Hung, Yang, Lien, McLean, & Kuo, 2010; Jia-Jeng & Ying-Tsung, 2010; Jiang, Tao, & Santoro, 2010; Kor & Mahoney, 2005; Moliterno & Wiersema, 2007; O'Connor, 2008; Sahaym, 2005; Wu, 2007).

3.1 Contribution from the variance decomposition research stream

This literature has (see Table I), on the whole, given pride of place to four basic factors with which to decompose inter-firm variance in performance. In order of found importance, these have been: firm effects, industry effects, corporate effects and time effects. Researchers have also explored other possible types of effects, such as subnational region (Chan, Makino, & Isobe, 2010), business segment (Ruefli & Wiggins, 2003), CEO (Chatterjee & Hambrick, 2007), owners (Fitza, Matusik, & Mosakowski, 2009), country (Goldszmidt, Brito, & Vasconcelos, 2007), market (Park, Li, & Tse, 2006), size of firms (Ebben & Johnson, 2005), firm activity (Fitza, et al., 2009).

Table I - Relevant firm performance decomposition papers: methodological approach, results and conclusions

Reference Methodological Approach	Results and conclusions
Schmalesee(1985) One yeardatabase of 456 firms in 242 manufacturing. Cross section; used ordinary-least-squares (OLS) and variance components (VCA).	Firm effects do not exist; Industry effects exist and are important, (account for 75% of the variance of industry rates of return on assets); Market share effects are not significant.Underscores the significance of the industry-effect. "The finding that industry effects are important supports the classical focus on industry-level analysis as against the revisionist tendency to downplay industry differences" (p. 349).
Wernerfelt& Montgomery (1988) They use a focus effect, Tobin's q as a measure of performance and perform the analysis at the firm level (Schmalensee, 1985). They use OLS with and without correction for intangible assets.	Industry effect was estimated in 19.48% (without correction) and 12.30% (with correction). Firm effect was respectively 2.61% and 2.65%. Market share effect was respectively 0.94% and -0.18%; errors were respectively 76.97% and 85.23%. Finds that widest diversification produces lower rents.
Rumelt(1991) First major synthesis within variancedecomposition research stream. Partitions the total variance in rate of return among FTC Line ofBusiness reporting units into factors. Distinguishes between stable and fluctuating effects. Variancecomponents (VCA) method was employed to analyses sample A (Schmalensee, 1985) and B(adding small business-units).	Low and stable industry effects (8.32% and4.03%), very large and stable business unit effects (46.37% and 44.17%), and moderate industryyear effect (7.84% and 5.38%). Industries are heterogeneous; a small part of the variance effect of the business unit may be associated withdifferences in relative size; the use of industry as unit of analysis has low explanatory power for observed profitabilitydispersion; the most important economic rent sources arebusiness-specific.
Roquebert et al. (1996) Address the issue of the relative degree of variance in ROAaccounted for by effects while controlling for the business cycle and the interaction between thebusiness cycle and industry.	Insignificant year effect (0.4%), low industry year effects (2.3%),large and stable business unit effects (37.1%), and moderate industry effect (10.2%).
McGahan& Porter (1997) Study year, industry, corporate-parent,and business-specific effects on the profitability of U.S. public corporations applying thecomponents-of-variance (COV) method.	Year, industry, and business-specificeffects account for 2.39%, 18.68%, and 31.71%, respectively, of the aggregate variance in profitability. The authors argue that industry effect is important because industryinfluences aggregate variation in business-specific profits and the influence of effects varies significantly across broad economic sectors.
Mauri& Michaels (1998) Variance component analysis (VCA) of 264 single-business companies from 69 industriesusing 5- year period (1988-92) and 15-year period (1978-92)	Industry effect: 6.2%,using the 5-year sample, and 5.8%, using the 15-year sample. Firm effect, 36.9% and 25.4%, respectively. Suggests that firm effects are moreimportant than industry effects on firm performance, but not on core strategies such as technologyand marketing. Conclude that core strategies should be studied at lower levels ofaggregation to better specify the sources of competitive advantage.
Brush, Bromiley, &Hendrickx(1999) Use a continuous variable model to examine the issue of corporateversus industry influence on business unit profitability. Continuous variable model method wasemployed as an alternative to VCA or ANOVA to analyze two samples with three and four businesssegments.	Finds that corporations explain little the variability in business unit profitability. The analysis revealed significant industry effects, large business segment effects, andmoderate year effect.
McGahan(1999) Data from US public firms to examine the influence of year,industry corporate-focus, and firm effects on corporate performance from 1981 to 1994. ApplyingANOVA method, performance is measured by Tobin's Q, return over assets (ROA), and a hybridmeasure of return on replacement assets (RORA). The basic model was applied separately for eachof the three performance measures.	Firm effects (Tobin´s Q: 37.1%, ROA: 23.7%, RORA: 27.0%) were more important for performance than industry effects(27.9%, 10.7%, 14.0%, respectively), even considering that industry effects had greaterpermanent components. Industry effects were important, stable, and predictable; firm effects were about twice as important as industry effects for performance, but were less stable and less predictable; acorporate-focus effect (diversification), had either no influence orvery small influence on corporate performance; year effects had a small but significantimpact on corporate performance.
Chang & Singh (2000) Focused on issues related to the corporate effect on firmperformance. Variance components analysis (VCA) method was employedto analyze several samples of all public manufacturing companies available in the Trinet database.	Corporate effects on market share areconsiderably greater than zero when lines of business are defined narrowly, when smallbusiness units are included, and when firms are medium-sized. The results suggest that the relativeimportance of corporate, industry, and business unit effects depends on the types of criteria (suchas the level of industry aggregation, whether small business units are included, and firm size)which are used to construct samples.

Source: the authors based on cited references.

Table I - Table I - Relevant firm performance decomposition papers: methodological approach, results and conclusions (cont.)

Reference Methodological approach	Results and conclusions
McGahan& Porter (2002) Analysis of profitability variance among abroad cross-section of firms in the American economy from 1981 to 1994 trying to identify the importance of year, industry, corporate-parent, and business-specificeffects on accounting profitability among operating businesses across sectors. They employANOVA to analyze sample A (model uncorrected for serial correlation) and B (model corrected forserial correlation).	The analysis revealed that industry and corporate effects are important andrelated to one another. Business-specific effects, emanating from the competitive position and otherfactors, have a large influence on performance. The analysis revealed strong firm effects (sample A: 32.5%; sample B: 36.0%), significant industry effect (8.9% and 10.3%, respectively) and corporate-parent effect (8.8% and 11.6%), and modest year effect (0.8%and 0.4%).
Hawawini, et al. (2003) Develop newperformance metrics,use a new data set and a different statistical approach than previous studies. The objective was to explore a kind ofinteraction between firm and industry, e.g., if exceptional firms may be responsible for the highlevel of firm effects within an industry, and whether the structural effects of the industry have adifferent level of impact for the rest of the industry's firms. The analysis was done using the methods ofVCA and ANOVA.	The preliminary analysis for ROA revealed significant firm effects (35.8%),industry effects (8.1%), year effect (1.0%) and industry-year effects (3.1%). Subsequent analysis formodified ROA also revealed significant firm effects (16.7%), industry effects (16.0%), year effect(1.1%) and industry-year effects (4.1%).
Ruefli& Wiggins (2003) Tries to raise basic issues concerning the assumptions underlying variance decomposition and to question previous interpretations. Applied non-parametric statistics (OLS) and amethodology that permits a "*mutatis mutantis*framework", e.g., considering the possible strategicrole of managers.	The analysis revealed very low year effect (0.01%), low industry effects (0.14%),larger firm effect (12.33%).
Misangyi, Elms, Greckhamer, &Lepine(2006) Apply multilevel modeling to estimate the relative influence of industry, corporate, and business segmenteffects on firm performance. The research demonstrates how to measure strategic factors within aclass of effects.	Performance is influenced byindustry concentration, munificence, and the resource environment provided by corporate parents.The analysis revealed significant industry effects (7.6%), larger firm effects (36.6%), moderatecorporate effects (7.2%), and narrow year effect (0.8%).
Goldszmidt, et al. (2007) Studied the decomposition of variance and the relativeimportance of firm-effect, industry-effect, country-effect and the country-industryinteraction effecson company performance (the temporal effect is equivalent to the "unexplained variance" inthe model of analysis). The work was accomplished by means of multilevel modeling with use ofReturn on Assets (ROA) as an estimator of performance. The Global Compustat database was usedaccessing a sample of 83,641 observations and 10,927 firms in 37 countries and 224 industries, overa period of 10 years. The analysis was undertaken on three selected samples (full sample,manufacturing, and other divisions)	Found low, stable and significant country-effect(respectively, full sample 3.2%, manufacturing 2.1%, other 3.6%), low, stable and significant industryeffect(respectively 1.5%, 1.2% and 2.9%) and interaction industry-country effect (respectively2.9%, 3.1% and 3.5%), very large and stable effect-firms (respectively 32.7%, 33.5% and 31.6%).The influence of a particular country on the performance of their companies was also studied and aranking of countries based on the profitability of the company was developed.
Short, Ketchen, Palmer, &Hult(2007) Study of 1,165 non-diversified firms from 12 industriesacross 7 years to assess the variance on the level of: firm, strategic group, and industry with use ofthree different methods: Variance components analysis (VCA) method, ANOVA and HierarchicalLinear Modeling (HLM).	The analysis indicated strong firm effect (respectively, 65.80%, 71.77%,and 65.82%), smaller industry effect (respectively, 19.25%, 16.90%, and 19.23%) and corporateeffect (14.95%, 11.33%, and 14.95%).
Carvalho, Bandeira-de-Mello, Vianna, &Marcon(2009) Highlights the importance of transient effects, interaction between effects measured and time. This analysis would be particularlyimportant in Latin American countries which are characterized by high volatility in economic andinstitutional environments and large macroeconomic oscillations. Variance decomposition wasmade for firms' operational and economic performance in five countries (Argentina, Brazil, Chile,Mexico, and Peru) from 1998 to 2007.	The analysis indicates that the country-effect is important inLatin America since its transient effects became more important during periods of intenseturbulence. These effects exert greater influence on the firm's economic performance than on itsoperating performance.

