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DISSEMINATING WORK: knowledge dissemination and institutional work in industrial clusters' governance

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1 Introduction

The institutional perspective of analysis has been concerned with explaining complex organizational phenomena, as is the case with industrial clusters. Given the complexity of research and the proliferation of different paradigms in the scope of the theory of organizations, Hall and Taylor (1996) argue that three main lenses that can help analyze such phenomena: economic, historical-political, and organizational or sociological institutionalism. Greenwood, Oliver, Sahlin, and Suddaby (2008, p. 30) state that "institutional theory has given up the opportunity to develop a richer theory of the intersubjective processes of perception, interpretation and interaction that establish the core of an understanding of the micro-level of institutionalization". Although recent progress regarding the microfoundations of institutions in scholarly research (Roberts, 2019; Zilber, 2020), we still know little about how knowledge and standardized practices that arise in such micro processes of institutional work spread in distinct institutional contexts.

Considering that traditional institutional approaches focus on the relationships between organizations and the organizational field in which they operate, and suggest that institutions govern organizational actions (DiMaggio & Powell, 1983; Meyer & Scott, 1992), we argue that a comprehensive understanding of how knowledge required to produce these institutions are created and disseminated are yet to be achieved. Lawrence and Suddaby (2006), for example, provide a useful perspective to build such understanding. The authors inaugurate an institutional work perspective, which shifts the focus to understanding how action affects institutions and identifies the practices through which institutions are established and transformed (Lawrence, Suddaby & Leca, 2009). However, although they contribute to management literature by showing that heterogeneous actors can engage in institutional work to create, maintain, or disrupt institutions, they still neglect the role of knowledge dissemination during institutional adoption efforts, especially when governance mechanisms need to be established.

Although knowledge sharing is regarded as an effective tool for improving organizational performance in industrial clusters (Meher & Mishra, 2019; Saifi, Siddiqui & Hassan, 2018), management research still gives scant attention to the impacts of institutional structures and the role of action in knowledge dissemination endeavors. For example, knowledge management literature is often concerned with how knowledge can be codified and transformed it into an organizational asset by converting tacit knowledge into explicit knowledge (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995). However, we still know little about how this process unfolds when governance mechanisms are induced and adopted in industrial clusters.

Also, extant literature about industrial clusters still falls short in explaining institutional work efforts that are a result of knowledge dissemination through the adoption of governance mechanisms. Most studies have been predominantly focusing either on economic Marshallian aspects of cluster creation and development (Antero, Rodrigues, Emmendoerfer & Dallabrida, 2020; Cassiolato & Lastres, 2020; Putnam, 1993) or on the development policies since that can trigger a cycle of economic development in a given region or locality (Ivy & Perényi, 2020). Thus, we ask: *How institutional work affects the conformation of disseminated knowledge and the institutionalization of management standards through the adoption of governance mechanisms in industrial clusters?*

We answer this question through comparative research on three local productive arrangements (a specific type of industrial cluster) in Southern Brazil. Besides the geo-economic aspects, developing local productive arrangements involves a symbolic dimension that is implicit in the social interaction

between the embedded actors over time. The institutionalization of governance standards in these clusters resulted from the dissemination of knowledge resulting from the institutional work of inducing actors (e.g. firms, chambers of commerce, and government actors, among others) interested in the creation and consolidation of these arrangements.

We contribute by showing that knowledge sharing is much more effective when institutional work endeavors consider social relationships. We evaluate the relative institutionalization stage of governance standards that all three clusters adopted during institutional change dynamics and identify patterns/practices that are institutionalized and internalized or not in the clusters regardless of their acceptance. We show that practices and knowledge disseminated, based on governance, are intended to maintain current economic conditions and institutions.

2 Literature review and hypothesis development

2.1 Institutional context: institutional and technical environments

The regulatory, normative, and cultural-cognitive institutional pillars are the elements that support institutions and explain the relationship between organizations and their environments (Scott, 2008). These institutions "provide stability and meaning to social behavior, [...] are disseminated by various carriers - cultures, structures and routines - and they operate at multiple levels of jurisdiction" (Scott, 2008, p. 48). The institutional context refers to the set of environmental elements of institutional and technical nature that involves organizations and with which they interact. It can be presented at three levels: local/regional, national and international and forms the institutional context of reference adopted by an organization and its leaders (Greenwood et al., 2008; Meyer & Scott, 1992). The influence of the institutional context on organizations can lead to isomorphism (DiMaggio & Powell, 1983), which is the tendency of organizations within a given population to imitate the behavior of their peers when they are subject to the same set of environmental conditions (Fayolle et al., 2016).

Boxembaum and Jonsson (2017, p. 84), however, show that organizational "field has increasingly become conceptualized as ambiguous and heterogeneous with multiple – often mutually incompatible - institutional pressures that result in conflicting pressures for conformity". Thus, isomorphism is not completely homogeneous will vary according to the field's characteristics. This is contrasting with DiMaggio and Powell's (1983) argument that organizations become homogeneous given the pressure from the environment, which may result from both competitive and institutional demands (Beckert, 2010). Although isomorphic forces can pressure organizations towards conformity and homogenization to some extent, it does not mean that organizations are constrained in their capacity for action.

Moreover, "action is neither determined by structure nor fully autonomous from it. In fact, action results from how the actor engages with (draws on) positions and habitus, through reflective and pre-reflective agency" (Cardinale, 2018, p. 146). Thus, the field-level diffusion of action between organizations occurs through carriers, either for advocating the maintenance of existing institutions or disruption of standards in an organizational field or within organizations (Scott, 2008). Carriers are materialized vehicles that carry a pattern or a practice, such as bonds in a social network, participation in events, or best practices (Jepperson, 1991). The use of new technology or knowledge, as a carrier, can institutionalize (Fayolle et al., 2016; Kostova, 1999; Zilber, 2002) or deinstitutionalize practices (Patala et al, 2019; Oliver, 1992).

The trend towards homogenization does not exclude competition, so there is room for a proactive stance by the organization on the environment to achieve goals (Beckert, 2010). This assumption is valid in clusters and this conception allows an analysis that covers both aspects related to the action and the interpretation. We argue that organizations create a representation of their

environment and have the ability to modify it, emphasizing the interdependence of environment and organization (Meyer & Scott, 1992). Thus, we propose that:

H_1: Existing institutions in the institutional environment of industrial clusters reinforce the implementation of institutionalized governance practices by organizations immersed in organizational fields.

Considering that organizations are socially embedded in a context (Granovetter, 1985), we pose H_1 as probable but not determinant. Regarding the technical environment, this can also be valid. Such environment is characterized by the competition space from an economic point of view, whose dynamics of operation are triggered by the exchange of goods and services, so that the organizations included in it are evaluated by the technically efficient processing of work (Beckert, 2010). It consists of factors that supply economic-functional dependencies of organizations that determine their position in the market and potential for competition (Dimaggio & Powell, 1983). Thus, the economic variables of the technical environment used to describe each cluster were: (1) economic benefits (Erber, 2008), (2) sector competitiveness (Beckert, 2010), (3) public policies (La Rovere & Shehata, 2007), and (4) market situation (Outhwaite & Bottomore, 1994) at the level of the organizational field. Based on this, we propose the following hypotheses:

H_2: The economic benefits resulting from the clusters' technical environment generate greater acceptance of management standards by firms immersed in the organizational field.

