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Entrepreneurial Orientation and Organizational Social Capital: An Exploratory Study

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ABSTRACT

Entrepreneurship must be seen strategically. In this sense, strategic entrepreneurship refers to a strategic action inside companies, reflecting to the achievement of competitiveness and seizing of new opportunities together. Entrepreneur Orientation (EO) represents the corporate entrepreneurship of companies. Nonetheless, companies need resources and capabilities in order to exploit market opportunities, making entrepreneurship action a strategic goal, especially for small- and medium-sized companies which routinely deal with lack or resources. As entrepreneurship, Organizational Social Capital (OSC) is also connected to a company's strategy. Organizational Social Capital is considered a source of sharing resources and capabilities. Taken in this way, Organizational Social Capital may be related to Entrepreneurial Orientation, due to the willingness of entrepreneur companies to share resources and capabilities to undertake new opportunities. Thus, the main goal of this study is to explore the effect of EO on OSC in the context of firms in incubator environments and technology parks. In order to achieve this goal, an exploratory quantitative study was developed in an incubator and technology park. The results revealed that companies with more years of operation and size showed more levels of both Entrepreneurial Orientation and Organizational Social Capital. The results also showed that more entrepreneurial companies have higher levels of Organizational Social Capital, and Entrepreneurial Orientation has a positive and significant effect on Organizational Social Capital. Based on the results, it is possible to conclude that organizational trajectory may play a pivotal effect on the development of Entrepreneurial Orientation and Organizational Social Capital. Finally, EO and OSC may make an interconnected contribution in order for firms to develop new business opportunities, access and share resources and capabilities through ties developed among companies.

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INTRODUCTION

In one sense, Entrepreneurial Orientation (EO) is the entrepreneurial activity of organizations by which they search for competitiveness, aiming to create new opportunities and disrupting the organizational inertia (De Clercq *et at.*, 2013). In this sense, entrepreneurship must be seen in a strategic way. Entrepreneurship focuses on the creation, and strategy emphasizes how the benefit is established and maintained (Venkataraman and Sarasvathy, 2005). Thus, strategic entrepreneurship is an entrepreneurial attitude with a strategic focus, searching for new opportunities to achieve competitive advantage (Hitt *et at.*, 2001).

In this regard, new businesses development should be seen as a special case of strategic management, which is influenced by resources and structure, organizational processes, and systems (Crisman *et at.*, 1998). Thus, resources, capabilities, and organizational learning are areas involving entrepreneurship as an organizational strategy as well (Hitt *et at.*, 2001).

In the same way, Organizational Social Capital (OSC) is also related to organizational strategy, resources, and capabilities. OSC represents the number of resources involved in the evaluation of a network of relationships (Nahapiet and Ghoshal, 1998). In addition, ties among firms may be seen as sources of resources

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and capabilities developed (Alsos *et at.*, 2007; Blyler and Coff, 2003; Eisenhardt and Martin, 2000). Accordingly, OSC can be seen as a strong partner in encouraging entrepreneurial activities, since social capital occurs through interaction among actors. Thus, OSC becomes a more conducive environment through which to conduct entrepreneurial activities (Tondolo *et at.*, 2013).

In this theoretical context, this study aims to explore the effect of EO on OSC in the context of firms in incubator environments and technology parks. In order to achieve the goal, an exploratory case study with a quantitative approach was developed. Besides this introductory section, this paper is organized into the following sections: theoretical basis, methodological procedures, data analysis and discussion, concluding remarks, and references.

Theoretical background:

Entrepreneurial Orientation:

Entrepreneurial Orientation (EO) is the process of organizational entrepreneurship, covering dimensions and their attributes (Dess *et at.*, 1999). Three approaches can be used to operationalize the strategic direction of the company (Lyon *et at.*, 2000): managerial perception, the behavior of the firm, and the allocation of resources, each of which has advantages and disadvantages that should be considered by the researcher.