Source: the authors based on cited references.

Within this context, the leading theoretical debate has centered on testing the relative importance of the first two effects: specifying whether a firm's level of profitability is better explained through factors internal to the firm (providing support to the Resource-based view) or by being part of a specific sector or industry (strengthening the Industrial Organization perspective). According to Arend(2009), "industry effects and firm effects have been, on average, the two top effects for explaining variance across firm performance data", with firm effects explaining approximately 40% of the variance in firm ROA and industry effects between 4% and 20%.

Quite recently there have also been studies which have tried to focus not just on the importance of one specific effect, but on their interaction (Arend, 2009; Bamiatzi & Hall, 2009; Eriksen & Knudsen, 2003). We will focus on these efforts as they are the most relevant for our ends.

Eriksen and Knudsen (2003) are the first to explicitly propose the notion of "firm-industry interaction" as a codetermining factor of firm-level profitability and to test it empirically. They were mainly inspired to develop this approach by the basic evaluative logic of SWOT analysis, within which successful organizations are able to identify internal strengths and weaknesses, on the one hand, external threats and opportunities , on the other, and to act upon this analysis. In a way, it could be said that for Eriksen and Knudsen "firm" might be seen as a proxy for the more internal "S and W", while industry might represent the external "O and T". They applied the ANCOVA method to analyze the financial performance (ROA) of 9809 small- and medium-sized Danish firms, finding all of the effects studied to be significant, with a large firm effect and small industry and interaction effects. Specifically, when it comes to the latter, they found it to be of rather "limited importance". In this context, their main contribution, more than theoretical or empirical, would be to have tried to provide a preliminary framework within which to think beyond the now-classic binary opposition between IO and RBV and to point towards a possible greater integration, inspiring, therefore, further work on the interaction between firm and industry.

Arend(2009) tries to further develop Eriksen and Knudsen's intuitions. He presents his own model, called "synergy-interaction model" and applies it to data from the Compustat database. He finds significant yet limited "dis-synergies" between industry and firm, and no real significant statistical support for positive synergies. Arend underscores how his analysis is able to better explain the observed data in comparison to models used in preceding studies. He finds that the importance of the industry effect on firm performance is probably less than previously thought and, based on the aforementioned results, that the interaction between firm and industry effects may involve "synergistic effects" and that therefore the "standard additive model of decomposition is likely mis-specified".

Bamiatzi and Hall (2009) present another contribution to this debate. They used a database on the performance of 71.750 British enterprises between 2002 and 2004, segmenting data

into 3 broad categories based on firm size: micro, small and medium enterprises and large companies. They tested for firm-effect, industry-effect and their interrelation in terms of their impact on profitability and sales growth. Specifically in relation to profitability, they found that, when using a broad level of aggregation (SIC4), the interaction effect between firm and industry was significant for micro-firms and SMEs (even if “negligible” for large firms) and that at a more restricted level of aggregation (SIC2), the interaction-effect was only significant for micro enterprises. When the effects were tested in relation to sales growth, no significant results were found.

As we can see, there have not been so far a great number of studies which directly address the issue of firm-industry interaction nor which have truly concentrated on its theoretical implications. With this in mind, we will address in section 3.4. two particular understandings of the relationship between firms and industries which, we believe, might bring light to the firm-industry interaction effect debate (Amit & Schoemaker, 1993; McGahan, 2004).

3.2 Contributions from the integrative organizational theoretical framework

This topic is based on the assumption that events causal explanations (Runde & de Rond, 2010)in search of relationships between inter-organizational interaction and organizational performance (the latter being considered as dependent construct)can hardly be satisfactorily studied and explained using a single theoretical perspective in organizational studies. First a brief review of the literature shows that a plausible way to analyze inter-organizational interaction and organizational performance is using integrative theoretical frameworks. Secondly, we present an approach that focus on integrated theoretical and evolutionary perspective. Finally, we argue how an integrated theoretical perspective based on evolutionary approach should contribute to event analysis trying explaining the relationship between inter-organizational interaction and organizational performance.

Oliver (1991)identify organizational strategic responses to institutional processes. This theoretical essay recognizes that institutional perspective does not give enough attention to the role of organizational self-interests and active agency in organizational responses to institutional pressures and expectation. For gaining greater explanatory powerconsiderable effort was undertaken to compare the institutional and resource dependence perspectives to explore the potential of complementarity between both. This integrative theoretical approachallowed to conclude that “an organization's responses to the institutionalenvironment will not only influence organizational performance, they mayalso influence the criteria, measures, or standards used by institutionalconstituents to evaluate performance” (p. 174).

In the same direction, recent research uses a similar theoretical approach to study the process of strategic adaptation(Rossetto & Rossetto, 2005), the emergence and growth of beyond compliance safety and health (S&H) programs within institutional fields(Corcoran & Shackman, 2007), the influence of stakeholder perceptions in the development of performance indicatiors in public organization (Gomes & Miranda Gomes, 2011).

Hillman, Withers & Collins (2009) take a different way to propose integrative organizational theoretical framework. The article recovers the Resource Dependence Theory (Pfeffer & Salancik, 2003) and indicate that one important potential research area juxtaposing RDT with other theoretical lenses to examine organizational interdependence. Not only is the integration with institutional theory perspective indicated but also the author adds transaction cost economics and agency theory a potentials areas for research. Resource Based View is indicated to be particularly productive integrating with RDT as further developed below(Crubellate, et al., 2008; Lin, et al., 2009; Oliver, 1997). Five stream of RDT research are identified and addressed as a research using RDT on forms of reduce organizational dependence. The streams are: a) merger and vertical integration; b) Joint ventures and other interorganizational relationships; c) boards of directors; d) political action; e) executive succession.Below we identify three studies on boards of directors research stream to illustrate the general lines indicated by Hillman and colleagues.

Jackling&Johl(2009)present the results of a survey on the relationship between the structures of internal governance and financial performance of companies in India. In this context, it is addressed issues of effectiveness of boards of directors, its composition, size and leadership using two commonly employed theories researching on corporate governance: agency theory and resource dependency theory.Using a sample of Indian companies, the authors considered the endogenous characteristics of the relationships between corporate governance, performance and capital structure. The research provides support for the arguments of agency theory considering the trend of increasing number of outside directors on the board resulting in better performance for companies. The notion of separation of roles of leadership as presented by agency theory is questioned. In the circumstances studied the resource dependence theory gains explanatory power. The findings suggest that larger boards of director are positively related with better performance, supporting the idea that greater exposure to the external environment improves access to various resources impacting positively on performance. It was not possible to verify the relationship between frequency of board’s meetings and firm performance as indicated by resource dependence theory. The results also showed that outside busy directors are related to a negative effect on performance, suggesting that "busyness" does not add value in terms of social network and access to resources.

