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UMA ABORDAGEM TEÓRICA NEOINSTITUCIONAL RELEVANTE E ABRANGENTE TERIA SIDO INDEVIDAMENTE IGNORADA PELO CAMPO DE NEGÓCIOS INTERNACIONAIS?

Could a Relevant and Encompassing Neo-Institutional Theoretical Approach Been Unduly Ignored by The International Business Field? A Case Study?

Ilan Avrichir
ESPM, Professor Titular do Programa de Pós-Graduação em Administração (PPGA). *email: iavrichir@espm.br*

Laura Mac Lennan
Universidade Ibirapuera.
email: ferranty@hotmail.com

RESUMO

Muitos recursos naturais e, crescentemente, produzidos pelo homem, se enquadram numa categoria a qual Elinor Ostrom, prêmio Nobel de Economia de 2009, se referiu como common-pool resources (CPRs). São recursos dos quais existe uma quantidade limitada, e cujo uso racional do ponto de vista coletivo, na ausência de proprietários privados e de intervenção do estado, é difícil de ser alcançado. Ostrom propôs uma teoria e regras da ação para evitar o uso abusivo desses recursos. Embora bastante difundida nos estudos ambientais e sobre ecologia, as proposições da autora são pouco usadas como referencial teórico nos estudos sobre negócios internacionais. Esse artigo mostra, pela comparação de dois casos, que proposições da autora explicam desfechos muito diferentes nas trajetórias de dois clusters, que se internacionalizaram rapidamente. Contribui para chamar a atenção para o potencial de aplicação, que está sendo negligenciado, do trabalho da autora em pesquisas e práticas.

Palavras-Chave: Desenvolvimento institucional; Estratégia Internacional; Clusters; Recursos do pool comum; Elinor Ostrom

ABSTRACT

Many natural resources, and increasingly human-made ones, fall into a category to which Elinor Ostrom, the 1990 Nobel Prize-winning economist, referred to as common-pool resources (CPRs). They are resources of which there is a limited amount, and whose rational use from the collective point of view, in the absence of private owners and state intervention, is difficult to achieve. Ostrom proposes a theory and rules of action to avoid the abusive use of these resources. Although widely used in environmental and ecology studies, the author's propositions are little used as a theoretical reference in studies on international business. This article shows, through a comparison of two cases, that the author's propositions explain very different outcomes in the trajectories of two clusters that have rapidly internationalized. It contributes to drawing attention to the potential application of the author's theory in research and practices being neglected.

Key-words: Institutional development; International Strategy; Clusters; Common-pool resources; Elinor Ostrom

1 INTRODUÇÃO

In 2009, Oliver Williamson and Elinor Ostrom, two exponents of the field of New Institutional Economics, were awarded the Nobel Prize. Interestingly, while some theses of the former have had widespread repercussions in the field of management in general, and international business in particular, Ostrom's work has been largely ignored by researchers in both fields. A query to the Journal of International Business Studies (JIBS), the journal with the highest impact factor in the field of international business in July 2013, only resulted in advertisements for a Palgrave book, to which Ostrom had contributed chapters. The same query in a database of the papers presented at the most influential Brazilian national management congress, ANPAD, resulted in only one article containing a reference to Ostrom. The ANPAD annals have published over 800 papers in all areas of business every year for decades. A bibliometric study about internationalization papers published in Brazilian journals published between 2011 and 2013 (Ribeiro, 2016)utilizaram-se as técnicas de análise bibliométrica e de rede social. Os principais achados foram: Borini, Scherer, Amal, Ferreira e Gomes se destacaram na rede de coautoria deste estudo, no que se refere a centralidade de grau. As Instituições de Ensino Superior (IESs found more than 150 articles. None of them mentions Ostrom. This virtual complete absence of reference to this Nobel Prize winner is intriguing, at least.

One of Ostrom's main contributions to neo--institutionalism was her radical rejection of Garrett Hardin's thesis in his seminal work (Hardin, 1968) on the nature of common-pool resources (CPR) exploitation, a thesis that became known as the tragedy of the commons. This thesis postulated that, in the absence of government regulation or private ownership of resources, over-exploitation of CPR is inevitable (Feeny et al., 1996).