H_3: The search for increasing the sector's competitiveness generates greater internalization of management standards by firms immersed in the organizational field.

H_4: Public policies and the market situation generate greater consonance for the implementation of management standards by firms immersed in the organizational field.

2.2 Relational context and institutional work

The concept of organizational field, which considers the institutional and relational context in which organizations are embedded in (DiMaggio, 1986), is defined as a collective of organizations that constitute an arena of recognition in institutional life. That is, it comprises main suppliers, funding agencies, consumers, regulatory agencies, and other organizations that produce similar products and services (DiMaggio & Powell, 1983). The concept of organizational field also denotes the existence of a community of organizations that share a system of common meanings and interact more frequently with each other than with other actors outside the field (DiMaggio & Powell, 1983).

The creation of industrial clusters in Brazil through governmental induction mechanisms (Antero et al., 2020; Cassiolato & Lastres, 2020), which act as agents in a limited organizational field, and whose members are pushed to adopt actions to disseminate standards and knowledge in the cluster over time, is yet to be further investigated. Moreover, each cluster has local governance composed by representatives of participating entities (inducing actors) and firms (induced actors) that are part of the network. Governance sets different modes of coordination and participation in the local decision-making processes of agents and activities that involve production flows and the process of generating and disseminating knowledge within industrial clusters (Ipardes, 2006). The role of the coalition of inducing actors, as catalysts, is to encourage cooperation between the induced actors so that they can form collective action (Olson, 2015). Thus, we assume:

H_5: The attitudes of inducing actors in industrial clusters foster higher levels of acceptance of governance standards among firms embedded in the organizational field.

The development of social relationships refers to the evolution and intensification of ties between actors embedded in the field (Albers, 2005; Axelrod, 1984) and is a decisive factor for a set of standards' adoption, implementation, internalization, and dissemination within a cluster. A social

relationship can present a transitory character and can have its meaning changed over time (Weber, 1978). The content of the meaning that remains is expressed by maxims, whose observation the participants expect from partners and for which they guide their actions. Thus:

H_6: Social relationships in industrial clusters generate greater consonance of the institutional creation, and maintenance work among entrepreneurs embedded in the organizational field.

The power relations and dependence between actors refer to the disputes that arise due to the different positioning of the members in the network. That is, network egos can channel more decision-making power and influence other members, and peripheral members may feel more dependent on access to resources and knowledge. Moreover, exemplary organizations can serve as role models for shaping the behavior of other firms within the same cluster (DiMaggio & Powell, 1983). Resource dependence can occur on various types of resources or results, such as technology, capital, knowledge management, among others (Pfeffer & Salancik, 1978). Thus:

H_7: Power relations perceived by firms are positively associated with the acceptance of governance standards, implementation of institutionalized practices, and internalization of shared knowledge in the organizational field.

Power relations, social relationships, and the attitude of inducting actors from the relational context are decisive for having the necessary conditions in an organizational field so that the institutionalization of new standards can become possible. Moreover, relationship history becomes essential to trigger institutionalization, that is, it affects institutional work for governance creation and adoption in an industrial cluster and trigger the process of disseminating knowledge within it.

In this regard, institutional microfoundations start with the acceptance of new practices and standards by the embedded actors (Vo, Culié & Mounoud, 2016). The model acceptance process refers to the identification of actors embedded with widespread standards that reflects the consonance or dissonance of these actors, due to some legitimate reason in the organizational field (Kostova, 1999). We investigate if embedded actors identified themselves with the cluster governance standards, accepting and implementing them through institutional work, to internalize knowledge arising from these proposed concepts and practices, and disseminating them within the industrial cluster. Lawrence and Suddaby (2006) describe how actors create, maintain, and disrupt institutions. In the three clusters, we look at specificities regarding the type of institutional work found in each cluster, since the predominance of a certain type of work affects the effective results achieved by a sector in terms of institutionalizing standards and disseminating knowledge over time. Thus:

H_{8a}: The lower the acceptance of new governance standards, the higher the effect of institutional maintenance work of current institutions on the knowledge disseminated within the industrial cluster.

H_{8b}: The greater the acceptance of new governance standards, the higher the effect of institutional creation work of institutions on knowledge disseminated within the industrial cluster.

To address hypotheses H_{8a} and H_{8b}, we must essential identify: *what are the types of institutional work performed by firms embedded in the clusters for the acceptance and implementation of governance standards, and what are the types of knowledge disseminated within each cluster to internalize and disseminate governance practices*? The rationale for the analysis of how this knowledge becomes institutionalized in spatially temporal industrial clusters is presented below.

2.3 Knowledge in organizations and institutional microfoundations

In explaining knowledge-based phenomena in organizations, theories have privileged processes of knowledge creation (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995), and transfer (Zander & Kogut, 1995), without exploring the dynamics of institutionalization at micro-level. The

knowledge-based view emphasizes the instrumental exploration of knowledge assets synthesized in different ways and means and, thus, easily established and reproduced within a given organizational context (Lanzara & Patriotta, 2007). More than the result of the knowledge conversion processes (Nonaka & Takeuchi, 1995), knowledge seems to arise from debates, dialectics, and collective interaction.

However, the assumption that all tacit knowledge can be converted into explicit knowledge is challenged by Polanyi's (1966) argument that part of tacit knowledge cannot become explicit. Still, according to Patriotta (2003), the presence of knowledge is silenced by practice, a background against which knowledge is used and acquires meaning. Beyond that, the good functioning of daily life requires that part of institutional knowledge remains silent on things that are taken for granted. Therefore, we define knowledge in organizations as the set of cognitions, skills, and mix of accumulated experiences (Davenport & Prusak, 2000) that are transformed and evolve through social relationships (Weber, 1978). Also, knowledge is substantially (1) explicit and objective in the concrete reality (Nonaka & Takeuchi, 1995; Popper, 1972); (2) effective and utilitarian, in producing practical results for solving problems (Kalberg, 1980); and (3) institutional, as standards accepted as references mediated by collective interaction in everyday life and reproduced through habit (Lanzara & Patriotta, 2007). Thus:

H_9: Existing institutions in the context of an industrial cluster generate a higher level of internalization of knowledge by firms embedded in the organizational field.

An essential aspect of the configuration of knowledge in organizations it the acceptance and dissemination of knowledge, which contributes to the institutionalization of standards in a given organizational field. In this regard, the microfoundation of institutional processes can be dimensioned based on the internalization of disseminated knowledge in the industrial cluster (Keller, 2019), according to the institutional implementation work of the firms. Thus, we hypothesize that:

H_{10}: The institutional creation and maintenance work carried out by immersed firms generate higher levels of internalization of knowledge.

H_{8a} or H_{8b}, H_9, and H_{10} presuppose a higher probability of institutionalization of governance standards, that is, once firms accept them, inducing actors stimulate the standards' implementation by reinforcing actions that will generate greater internalization of knowledge and its dissemination, configuring the microfoundations of an institutional process that is recurrent over time. Testing these hypotheses help us to understand how institutional work of immersed firms influence the dissemination of knowledge in the industrial cluster and what is the intensity of the consonance/dissonance of the types of institutional work and knowledge dissemination.