Peng(2004) addresses two questions concerning to the debate on the outside directors/firm performance link to emerging economies by drawing on agency, resource dependence

and institutional theories. One research questions are whether outside directors on corporate boards make difference in firm performance during institutional transitions. The second question addressed is what leads to the practice of appointing outside directors in the absence of legal mandate. The work takeadvantage of China's institutional transitions in the 1990s. It is based on an archival database covering 405 publicly listed firms and 1211 company-years. The results confirm the hypothesis of outside directors' influenceson firm performance considering the sales growth. However, the hypothesis is not confirmed when it was considered the financial performance such as return on equity (ROE).One of the authors' central arguments was the need for greater attention to politic implications in light of the recent trend of diffusion of the practice engaging outside directors on the boards in emerging economies. They also highlight the need to incorporate theoretical frameworks that integrate other theories beyond agency theory in research on the topic of corporate governance.

In line with this development, for example, Lynall, Golden & Hillman (2003)uses a set of theoretical perspectives do understand how board composition firm performance are reflection of both the firm's life cycle stage and the relative power of the CEO. According to the authors, the integrated theoretical framework provides insight into the predictive validity of agency, resource dependence, institutional and social network theories. A central point in the argument of the authors permeating the hypotheses is that boards are subject to path dependence, and thus, boards composition is likely to persist over time.

Consistent with the purpose of our research, we chose to be based on an integrated theoretical framework based on evolutionary perspective (Aldrich & Ruef, 2006)instead of synchronic alternatives(Tolbert & Hall, 2008).

Aldrich &Ruef(2006)consider their theoretical approach as evolutionary approach described as a "metatheory", "an overarching framework that permits comparison and integration of the other social scientific theories" (p. 32). Four main characteristics regarding the authors' approach are relevant for our research and can thus be highlighted: a) its foundation in evolutionary processes(R. Nelson, 1994; R. R. Nelson & Winter, 1982); b) ontological, epistemological, theoretical and methodological possibilitiesfavoring our researchfrom the critical realism(Sayer, 2000); c) possibility to appropriate theoretical integration considering the unit of analysis: organizational events impacting performance(Runde & de Rond, 2010); and d) coherence between perspective and research question: what is the influence of organizational trajectory and dynamic interaction on performance?

To the proposed framework we wish to also include contributions from the Dynamic Capabilities View discussed in the next section.

3.3 Contribution from the Dynamic Capabilities View

One of the contemporary leading approaches which tries to integrate different perspectives while taking into account the interrelationship between the firm and its environment is the Dynamic Capability View (DCV). Therefore, in this section, we will present our understanding of the most promising elements of the DCV as a tool to analyze an organization's path and its dynamic interaction mechanisms. In this sense, particularly relevant to our project is that the DCV has as one of its fundamental elements an evolutionary conceptualization of the firm (Augier & Teece, 2008).

The DCV perspective arose in the beginning of the 1990s as an extension and development of the Resource Based View (RBV) and has become, especially after the publication of "Dynamic Capabilities and Strategic Management" in 1997 (Teece, Pisano, & Shuen, 1997), one of the most influential lines of study within strategic management and related fields. This has meant, on the one hand, that, with at least 100 articles published on the topic every year (Di Stefano, Peteraf, & Verona, 2010), leading journals devoting special numbers to it (Easterby-Smith, Lyles, & Peteraf, 2009; Katkalo, Pitelis, & Teece, 2010), and major conferences giving it pride of place within their programs, the DCV is certainly receiving ever increasing attention. But also, on the other hand, its centrality to the strategy debate has underscored the presence of "commonalities as well as polarizing differences among understandings across this research domain" (Di Stefano, et al., 2010)and the existence of many critiques and open questions (Arend & Bromiley, 2009). We believe that these divergences and points of contention are in part due to the very nature of a research project which is trying to bring within its framework insights from multiple strands of empirical research and theorizing; in this case, most prominently, the behavioral theory of the firm, transaction cost theory, and evolutionary theories of the firm (Augier & Teece, 2008).

In this sense, we could venture to claim that the DCV is still in its initial developmental stages (Helfat & Peteraf, 2009), and that its central concept, that of "dynamic capability", is something similar to what the technical literature on concept formation calls an "essentially contested concept" (Gallie, 1955). Within this context, several scholars have tried to explore, review and integrate the main elements of the research domain, arriving to a variety of conclusions, and offering multiple ways forward (Ambrosini & Bowman, 2009; Ambrosini, Bowman, & Collier, 2009; Barreto, 2010; Di Stefano, et al., 2010; Easterby-Smith, et al., 2009; Helfat, et al., 2007; Katkalo, et al., 2010; Pavlou & El Sawy, 2011; Teece, 2007; Wall, Zimmermann, Klingebiel, & Lange, 2010; Wang & Ahmed, 2007; Zahra, Sapienza, & Davidsson, 2006). From these perspectives, certain major themes come forth and these will guide us in our attempt to give a very

brief yet integrative examination of the literature, from which we will try to present what we consider to be the most promising, consistent and parsimonious conceptualizations for our ends.

Certainly the most important issue at play is the characterization of dynamic capabilities themselves, the theoretical core of the approach. Following rather closely the work of Winter (2003), Zollo& Winter (2002), Ambrosini and Bowman (2009), Helfat, et al. (2007)and others, we propose the following working definition of dynamic capabilities: Dynamic Capabilites are organizational processes which serve the purpose of extending, changing, steering or creating the firm's resource-base and ordinary capabilities (to co-ordinate it, integrate it, reconfigure it, create it, leverage it, etc.).

The first element of this definition is the idea that dynamic capabilities are a specific type of organizational process. By organizational process we mean a more or less stable, routinized and recognizable learned pattern of interdependent actions and collective activity (Feldman & Pentland, 2003; Pentland & Feldman, 2005; Zollo & Winter, 2002). In a nutshell, we understand organizational processes as "sets of coordinated routines" which underpin certain organizational capabilities; one of the constitutive elements of an organizational path. In this context, the specificity of dynamic capabilities lies in their purpose (extending, changing, steering, creating) and object (the organization's resource-base and ordinary capabilities). Here we follow Amit and Shoemaker (1993, p. 35)in their differentiation between resources ("stocks of available factors that are owned or controlled by the firm which are converted into final products or services by using a wide range of other firm assets and bonding mechanisms") and capabilities ("the capacity to deploy resources, usually in combination, using organizational processes, to effect a desired end"); and Winter (2003), who establishes the existence of two basic types of capabilities: ordinary or 'zero-level' capabilities (those that permit a firm to 'make a living') and dynamic capabilities ("those that operate to extend, modify or create ordinary capabilities").

One of the key elements of this way of conceptualizing dynamic capabilities is that it clearly differentiates them from luck, ad hoc problem-solving (Winter, 2003) as other possible mechanisms through which an organization's resource-based might be changed. In this sense, dynamic capabilities are not always, or necessarily, the best (e.g. most cost effective) or only available option to address a problem, create market change, or respond to environmental pressures.

This definition has other theoretical consequences. From it we can specify certain conceptual positions on issues which are still under debate in the DCV literature. We address them very in brief.

Dynamic capabilities, understood as processes which modify the resource-base, can exist and be useful in any type of environment, be it highly stable, moderately changing or hypercompetitive (Eisenhardt & Martin, 2000). This is so because resources, as a stock, inherently

need to be renewed (Teece, 2007)and because routines can be in themselves "generative systems" which "can produce a wide range of different outcomes on the continuum between 'very stable' and 'constantly changing', depending on circumstances" (Pentland & Feldman, 2005). In this sense, routines and resources could need to be renewed and their change processes steered in any type of environment just to "keep things going normally". It could be said that dynamic capabilities, as intentional process designed to guide the development of an organization's resource-base, may be used just to "stay the same" and to prevent the occurrence of unintended change.

From this, we can also conclude that dynamic capabilities can be used both to create and to respond to external change, or also to effect change internally without any specific outward orientation. They can be focused on internal effectiveness (e.g. technical fitness) or evolutionary fitness (e.g. external selection environment) (Helfat, et al., 2007), producing both radical or incremental change on the organization's resource base and ordinary capabilities.

This would also mean that there is no necessary connection between the rate of change produced by the specific set dynamic capabilities within an organization and the rate of change of the environment, nor we can define a priori what would be the ideal configuration.

Therefore, we can also establish that, in themselves, dynamic capabilities can be idiosyncratic or not, substitutable or not, and that this depends on the specific organizational environment and the general set of available dynamic capabilities (Ambrosini & Bowman, 2009; Eisenhardt & Martin, 2000).