The fact that Ostrom has received little attention is even more intriguing as many of the concepts and studies of the author focus on understanding how institutions evolve through the interaction of different stakeholders with interest in CPR. The lack of knowledge and theoretical models regarding this issue has repeatedly been emphasized by several researchers in the business field (Child, Rodrigues, & Tse, 2012; McGaughey, Kumaraswamy, & Liesch, 2016). The exploitation of CPR resources is an issue of importance because telecommunications, biotechnology, and other economic sectors are intrinsically increasingly dependent on these types of resources. CPR is central to many current empirical and theoretical issues, such as the exploitation of positive externalities in clusters, the coordination of non-hierarchical chains in global value chains, and the governance of decentralized networks.

Ostrom, supported by extensive empirical work, showed that communities that exploit CPR could define and implement rules making sustainable exploitation of these resources possible. The success of these attempts is not guaranteed a priori, and the author documented several failures. In addition to documenting situations of success and failure, the author formulated several propositions regarding the conditions that aid or hinder these attempts to manage shared assets.

In this article, we attempt to gauge whether some of Ostrom´s propositions are consistent with the contrasting results of two Latin American exporting clusters experienced in dealing with CPR. One of these is the salmon cluster in southern Chile, and the other is of ornamental stone in Espírito Santo State, Brazil. In Chile, no rules had been established to prevent over-exploitation. In the case of the ornamental rocks, rules had been established. We show that the outcomes are in keeping with Ostrom's propositions for the use of CPR.

The paper makes theoretical, practical, and social contributions. From a theoretical point of view, showing that an elaborated framework can be fruitfully applied to a field to which it has not often referred to is widely recognized as important. From a practical point of view, the paper identifies which rules had an impact on each cluster. This identification can be of help to communities and policy makers concerned with how to preserve common resources in clusters, and researches have documented that Ostrom´s principles are not put into practice (Holm et al., 2017). The social implications of better CPR management are dramatically demonstrated by the unemployment provoked by the overexploitation of water reservoirs in the salmon cluster in Chile.

The article is important for emerging countries such as Brazil, whose exports and economy depend largely, like Chile, on the exploitation of natural resources, resource provided by naturefor which it is difficult to exclude or limit the number of users.

2 THEORETICAL FRAMEWORK

In a seminal work, Hardin (1968) argues that CPRs not regulated by the government are bound to be overexploited and exhausted. The main arguments in favor of this statement is that individual gains, when he or she takes possession of part of the common-pool resource, is greater to him that its loss due to the degradation of the resource. With CPRs, a person's consumption of units of the resource removes these units from the total available to others.

Since, to Hardin, in keeping with the central ideas of institutionalism (Williamson & Williamson, 2017), most people act selfishly and are not impeded by their conscience, there is a tendency for this behavior to predominate and result in the depletion of shared goods. This phenomenon is known as the Tragedy of the Commons (Pereira et al., 2015).

The work of Hardin paved the way for a series of case studies seeking to demonstrate the possibility, under certain circumstances, of social groups forming institutions to oppose the degradation of shared resources. The works of Ostrom stand out among these studies, in which she argues that the parties involved in the use of common-pool resources can learn and, through interaction, develop institutions capable of preventing the tragedy of the commons.

In her best-known book (Ostrom, 1990), the author identifies, by analyzing a large number of case studies, patterns of how shared goods can be managed collectively. In "Background on the Institutional Analysis and Development Framework" (Ostrom, 2011: 14), she identifies types of rules that affect the level of opportunism of individuals or groups. The level of opportunism that occurs in any environment is fundamental, when it comes to determining whether the use that will be made of common-pool resources will be rational or predatory from the viewpoint of the set of actors. Opportunism is a deceitful behavior intended to improve one's own welfare at the expense of others. We will use these patterns and factors as analysis categories to compare the two cases (Dietz et al., 2003).

Boundary rules define who has the right to enter and use a resource as an authorized appropriator. The most used boundary rule is restricting appropriation to individuals who live in a nearby community, are well known to each other, have a relatively long-term time horizon, and are connected in multiple ways. These individuals tend to have a long-term stake in that community and would find it costly to have their reputation for trustworthiness harmed in that community.

Position rules define which actions are allocated to each individual. Many self-regulated systems create a position of guard or monitor. These positions are often essential when resources are very valuable, and a short exploitation time can result in substantial illegal gains. There is a great deal of variation regarding how these rules can be defined. Still, a constant is that very high levels of monitoring are positively related to the conditions of the resource. In general, it is necessary to apply, at the same time, rules that impose penalties, and others that lead to positive outcomes for appropriators who don´t behave opportunistically. If the appropriators do not perceive that benefits offset compliance with the rules, they will be less willing to comply.