EO is a multidimensional construct, involving elements of the strategy process such as determination, seeking opportunities, taking risks, adaptability, bargaining and planning (Dess and Lumpkin, 2005). In recent years, EO has been taken as the main construct in the literature of the field of entrepreneurship and strategy. Research in EO has mainly highlighted the following issues: factors that predict EO; effects of EO on firm performance; factors that moderate the relationship between EO and firm performance; and accumulation of knowledge (Covin *et at.*, 2006).

Miller (1983) originally proposed that EO is formed by three dimensions: innovativeness, risk taking, and proactiveness, aiming to capture the essence of organizational entrepreneurship (De Clercq *et at.*, 2010; Taatila and Down, 2012.). The innovativeness measures the organizational search for innovation through new ideas, processes, products and services (Lumpkin and Dess, 1996; Freitas *et at.*, 2012.). In this sense, innovativeness refers to the innovative attitude of organizations (Altinay *et at.*, 2012). Taking risks aims to capture how an organization is willing to risk through investments in order to achieve the expected results (Lumpkin and Dess, 1996; Freitas *et at.*, 2012; Altinay *et at.*, 2012). Proactivity refers to how an organization seeks to be a leader, discovering and exploring new opportunities (Lumpkin and Dess, 1996), identifying and anticipating trends (Freitas *et at.*, 2012).

Lumpkin and Dess (2005) highlighted that if an organization wants to ensure its corporate entrepreneurship, it must develop EO. Lyon *et at.* (2000) proposed a contingency approach in which managerial perceptions, organizational behavior, and resource allocation are related to performance being impacted by environmental and organizational factors. Corporate entrepreneurship is seen by the authors as an option that organizations employ to explore new opportunities. In other words, established organizations must learn to act entrepreneurially (Covin *et at.*, 2006).

Zahra et at. (1999) highlighted the relationship between organizational performance and entrepreneurial activities as a fruitful avenue for further research. Significant insights can be obtained in the investigation of the dynamics of globalization, corporate entrepreneurship, developing new skills, and performance (Dess et at., 2003). Broadly, the relationship between EO and performance is suggested both by the field of entrepreneurship and the field of strategy (Wiklund and Sheperd, 2005). That relationship shows the harmony between EO and the field of study of organizational strategy. Venkataraman and Sarasvathy (2005) emphasized that the perspective of entrepreneurship comes from diverse research opportunities in the field of strategy. In particular, the authors point out the presence of the Resource-based View (RBV), suggesting that it is not just access to resources that reflects the performance of the organizations, but also the method in which it is used. In this logic, the authors indicate a path of investigation to clarify the processes involved in the relationship between resources and performance. In this aspect sharing resources through Organizational Social Capital may also be included.

Organizational Social Capital:

Organizational Social Capital (OSC) emerged from the study of Nahapiet and Ghoshal (1998), where the authors presented OSC from three dimensions: structural, cognitive, and relational. In this study, OSC is seen from these three dimensions, which are used in several studies as a basis for the measurement of social capital. Renowned authors use the proposed dimensions and contribute to their advancement; (see Acquah (2007); Bolino *et at.* (2002); Inkpen and Tsang (2005); Moran (2005); Tsai (2000); Tsai and Ghoshal (1998)).

The structural dimension is defined as the location of the actor and the contacts it has in a social structure, providing some advantages to the actor itself. These advantages are obtained when individuals make use of certain positions in the workplace, information or access to specific resources (Nahapiet and Ghoshal, 1998; Tsai and Ghoshal, 1998).

The cognitive dimension refers to resources that are provided by representations, interpretations, and systems of meaning, which are associated with the involved actors (Nahapiet and Ghoshal, 1998). That is, the relational dimension describes the type of relationships among actors, referring to the assets created and leveraged through relationships that promote trust, reliability, norms and sanctions, obligations and expectations in relationships (Nahapiet and Ghoshal, 1998).

OSC has been routinely addressed by literature in the light of the Resource-based View (RBV; therefore, many authors present the characteristics of RBV to explain the advantages of the OSC (Arregle *et at.*, 2007; Edelman *et at.*, 2004; Leana and Van Buren, 1999; Pennings and Lee, 1998).

