5-1-2017

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STRUCTURATION OF ORGANIZATIONAL INNOVATION THROUGH ORGANIZATIONAL VIRTUAL SOCIAL NETWORKS

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Abstract

Organizational social networks (OVSN) are socio-technical artifacts, based on social networks that allow the development of relationships between people in organizations. Our assumption is that OSVN are capable of fostering organizational innovation. Organizational innovation means the creation and adoption of new products, processes and methods and its relation with OVSN is not yet well developed in the literature. Our research aims to analyze how the structuration of OVSN influences the structuration of organizational innovation. Our theoretical references are the Structuration and Institutional Theories. The research is under development in a large semi-public Brazilian organization and concerns three nation-wide educational projects. Qualitative data is collected through semi-structured interviews and participant observation. Our results should reveal the relationship between the structuration of OVSN and organizational innovation, analyzing how this process occurs dynamically and over time.

Keywords:

Organizational Virtual Social Networks; Organizational Innovation; Structuration Theory; Institutional Theory.

1. Introduction

The analysis of how the structuration of organizational (virtual) social networks (OVSN) influences the structuration of organizational innovation is the purpose of our research. OVSN are socio-technical artifacts, based on social networks that ease the development of relationships between people, the structuration of processes and structures in organizations and that also include organizational objectives. (Bobsin and Hoppen, 2014; Ellison and Boyd, 2013). The resulting social structures (people, teams, informal groups, sub-organizations or organizations) may be considered as a product of the relationships that are established through the communication processes (Oinas-Kukkonen, Lyytinen and Yoo, 2010; Kadushin, 2012).

Characteristics of social networks are transparency, accessibility, flow of content and development of relationships and they allow participants to connect, exchange, develop and transform ideas (Boyd and Ellison, 2007). OVSN enable more horizontal communication oriented, collaboration processes and less vertical structures.

These characteristics of OVSN represent important elements to develop organizational innovation (Malsbender *et al.*, 2013), organizational innovation meaning the creation and

adoption of new products, processes and methods (OECD/Eurostat, 2005). Consequently, our research assumption is that OSVN are capable of fostering the creation, adoption and diffusion of organizational innovation. Our literature review revealed that this relation is still not well developed (Malsbender *et al.*, 2013).

The main theoretical foundation of the research is Structuration Theory (ST) (Giddens, 1984). ST eases the comprehension of networks as structures, being formed by interactions in a recurrent process. Another theoretical foundation adopted is Institutional Theory (DiMaggio and Powell, 1983). A purpose of OVSN is to align organizational objectives and expectations of participants of the network. Consequently, the study of influences of macro and micro institutional pressures, the core of Institutional Theory and how the process of institutionalization occurs (Tolbert and Zucker, 1996) seems to be promising.

This research is under development in a large semi-public Brazilian organization and concerns three nation-wide educational projects, each one being developed with the support of an OVSN. Qualitative data is collected through semi-structured interviews and participant observation. Secondary data (reports and e-mails) was also collected.

2. Theoretical foundations

OECD/Eurostat (2005) defines innovation as the implementation of new or significantly improved products (goods or services), new marketing methods and as organizational innovation (new business practices, new local social work structures or new internal/external social relations). Innovation should be problematized and not considered as natural. Innovation involves all social actors, since these are active subjects who create and recreate the structures, legitimizing their action in social practices within the sub-organizations and the organization (Wang *et al.*, 2014; Guan *et al.*, 2015).

Organizational innovation is characterized as a collective and social activity. How this type of innovation in teams and organizations is influenced by the constitution of social relations and social networks was studied by Alange, Jacobsson and Jarnehammar (1998); Birkinshaw, Hamel and Mol (2008); Damanpour, Walker and Avellaneda (2009); and Guan *et al* (2015).

OVSN are based on Information Technology, people with common interests, social networks and interests of organizations. The main purpose of OVSN is to use relationships between people, developed within social networks, to be more effective in carrying out creative tasks or related innovation (Monge and Contractor. 2003; Wu *et al*, 2009; Burt, 2010; Bercovitz and Feldman, 2011). Thus, OVSN are used to align interests of people working in an organization and interests of their organization (Hoppen and Bobsin, 2015).

For this research-in-progress, Structuration Theory (ST) provides a way of perceiving OVSN as a socio-technical artifacts (considering context, digital space, physical and social components), built by agents (actors) in a dynamic and recursive way (Giddens, 1984). Actors produce and reproduce institutionalized social structures that persist over time and space, providing guidance for action in that context (Giddens, 1984; 1993). Innovation could be developed in this process of mutual influence. Innovation takes place not only as a speech to explain the changes of the social world, but could contribute to the constitution of this social world, while the social experience legitimizes this innovation, accepting or rejecting it. "The new knowledge (concepts, theories, discoveries) not simply makes the most transparent social world, but changes its nature, projecting it in new directions" (Giddens, 1984, p. 153).

OVSN intend to align organizational objectives and expectations of participants of the network. To better analyze the influences of the organizational context on this process, it might be approached as macro and micro institutional pressures, Institutional Theory (DiMaggio and Powell, 1983) developed this approach. In addition, Tolbert and Zucker (1996) developed a model to study the structuration of OVSN and how the process of institutionalization occurs. Innovation developed within the OVSN may evolve or not to the three stages of Tolbert and Zucker's model:

(i) Signification, concerning standardization of responses to uncertainty through interpretive schemes. These schemes express the knowledge of social actors about reality, and about sharing, interpreting and communicating meanings in the processes of interaction.

(ii) Domination, concerning actors using resources to reach objectives and results that interest them, transforming reality in specific scenarios, altering them in some way.