Choice rules define the rights, obligations, and freedom of members and the relative distribution of these things. They also define the bases and formula for how resources are allocated. Societies should regulate how exploitation can occur, the technology that is permitted, the location, and the stage of the lifecycle.

Aggregation, information, and payoff rules tend to be used in combination with the three previous rules. Ostrom claims that, unlike boundary, position, and choice rules, no statistically positive relationship has been found between these rules and performance in the exploitation of common-pool resources.

Another characteristic that makes a difference concerning whether common-pool resources will be preserved is the local creation of specific knowledge. This knowledge needs to co-evolve with the changes in the global and local context in which the common--pool resources are found (Kesidou & Romijn, 2008; Iizuka & Katz, 2011).

3 METHOD

The evolution of the two clusters was chosen as the units of analysis because they represent instances of clusters that have become important foreign currency sources for two emerging countries. Both are heavily dependent on natural resources and underwent a situation in which the continuous development of the cluster was dependent on the sustainable exploitation of CPR. The ornamental stone cluster represents an instance in which the local community has managed to develop rules that deal reasonably well with the preservation of common resources. However, the salmon case is the opposite. In both cases, polar, antagonistic situations are found, a desirable condition for deriving theories from case studies (Eisenhardt, 1989).

The data for the analysis of the ornamental stone case were collected by the authors, mostly from primary sources. The data for the salmon industry analysis were collected from secondary sources, basically from Alvial et al., (2012)"title":"The Recovery of the Chilean Salmon Industry: The ISA crisis and its consequences and lessons"","type":"report"},"uris":["http://www.mendeley.com/documents/?uuid=7c5a6dfe--8070-4a8a-9a7a-c4e0e8df9cd5"","http://www.mendeley.com/documents/?uuid=ff6aca09-e77b-480c--9549-d700a6a6e8eb"]}],"mendeley":{"formattedCitation":"(Alvial et al., 2012, Iizuka and Katz (2011, 2015) and Rojo (2016).

In data collection process for the ornamental stone case, the authors conducted three interviews with government representatives, six with leaders in the cluster, two with professors that also do research on issues similar or relevant to the case in question, and a lawyer. Both authors had previously researched the cluster and were familiar with it´s general functioning. The authors also attended meetings between government and leaders and had access to magazines they publish and slide presentations used in some of these meetings.

For data analysis, we conducted a within-case analysis and cross-case analysis (Eisenhardt 1989). For the salmon cluster's intra-case analysis, we familiarized ourselves with the case material available from the secondary sources. We identified evidence that the rules that reduce the probability of opportunistic behavior were, to a large extend, not in use in the situation. In the process, we made use of two tactics for generating meaning (Miles, Huberman, & Saldana, 2014: 277): noting patterns and seeing plausibility. We noted that several of Ostrom's rules seemed to be absent or had been violated in the case. The rules we noted were missing in this step of the analysis form the second column of Table 1. The analysis of the ornamental stone data followed the same process, except that instead of the case descriptions, we analyzed the interview transcripts. The rules we noted were present in this case form the third column of Table 1. For the next step, cross-case analysis, we compared the results that emerged from the within-case analysis, using a contrast table (Table 1). Contrast Tables are a useful device when the analyst is attempting to understand "how the outcome plays itself out across different cases" (Miles, Huberman, & Saldana, 2014: 115).

4 WITHIN-CASE ANALYSIS

4.1 The Chilean salmon industry

The development of and crisis in the Chilean salmon cluster is well documented in articles. Therefore, we limit ourselves here to presenting the main aspects of this development. In particular, we describe the elements that justify the claims of (IIZUKA e KATZ 2011)(Iizuka & Katz, 2015) regarding the absence of various factors that were shown in our literature review to contribute to the favorable performance of communities in the self-management of CPR.