Dissemination in the field involves institutional work for inducing organizational actors to persuade firms to accept innovative governance standards, understand and apply them to their realities, and to modify them to gain legitimacy (Lawrence & Suddaby, 2006). Social actors need knowledge to solve organizational problems and identity inductors as carriers of such knowledge. By being embedded in the field, firms need to interact to obtain and share knowledge within the cluster. Thus:

H_{11}: Social relationships generate higher levels of knowledge dissemination and governance standards adoption among the immersed firms, strengthening the coalition of inducing actors.

The pattern of events and relations that define institutionalization involves patterns that are recognized by few influential actors and then widely disseminated and accepted within the field (Meyer & Rowan, 1977; Zucker, 1987). The implementation of these actions, when accepted, initiates a process of internalization of knowledge by the actors involved. Therefore, we state that:

H_{12}: Knowledge internalization by embedded firms generates wider knowledge diffusion within the organizational field.

H_{13}: Knowledge dissemination by the embedded firms leads to higher levels of reinforcement of internalized knowledge, implementation of institutional work and acceptance of governance standards within the organizational field.

We argue that institutional diffusion work as an important element for delimiting the boundaries of organizational fields and is a relevant source of isomorphism. It is, therefore, the level where processes of institutional change are triggered, and boundaries redefinition of a given field can take place (Zietsma & Lawrence, 2010). It can ignite either radical or incremental changes in current institutions (Greenwood & Hinings, 1996) depending on the entrepreneurial life cycle and types of actors involved. We present the research model and the proposed hypothesis in Figure 1. The representation of Microfoundations of Institutionalization in Figure 1 is an alternative to the institutionalization stages of Tolbert and Zucker (1996): habitualization, objectification, and sedimentation, applied to industrial clusters.

----- Figure 1 about here-----

3 Methods

To test our hypotheses and answer the research questions, we perform a comparative mixed-methods multiple case study (Eisenhardt, 1989). We collected both qualitative and quantitative data from the three industrial clusters located in the State of Paraná, Brazil, in the cities of Arapongas, Imbituva and Londrina. We combine field research, documentation[1], semi-structured interviews, and survey to address our research problem (Brewer & Hunter, 2006). In the qualitative stage, when approaching each cluster as a case, we are concerned with the description and then with the comparison of the cases, observing if they were similar or contrasting. Then, we use quantitative procedures to assess the management standards adopted by companies in each cluster. Mixed methods research is an approach that combines qualitative and quantitative forms, being more than the simple collection and analysis of two types of data, so that the overall strength of the study is greater than isolated qualitative research (Cozby & Bates, 2017; Ivy & Perényi, 2020). When doing field-level research, it is important to identify the institutions that are influencing each cluster. Embedded social-inducing actors sought to implement management standards and we capture how the implementation occur by analyzing the discourse of thesae actors.

We start data collection with agents interested in institutionalizing standards to assess the standards' acceptance, adoption, use, implementation, and internalization. We distinguish where there was greater acceptance of standards being implemented by identifying the norms, rules and practices that were in place in each cluster and the extent to which the agents' institutional work was responsible for the implementation. Whether a standard is accepted or not, it is necessary to explain why. Therefore, qualitative analysis helped the process of variables selection to perform posterior survey data collection and analysis. The unit of analysis is the groups key-inducing actors involved in the institutionalization of governance standards in the clusters. These actors include governance companies, associations, governments, unions, universities, banks and entities that can vary between one cluster and another, such as the Service Brazilian Support for Micro and Small Enterprises (Sebrae), National Service for Industrial Learning (Senai), Federation of Industries of the State of

[1] In all clusters surveyed, the following documents were analyzed: minutes of the governance meeting, field notes on participation in events and meetings collected in a two-year field work data collection, information from websites, internal regulations and statute, reports since the clusters' creation.

Paraná (Fiep), Unions and Associations. At organizational level are the 'embedded firms'[2], representatives of the companies, who accept or not the implemented actions and standards taken for granted.

3.1 Sampling, data collection and treatment

The sampling process considers the diversity and development stage of each cluster. Agglomerations classified as embryos (start-up stage) are not considered. We selected three clusters intentionally because they represent distinct stages of development: Furniture of Arapongas, from the group of sectoral and regional development centers; Knitwear of Imbituva, from the local development vectors group; and Information Technology (IT) of Londrina from the group of advanced vectors (Ipardes, 2006). The population of the furniture cluster in the city of Arapongas is 163 firms according to the Union of Furniture Industries of Arapongas (Sima)[3]; the Knitwear cluster in the city of Imbituva have 50 firms, as reported by the Knitwear Association of Imbituva (Imbitumalhas)[4]; and the population of the IT cluster in the city of Londrina is 149 firms according to the cluster governance.[5]

We select clusters at different life cycle stages, degree of maturity, and different sectors to show different perspectives of the phenomenon and assess the extent to which there is similarity and/or differentiation among them. In the first phase of data collection, in addition to secondary sources, we selected a sample for convenience of 17 actors from public and private entities that are part of the governance of each cluster to be interviewed, 6 from Arapongas, 5 from Imbituva and 6 from Londrina until we reached a data saturation point (Fusch & Ness, 2015). We recorded and transcribed the interviews, generating 14 hours of recordings and 128 pages of transcripts. In this stage, we analyze the documents, semi-structured interviews, and direct observations through thematic content analysis (Gibbs, 2018) with the support of Atlas.ti. In the second phase, we collect 96 valid structured questionnaires (28.2% of the total population): 38 from Arapongas (23.3%), 30 from Imbituva (60%), and 34 from Londrina (22.8%). We collected survey data through face-to-face visits, telephone calls, and Qualtrics.

3.2 Reliability measurements, validation and tests

To compose the measurement model, we adopted the following steps: (1) based on theory, we delimit the institutional context through the institutional and technical environments; and we discriminate the elements if the clusters' institutional environment, using Scott's (2008) institutional pillars: *regulatory (RI), normative (NI) and cognitive (CI)*. To measure (1) technical environment influence, we use *competitiveness (SC)* and *market situation (MS)* (Beckert, 2010), and *economic benefits (EB) and public policies (PP)* variables were added through empirical analysis; regarding the (2) relational context, we rely upon network theory (Granovetter, 1985), Weberian social action (Weber, 1978), and previous published models (Kostova, 1999; Kostova & Roth, 2002; Pfeffer & Salancik, 1978; Scott, 2008) to define the variables, which are: *attitudes of inducing actors (AIA), social relationships (SR) and power relations (PR).*

Concerning the (3) institutional microfoundations of the cluster governance standards, we look at the *rate of acceptance of governance standards (A)* (Fayolle et al. 2016; Kostova, 1999; Zander &

[2] 84% of the companies that are part of the sample of clusters investigated are micro and small companies with few employees. Thus, the entrepreneur can represent the organizational will and, therefore, it is considered that he is at the organizational level. The social relations that are established between the actors, as well as the rules of mutual recognition, which one represents for the other, are at the level of the organizational field.

[3] Retrieved from http://www.sima.org.br/dadosdosetor.html.