This takes us to a crucial point within the literature, the issue of performance. As Zahra et al. (2006) underscore, even if dynamic capabilities "are developed in order to realize strategic advantages, their development does not ensure organizational success". Dynamic capabilities have no necessary or sufficient connection with performance, even if they can have an indirect (large) impact (Zott, 2003)if they are successfully used to create a VRIN resource-base and ordinary capabilities. Also a pattern of performance can be sustainable or not depending on the specific nature of the environment, the resources and the dynamic capabilities involved.

Our focus should then lie on the specific way the dynamic capabilities are deployed, how they interact with the resource-base and ordinary capabilities, and see to what extent they are effectively used to generate VRIN results. Dynamic capabilities are "dynamic" in as much as they affect the resource-base and ordinary capabilities and are able to influence their development. The particular way in which this will occur within each organization is likely to be greatly varied and here we will be able to find fundamental mechanisms to explain variation in the trajectories taken. This interaction between dynamic capabilities and the resource-base and ordinary capabilities may bring forth very characteristic self-reinforcing process of different types (e.g. learning paths), even

more so if the dynamic capabilities involved are also the change-objects of other higher-order capabilities (Ambrosini, et al., 2009).

The specificity of each trajectory is also likely to be underpinned by multiple microfoundations, most notably, different forms of “sensing” and “seizing”, etc.(Teece, 2007) which can be extremely important in the development and effectiveness of dynamic capabilities.

Other relevant microfoundations can be, for example, intra and interorganizational “social capital”, “leadership patterns”, “organizational culture”, etc. (Ambrosini & Bowman, 2009). Consequently, we also can’t predetermine where the dynamic capabilities are to be located. The relevant processes can take place in any level of the organization (Pavlou & El Sawy, 2011). They can be organizational (e.g. a general behavioral orientation of the organization as a whole such as, for example, Total Quality Management), reside in the top management, the middle management, the shop-floor, be unequally or equally distributed, etc. This is, as most other issues within the dynamic capabilities debate, an empirical matter.

3.4 The dynamic interaction concept

We propose that dynamic interaction would be understood as different forms of relationship with the environment to deal with situations of resource dependence and interdependencies with other organizations in their environment. Dynamic interaction encompasses organizational activities system and routines that exist to achieve inter-organizational relations over time to carry out organizational changes, to take advantage of opportunities that present themselves in the environment or even try to alter their environment.Pfeffer&Salancik(2003) has demonstrated different ways that organizations become subject to new and different constrains as their patterns of interdependence change. The image they present is one of dynamic interaction and evolution of organization, environment and inter-organizational relations over time that certainly influence the resource base and organizational performance.

Accordingly, dynamic interaction comprises ordinary and dynamic capabilities that potentially modify the resource-base of the firm(Sahaym, 2005).

3.4.1 Dynamic interaction and performance

Dynamic interaction, understood as organizational activities system and routines in order to achieve inter-organizational relationships, can exist and be useful in any type of environment, be it highly stable, moderately changing or hypercompetitive(Eisenhardt & Martin, 2000; Pfeffer & Salancik, 2003). This is so because resources, as a stock, inherently need to be renewed (Teece, 2007) and because organizational activities system and routines can be in

themselves “generative systems” which “can produce a wide range of different outcomes on the continuum between ‘very stable’ and ‘constantly changing’, depending on circumstances” (Pentland & Feldman, 2005). In this sense, organizational activities system, routines and resources could need to be renewed and their change processes steered in any type of environment just to “keep things going normally”. Dynamic interaction can be used just to “stay the same”(Lazzarini, 2007). From this, we can also realize that dynamic interaction can be used to create or respond to external change, but not necessarily to cause changes in the environment. They can be focused on internal effectiveness (e.g. technical fitness) or evolutionary fitness (e.g. external selection environment) (Helfat, et al., 2007), producing both radical or incremental change on the organization’s resource base and ordinary capabilities.

This would also mean that there is no necessary connection *between* the rate of change produced by the specific set dynamic interaction within an organization and the rate of change of the environment, nor we can define a priori what would be the ideal configuration. Therefore, we can also establish that, in themselves, *dynamic*interaction can be idiosyncratic or not, substitutable or not, and that this depends on the specific organizational environment and the general set of available dynamic interaction(Ambrosini & Bowman, 2009; Eisenhardt & Martin, 2000; Pfeffer & Salancik, 2003).

Although there are studies that seek to clarify the relationship between dynamic capabilities and performance (Drnevich & Kriauciunas, 2011; Jiang, et al., 2010; Kor & Mahoney, 2005; Macher & Mowery, 2009; Teece, 2007; Wu, 2007; Zott, 2003)few studies have been found which aims to study the relationship between performance and dynamic interactionalso including the notion of dynamic capabilities(Black, Oliver, Howell, & King, 2006).

3.4.2 Dynamic interaction and capabilities

Dynamic interaction is“dynamic” in as much as they affect the resource-base and ordinary capabilities and are able to interact with their environment over time. The particular way in which this will occur within each organization is likely to be greatly varied and here we will be able to find fundamental mechanisms to explain variation in the trajectories taken. This interaction between dynamic interaction, the resource-base, ordinary and dynamic capabilities may bring forth very characteristic self-reinforcing process of different types (e.g. learning paths), even more so if the dynamic interactioninvolved are also the change-objects of dynamic capabilities(Teece, 2006).

The specificity of each trajectory is also likely to be underpinned by multiple microfoundations(most notably, different forms of “sensing” and “seizing”, etc.;Teece, 2007) which can be extremely important in the development and effectiveness of dynamic capabilities. Other

relevant microfoundations can be, for example,intra and interorganizational “social capital”, “leadership patterns”, “organizational culture”, etc. (Ambrosini & Bowman, 2009).

Consequently, we also can’t predetermine where the dynamic capabilities that makes dynamic interaction possible are to be located. The relevant processes can take place in any level of the organization(Pavlou & El Sawy, 2011). They can be organizational (e.g. a general behavioral orientation of the organization as a whole such as, for example, Total Quality Management), reside in the top management, the middle management, the shop-floor, be unequally or equally distributed, etc. This is, as most other issues within the dynamic capabilities debate, an empirical matter. Which takes us to certain methodological principles which we believe are of particular importance in the study of dynamic interaction.

3.5 Opportunities for methodological development

These theoretical foundations are certainly not an exhaustive list of the principlesa researcher must consider in the study of dynamic interaction, but we believe them to be more or less settled issues which can serve as a base from which to address other more problematic concerns. These may include: what are the different “levels” of dynamic interaction? (Ambrosini & Bowman, 2009; Winter, 2003). Are there different “types” of dynamic interactions? (Ambrosini & Bowman, 2009). What is the role of uncertainty, causal ambiguity and complexity in them? (Pavlou & El Sawy, 2011). What is the best type of “actor-rationality” to be adduced in the study of dynamic interaction (e.g. perfect, bounded or pragmatic)? (Arend & Bromiley, 2009) What would be the connection between “strategy-as-practice” and the dynamic interaction?(Regnér, 2008). Three other specific questions could be added to this non-exhaustive list: how can be the “value” of resources and dynamic interaction specified? Is value something “given”? (Katkalo, et al., 2010) What configuration of relationships can there be between dynamic interaction and organizational microfoundations? (Teece, 2007). And, finally, what if any is the role of power relations in the use and development of dynamic interaction? It is to these last questions that we will devote ourselves here, presenting an exploratory theoretical elaboration in which connecting the DCV and the RDT serves as an approach to identifying the ways in which power can be considered a form of microfoundation for dynamic interaction and different forms of (inter)dependence may help indicate the mechanisms through which value is determined within a certain organizational domain. With this objective in mind, we now review the RDT literature.

Extend the theoretical sense indirection to dynamic interactivity in accordance with the three perspectives reviewed.

4 An organizational event typologyto explain performance

Developing previous work (Loebel & Cesaris, 2011), we propose that the study of organizational events, as multidimensional analytical constructs, can be of great use in specifying the way in which processes of dynamic interaction may influence organizational performance. In the aforementioned paper, we focused on this notion within the context of the study of an organization's path. Here we wish to present a preliminary expansion of our arguments to include dynamic interactions as an object apt to be approached through the lens of organizational events.

As in Loebel &Cesaris(2011), we use Conkin and Roland's definition of event as our guide: "a distinguishable happening, one with some pattern or theme that sets it off from others, and one that involves changes taking place within a delimited amount of time" (Conkin & Roland, 1989). In other words, our interest lies in an occurrence which could be postulated to have effected some kind of alteration in the usual pattern of happenings within which an organization is embedded.