From 1990 to 2005, the Chilean salmon breeding industry grew at a rate of over 20% per year. Chilean exports of the product came to represent 35% of global trade. However, in 2008 and 2009, the industry underwent a severe downturn. This mainly resulted from the overexploitation of a common good, the water, which led to the uncontrolled proliferation of a virus that affects the fish's immune system. The crisis resulted in production and exports falling by approximately 30%, the closure of around 60% of the salmon farming centers, and the loss of 25,000 direct and indirect jobs and losses estimated at over U$$ 500 million (Alvial et al., 2012)"title":"The Recovery of the

Chilean Salmon Industry: The ISA crisis and its consequences and lessons","type":"report"},"uris":["http://www.mendeley.com/documents/?uuid=ff6aca09-e-77b-480c-9549-d700a6a6e8eb","http://www.mendeley.com/documents/?uuid=7c5a6dfe-8070-4a8a--9a7a-c4e0e8df9cd5"]}],"mendeley":{"formattedCitation":"(Alvial et al., 2012.

The authors analyzed the interaction between local companies and institutions through several stages of the development of both. The experimental stage corresponds chronologically to the period ranging from the mid-nineteen seventies to the late eighties. The public sector set the process in motion by establishing, through a development agency, the first commercial farming center and showing that salmon breeding in captivity could be done in Chile. The public sector also disseminated technology and, through the agriculture secretariat, established the ground rules for a regulation system. Non-Chilean agencies and companies made important contributions to the implementation of the industry, mainly supplying technology and starting their salmon farms.

The second stage, which lasted roughly from the late nineteen eighties to the end of the following decade, was one of rapid growth. Many national and foreign companies began to make improvements to the process and quickly included them in their equipment, which was almost entirely imported. The companies grew in number and size and started to compete in international markets. The public sector helped by building roads, modernizing ports, and encouraging companies, through regulatory agencies, to adopt international quality standards.

In the third stage, the growth rate cooled, and large international companies and oligopolies entered the market through a series of acquisitions. The industry became capital intensive. The more dynamic companies became large and technologically complex and began to compete fiercely in the global market with their brands.

The density of fish per cubic meter of water reached levels that were double those found in traditional salmon producing countries such as Norway. The consequences of this, in terms of increasing the number of days required for the fish to reach the harvesting point and other indices of productivity and safety, were showing negative trends by 2004.

Salmon production is highly dependent on environmental conditions that affect the well-being of the fish in lagoons. The microeconomic behavior of the companies needs to be coordinated and understood to ensure that the aggregate behavior does not affect the ecology of the region where production occurs. This characteristic of the industry was exacerbated in Chile by the fact that the region in which production occurs is small, around a fifth of its Norwegian counterpart. If the density of the farming surpasses certain limits, production declines, and the risk of epidemics increases. With a lack of regulatory mechanisms, companies individually increased production, even with a loss in productivity caused by the need to incur additional costs, such as the cost of vaccines and antibiotics. This is well explained by microeconomic theory, in that their marginal gains continue to rise. Opportunistic short-term behavior in Chile took precedence over action to ensure collective feasibility in the long term.

The worrying signs concerning the impact of the densification of the salmon population on salmon farming were ignored for years on end. The monitoring of salmon companies was scarce, given the limited reach of public agencies to regulate and verify compliance with the regulations. Sernapesca, for instance, did not have the independent regulatory agency, resources, and labor required to fulfill its legal role. Furthermore, little research was conducted on gaining the long-term capabilities necessary for the development of specific knowledge of the country. Although the local innovation system had the ability to develop sufficient skills to produce a good quality product, it was not capable of developing the technology to guarantee a sustainable operation in the long term (Von Tunzinternelmann, 2009)which build upon Seti's notion of consumer capabilities, here reinterpreted as producer capabilities, and extended to the cases of interactive and dynamic capabilities through incorporating learning based on external sources together with changes through time. In this respect, long-term increasing returns permit the inclusion of \"capability lifecycles\" in the analysis. Even more importantly they allow for interchanges between trends and cycles in capabilities and those in \"competencies\". Competencies are defined here according to some 16 criteria that differentiate them

from capabilities. Consideration of the rise of technological capabilities over periods of expansion in catching-up, countries suggests patterns of two-way leads and lags between competency acquisition and capability accumulation, in place of an \"either/or\" viewpoint. Implications include the limitations on human capital models of growth, which-in as much as these depict competency acquisition alone-undervalue the effort and commitment required via accompanying capability formation to bring about the desired growth outcomes. While both are required for sustained growth, the distinctions between the concepts highlight the interdependencies involved.","author":[{"dropping-particle":"","family":"Tunzelmann","given":"Nick","non-dropping-particle":"Von","parse-names":false,"suffix":""}],"container-title":"Economia Politica","id":"ITEM-1","issue":"3","issued":{"date-parts":[["2009"]]},"title":"Competencies versus capabilities: A reassessment","type":"article-journal"},"uris":["http://www.mendeley.com/documents/?uuid=a9ea6e47-7fea-43b6-b4d9-dc1e9cb6ab47","http://www.mendeley.com/documents/?uuid=1f89caac-2225-4a1b-a037-7baff500523a"]}],"mendeley":{"formattedCitation":"(Von Tunzelmann, 2009, cited in (Iizuka & Katz, 2011).