[4] Retrieved from http://www.malhariasdeimbituva.org.br/sobre.html.

[5] Retrieved from http://www.apltilondrina.com.br/sobre-o-apl.

Kogut, 1995), and *diffusion of standards (D)* (Hanssen-Bauer & Snow, 1996; Lawrence & Suddaby, 2006). To analyze the implementation of governance standards, we rely on institutional work literature (Lawrence & Suddaby, 2006) to capture *institutional creation work (ICW)* and *institutional maintenance work (IMW)*. Internalization of governance standards, in turn, was measure by the *degree of assimilation of disseminated knowledge (DK)* by the embedded actors, either oriented by *practical rationality and effective knowledge (EFK)* (Kalberg, 1980), or *explicit knowledge (EXK)* (Davenport & Prusak, 2000; Nonaka & Takeuchi, 1995), in which each type of knowledge tends to be institutionalized to become institutional knowledge.

To assess institutionalization, we identified the technical and relational institutional elements that were already present before the implementation of new governance standards. We performed statistical tests with our survey data within and between the clusters (Brewer & Hunter, 2006), to assess the extent to which there was consonance in each cluster regarding the variables. The embedded firms evaluated 103 elements of the variables, agreeing or disagreeing with the statements constructed in the questionnaire. They evaluated the institutions in place and two variables of the technical environment (*PP* and *SM*) by relevance to their contexts. This allowed us to test the hypotheses and data crosscheck.

We created a five-point semantic differential scale (for importance) and a seven-point Likert scale (for consonance) (Malhotra, 2019) to collect survey data. This distinction proved to be adequate after pre-testing and assessing the 'reliability of the scales'[6]. We adopted this procedure because the sample was relatively small and we needed to increase the internal consistency of our data. By making parametric analyzes possible, this decision helped increase the power of statistical tests and reduce the probability of type II errors (Agresti & Finlay, 2017). Other factors that influenced the power of statistical tests were: sample size, the difference in group size, and level of significance (*p-value)*. The sample size of valid questionnaires was $N = 96$, which attends to the required parameters to parametric statistical testing. Our sample did not have significant differences between the sizes of the groups between clusters, allowing the performance of parametric analyzes with a reduced effect size. We assessed the extent to which there was consonance concerning the variables investigated, whether the types of institutional work were adopted and implemented, and whether the disseminated knowledge was internalized or not.

3.3 Analytical approach

We use Dansereau and Yammarino (2000) within and between analyses (WABA) to test our model within and between clusters. It allows us to detect possible correlations between variables and perform hypothesis testing in each cluster. We evaluate the internal consistency of the variables and perform the analysis between the clusters (comparison of means and variances) using one-way ANOVA tests. The *N* size of each group was similar, and, after eliminating the missing values and outliers, the Arapongas cluster had 33 valid questionnaires, Imbituva, 30 and Londrina, 33, which contributed to the effectiveness of the technique. We also perform a correlation analysis between the variables, as we show in Table 1, to identify the extent to which there is an influence relationship between them and where causal relations are more likely. For doing so, we use Pearson's coefficient analysis. Thus, we test our hypotheses using the correlation *t*-test for independent samples. In addition, we use multiple linear regression to build the model of the relationship between institutional work, disseminated knowledge, and social relationships in each cluster and in the overall population.

----- Table 1 around here -----

[6] We determine the internal consistency of the variables through Cronbach's Alpha. All coefficients indicated high internal consistency, with values above or close to 0.7, as recommended by Malhotra (2019).

To analyze the consonance between different internal groups at each cluster, we adopt non-parametric statistics to test whether subgroups with $N < 30$ show significant differences between themselves. For two different groups, we use the Mann-Whitney U test the differences between firms that participate in governance from those that do not. For more than two groups, as in the case of firm size, we use the Kruskal-Wallis test as a non-parametric alternative to the one-way ANOVA test (Agresti & Finlay, 2017). A comparative analysis between clusters allows us to identify common standards among them, as institutions, the local specificities, and identifying the institutionalization process of each one.

4 Findings

Our findings reveal that the institutional work of embedded actors can shape the dissemination of knowledge in industrial clusters. Our findings show not only the microfoundations of governance standards institutionalization but also corroborate the effects of current institutions on firms embedded in different organizational fields (DiMaggio & Powell, 1983; Meyer & Rowan, 1977, Tolbert & Zucker, 1996). Therefore, we advance knowledge about how the institutionalization of governance standards in industrial clusters occurs according to their peculiarities, similarities, and contexts.

4.1 Comparison between the clusters' relational and institutional contexts

When comparing the averages of the importance of existing institutions in the institutional environment, we find that they vary from 3.8 to 4.2, showing that firms perceive the existing regulatory, normative, and cognitive institutional environment as very important. Organizations resort to institutions to increase their legitimacy and prospect of survival regardless of the immediate effectiveness of practices and procedures suggested by these institutions (Meyer & Rowan, 1977).

We identify the institutions enforced in each cluster before the creation of the governance mechanisms. Although the clusters were from different sectors, we notice similar institutional standards when comparing the arrangements. While in Arapongas formalized companies predominate, in Imbituva we still find a lot of outsourcing production plants. In Londrina, many startups are not formalized in incubators. Thus, regulatory institutional pressure is more intense in the latter two clusters. Sima's regulatory performance in Arapongas is too strong to enforce the deliberations already outlined for the sector. In Imbituva, Imbitumalhas plays this role. At the Londrina cluster, the Londrina Technological Development Association (Adetec) stopped playing this role, making room for greater autonomy for the newly created cluster.

----- Table 2 around here -----

Regarding normative institutions, we find a pattern in all three clusters concerning business ethics, associativism and production standardization. Regarding cognitive institutions, we observe that standards are technological evolution, entrepreneurial behavior, and professional qualification. H_1 was confirmed only in Londrina, that is, current institutions are reinforcing social actions, with a medium correlation indicating that the governance in this cluster is institutionalized, which was not observed in Arapongas and Imbutiva (Table 3). The same occurred concerning H_9, indicating that, once institutionalized, knowledge exists as a part of objective reality that can be disseminated directly on this basis (Zucker, 1987). With the creation of clusters, a good part of existing institutions was maintained through diffusion at the field level, as predicted by Scott (2008), both for the maintenance of existing institutions and the institutionalization of new standards emerging from the practices of actors defined at the micro-level.

----- Table 3 around here -----

The measurement model of the variables of the technical environment used two scales: one to assess the consonance regarding the economic benefits and competitiveness of the sector and another to assess the importance of public policies and market situation. We find a significant difference between the consonances of the clusters of Imbituva and Londrina compared to the Arapongas, both in terms of economic benefits and the competitiveness of the sector (see Table 2). Levene's test of homogeneity of variances shows a *p-value* < *0.05* in both variables, indicating that they are different at a significant *F-value*. Thus, the mean differences between at least two groups were significant. After the Games-Howell test, which indicates when the variances are different, it was possible to identify that there was a difference between means of the clusters of Imbituva and Londrina when compared to Arapongas.