As we briefly described in Loebel &Cesaris(2011), the first analytical stage is to speculate on how certain happenings could be connected with organizational performance to then develop plausible conjectures on which happenings may be identified as an event; as a changing-making occurrences. Once potential events have been identified, these can be categorized according to their basic characteristics. Specifically, as we are interested in patterns of resource development and dependence, we are probably to focus on how a proposed event might have modified the ways in which an organization obtains and enacts its resource-base (Feldman, 2004). Also, we could try to place the conjectured events of interest within a chain of broader happenings, to see if they can be hypothesized to be either its cause or effect. Griffin (1993) suggestions with regards to the utilization of the tools offered by event-structure analysis can be of great assistance in this endeavor.

Once the proposed events of interest have been identified, we are to try to understand the causal mechanisms which may explain the posited importance of these events for organizational performance. In this sense, a crucial element within the context of this paper is to try to identify if an organizational event is eminently part of an organization's path (or endogenous mechanisms of organizational development), of the organization's dynamic interaction with the broader environment (the relationship between an organization's path within wider patterns of interdependence) or both. As we mentioned in Loebel &Cesaris(2011), we recommend to use "theoretical sampling, abduction, analytic induction, members and public consensus and triangulation" to specify the possible mechanisms relevant for a specific event, to then be able to place them within theoretical and/or emerging multidimensional types which follow closely the granular characteristics of the object; in our case, "dynamically interactive organizational events",

"path dependent organizational events", "dynamically interactive and path dependent organizational events", and a null type. To do this would allow us to place the event within the following typology:

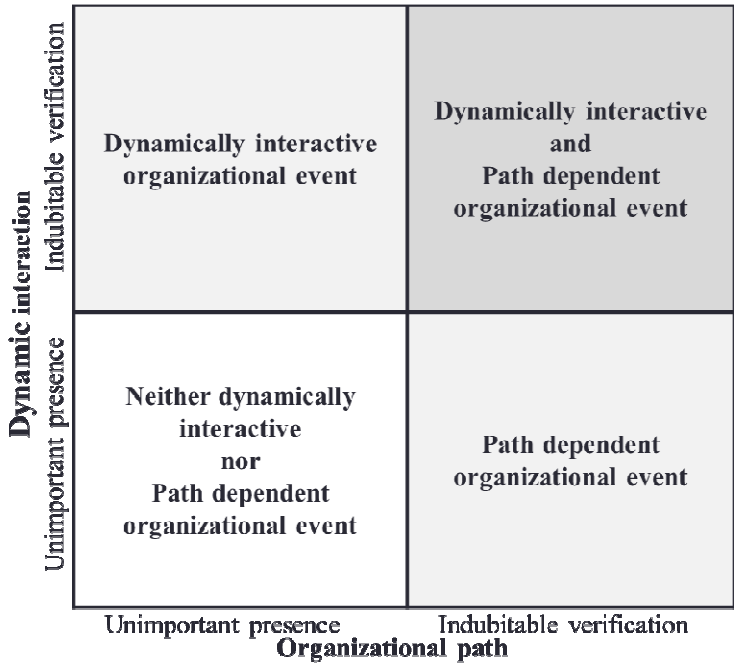

Figure 1 – Two-dimensional organizational event typology.
Source: authors.

Once events have been placed within a quadrant, Runde and de Rond's(2010) questions to test an specific event explanation are of special use to see if they have been placed appropriately. We are to ask if the factors proposed as having caused a certain event were actually present or not in the case of study; if they were causally effective; and if they are sufficient to position the event in one or another quadrant. The tests proposed by Bennett (2008)(straw in the wind, smoking gun, hoop and double decisive) are probably the best available to judge among rival hypothesis when it comes to specifying the mechanisms of an organizational event.

After these analytical operations, "the analyst should be ready to propose a specific, plausible and systematic narrative" (Loebel & Cesaris, 2011) of the role that an event may have within an organizational path or its patterns of dynamic interaction and, therefore, its performance. To end this section, we will briefly present the basic characteristics of the four types of organizational events we propose

4.1 Dynamically interactive organizational events

An event in which the patterns of dynamic interaction are most prominent would be one in which there are explicit changes in the configuration of interdependencies in which the organization is placed. This might involve, for instance, a new set of valuable resources which have

been appropriated by an organization in the environment, transforming the basic ways in which power balancing and counter-balancing is performed, be it through dynamic capabilities or any other of the mechanisms we have mentioned. In such a situation, an organization might find it useful to activate capabilities which were "in practice" but which were partially "latent" or "stored". Capabilities which were used to a very limited extent within the broad stream of activities of the organization, somewhat dormant until this time within wider organizational processes, may be put to greater use to try to face a new set of interdependencies in the environment.

4.2 Path dependent organizational events

In this quadrant our focus would lie in trying to locate an event within a specific section of the organization's path (Loebel & Cesaris, 2011), be it its beginning, mid-section, or a recurring event within the path as a whole. For example, we would be interested in the triggering factors of processes of learning which can be of great relevance in the study of the development of capabilities (Easterby-Smith & Prieto, 2008; Prieto & Easterby-Smith, 2006; Romme, Zollo, & Berends, 2010; Zollo & Winter, 2002).

Learning is a quite generalizable mechanism which plays a mediating role between many endogenous organizational processes, such as sensing and seizing, resources, such as organizational knowledge and information, and the evolution of routines. As general principle, mechanisms of organizational learning tend to undergird processes of path dependence (e.g. irreversibilities and negative externalities) and path creation (e.g. mindful deviation) which are likely to be extremely important in the development of capabilities and their interrelationship with the resource-base (both in the "nurturing" of available paths and exclusion of "paths not taken") (Garud, Kumaraswamy, & Karnøe, 2010; Page, 2006; Sydow, Schreyögg, & Koch, 2009; Vergne & Durand, 2010, 2011)in all the activities of the organization, be it of "value creation" and/or "value capture" (Pitelis, 2009).

4.3 Dynamically interactive and path dependent organizational event

In this type of events both processes of dynamic interaction and path dependence are found to have been relevant. Combining the aforementioned examples, a change in the pattern of interdependencies may bring about a new set of relatively autonomous learning mechanisms or, on the other hand, a process of learning may bring forth a new set of valuable resources which reconfigures the network of power relationships within an environment.

4.4 Neither dynamically interactive nor path dependent organizational event

This type of event would include occurrences which produce relevant changes in an organization's performance while also not modifying its path or its set of interdependencies, be it by reinforcing or undermining them. Such an event could arise, for example, from some kind of ad hoc problem solving which is then not reintegrated within the organizations broader routines and processes; which is not taken up as part of any kind of learning mechanisms; nor modifies the organization's structure of relations.

5 Discussion: is dynamic interaction a useful concept to explain performance?

Based on the presented above, we believe we can suggest a provisional theoretical framework and a typology of events that could be used to explain organizational performance. Considering first the typology proposed, it was identified two main theoretical construct by which presumably could be used to explain organizational performance: path dependence and dynamic interaction. Path dependence is not subject of this paper;the focus is concentrated on dynamic interaction defined from a theoretical framework that integrates different theories from an evolutionary perspective. We consider at this timemainly two theories: resource dependence theory (RDT) and dynamic capabilities view (DCV) into a dynamic model of the interrelationship between the internal and external development of resources and organizational (inter)dependence. To plausibly respond the question whether dynamic interaction is or not a useful concept to explain performance we will: a) first summarize what we consider to be the core elements of the DCV and the RDT; b) propose show how they can complement each other in the conceptualization of dynamic interaction; and c) discuss how this notion could be applied in an effective way to explain performance; d) identify limitations and further development.

We have stated that the nuclear concept of the DCV is that a dynamic capability is an organizational process which serves the purpose of extending, changing, steering or creating the firm's resource-base and ordinary capabilities and that the use and development of dynamic capabilities can be very important in the development of a VRIN resource-base and ordinary capabilities.

With this in mind, we wish to suggest is that the existence of a VRIN resource-base (valuable, rare, in-imitable, non-substitutable) can imply that other organizations are dependent on it and that, therefore, organizations may deploy their dynamic capabilities with the purpose of maximizing external power and minimizing internal dependence. For an organization to be dependent on the resources of another organization, these resources need to be VRIN, for which dynamic capabilities can be required. It is from this basic notion that we understand that it is

possible to integrate the DCV and the RDT to construct a useful theoretical construct of dynamic interaction that could be used in conjunction with another construct (path dependence) to plausibly explain organizational performancein research that would take the form of case studies(George & Bennett, 2005).

One core idea comes from what we believe would be a close reading of the consequences of the existence of a VRIN resource-base. If a resource fulfills the four criteria, we believe it follows rather logically that it would be part of some form of organizational (inter)dependence. If something is valuable, rare, in-imitable and non-substitutable it seems to us rather indisputable that it would be needed by some actor and that, therefore, he would be dependent on it to at least a certain extent.