In the late 2000s, the Chilean salmon industry underwent a dramatic crisis caused by the ISA virus. The crisis was induced and rapidly spread by the degradation of sanitary conditions. Production fell to under a third, 60% of the farming centers were closed, and the companies' debt with the banks soared to two billion dollars, around the equivalent of the value exported by the sector in one year.

The intra-case analysis of the expansion and crisis of the Chilean salmon sector in the 2000s leaves no doubt that the inability of the industry to regulate the overexploitation of a common good, in this case the water, was directly responsible for the crisis. The relationship between the inability to avoid overexploitation and the lack of conditions advocated by Ostrom to avoid overexploitation is made more evident in the comparison we made between this case and that of the granite in Espírito Santo State in the cross-case analysis.

4.2 The ornamental stone cluster of the Espírito Santo State[1]

Although the first installations and extractions of blocks of stone date back to the 1950s and 1960s, it was in the eighties that the activity gained momentum and began a long period of rapid growth (Qualhano, 2005)compreender e discutir os fatores que possibilitaram o surgimento da grande concentração geográfica de micro e pequenas empresas do setor de rochas ornamentais no Município de Cachoeiro de Itapemirim–ES. Analisa-se o seu desenvolvimento, a cooperação, a competitividade, e a inovação tecnológica utilizadas pelas indústrias locais, e os desafios enfrentados na consolidação como arranjo produtivo local. O estudo de caso analisa os efeitos positivos na economia local, o estágio de consolidação do arranjo produtivo e os desafios mais importantes para o futuro do setor","author":[{"dropping-particle":"","family":"Qualhano","given":"Miguel Ângelo Lima","non-dropping-particle":"","parse-names":false,"suffix":""}],"id":"ITEM-1","issued":{"date-parts":[["2005"]]},"page":"113","title":"O arranjo produtivo local do setor de rochas ornamentais no município de Cachoeiro de Itapemirim – ES","type":"article-journal"},"uris":["http://www.mendeley.com/documents/?uuid=b584caee-0ca0-4dc4-a33a-2b20db486012","http://www.mendeley.com/documents/?uuid=c05e3618-8595-473f-9ae1-f9bd8af31479"]}],"mendeley":{"formattedCitation":"(Qualhano, 2005. Between 2002 and 2007, the export of ornamental stone from Brazil grew at compound rates higher than 30% per annum, rising from US$ 300 million to US$ 1 billion. Of this total, approximately 60% stemmed from the Espírito Santo cluster. Despite being greatly affected by the crisis, which hit the American construction industry with the bursting bubble of 2008 and 2009, it quickly recovered and returned to representing around 0.5% of Brazilian exports. Spurred by technological developments, which significantly reduced production costs, the volume and value of granite traded on the internal market also grew quickly, but not at the same rate as the external market(Chiodi, Cid, 2009). Castro,

1 In Espírito Santo State, there are three regions in which activities involving ornamental stones are concentrated. Most of the extraction occurs in the north of the state, while the processing occurs in the south, in Cachoeiro de Itapemirim, and the central region, in Vitoria. Of the three, only Cachoeiro could be considered a cluster, strictly speaking. However, as the activities of the three regions are highly integrated, we will treat them as a single cluster in this article.

Marcon, & Freire (2011) estimate that there are 2500 companies in the sector, of which the overwhelming majority are small and medium-sized, employing less than 100 workers. In a survey of 32 of the largest exporting companies in 2012, the authors identified only one with over 500 employees. In that survey, they also found only one company with foreign capital in its capital structure, and even so, it was a minority share. The ornamental stone sector accounts for 7% of Espírito Santo State's Gross Domestic Product.