Evidence indicates that this happens because the economic benefits obtained by the cluster in Arapongas did not reach every company, especially considering that Arapongas's cluster is much larger when compared to Imbituva, where the benefits reach practically all companies. Londrina, on the other hand, can involve more companies and the consonance is greater. As for competitiveness, in Arapongas, the companies disagreed that the cluster acted to improve competitiveness and in the other two clusters, the companies agreed that this indeed occurs. When testing H_2, we accept it in all three clusters, since inducing actors reveal that the idea of obtaining economic advantages resulting from the implementation of governance standards in the clusters was always present (Erber, 2008). We also accept H_3 in all three clusters, confirming the assumption that institutional pressure to increase quality, productivity, efficiency, and economic performance (Beckert, 2010) increases the likelihood of internalizing the knowledge and standards that underlie such results.

Although we find differences when comparing the technical environments of the three clusters, in the evaluation of firms, there were no significant differences regarding the importance of public policies (the average is around 4.0, close to very important). Regarding market situation, there was a significant difference between the average of the clusters of Imbituva and Londrina (see Table 2). Since Levene's test of homogeneity of variances showed a *p-value* > 0.05 and a significant *F-value*, we use the Tukey test to analyze equal variances. Thus, we find that there was a significant mean difference between Imbituva and Londrina, but not when compared to Arapongas. Cluster firms assessed the situation of the IT market (Londrina) as being of medium importance, while the firms from the Knitwear (Imbituva) and Furniture (Arapongas) markets ended up giving more importance to market situation.

Additionally, we reject H_4 in all three clusters. Despite the high degree of importance attributed by the clusters to public policies and market situation, these findings do not influence the implementation of governance standards, showing that this implementation is more related to social relationships, power relations and knowledge dissemination, as we predict on hypotheses H_6, H_7, and H_{13}, respectively. Outhwaite and Bottomore's (1994, p. 460) observation that the market "is an involuntary consequence of the search for individuals with their own interests", contributes to explaining this result.

One way to explain this position of the actors facing different economic conditions is the internalization of taken-for-granted standards, that is, the social embeddedness, in reality, makes the situation experienced make sense to them, inducing them to justify their condition by reference to this institutional context. This finding corroborates the phenomenon of isomorphism (DiMaggio & Powell, 1983), that is, the institutional and technical pressures on the firms of the Arapongas and Imbituva

clusters led them to accept current institutions and economic conditions. In Londrina, however, there is also an appreciation of environmental conditions, but due to the proactivity of the actors when they are articulating more to change such conditions. Such pressures both restrict and enable actions at the organizational level (Cardinale, 2018) and may allow the setting of new governance standards.

If homogeneity predominates in different fields, the very intense normative and regulatory effects inhibit the capacity for action, that is, it is restricted to the actors that define the rules of the game, and not exercised by the other peripheral actors. We evaluate whether the organizational effect at the inter-organizational, concerning companies, is so intense that action is determined from the outside-in, escaping the organization's managerial control, in an almost sectorial dynamic; and the extent to which companies' actions in a cluster are motivated more by field guidelines or by the proactivity of embedded firms. Table 2 shows the averages of importance and consonance for each contextual variable in the three clusters and where significant differences are occurring.

In the analysis of the relational context, Table 2 shows that there was a significant difference between the consonances of the clusters of Imbituva and Londrina compared to Arapongas in all variables. There was also a significant difference between Imbituva and Londrina regarding the attitudes of inducing actors. In this regard, the consonance between the companies in Londrina was close to much agreement, that is, the performance of the entities was essential to prepare IT companies to adhere to governance standards. In the Imbituva cluster, there was little agreement, while in Arapongas there was neither agreement nor disagreement. Levene's test for homogeneity of variances showed *p-value* < 0.05 for the variable social relationships and *p-value* > 0.05 for attitudes of inducing actors and power relations, with a significant *F-value*. We conduct Games-Howell test for the former and the Tukey test for the two latter, confirming the significant difference between the means.

We accept H_5 in all three clusters, which is plausible because even in Arapongas, at least those firms that are members or who are part of the governance accepted the proposed governance standards. In all three clusters, external entities were mobilized to create a governance. The attitudes and mutual trust in a coalition of inducing actors were fundamental for the acceptance of new standards (Kostova, 1999), as it has control over the necessary resources to conduct and animate the process. Social relationships are more developed in Londrina, generating greater cooperation than in the other two clusters. In Imbituva, although there is not much cooperation, there is a lot of interaction due to the few participant companies and physical proximity, which no longer occurs in Arapongas. In Londrina, where cooperation is greater, the degree of cooperation informs the achievement of better economic benefit. This implies that it is not possible to obtain more economic advantages by simply being part of a cluster (Thompson, 1967).

The advantages are limited to logistical issues guaranteed by proximity and relationship ties that generate savings for the cluster. To expand advantages, it is necessary to cooperate. However, actors are not sure that cooperation will result in better economic returns over time. We find that there is a probability of influence between cooperation and economic return. We accept H_6 in all three clusters, confirming that social relationships are a reference in the realization of actions by social actors (Weber, 1978). The fact that cooperation is more developed in Londrina confirms the observations of Albers (2005) and Axelrod (1984) that a probable consequence of the growth of social relationships is the appearance of cooperation and the increase of trust.

Regarding power relations, there were no major changes after the creation of the cluster in Arapongas and Imbituva, as the power structure was maintained and the control of access to resources remains in the hands of Sima and Imbitumalhas, respectively. In Londrina, however, there was a transition in which the cluster itself built a new power structure, which expands its influence over time. We also accept H_7 in all three clusters, because our data show that firms model their behaviors based

on exemplary peers (DiMaggio & Powell, 1983). They do so to legitimize themselves in the field and grant access to resources (DiMaggio 1986; Pfeffer & Salancik, 1978; Powell & DiMaggio, 1991).

Thus, we find that institutional work incorporates a notion of power, as we observe in all three clusters a pressure from actors at the field level to accept governance standards and determine who is responsible for the new standard. It is plausible to assume a relation of dissonance due to the very concept of institutional work, which we observe in clusters when applying non-parametric tests between firms who participate in governance and those who do not. Consensus often arises due to the need to follow a trend so you a firm will not be excluded from the cluster because of the lack of agreement with those standards. This situation confirms the assumptions of Olson (2015), as the logic of the small group's performance, is present in all three clusters. When the cluster has many firms, as in the case of Arapongas, collective action is less effective and this was observed in this cluster with greater intensity, given the level of relative dissonance observed. In Imbituva, on the other hand, as it is a smaller cluster, the firms could best perceive the collective benefit of the cluster governance, even though the trust relationships left something to be desired. In Londrina, the small group that leads the cluster can disseminate results in the field, but there is dissatisfaction among companies that do not participate. To illustrate this point, some members of this cluster are having discussions about decentralizing governance or creating sub-offices in neighboring cities.

4.2 Evaluation of the institutional microfoundations

From the comparative analysis of H_{8a} and H_{8b}, we understand how the level of acceptance of governance standards, and the way they were understood, moderates the effect of institutional creation and maintenance work on the disseminated knowledge in each cluster. In Table 4, we show the multiple linear regression equations between disseminated knowledge and institutional work, with the weights of each type of institutional work on knowledge in the investigated clusters.