In a competitive environment, RBV emphasizes that organizations which own resources and capabilities that are valuable, rare, and difficult to imitate have an advantage over their competitors (Bolino *et at.*, 2002). In this sense, an important component of competitive advantage resides in the OSC of the organization (Edelman *et at.*, 2004), since OSC is seen as a "resource reflecting the character of social relations within the firm" (Leana and Van Buren, 1999, p 538).

According to Nahapiet and Ghoshal (1998), performance differences among firms can be explained by dissimilarities in their abilities to create and exploit OSC. Accordingly, OSC is an important intangible asset that can take years to be developed and enhanced, thus making OSC more lasting and valuable due to its path-dependent characteristic (Zahra, 2010).

OSC supports the firm through the increased availability of resources, perceived through information, technology, knowledge, financial capital, and distribution networks. OSC may also be perceived in relations considered more critical by firms, such as relationships involving the government, foreign markets, or even diplomatic relations (Arregle *et at.*, 2007).

Therefore, OSC benefits the firm's access to external resources by facilitating internal processes (Arregle *et at.*, 2007;. Sirmon *et at.*, 2007). In addition, Arregle *et at.* (2007) suggested the importance of internal heterogeneity of groups in firms and the characteristics of the dominant groups in the development of social capital.

From the understanding that social capital is the sum of actual and potential involved, available and derived from the relationships taken by individuals or social units (Nahapiet and Ghoshal, 1998) and network resources, it is assumed defining what organizational social capital is for the current literature is relevant. The OSC reflects the actual quality of an organization's internal relations, shared by common goals and the degree of cohesion among employees (Pastoriza *et at.*, 2009).

In addition, OSC can be seen as reflecting the character of social relations within the organization, being conducted by members of organizations that have an orientation to collective goals and shared vision, and creating value from the support of collective action (Leana and Van Buren, 1999). Thus, OSC can benefit both organizational levels, internal and external, for example, by creating value for stakeholders and increasing the ability of employees. In this sense, OSC consists of the features that organizations gain through their relationships with other organizations (Zahra, 2010), or, OSC can be interpreted as a willingness to make resources available to an actor through reciprocal trust (Arregle *et at.*, 2007).

According to the literature, some OSC advantages can be highlighted: (i) OSC as a facilitator in the creation of intellectual capital, and (ii) firms with higher levels of OSC may hold a competitive advantage, considering certain limits, in the creation and sharing of intellectual capital (Nahapiet and Ghoshal, 1998). Thus, organizational social capital can positively affect the internal and external activities of the organization, such as entrepreneurship and innovation (Arregle *et at.*, 2007).

Methodological procedures:

This study aimed to explore the effect of EO on OSC in the context of firms in incubator environments and technology parks. For such an exploratory case study, a quantitative approach was developed. The study was developed in a technology park and an incubator located in southern Brazil from August to September 2013.

A Likert structured questionnaire was used for data collection. Target companies were contacted by telephone and questioned about their interest in participating in the study. If positive, the questionnaires were sent by email to the respondent. In general, the respondent was the owner or an executive at a strategic level. In total, 73 questionnaires were collected (8 from incubator environments, covering all resident enterprises in the incubator, 65 out of 94 companies associated to the technology park.). Of those 65 companies, 26 were graduate companies from incubators. Thus, we consider three categories of companies in this study: incubated, graduated, and associated

The questionnaire consists of 27 questions. Seven questions were dedicated to the characterization of the respondent and company, and the remaining 20 questions were in a 5-point Likert scale (ranging from "strongly disagree" to "strongly agree"). These 20 questions aimed at measuring two constructs: Entrepreneurial Orientation and Organizational Social Capital.

To measure EO in this study, a scale developed in the United States by Miller (1983) and Naman and Slevin (1993) and validated in Brazil by Fernandes and Santos (2008) was used. The scale was composed of eight

variables. To measure OSC, questions were based on the instrument developed by Wu (2008), which addressed 12 variables.