The process of obtaining ornamental stone, and granite, in particular, begins with the extraction of blocks of stone of 5 to 10 cubic meters. They are extracted using plastic explosives and, increasingly, diamond wire. The second stage consists of cutting the blocks into slabs, which will later be polished and resined. In this process, through the closing of the natural granite pores, it acquires the smooth, resistant, and shiny surface that we usually see in its residential applications. Finally, again with the use of super abrasives, the slabs are cut into the shape of end products, predominantly floor tiles, facades, sink tops, and gravestones.

The two major importing countries of ornamental stones are China and the United States. China imports the blocks *in natura,* while the United States mostly import slabs. Few companies in the cluster manage to export finished products. While a ton of granite block is sold to China for less than two hundred dollars, slabs are exported to the United States for over eight hundred dollars (Chiodi, 2014). This aggregation of value demonstrates the importance of processing to the cluster's economy.

A significant characteristic of the cluster is the existence of institutions formed by companies in the region that play vital roles. The main ones include Cetemag, Sindirochas, and CentroRochas (Villaschi e Sabadini 2000). Cetemag, established in 1988, provides technical services and training. CentroRochas is made up of exporters, operating at the aggregate and individual levels. At the aggregate level, it represents its members in dealings with federal, state, and municipal agencies. It seeks to address the logistical and bureaucratic constraints that restrict the expansion of the sector. At the individual level, it helps the exporters with fiscal and bureaucratic procedures. Sindirochas has four branches in Espírito Santo State and a credit cooperative. It is also the main driver of two major trade fairs.

The trade fairs promoted by Sindirochas, with the support of the other institutions, are an example of the capacity for self-organization in the sector. In 1988, an event was begun that focused on drawing rock producers, their customers, and suppliers closer together. In 2012, this trade fair attracted 220 exhibits and over twenty-five thousand visitors. With the growing importance of exports to the sector, a second trade fair was launched, this time in the state capital, Vitoria. In 2013, the Vitoria Stone Fair attracted 420 exhibits, 26% of which were from outside the country, and over twenty-four thousand visitors. The trade fair is the primary channel for connecting local companies and buyers from overseas.

4.2.1 The issue of transporting stones.

The ornamental stone sector of Espírito Santo State has to address several environmental problems. These include the devastation following the depletion of a field, the accumulation of abrasive mud resulting from the production process, the silting of rivers, and the impact on roads and public transport caused by the transportation of tons of granite and marble every day on the State roads. This latter aspect gained visibility from 2007 to 2010, and we will focus our analysis on this aspect.

The Espírito Santo ornamental stone cluster is spread over three regions. In the north are the vast fields, where extraction is concentrated. In the south, centering around the municipality of Cachoeiro de Itapemirim, for historical reasons, the processing pole that slices the great blocks into 80 slabs is located. Here the slabs are polished, resined, and eventually cut into finished products. In the central region is the port through which both the blocks and finished products are exported. From the north to Cachoeiro, the distance is 390 km, and from Cachoeiro to Vitoria, 130 km. Almost all of the products are transported by truck, as the railroad system is virtually nonexistent (Avrichir & Maclennan, 2015).

Transporting several million tons of stones by truck, around 500 transports per day, each with a load of several tons causes significant damage to the state roads. Even worse, until quite recently, the number of

accidents caused by these trucks was quite substantial. The public was most outraged by accidents caused by stones falling from the trucks, basically because they had not been adequately secured. With the increase in exports, the number of transports also grew, and so did the accidents. Between January and June 2007, there were more than 60 accidents involving trucks transporting stones. Twenty people were injured, and four died.

Shortly afterward, the federal authorities responsible for regulating transport on national roads used for stone transport in Espírito Santo issued rules to regulate this transport. The new regulations put a limit on the weight trucks could carry and the maximum weight per axis. They also described how the stones should be adequately secured.

For the sector to comply with the rules, it would have to put aside most trucks used up to that point for stone transportation. However, as monitoring continued to be insufficient (in 2007, there was only one weighing-machine for trucks in the whole of Espírito Santo State), very few trucks were adapted or replaced.

In 2008, the Espírito Santo State road police, transport authorities, representatives of the truck owners, and stone producer unions instituted a group to deal with the situation. The group held more than 15 meetings between the second half of 2008 and the first of 2009. Conflicting interests between the authorities, who wanted the weight limit reduced, and the producers, who had an interest in keeping it high, had to be negotiated. At the end, when rules had been agreed upon, practical tests were held with the new tying system that was devised. A truck loaded with a heavy bloc was driven along roads, and accelerated and halted at speeds varying from 10 km/hour to 80 km/hour.