Following this theoretical image, we would find a very specific and dynamic conception of the way organizations interact. Organizations would try to change the external environment (e.g. creating new markets and products) by making other organizations become “dependent” on them, on their resource-base. This would be done to a large extent through the use of dynamic capabilities (second-order processes) which change the resource base and ordinary capabilities trying to make them VRIN.At the same time, organizations would try to reduce their “dependence” on other organizations, also, at least in part, through the use of dynamic capabilities, as they are one of the main means available to change the resource-base.

This gives us a very dynamic model of the way the organizational ecosystems works, with organizations trying, at the same time, to make other organizations dependent on them and to become independent or less dependent on others. This would be a very strong driver for micro, meso and macro change: amore or less continuous process in which organizations try to make their resources and operational capabilities VRIN and try to reduce external resource dependence. Here the interrelationship between different sets of dynamic capabilities and resources and operational capabilities distributed through the organizational landscape would determine the general trajectory (path) of the organizations, their performance, and their patterns of interdependence.

This conception could also be extended to the organization’s internal dimension. The main idea here would be that the conception of internal power as coming from being able to bring new resources into the organization can be seen as a partial image of what dynamic capabilities can do. We could then say that power may come from, at least in part, the ability to renew resources, routines and operational capabilities; from the control of dynamic capabilities. And power, essentially influence on the allocation of resources, would also, in the same vein, have important consequences on the development of the resource-base, ordinary capabilities and dynamic capabilities. Understood in this way, dynamic capabilities could be used to increase the power of one of the organizational coalitions and not obligatorily performance. They could be, for example,

used as a capability destroying tool in an “internal fight”, in which coalitions try to enhance their internal power by depleting a rival coalition’s resource base. This could have great (deleterious) consequence in the long run for the organization(s) involved.

Now, if we take these ideas further, we may have a model in which complex forms of internal and external interdependence co-determine each other and co-evolve, creating multiple possible configurations and structures of external dependence (e.g. power imbalance vs. mutual dependence) and internal power (e.g. hierarchy vs.heterarchy, different degrees of decentralization and autonomy, etc.) enabling different types of macro, meso and micro processes and consequences. Crucially, different patterns of power accumulation would have great consequences in the processes of capability development and the development of resources and routines, setting up unique evolutionary paths with different types of enacted microfoundations (specially,forms of sensing and seizing).

We believe that the notion of dynamic interaction can be expanded to increase its explanatory power of phenomena that impact on organizational performance. One way would be to incorporate other theories that could extend the notion of dynamic interaction such as the institutional perspective, the organizational learning perspectives, agency theory, transaction cost economics and network theory, the ecological approach. These approaches could bring other potentialities to the notion, for example, the possibility of dynamic interaction without the need to improve organizational efficiency, while ensuring the performance.

6 Conclusion

In this article we have delineated in broad strokes what we consider to be one of the main conceptual elements of a plausibly performance explication: dynamic interaction. Here we have focused on the partial results of our empirical analysis, a possibility of integrate theories in an integrative framework based on evolutionary perspective, contributions form resourse dependence perspective and dynamic capabilities view and an organizational event typology. One finding was that VRIN resource-bases and ordinary capabilities, mediated through the actions of dynamic capabilities, can be of central importance in the evolution of organizational intra and interdependences. Based on the assumption that organizations want to increase their power and reduce others’ power on them, we have underscored the role that dynamic capabilities may have in developing VRIN resource-bases and ordinary capabilities which change power configurations both within and between organizations. Now we will very briefly outline possible empirical and theoretical developments to further this research perspective.

An initial attempt to operationalize the approach here proposed could be to focus specifically on relational and acquisition-based dynamic capabilities and how they can be very closely and directly connected with the forms of reducing environmental dependences underscored by Pfeffer and Salancik, such as “mergers”, “joint ventures”, “boards of directors”, and “political action” (also, but less so, executive succession, which may be more closely connected other types of dynamic capabilities). In this way, the questions here presented would require greater operational specification. For example, between “power” and “dynamic Capabilities”, which one is the “dependent viable” and which one is the “independent variable”?how would are conclusions differ? Or should we focus on self-reinforcing mechanisms and feedback processes which move beyond “variable-centered methodologies”?

The same questions would be relevant when it comes to the difference and relationship between “internal power” and “external power”. What is VRIN internally is also VRIN externally? Are there different power dynamics? What does this tell us about the process of “value creation and value capture” and the deployment of the different types of microfoundations? Does this dynamic conception open the door for a more clear understanding of positive sum games within RVB and RDT?

One further development could be trying to connect the approach here delineated with Porter’s Five Forces, trying to see how different forms of interdependence may structure each of them. Would this mean that it is possible to find greater confluences between Industrial organization and RBV?

7 References

Aldrich, H. E., & Ruef, M. (2006). *Organizations Evolving*. London, Thousand Oaks, New Delhi: Sage.

Ambrosini, V., & Bowman, C. (2009). What are dynamic capabilities and are they a useful construct in strategic management? *International Journal of Management Reviews, 11*(1), 29-49.

Ambrosini, V., Bowman, C., & Collier, N. (2009). Dynamic Capabilities: An Exploration of How Firms Renew their Resource Base. *British Journal of Management, 20*, S9-S24.

Amit, R., & Schoemaker, P. J. H. (1993). Strategic Assets and Organizational Rent. *Strategic Management Journal, 14*(1), 33-46.

Arend, R. J. (2009). Industry effects and firm effects: No effect is an island. *Journal of Business Research, 62*(6), 651-659.

Arend, R. J., & Bromiley, P. (2009). Assessing the dynamic capabilities view: spare change, everyone? (Vol. 7, pp. 75-90).

Augier, M., & Teece, D. J. (2008). Strategy as Evolution with Design: The Foundations of Dynamic Capabilities and the Role of Managers in the Economic System. [Article]. *Organization Studies (01708406), 29*(8/9), 1187-1208.

Bamiatzi, V., & Hall, G. (2009). Firm versus Sector Effects on Profitability and Growth: The Importance of Size and Interaction. [Article]. *International Journal of the Economics of Business, 16*(2), 205-220.

Barreto, I. (2010). Dynamic Capabilities: A Review of Past Research and an Agenda for the Future. *Journal of Management, 36*(1), 256-280.

Bennett, A. (2008). Process Tracing: A Bayesian Approach. In J. Box-Steffensmeier, H. Brady & D. Collier (Eds.), *Oxford Handbook of Political Methodology* (pp. 702-721). Oxford: Oxford University Press.

Black, J. A., Oliver, R. L., Howell, J. P., & King, J. P. (2006). A dynamic system simulation of leader and group effects on context for learning. [Article]. *Leadership Quarterly, 17*(1), 39-56.

Brush, T. H., Bromiley, P., & Hendrickx, M. (1999). The Relative Influence of Industry and Corporation on Business Segment Performance: An Alternative Estimate. *Strategic Management Journal, 20*(6), 519-547.

Carvalho, C. E., Bandeira-de-Mello, R., Vianna, S. L. G., & Marcon, R. (2009). Performance Heterogeneity in Latin America: An Investigation into the Transient Effects of Country of Origin. [Article]. *Latin American Business Review, 10*(4), 289-308.

Chan, C. M., Makino, S., & Isobe, T. (2010). Does subnational region matter? Foreign affiliate performance in the United states and China. *Strategic Management Journal, 31*(11), 1226-1243.

Chang, S.-J., & Singh, H. (2000). Corporate and Industry Effects on Business Unit Competitive Position. *Strategic Management Journal, 21*(7), 739-752.

Chatterjee, A., & Hambrick, D. C. (2007). It's All about Me: Narcissistic Chief Executive Officers and Their Effects on Company Strategy and Performance. *Administrative Science Quarterly, 52*(3), 351-386.

Conkin, P. S., & Roland, N. (1989). *Heritage and Challenge: The History and Theory of History*. Arlington Heights, Ill: Forum.

Corcoran, D. J., & Shackman, J. D. (2007). A theoretical and empirical analysis of the strategic value of beyond compliance occupational health and safety programas. [Article]. *Journal of Business Strategies, 24*(1), 49-68.

Creswell, J. W. (2010). *Projeto de pesquisa: métodos qualitativo, quantitativo e misto* (3a. ed. ed.). Porto Alegre, RS: Bookman Artmed.

Crubellate, J. M., Pascucci, L., & Grave, P. S. (2008). Contribuições para uma visão baseada em recursos legítimos. *Revista de Administração de Empresas, 48*, 8-19.