We tabulated and analyzed the data using SPSS software version 15.0. To meet the objectives of the study, the variables of each construct were centralized in a variable with the average for each construct. After doing so, cluster analysis was performed in order to classify the companies according to their level of EO. As the sample data as a whole were not normally distributed, the median value in the tests performed was considered.

Cluster analysis is an interdependence multivariate technique that allows the grouping of similar objects together that are different from other groups (Hair *et at.*, 2006). Cluster analysis allowed us to identify three distinct groups. The first group is formed by organizations with low levels of EO; the second group is formed by organizations with an intermediate level of EO; and the third group is formed by organizations with high levels of EO. To measure the similarity between objects, this research used the square Euclidean distance between points. Thus was created a proximity matrix among the 73 organizations analyzed, which resulted in the three groups.

From the results of the cluster analysis, we used the nonparametric Kruskal-Wallis test, which is equivalent to the parametric ANOVA. The Kruskal-Wallis test is used to separate groups and presents as a criterion to analyze more than two groups (Ho, 2006). "The Kruskal-Wallis is extremely useful in deciding whether k independent samples come from different populations" (Siegel and Castellan, 2006, p. 235). This test seeks to check for significant differences between groups, therefore testing the null hypothesis that k samples come from the same population or identical populations with the same median (Siegel and Castellan, 2006).

This test is used in order to check if the median of one of the groups presents differently from the median of at least one of the other groups. Accordingly, Kruskal-Wallis tests the hypothesis H0 (the median of group A =median of group B) against hypothesis H1 (the median of group $A \neq$ median of the group B). However, this test does not show which groups are different, nor does it show how many groups are different (Siegel; Castellan, 2006).

Therefore, the test was used in order to identify whether the medians of EO and OSC variables differ between groups. As we analyzed the three groups, it was important to identify the differences among their medians; in other words, combinations of groups 1, 2, and 3 should present different medians at a significance level of 0.10.

In order to identify whether groups 1, 2 and 3 showed differences among them, the nonparametric Wilcoxon-Mann-Whitney test, which is equivalent to the parametric Student t test, was performed. "The Wilcoxon-Mann-Whitney test can be used to test whether two independent groups were extracted from the same population" (Siegel and Castellan, 2006, 153 p.). The hypothesis tested by Wilcoxon-Mann-Whitney identifies if the median of two groups is equal, in other words, whether the median of group A = median of group B (Ho, 2006; Green *et at.*, 2000).

Finally, we performed a regression model analysis to verify the impact of EO on OSC of firms. As Ho (2006) pointed out, multiple regression analyzes the relationship between a dependent variable and a set of predictors. Given this, we used multiple regression to evaluate the contribution of EO on OSC.

Data analysys:

The average operating time for the whole sample is 12.8 years. Incubated companies showed an average operating time of 1.2 years while associated and graduated companies showed 17.2 and 9.8, respectively, years of operation. Noteworthy, that characteristic of the sample was expected. In terms of size, considering the number of members of each company, incubated, graduated and associated showed respectively a mean of 3.75, 15 and 87.5 employees. As observed in relation to time of operation, this kind of sample characteristic in terms of number of employees had been anticipated.

The median for the total sample was 3.875 in EO. Considering each of the types of companies surveyed, associated showed the highest value, 4.0, followed by graduated, and incubated at 3.875 and 3.625 respectively. The research expected to find a higher value for the incubated companies. However, the sample showed that companies with more operating time, which is the case of associated and graduated companies, have higher EO. This observation suggests that somehow the trajectory and the experience accumulated by companies can contribute to EO. The Kruskal-Wallis test was performed in order to identify whether there were significant differences among types of companies. The results in Table 1 show that there are significant differences between types of companies indicating that the type of company matters regarding the level of EO.

Table 1: Kruskal Wallis test by company type

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	EO	OSC
Chi-Square	8.970	9.219
Df	2	2
Asymp. Sig.	0.011	0.10

Source: Research data

Regarding OSC, the median for the total sample was 3.92. Considering the three types of companies surveyed, associated showed the highest value, 4.0, followed by graduated and incubated at 3.96 and 3.25 respectively. Moreover, as can be seen in Table 1, these differences are significant for levels of OSC, as well as observed for EO, following the same pattern.