The new rules were quite successful in achieving their aims. Resistance by parts of the affected sectors continued but gradually faded. In 2010, compliance with the complete set of rules became mandatory, and 40% of the trucks were adapted straight away, and 60% of the remainder were adapting during the next year. Of the seven weighing machines intended to be operational on the state roads, only four were functioning. However, this was a significant increase over the single one functional in 2007. The number of accidents was significantly reduced, and the intensity of exports by the cluster returned and surpassed that of the period before the crisis. The cluster was capable of exploiting the common good, roads, to a significant level, thus avoiding a crisis caused by over-exploration.

4.3 Cross-Case analysis

The within-case analysis showed that firms in the Chilean salmon-cluster acted independently of each other and, in so doing, partially destroyed the CPR. Conversely, in the Espírito Santo case, the participants succeeded in achieving a reasonable degree of success in solving the abuse that occurred in the use of the common good: the roads. In terms of Ostrom's framework, the appropriators "were rational from the perspective of all actors involved" (Ostrom, 1990: 38).

To understand what caused the difference in outcomes and relate them to the framework in use in this article , we built a Contrast Table (Table 1). In the table, the fact that four of Ostrom's rules or factors were absent in the case of Chile and present in the Espírito Santo cluster becomes apparent. Whereas in the salmon cluster many of the firms that had moved to the region soon after the industry developed, in the case of the ornamental stones, the firms had been founded and managed for generations by local entrepreneurs. That made them more sensitive to coverage by the press regarding their impact on the common resource and public opinion.

5 DISCUSSION

A summary of our brief review of the literature, could be that while in mainstream economic institutionalism, of which (Williamson & Williamson, 2017) is the exponent, the emphasis is on regulation and enforcement, Ostrom seeks to understand how societies that have succeeded in protecting their common goods have managed to do so, in the absence of a state regulation. The conclusions that can be drawn from reading the author's work and our study is applicable to a large number of situations in which the question is how to preserve or rationally explore common goods. And the list of types of common goods that interest the business area in general and international

Table 1 Contrast between the salmon and ornamental stone clusters

Factor	Salmon case	Ornamental stone case
Boundary rules	Many newly arrived firms entering the industry recently. Many regarded salmon farming as a portfolio investment option	The owners of the stone producing companies lived in the state and had lived there for many years. Most, if not all, of their patrimony, is invested in the cluster. Their personal and professional lives were closely interwoven. The image of the ornamental stone sector was a significant concern for them. They were connected formally (especially the leaders) and informally through the cluster organizations, friendship, and often family ties.
Position rules	Sernapesca did not have the independent regulatory agency resources and human resources to monitor regulatory compliance. There was a lack of political will to ensure firms' compliance with environmental rules.	The position of guard or monitor was occupied by the federal road police, who helped to define the rules and were involved in the whole process of setting the rules. The change in their behavior when using their capacity to impose sanctions played a significant part in the overall results
Choice rules	The secondary sources used did not say much about the existence of choice rules, but it is clear that if they existed, they were not being implemented at the time the crisis occurred.	Quite elaborate formulas for the allocation of weight transport were derived. They stipulated how many axes the trucks could have, according to the cargo weight, how the cabin and the rear part of the trucks had to be connected and many other conditions
Local knowledge	The producers demonstrated their international competence, importing equipment, and production know-how from abroad. No attention was paid to specific local conditions pp. 280.	Although research on critical issues involved in the mining and processing activities is lacking, concerning heavy cargo transportation, the stakeholders together have a great deal of knowledge. It is unlikely that so much knowledge of this issue could be found elsewhere.

Source: Authors' elaboration

business in particular is great: Preservation of natural resources, rationality in the exploitation of the internal market, positive externalities, image of a country or region, and institutional weaknesses, etc.. What follows are some suggestions for the implications of our study for international business.

A recurrent theme in international business is the implications of institutional voids to the market performance of developing countries. (Doh et al., 2017), (Khanna & Palepu, 1997) are some of the authors that have been drawing attention to this issue. They have shown that business groups can respond efficiently to institutional voids by internalizing transactions in the product, capital and managerial labor markets. However, as some author have also demonstrated (Pattnaik et al., 2018), it is plausible to consider that business groups, often multinational attracted by the possibility of rents that can be achieved by the exploration of this voids, can use their monopolistic and market power and reinforce market imperfections.