----- Table 4 around here -----

We accept H_{8a} only in Arapongas because the acceptance of new governance standards was lower given the emphasis on maintaining existing institutions and economic and relational conditions. We accept H_{8b} only in Londrina because the acceptance of new governance standards was higher given the effect of the creation institutional work carried out on the disseminated knowledge in the field since such actions are becoming institutionalized and modifying the existing institutions and the economic and relational conditions that existed before the creation of the cluster. In Imbituva, we reject both H_{8a} and H_{8b}, because although the acceptance of new governance standards is higher among firms, it is the effect of institutional maintenance work that prevails over disseminated knowledge in the field and not that of creation. This indicates a dissonance that new governance standards were not understood as prescribed in that cluster.

The findings regarding the H_{8a} and H_{8b} are confirmed by the results of the regression analysis of the disseminated knowledge in the three clusters. The adjusted R^2 column in Table 4, which measures how much of the variance of the dependent variable is explained by the model, is above 50% in all clusters, considered excellent according to the literature (Agresti & Finlay, 2017). We remove independent variables that are not included in the equations because they have no significant influence on the model. They characterize the specificities of each cluster, as shown in the correlations in Table 2. Then, we start to validate the institutional microfoundation in the clusters, by testing H_{10}, H_{11}, H_{12}, and H_{13}.

We accept H_{10} in all three clusters with high correlations, indicating that the institutional work diffuses knowledge in the clusters as we hypothesize. One of the consequences of this institutional work is the observation of the internalization of disseminated knowledge. We also accept H_{11} in all three clusters, confirming that the pattern of events and relationships that define institutionalization involves institutional work that is recognized by a few influential actors (Olson 2015), is widely disseminated, and is accepted within the organizational field (Meyer & Rowan, 1977; Zucker, 1987). The implementation of institutional creation work, when accepted in the field, initiates a process of internalization of knowledge by the immersed firms because actors are encouraged to act according to the expectations of the other firms in the cluster (Weber, 1978). By adding the variable *social relationships (SR)* in the regression model, its explanatory power increased to more than 68% in the three clusters, as shown in Table 5, indicating that the disseminated knowledge is expanded when social relationships are well developed in an industrial cluster (Hanssen-Bauer & Snow, 1996; Patriotta, 2003), reinforcing the interpretation of the H_{8a} and H_{8b} hypothesis tests. Table 5 also shows that the consonance concerning *SR* is high and that the effect of the institutional creation and maintenance work on the dissemination of knowledge is amplified in industrial clusters. We find that in clusters, more complex institutional work and, therefore, less observed or with low consonance, requires a higher level of development of social relationships, while less complex actions and, therefore, more frequent and with high consonance, do not require as much development of social relationships to occur.

----- Table 5 around here -----

We also accept H_{12} and H_{13} in the three clusters, confirming the validity of the learning cycle of Hanssen-Bauer and Snow (1996), by indicating the path of knowledge in the internalization process, which begins with its acquisition by the social actors through social relationships, use in problem-solving, legitimization and routinization of disseminated knowledge in the field. With this, we validate the microfoundation of the institutionalization process in all three clusters, proving its effectiveness, just as we show in the analysis of the relational context. Therefore, both the institutional creation and maintenance works led to knowledge dissemination in the investigated clusters, because regardless of the level of acceptance of new governance standards, the knowledge, whether explicit, effective, or institutional, was disseminated by the actors embedded in the field; and it explains how institutionalization occurs.

Table 6 shows the significant differences when comparing the institutional microfoundations in Arapongas with those of Imbituva and Londrina, with a *p-value* < 0.05 for all variables. However, we do not find any significant difference between Imbituva and Londrina. Table 6 also shows the means of consonance of the institutional microfoundations variables for the clusters, to facilitate the comparison. We grouped the eight variables and performed a one-way ANOVA test that examines whether there is a difference of consonance for the institutional microfoundations between more than two groups. Levene's test of homogeneity of variances showed a *p-value* < 0.05. As the *F-value* is also significant, the means also presented significant differences between at least two groups. The greater variance of consonance in Arapongas indicates a greater disparity of opinions between embedded actors, suggesting the formation of distinct groups.

----- Table 6 around here -----

Acceptance of new governance standards was highly consonant in Londrina, and companies that are not part of governance know what a cluster is, but they are indifferent to it. In Imbituva, acceptance was wide, but the new governance standards were not understood nor implemented by the embedded actors as they were prescribed (average close to little agreement). What ended up being maintained, were institutions that already existed in the institutional and relational contexts of the cluster. In Arapongas, new governance standards were accepted only by firms that are part of governance, and most companies in the cluster did not know what a cluster is (average close to little disagreement). In all three clusters, we find that knowledge diffusion occurs, but this knowledge is shaped by the type of institutional creation or maintenance work that predominates. In Arapongas, the emphasis on institutional regulatory work, both for creation and maintenance, reinforces diffusion of knowledge necessary to preserve the structure of rules and standards established in the institutional and relational contexts. With the creation of the governance, the insertion of cognitive institutional creation work to reinforce the rules and the knowledge already institutionalized has increased. In Imbituva, the emphasis on cognitive institutional creation work is to aggregate the necessary knowledge and deal with new technologies. There is a concern with building networks and increasing the dissemination of knowledge. However, institutional work on normative and regulatory maintenance reinforces past standards and limits access to different types of knowledge.

The analysis of the clusters of Arapongas and Imbituva suggests that the institutional pressures in their fields are so strong that the disseminated knowledge in the embedded companies is a mere reproduction of an already determined script, given the preservation of the institutions observed before and after the formalization of the governance. Institutional maintenance work, therefore, involves supporting, repairing, or recreating social mechanisms that ensure compliance with established standards. Institutions are maintained by submitting to current rules, norms, and beliefs (Lawrence & Suddaby, 2006). In Londrina, the emphasis on normative and regulatory institutional creation work establishes the bases to support new institutions by creating networks for the exchange of different types of knowledge. The focus on the dissemination of effective knowledge ends up reinforcing cooperation, while the institutional maintenance work emphasizes compliance with established rules. As Lawrence and Suddaby (2006) predict, when this type of work is developed, it usually entails the construction of a new set of institutions and, therefore, the replacement of the previously existing structure, characteristic of an incremental institutional change (Greenwood & Hinings, 1996).

5 Concluding remarks

Our research shows that the cognitive aspects of the internalization of knowledge suggest that its diffusion occurs in a multifaceted context (Fayolle et al., 2020; Kostova & Roth, 2002), in which the actors are embedded in (Granovetter, 1985), and that the success of knowledge diffusion is affected by all three environments: institutional, economic and relational environments. We show that knowledge dissemination is much more effective when social relationships are included in the model along with institutional work.

Although local specificities also influenced the implementation of these standards (Greenwood, Suddaby & Hinings, 2002), we could observe the relative institutionalization stage of the governance standards adopted in all three clusters. In other words, we show that governance patterns/practices that were accepted did not become necessarily institutionalized in Arapongas and Imbituva clusters. We argue that the lack of institutionalization was because the disseminated knowledge was not internalized as predicted by Kostova (1999). What prevails in these clusters are the institutional structures historically in place before the implementation of a formal governance structure. We show that practices and knowledge disseminated through governance

standards adoption in these clusters intended to maintain current economic conditions and institutions rather than create new ones.