Aiming to complement the analysis by type of company the Wilcoxon-Mann-Whitney test was performed, with a significance level of 0.10. As can be seen in Table 2, only the comparison between the graduated and associated company types showed no significant difference when comparing EO. In all other comparisons, significant differences were observed in EO, always in favor of the type of company with more operating time. This observation reinforces what was identified earlier: history and experience can contribute to the level of a firm's EO.

 Table 2: Wilcoxon-Mann-Whitney Test by company type and level of EO

	Graduated x Associated	Graduated x Incubated	Associated x Incubated
	EO	EO	EO
Mann-Whitney U	405,500	57,500	52,500
Wilcoxon W	756,500	93,500	88,500
Z	-1.365	-1.896	-2.946
Asymp. Sig. (2-	0.172	0.058	0.003
Asymp. Sig. (2-tailed)			

Fonte: Research data

We did the same test in order to check which type of company showed significantly different levels of OSC. As can be seen in Table 3, only the comparison between the graduated and associated companies showed no significant difference when comparing OSC. In other comparisons, significant differences were observed in OSC levels, always in favor of the type of company with more operating time. This observation also reinforces what has been identified earlier: history and experience can contribute to a firm's level of OSC.

Table 3: Wilcoxon-Mann-Whitney Test by company type and level of OSC

	Graduated x Associated	Graduated x Incubated	Associated x Incubated
	OSC	OSC	OSC
Mann-Whitney U	484,500	36,00	53,00
Wilcoxon W	1265,500	72,00	89,00
Z	-0.302	-2.764	-2.92
Asymp. Sig. (2-	0.763	0.006	0.003
tailed)			

Fonte: Research data

The hierarchical cluster analysis by variable means of EO suggested three groups. Group 1 was composed of 29 companies: 6 incubated, 10 graduated and 13 associated. Group 1 showed the lowest mean and median EO, 3.54 and 3.65 respectively. Thus, the first group will be called "EO Low." Group 2 consists of 32 companies: 2 incubated, 12 graduated and 18 associated, with intermediate values for EO mean and median 4.01 and 4.0, respectively. Thus, Group 2 is called "EO Intermediate." Finally, the third group consists of 12 companies: 4 graduated and 8 associated. There are no incubated companies in this group. Group 3 showed the highest mean and median for the EO variable, 4.6 for both. Thus, Group 3 will be called "EO High."

It is noted that the Kruskal-Wallis test identified no significant differences between the groups when analyzing operating time and team size. On the other hand, the same test was also performed to verify that there are significant differences between the groups' EO and OSC constructs. As can be seen in Table 4, a significant difference was identified between the groups for the two constructs. This observation suggests that the EO has an effect on OSC.

Table 4: Kruskal Wallis test by company group.

	OE	OSC
Chi-Square	47,453	15,276
Df	2	2
Asymp. Sig.	0.000	0.000

Source: Research data

Aiming to complement the analysis by groups, a Wilcoxon-Mann-Whitney test was performed. As e seen in Table 5, significant differences between the three groups for the OSC construct were identified. Such an observation implies that high levels of EO generate an effect on a company's social capital. In short, the group with the highest level of EO was also the group with the highest level of OSC.

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Table 5: Wilcoxon-Mann-Whitney Test by group's level of OSC

	Ranks			
		N	Mean Rank	Sum of Ranks
OSC	EO low	29	24.22	702.50
	EO intermidiate	32	37.14	1,188.50
	Total	61		
	Test Statistics(a)	•		
		OSC		
Mann-Whitney U		267.500		
Wilcoxon W		702.500		
Z		-2.843		
Asymp. Sig. (2-tailed)		0.004		
	To be continued			
	Ranks			
		N	Mean Rank	Sum of
				Ranks
OSC	EO low	29	16.83	488.00
	EO high	12	31.08	373.00
	Total	41		
	Test Statistics(b)			
		OSC		
Mann-Whitney U		53.000		
Wilcoxon W		488.000		
Z		-3.472		
Asymp. Sig. (2-tailed)	0.001			
	Ranks			
		N	Mean Rank	Sum of Ranks
OSC	EO intermidiate	32	20.53	657.00
	EO high	12	27.75	333.00
	Total	44		
	Test Statistics(b)			
· · · · · · · · · · · · · · · · · · ·		OSC	<u> </u>	
Mann-Whitney U		129.000		
Wilcoxon W		657.000		
Z		-1.666		
Asymp. Sig. (2-tailed)	0.096			