What our article suggests is that groups of companies in these conditions should consider that there are risks of overexploiting institutional weaknesses. In particular, groups of multinational companies that have invested in countries where the state has difficulty regulating and enforcing regulations, in line with the propositions of Khanna & Palepu (1997), should consider this risk. One way that follows from the article, how they could deal with it, would be to strengthen actors in positions of custody or monitoring of common goods. This would be equivalent to instituting a check and balance system, which would limit the tendency, which can occur within organizations of long-term objectives take precedence over long-term objectives. The risk of this happening has been repeatedly pointed out by research of corporate governance (La Porta et al., 2000) and agency theory (Eisenhardt, 1989).

Still in relation to the management of branches of developing economies, another consideration can be derived from the study to International business, this time in relation to the human resources management . This one stems from the boundary rules. In the Espeirito Santo case, the fact that managers of the companies involved in the extraction of granite were

locals was important for a solution being found to the negative impact of transporting heavy blocks along highways. This result suggests that, if the multination companies want to promote the preservation of local natural resources in their host countries, it is in their interest that they either hire local managers, or in the case of having expatriate managers, promote their permanence in the same regions for extended periods of time. The boundary rule suggests that local managers care about their heritage and public image in the region, which leads them to act more responsibly with respect to common goods, of which the environment is a particularly important one.

Yet another implication of the study's results can be derived with respect to the integration of developing country clusters into global value chains (McWilliam et al., 2019). Although the dominant trend in this theoretical perspective holds that the integration of clusters promotes several types of positive results (product, value and functional upgrading, for example) (Gereffi & Lee, 2016), others point out that this integration promotes the "race to the bottom", a deterioration of social and economic conditions of workers (Kaplinsky, 2000). Nadvi, for example, said that the integration of the production of cocoa from Ghana in the production of chocolate did not improve the social condition of women employed in this production. VVV showed that the certification of xxx producers in the Bolivian highlands did not improve the appropriation of value by farmers. It only brought them expenses with the ctification requirement. The occurrence of the race to the bottom phenomenon can be seen as a consequence of the power asymmetry between the companies that coordinate the chains, in general powerful multinationals with supply buyers and local suppliers. Our study suggests that the organization of local attractions in associations, as occurred in Espirito Santo, can be a way of providing the sharing of knowledge of local actors and, therefore, asymmetrical conditions between them and buyers. This result, in line with the local knowledge rule, is demonstrated in the article by ... The author shows how the producers' association was the only measure that promoted the increase in income appropriation by local producers when the cluster integrated into the cadieas locations.

Our results led us to suggest the following propositions:

6 CONCLUSIONS AND LIMITATIONS

In this case study, we compared the outcomes of the use of common-pool resources in two clusters in which centralized control was absent. In contexts like these, the appropriators face the temptation of free riding. The case contrasted the presence or absence of Ostrom's rules in the two cases and showed evidence that these were related to how the actors behaved. When the rules were in place, locally developed regulation preserved the common-pool resources. When they were absent, common-pool resources were significantly destroyed. This result suggests that Ostrom's rules have explanatory power in situations like this.

This paper makes the point that a sophisticated and encompassing theoretical approach, the institutional branch of economics, basically developed by Elinor Ostrom, has been unduly ignored by the field of international business. It suggests that applying this theoretical approach to issues of IB can open new and promising paths in the field. The possibility that the authors are correct and that Ostrom's concepts could be constructively applied to the area makes it a relevant and enthralling addition to the literature of international business.

Demonstrating that Ostrom's perspective has explanatory power in these two cases is a theoretical contribution because they are significantly different from those used initially in the development of the framework. While the majority of cases analyzed by Ostrom consist of small and rather simple communities, the cases explored in this paper deal with clusters of companies that are at least medium-sized and play an important role in complex global value chains using industrial technology. Moreover, while many studies demonstrate the importance of local institutions to the preservation of common-pool resources, not many empirical works in support of Ostrom show the explanatory power of her rules and factors.

The case also makes practical contributions, as it draws the attention of the appropriators in the clusters about rules and factors that can prevent, in

the absence of centralized control, the destruction of common-pool resources and promote rational outcomes.

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