Di Stefano, G., Peteraf, M., & Verona, G. (2010). Dynamic capabilities deconstructed : a bibliographic investigation into the origins, development, and future directions of the research domain. *Industrial and Corporate Change, 19*(4), 1187-1204.

Drnevich, P. L., & Kriauciunas, A. P. (2011). Clarifying the conditions and limits of the contributions of ordinary and dynamic capabilities to relative firm performance. [Article]. *Strategic Management Journal, 32*(3), 254-279.

Easterby-Smith, M., Lyles, M. A., & Peteraf, M. A. (2009). Dynamic Capabilities: Current Debates and Future Directions. *British Journal of Management, 20*, S1-S8.

Easterby-Smith, M., & Prieto, I. M. (2008). Dynamic Capabilities and Knowledge Management: an Integrative Role for Learning?*. *British Journal of Management, 19*(3), 235-249.

Ebben, J. J., & Johnson, A. C. (2005). Efficiency, Flexibility, or Both? Evidence Linking Strategy to Performance in Small Firms. *Strategic Management Journal, 26*(13), 1249-1259.

Eisenhardt, K. M., & Martin, J. A. (2000). Dynamic capabilities: what are they? [Article]. *Strategic Management Journal, 21*(10/11), 1105.

Eriksen, B., & Knudsen, T. (2003). Industry and firm level interaction: Implications for profitability. *Journal of Business Research, 56*(3), 191-199.

Feldman, M. S. (2004). Resources in Emerging Structures and Processes of Change. *Organization Science, 15*(3), 295-309.

Feldman, M. S., & Pentland, B. T. (2003). Reconceptualizing Organizational Routines as a Source of Flexibility and Change. *Administrative Science Quarterly, 48*(1), 94-118.

Fitza, M., Matusik, S. F., & Mosakowski, E. (2009). Do VCs matter? the importance of owners on performance variance in start-up firms. *Strategic Management Journal, 30*(4), 387-404.

Gallie, W. B. (1955). Essentially Contested Concepts. *Proceedings of the Aristotelian Society, 56*(ArticleType: research-article / Full publication date: 1955 - 1956 / Copyright © 1955 The Aristotelian Society), 167-198.

Garud, R., Kumaraswamy, A., & Karnøe, P. (2010). Path Dependence or Path Creation? *Journal of Management Studies, 47*(4), 760-774.

George, A. L., & Bennett, A. (2005). *Case studies and theory development in the social science*. Cambridge, MA; London: MIT Press.

Goldszmidt, R. G. B., Brito, L. A. L., & Vasconcelos, F. C. d. (2007). Efeito País sobre o Desempenho da Firma: Uma Abordagem Multinível. *Revista de Administração de Empresas, 47*(4), 12-25.

Gomes, R. C., & Miranda Gomes, L. d. O. (2011). Performance Measurement and Stakeholder Perceptions: Assessing Performance through the Dimensions of Stakeholder Expectations. [Article]. *Brazilian Administration Review (BAR), 8*(2), 133-149.

Griffin, L. J. (1993). Narrative, Event-Structure Analysis, and Causal Interpretation in Historical Sociology. *American Journal of Sociology, 98*(5), 1094-1133.

Hall, R. H. (2004). *Organizações: estrutura processos e resultados*. São Paulo: Pearson Prentice Hall.

Hawawini, G., Subramanian, V., & Verdin, P. (2003). Is Performance Driven by Industry- or Firm-Specific Factors? A New Look at the Evidence. *Strategic Management Journal, 24*(1), 1-16.

Helfat, C. E., Finkelstein, S., Mitchell, W., Peteraf, M., Singh, H., Teece, D., et al. (2007). *Dynamic Capabilities: Understanding Strategic Change in Organizations*. Malden, MA; Oxford; Carlton, Australia.

Helfat, C. E., & Peteraf, M. A. (2009). Understanding dynamic capabilities: progress along a developmental path. *Strategic Organization, 7*(1), 91-102.

Hillman, A. J., Withers, M. C., & Collins, B. J. (2009). Resource Dependence Theory: A Review. [Article]. *Journal of Management, 35*(6), 1404-1427.

Hung, R. Y. Y., Yang, B., Lien, B. Y.-H., McLean, G. N., & Kuo, Y.-M. (2010). Dynamic capability: Impact of process alignment and organizational learning culture on performance. [Article]. *Journal of World Business, 45*(3), 285-294.

Jackling, B., & Johl, S. (2009). Board Structure and Firm Performance: Evidence from India's Top Companies. [Article]. *Corporate Governance: An International Review, 17*(4), 492-509.

Jia-Jeng, H., & Ying-Tsung, C. (2010). The effect of market knowledge management competence on business performance: a dynamic capabilities perspective. [Article]. *International Journal of Electronic Business Management, 8*(2), 96-109.

Jiang, R. J., Tao, Q. T., & Santoro, M. D. (2010). Alliance portfolio diversity and firm performance. [Article]. *Strategic Management Journal, 31*(10), 1136-1144.

Katkalo, V. S., Pitelis, C. N., & Teece, D. J. (2010). Introduction: On the nature and scope of dynamic capabilities. [Article]. *Industrial & Corporate Change, 19*(4), 1175-1186.

Kor, Y. Y., & Mahoney, J. T. (2005). How Dynamics, Management, and Governance of Resource Deployment Influence Firm-Level Performance. [Article]. *Strategic Management Journal, 26*(5), 489-496.

Lazzarini, S. G. (2007). Mudar tudo para não mudar nada: análise da dinâmica de redes de proprietários no Brasil como "mundo pequeno". *RAE-eletrônica, v. 6, n. 1, Art. 6, jan./jul. 2007, 6*(1).

Lin, Z., Yang, H., & Arya, B. (2009). Alliance partners and firm performance: resource complementarity and status association. [Article]. *Strategic Management Journal, 30*(9), 921-940.

Loebel, E., & Cesaris, L. E. U. D. (2011). *Organizational path and performance: a theoretical and methodological framework*. Paper presented at the VIII Congresso de Administração da ESPM.

Loebel, E., & Zambaldi, F. (2011). *How Much Does the Interaction Between Firm and Industry Matter?* Paper presented at the XXXII Encontro da Anpad.

Luke, D. A. (2004). *Multilevel Modeling* (Vol. 143). London, New Delhi: Sage.

Lynall, M. D., Golden, B. R., & Hillman, A. J. (2003). BOARD COMPOSITION FROM ADOLESCENCE TO MATURITY: A MULTITHEORETIC VIEW. [Article]. *Academy of Management Review, 28*(3), 416-431.

Macher, J. T., & Mowery, D. C. (2009). Measuring Dynamic Capabilities: Practices and Performance in Semiconductor Manufacturing. *British Journal of Management, 20*, S41-S62.

Mauri, A. J., & Michaels, M. P. (1998). Firm and Industry Effects within Strategic Management: An Empirical Examination. *Strategic Management Journal, 19*(3), 211-219.

McGahan, A. M. (1999). The Performance of US Corporations: 1981-1994. *The Journal of Industrial Economics, 47*(4), 373-398.

McGahan, A. M. (2004). *How Industries Evolve: principles for achiving and sustaining superior performance*. Boston, MA: Harvard Business School Press.

McGahan, A. M., & Porter, M. E. (1997). How Much Does Industry Matter, Really? *Strategic Management Journal, 18*(ArticleType: research-article / Issue Title: Summer 1997 Special Issue: Organizational and Competitive Interactions / Full publication date: Jul., 1997 / Copyright © 1997 John Wiley & Sons), 15-30.

McGahan, A. M., & Porter, M. E. (2002). What Do We Know about Variance in Accounting Profitability? *Management Science, 48*(7), 834-851.

Misangyi, V. F., Elms, H., Greckhamer, T., & Lepine, J. A. (2006). A New Perspective on a Fundamental Debate: A Multilevel Approach to Industry, Corporate, and Business Unit Effects. *Strategic Management Journal, 27*(6), 571-590.

Moliterno, T. P., & Wiersema, M. F. (2007). Firm performance, rent appropriation, and the strategic resource divestment capability. [Article]. *Strategic Management Journal, 28*(11), 1065-1087.

Nelson, R. (1994). Evolutionary Theorizing About Economic Change. In N. Smelser & R. Swedberg (Eds.), *The Handbook of Economic Sociology* (pp. 108-136). Princenton, NJ: Princenton University Press.

Nelson, R. R., & Winter, S. G. (1982). *An evolutionary theory of economic change*. Cambridge, Massachusetts; London, England: The Belknap Press of Harvard University Press.