Source: Research data

Finally, we performed a regression analysis model in order to verify the effect of EO on OSC. We also included in the model two dummy variables (years of operation and company size). As can be seen in Table 6, those dummy variables have no effect on OSC at all. On the other hand, EO has a positive and significant effect on OSC. Thus, one may assume that increasing EO will increase OSC, and it can be considered a motivator of OSC.

Table 6: Regression analysis

Model	R	R Square	Adjusted R	Std. E	rror of the Estimate	;
			Square			
1	,553(a)	0,306	0,276	0,45814		
	a. Predictors: (Cons	tant), company siz	e, years of operation	ı, EO		
			ANOVA(b)			
Model		Sum of	df	Mean Square	F	Sig.
		Squares		-		
	Regression	6,386	3	2,129	10,141	,000(a)
	Residual	14,482	69	0,210		
1	Total	20,868	72			
		a. Predictors: (Con	istant), company siz	e, years of operation, EO	1	
		b	. Dependent Variabl	e: OSC		
			To be continue			
			Coefficients(a)		
Model		Unstandardized Coefficients				
Model		Unstandardiz	ed Coefficients	Standardized	t	Sig.
Model		Unstandardize	ed Coefficients	Standardized Coefficients	t	Sig.
Model		Unstandardize B	ed Coefficients Std. Error		t	Sig.
Model	(Constant)			Coefficients	t 3.685	Sig. 0.000
Model	(Constant)	В	Std. Error	Coefficients	3.685 4.612	
Model		B 1.675	Std. Error 0.455	Coefficients Beta		0.000
Model 1	EO	B 1.675 0.539	Std. Error 0.455 0.117	Coefficients Beta 0.472	4.612	0.000
Model 1	EO Years of	B 1.675 0.539	Std. Error 0.455 0.117	Coefficients Beta 0.472	4.612	0.000

Source: Research data

Conclusion:

This study aimed to explore the effect of EO on OSC in the context of firms in incubator environments and technology parks. For such an exploratory case study, a quantitative approach was developed. The study was developed in a technology park and an incubator located in southern Brazil, from August to September 2013.

Based on our sample, it was possible to verify that companies with more experience showed more levels of EO and OSC. Our results support the literature in terms of the role of learning and path dependence (e.g. Eisenhardt and Martin, 2000; Zahra, 2010; Bridi *et at.*, 2014; Tondolo and Bitencourt, 2014).

Results from both the Kruscal-Wallis test based on cluster analysis and from regression analysis support the idea that EO is an important motivator of OSC. First, groups that showed high levels of EO also showed more significant levels of OSC. Second, regression analysis identified a positive and significant effect of EO and OSC. Thus, we can assume that EO is an important predictor of OSC in the context of this study.

In addition, incubators and technology parks may stimulate the EO of firms not only to generate new business opportunities, but also to reinforce that ties generate among those firms. In this way, the OSC developed would be employed to foster resource sharing among firms, making it possible for those firms to become more able to grow and survive in the market competition. OSC can be considered as a source of resources and capabilities to companies (Nahapiet and Ghoshal, 1998). Thus, EO and OSC may play an interconnected contribution in order for firms to develop new business opportunities as well as access and share resources (e.g., information) and capabilities through ties developed among companies. For further studies, we suggest new studies to investigate which environmental conditions are needed by institutions (e.g., incubators) to foster Entrepreneurial Orientation and Organizational Social Capital, contributing to companies becoming sustainable and developing competitiveness.

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