In Londrina, in turn, we show that governance standards are going through the process of institutionalization (Greenwood, Suddaby & Hinings, 2002). In the creation of governance, there were precipitating shocks that interrupted some existing institutions, such as the existing power structure and the complacency of firms' managers. After the deinstitutionalization of these institutions (Oliver, 1992), the acceptance of new governance practices/standards relied on the continuous action of an inducing social actor (Sebrae), which fulfilled the pre-institutionalization and theorizing. With the legitimization of the model among entrepreneurs, they took over the management of the process and began to institute new governance practices and advanced in the definition of increasingly complex actions.

Besides, in Arapongas, the feudal culture identified makes it difficult to carry out much of the cooperation actions. The existing medium and large companies have isolated themselves and some SMEs have organized into spinoff small groups, of which they treat the cluster only as part of their relational group. Sima's performance defines the norms and rules in force in the sector. In Imbituva, the difficulty lies in the existence of strong institutional and economic pressures that, together with the lack of institutional infrastructure, inhibit results of companies and cooperation. Imbitumalhas is more influential than the cluster itself and is the entity that sets the rules in the sector of Knitwear. In Londrina, with the creation of the cluster, social relationships and institutions developed and stimulated cooperation between companies. Institutional and economic conditions have proved to be favorable. Most companies are SMEs and the cluster is the mentor of the rules of the game, strengthening social relationships.

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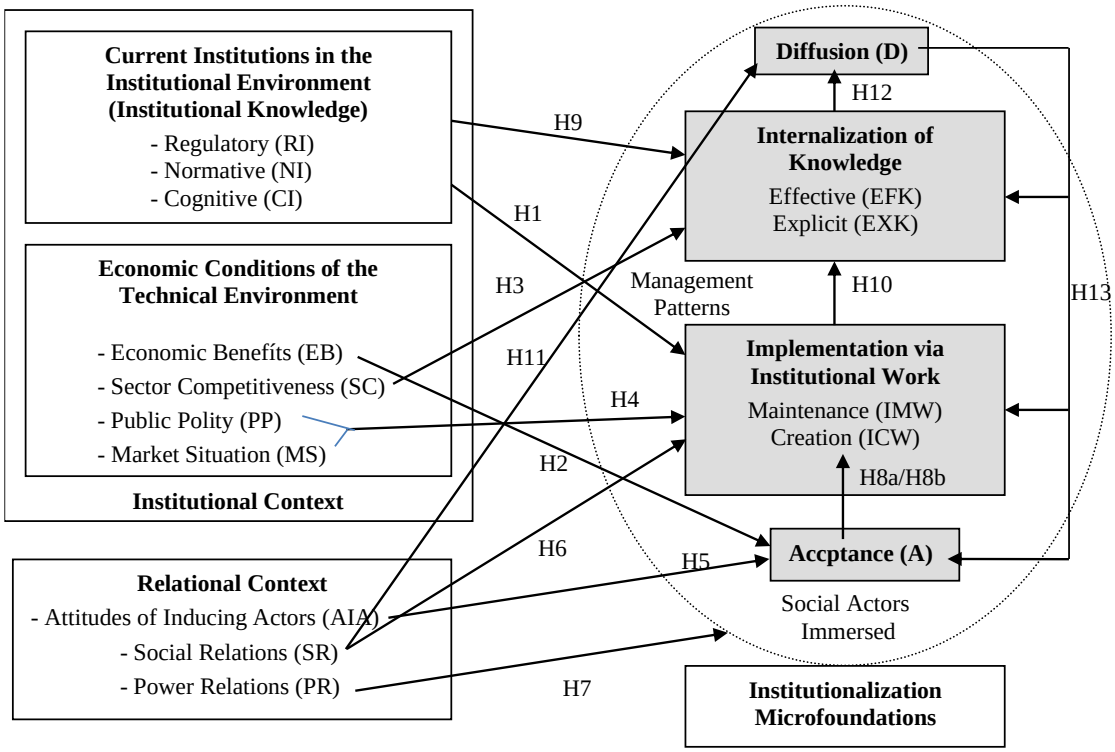

Figure 1 - Configuration of the institutionalization of management standards
Source: Self elaboration.

Table 1 - Descriptive statistics and correlations (general in the 3 clusters)

VARIABLES			Institutional Environment			Technical Environment			Relational Context				
	M	*SD*	1	2	3	4	5	6	7	8	9	10	11
1. Cognitive Institutions**	3.94	0.29	--										
2. Normative Institutions**	4.09	0.26	.61*	--									
3. Regulative Institutions**	4.14	0.25	.65*	.74*	--								
4. Economic Benefits	4.45	1.20	.03	.07	.21*	--							
5. Sector Competitiveness	4.30	1.32	.10	.11	.27*	.88*	--						
6. Public Policy**	3.93	0.33	.34*	.27*	31*	.05	.01	--					
7. Market Situation**	3.67	0.46	.40*	.43*	.42*	.02	.08	.41*	--				
8. Attitudes of Inducing Actors	4.81	1.01	-.00	.09	.23*	.79*	.75*	.02	.01	--			
9. Social Relations	4.62	1.36	.02	.09	.23*	.92	.92*	.01	-.04	.84*	--		
10. Power Relations	4.59	1.01	.07	.17	.30**	.69*	.67*	-.10	.03	.68*	.75*	--	
11. Aceptance of Standards	4.64	2.26	.05	.12	.22*	.84*	.81*	-.06	-.02	.77*	.86*	.71*	--
12. Creation Institutional Work	4.41	1.67	.01	.11	.21*	.82*	.90*	-.07	-.02	.76*	.89*	.69*	.87*
13. Maintenance Institutional Work	4.27	1.58	-.04	.08	.20*	.73*	.82*	-.12	.02	.69*	.81*	.74*	.82*
14. Explicit Knowledge	4.47	1.93	-.01	.04	.22*	.84*	.84*	-.06	-.07	.80*	.87*	.77*	.86*
15. Effective Knowledge	4.67	1.97	.03	.09	.24*	.93*	.91*	-.04	.00	.79*	.95*	.77*	.89*
16. Diffusion of Standards	4.60	2.19	.01	.11	.26*	.80*	.76*	-.10	-.11	.75*	.85*	.82*	.89*

Note: *N* = 96. *. Correlation is significant at the 0.05 level (two-tailed test).

**. To measure these variables, the 5-point semantic differential scale was used, while the 7-point Likert scale was used for the ot

Table 2 - Comparison between the importance* and consonance averages and standard deviations of variables of institutional and relational contexts in clusters

Analytical Categories	Variables	Clusters		
		Arapongas	Imbituva	Londrina
Institutional Environment	Current Institutions*	4.08±0.51^{a}	4.07±0.47^{a}	4.03±0.58^{a}
Technical Environment	Economic Benefits	3.42±1.21^{B}	4.89±0.61^{A}	5.08±0.90^{A}
	Sector Competitiveness	3.19±1.36^{B}	5.02±0.74^{A}	4.79±1.04^{A}
	Public Policy*	4.00±0.75^{a}	3.92±0.66^{a}	3.88±0.72^{a}
	Market Situation*	3.72±0.48^{ab}	3.89±0.56^{a}	3.42±0.57^{b}
Relational Context	Attitudes of Inducing Actors	4.03±1.01^{c}	4.94±0.82^{b}	5.53±0.77^{a}
	Social Relations	3.44±1.18^{B}	5.07±0.64^{A}	5.43±0.81^{A}
	Power Relations	3.78±0.95^{b}	4.96±0.81^{a}	5.18±0.81^{a}

Note: Different lowercase letters on the same line indicate $p < 0.05$ between averages in the Tukey test and different uppercase letters on the same line indicate $p < 0.05$ between the averages in the Games-Howell test.
Source: Quantitative research data.