O'Connor, G. C. (2008). Major Innovation as a Dynamic Capability: A Systems Approach. [Article]. *Journal of Product Innovation Management, 25*(4), 313-330.

Oliver, C. (1991). Strategic Responses to Institutional Processes. *The Academy of Management Review, 16*(1), 145-179.

Oliver, C. (1997). Sustainable competitive advantage: combining institutional and resource-based views. *Strategic Management Journal, 18*(9), 697-713.

Page, S. E. (2006). Path Dependence. *Quarterly Journal of Political Science, 1*(1), 87-115.

Pajunen, K. (2008). The Nature of Organizational Mechanisms. [Article]. *Organization Studies (01708406), 29*(11), 1449-1468.

Park, S. H., Li, S., & Tse, D. K. (2006). Market Liberalization and Firm Performance during China's Economic Transition. *Journal of International Business Studies, 37*(1), 127-147.

Pavlou, P. A., & El Sawy, O. A. (2011). Understanding the Elusive Black Box of Dynamic Capabilities. *Decision Sciences, 42*(1), 239-273.

Peng, M. W. (2004). OUTSIDE DIRECTORS AND FIRM PERFORMANCE DURING INSTITUTIONAL TRANSITIONS. [Article]. *Strategic Management Journal, 25*(5), 453-471.

Pentland, B. T., & Feldman, M. S. (2005). Organizational routines as a unit of analysis. *Industrial and Corporate Change, 14*(5), 793-815.

Pfeffer, J., & Salancik, G. R. (2003). *The External Control of Organizations: a resource dependence perspective* (Classic ed.). Stanford: Stanford Business Books.

Pitelis, C. N. (2009). The Co-Evolution of Organizational Value Capture, Value Creation and Sustainable Advantage. *Organization Studies, 30*(10), 1115-1139.

Prieto, I., & Easterby-Smith, M. (2006). Dynamic capabilities and the role of organizational knowledge: an exploration. *European Journal of Information Systems, 15*(5), 500-510.

Quem. (2001, Agosto de 2001). QUEM É QUEM no Grande ABC. *Diário do Grande ABC*, p. 89.

Quem. (2002, Agosto de 2002). QUEM É QUEM no Grande ABC. *Diário do Grande ABC*, p. 66.

Quem. (2003). QUEM É QUEM no Grande ABC 2003. *Diário do Grande ABC*, p. 82.

Quem. (2004). QUEM É QUEM no Grande ABC 2004. *Diário do Grande ABC*, p. 82.

Quem. (2005). QUEM É QUEM no Grande ABC 2005. *Diário do Grande ABC*, p. 82.

Quem. (2006). QUEM É QUEM no Grande ABC 2006. *Diário do Grande ABC*, 90.

Quem. (2007). QUEM É QUEM no Grande ABC 2007. *Diário do Grande ABC*, p. 73.

Quem. (2008). QUEM É QUEM no Grande ABC 2008. *Diário do Grande ABC*, p. 74.

Raudenbush, S. W., & Bryk, A. S. (2002). *Hierarchical linear models: Applications and data analysis methods* (2nd. edition ed.). Newbury Park, CA: SAGE.

Regnér, P. (2008). Strategy-as-practice and dynamic capabilities: Steps towards a dynamic view of strategy. *Human Relations, 61*(4), 565-588.

Reis, R. C. (2005). *Articulação Política Regional: a experiência do Grande ABC (1990-2005).* PUC-SP, São Paulo.

Rodrigues, I. J., & Ramalho, J. R. (2007). *Trabalho e sindicato em antigos e novos territórios: comparações entre o ABC Paulista e o Sul Fluminense*. São Paulo: Annablume.

Romme, A. G. L., Zollo, M., & Berends, P. (2010). Dynamic capabilities, deliberate learning and environmental dynamism: a simulation model. *Industrial and Corporate Change, 19*(4), 1271-1299.

Roquebert, J. A., Phillips, R. L., & Westfall, P. A. (1996). Markets vs. Management: What 'Drives' Profitability? *Strategic Management Journal, 17*(8), 653-664.

Rossetto, C. R., & Rossetto, A. M. (2005). Teoria institucional e dependência de recursos na adaptação organizacional: uma visão complementar. *RAE eletrônica, 4*, 0-0.

Ruefli, T. W., & Wiggins, R. R. (2003). Industry, Corporate, and Segment Effects and Business Performance: A Non-Parametric Approach. *Strategic Management Journal, 24*(9), 861-879.

Rumelt, R. P. (1991). How much does industry matter? *Strategic Management Journal, 12*(3), 167-185.

Runde, J., & de Rond, M. (2010). Evaluating Causal Explanations of Specific Events. *Organization Studies, 31*(4), 431-450.

Sahaym, A. (2005, 2005/08//). *SPIN-OUT FORMATION AND PERFORMANCE FROM THE LENS OF DYNAMIC CAPABILITIES AND SOCIAL CAPITAL THEORY*.

Sayer, A. (2000). *Realism and Social Science*. London, Thousand Oaks, New Delhi: Sage.

Schmalensee, R. (1985). Do Markets Differ Much? *The American Economic Review, 75*(3), 341-351.

Short, J. C., Ketchen, D. J., Palmer, T. B., & Hult, G. T. M. (2007). Firm, strategic group, and industry influences on performance. *Strategic Management Journal, 28*(2), 147-167.

Snijders, T. A. B., & Bosker, R. J. (1999). *Multilevel Analysis: An Introduction to Basic and Advanced Multilevel Modeling*. London, etc.: SAGE.

Sydow, J., Schreyögg, G., & Koch, J. (2009). Organizational path dependence: opening the black box. [Article]. *Academy of Management Review, 34*(4), 689-709.

Tang, Y.-C., & Liou, F.-M. (2010). Does firm performance reveal its own causes? the role of Bayesian inference. *Strategic Management Journal, 31*(1), 39-57.

Teece, D. J. (2006). Reflections on “Profiting from Innovation”. [Article]. *Research Policy, 35*(8), 1131-1146.

Teece, D. J. (2007). Explicating dynamic capabilities: the nature and microfoundations of (sustainable) enterprise performance. [Article]. *Strategic Management Journal, 28*(13), 1319-1350.

Teece, D. J., Pisano, G., & Shuen, A. (1997). Dynamic capabilities and strategic management. [Article]. *Strategic Management Journal, 18*(7), 509-533.

Tolbert, P. S., & Hall, R. (2008). *Organizations: Structures, Processes and Outcomes* (10a. ed. ed.). Englewood Cliffs, NJ: Prentice Hall.

Vergne, J.-P., & Durand, R. (2010). The Missing Link Between the Theory and Empirics of Path Dependence: Conceptual Clarification, Testability Issue, and Methodological Implications. *Journal of Management Studies, 47*(4), 736-759.

Vergne, J.-P., & Durand, R. (2011). The Path of Most Persistence: An Evolutionary Perspective on Path Dependence and Dynamic Capabilities. *Organization Studies, 32*(3), 365-382.

Wall, S., Zimmermann, C., Klingebiel, R., & Lange, D. (2010). *Strategic Reconfigurations: Building Dynamic Capabilities in Rapid Innovation-Based Industries*. Cheltenham, UK: Edward Elgar.

Wang, C. L., & Ahmed, P. K. (2007). Dynamic capabilities: A review and research agenda. *International Journal of Management Reviews, 9*(1), 31-51.

Wernerfelt, B., & Montgomery, C. A. (1988). Tobin's q and the Importance of Focus in Firm Performance. *The American Economic Review, 78*(1), 246-250.

Whetten, D. A. (1989). What Constitutes a Theoretical Contribution? *Academy of Management Review, 14*(4), 490-495.

Winter, S. G. (2003). Understanding dynamic capabilities. [Article]. *Strategic Management Journal, 24*(10), 991-995.

Wu, L.-Y. (2007). Entrepreneurial resources, dynamic capabilities and start-up performance of Taiwan's high-tech firms. *Journal of Business Research, 60*(5), 549-555.

Zahra, S. A., Sapienza, H. J., & Davidsson, P. (2006). Entrepreneurship and Dynamic Capabilities: A Review, Model and Research Agenda*. *Journal of Management Studies, 43*(4), 917-955.

Zollo, M., & Winter, S. G. (2002). Deliberate Learning and the Evolution of Dynamic Capabilities. [Article]. *Organization Science, 13*(3), 339-351.

Zott, C. (2003). Dynamic capabilities and the emergence of intraindustry differential firm performance: insights from a simulation study. *Strategic Management Journal, 24*(2), 97-125.