Table 3 - Result of the hypothesis tests with Pearson's coefficients in the clusters

Hypothesis	Arapongas	Imbituva	Londrina
H_1: The existing institutions in the institutional environment of entrepreneurial networks reinforce the implementation of management standards via the institutional work of entrepreneurs immersed in the organizational field.	Rejected 0.108	Rejected 0.060	Accept 0.416
H_2: The economic benefits resulting from the clusters' technical environment generate greater acceptance of management standards by entrepreneurs immersed in the field.	Accept 0.740	Accept 0.604	Accept 0.730
H_3: The search for increasing the sector's competitiveness generates greater internalization of management standards by actors immersed in the organizational field.	Accept 0.899	Accept 0.808	Accept 0.807
H_4: Public policies and the market situation generate greater consonance for the implementation of management standards by actors immersed in the organizational field.	Rejected -0.176	Rejected -0.028	Rejected 0.265
H_5: The attitudes of inducing actors in an entrepreneurial network generate greater acceptance of management standards among actors immersed in the field.	Accept 0.684	Accept 0.649	Accept 0.594
H_6: Social relations in a cluster generate greater consonance of the institutional maintenance and creation work among entrepreneurs immersed in the organizational field.	Accept 0.864	Accept 0.851	Accept 0.648
H_7: Power relations perceived by companies are positively associated with the acceptance of management standards, implementation of institutional work, and internalization of disseminated knowledge in the organizational field.	Accept 0.765	Accept 0.585	Accept 0.389
H_{8a}: The lower the acceptance of new management standards, the greater the effect of the institutional maintenance work of current institutions on the disseminated knowledge in the organizational field.	Accept -	Rejected -	Rejected -
H_{8b}: The greater the acceptance of new management standards, the greater the effect of institutional creation work of institutions on disseminated knowledge in the field.	Rejected -	Rejected -	Accept -
H_9: Existing institutions in the context of an entrepreneurial network generate greater internalization of knowledge by actors immersed in the organizational field.	Rejected 0.043	Rejected 0.143	Accept 0.529
H_{10}: The institutional creation and maintenance work carried out by immersed entrepreneurs generate greater internalization of knowledge.	Accept 0.942	Accept 0.794	Accept 0.675
H_{11}: Social relations generate greater diffusion of knowledge and management standards among the immersed entrepreneurs, strengthening the coalition of inducing actors.	Accept 0.825	Accept 0.618	Accept 0.609
H_{12}: The internalization of knowledge by immersed entrepreneurs generates its wider diffusion in the organizational field.	Accept 0.917	Accept 0.742	Accept 0.659
H_{13}: The diffusion of knowledge by the immersed actors generates greater reinforcement on the internalization of knowledge, implementation of institutional work, and acceptance of management standards.	Accept 0.890	Accept 0.670	Accept 0.605

Note: Hypotheses were tested based on statistical significance ($p < 0.05$) and Pearson's correlation coefficient to identify the influence relationship between the related variables in each cluster, except for H_{8a} and H_{8b}, which were tested based on in the analysis of the regression equations of the clusters.

Table 4 - Regression equations between dissemination of knowledge (DK), institutional creation work (ICW), and institutional maintenance work (IMW)

Clusters	Regression Equations	R^2 Adjusted
Furniture from Arapongas	$\mathrm{DK} = -0.608 + 0.751\mathrm{IMW} + 0.425\mathrm{ICW}$	0.882
Knitwear from Imbituva	$\mathrm{DK} = 1.726 + 0.663\mathrm{IMW}$	0.597
TI from Londrina	$\mathrm{DK} = 1.446 + 0.749\mathrm{ICW}$	0.509
General of 3 Clusters	$\mathrm{DK} = 0.308\mathrm{IMW} + 0.771\mathrm{ICW}$	0.837

Note: High correlation of the general model with Pearson's coefficient = 0.913 without multicollinearity of independent variables with tolerance = 0.209 and VIF value = 4.776, as recommended by Hair et al. (2005).
Source: Quantitative research data.

Table 5 - Regression equations between dissemination of knowledge (DK), institutional creation work (ICW), institutional maintenance work (IMW), and social relationships (SR)

Clusters	Regression Equations	R^2 Adjusted
Furniture from Arapongas	$\mathrm{DK} = -0.634 + 0.582\mathrm{IMW} + 0.460\mathrm{SR}$	0.935
Knitwear from Imbituva	$\mathrm{DK} = 0.506\mathrm{IMW} + 0.682\mathrm{SR}$	0.768
TI from Londrina	$\mathrm{DK} = 0.320\mathrm{ICW} + 0.512\mathrm{SR}$	0.689
General of 3 Clusters	$\mathrm{DK} = 0.269\mathrm{IMW} + 0.196\mathrm{ICW} + 0.604\mathrm{SR}$	0.914

Note: High correlation of the general model with Pearson's coefficient = 0.956 without multicollinearity of the independent variables, with tolerance = 0.165 and VIF value = 6.075, as recommended by Hair et al. (2005).
Source: Quantitative research data.

Table 6 - Comparison between the consonance means and standard deviations of the variables of institutionalization microfoundations in clusters

Analytical Category	Variables	Clusters		
		Arapongas	Imbituva	Londrina
Institutionalization Microfoundations	Acceptance of Standards	3.15 ± 1.38^{B}	5.27 ± 0.80^{A}	5.51 ± 0.77^{A}
	Institutional Maintenance Work	3.41 ± 0.94^{B}	4.89 ± 0.73^{A}	4.51 ± 0.59^{A}
	Institutional Creation Work	3.36 ± 1.09^{B}	4.94 ± 0.67^{A}	4.93 ± 0.66^{A}
	Implementation via Institutional Work	3.38 ± 0.99^{B}	4.92 ± 0.67^{A}	4.72 ± 0.56^{A}
	Explicit Knowledge	3.36 ± 1.24^{B}	4.87 ± 0.95^{A}	5.19 ± 0.78^{A}
	Effective Knowledge	3.38 ± 1.23^{B}	5.27 ± 0.59^{A}	5.35 ± 0.74^{A}
	Internalization of Knowledge	3.37 ± 1.21^{B}	5.06 ± 0.72^{A}	5.27 ± 0.69^{A}
	Diffusion of Standards	3.33 ± 1.45^{B}	5.01 ± 0.95^{A}	5.46 ± 0.79^{A}

Note: Different capital letters on the same line indicate $p < 0.05$ between the averages in the Games-Howell test.
Source: Quantitative research data.