(iii) Legitimacy, concerning the feasibility of a certain order and its sanction by actors in the field of interaction. Legitimacy is revealed through a set of rules that condition and guide, facilitate or restrict social actions.

Finally, to study organizational innovation and OVSN, the analysis of affordances provided by the digital space may represent an interesting approach to understand how relational and structural properties of the organizational network (Zheng, 2010; Rost, 2011; Guan *et al*, 2015) can influence, facilitate and/or restrict innovation (Chesbrough, 2006). For example, what structures, processes and products the digital space allows those physical spaces of the organization did not? How the digital space legitimizes innovation?

3. Research problem
How the structuration of OVSN influences the structuration of organizational innovation is the main research question. More specifically, questions that guide this research are how the use of OVSN structures the creation, adoption and diffusion of organizational innovation, how this process of institutionalization occurs and how this process is influenced by macro and micro institutional processes.

The nature of the study is much more linked to the understanding and detailing of a process, rather than to the establishment of contradictions in previous studies. The main idea is that the construction of theory starts from the interpretations of the revelation of facts and details of wealth (Langley and Abdallah, 2011).

A challenge of this approach is to build a conceptual model capable of identifying the organizational innovations initiated in OVSN. This model should support a coherent theoretical framework that takes into account the duality of the structure, a complex object such as organizational social networks and the organizational environment. The proposed conceptual model is based on Structuration Theory and Institutional Theory and is presented on figure 1.
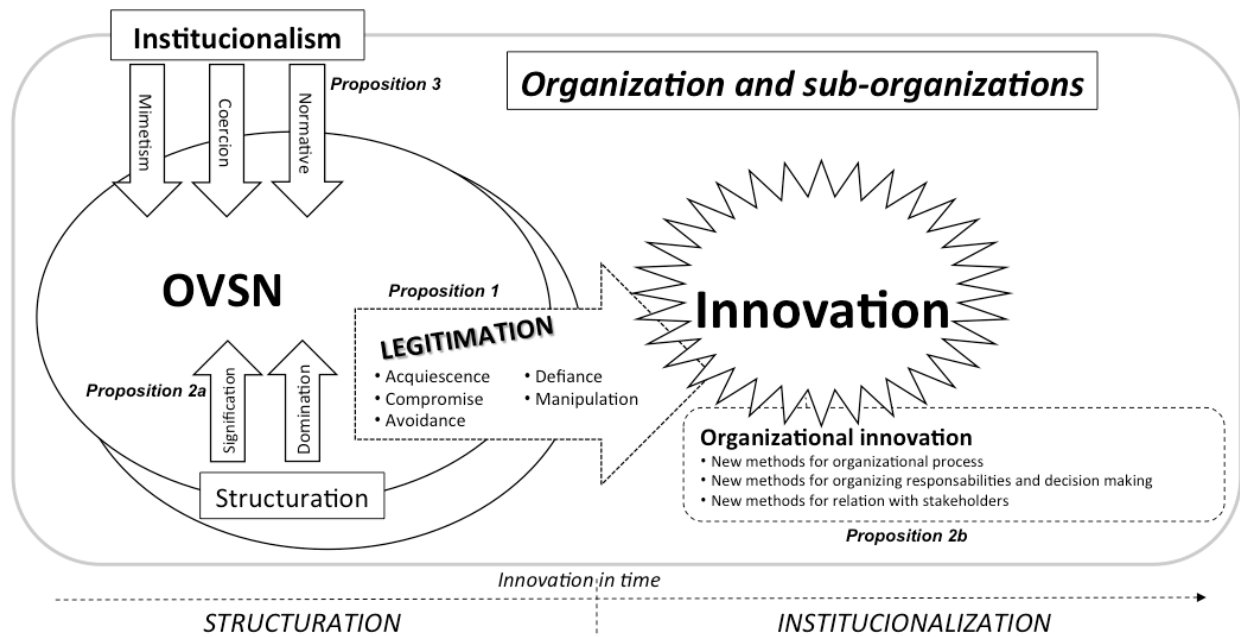
Figure 1: The proposed research model, adapted from Mignerat and Rivard (2009)

Analyzing the relations between different constructs and theories that constitute this research model, four propositions can be derived:

Proposition 1: *OVSN foster the creation, adoption and diffusion of organizational innovation.*

Proposition 2a: *Digital spaces of OVSN allow affordances that promote innovation* (these affordances are not found in the physical space of the organization).

Proposition 2b: *Types of innovation created with OVSN depends on the type of digital tools and features used.*

Proposition 3: *Different institutional pressures enable or inhibit the development of organizational innovation when using OVSN.*

The first proposition relates OVSN and organizational innovation. Propositions 2a and 2b relate digital tools and features of OVSN to the promotion of organizational innovation. Finally, proposition 3 relates the environment of organizations and sub-organizations and the use of OVSN.

4. Method

This longitudinal case study is under development in a large semi-public non-profit Brazilian organization. The mission of this organization is education for work in retail, services and tourism, focusing on the development of high quality educational services for workers (Senac, 2015). Three nation-wide e-Learning projects, supported by OVSN, representing the units of analysis: an OVSN responsible for Technical Education (OVSN Technical), an OVSN responsible for Undergraduate Technical Studies (OVSN B. Tech.), and an OVSN responsible for Free Courses (OVSN Free).

Data collection comprises the period 2013-2017. It includes the creation of the OSVN at the end of 2013, the development of these socio-technical artifacts, and a period of participant

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observation (2016-2017). To collect data semi-structured interviews and participant observation had been adopted. Documents and e-mails exchanged by participants had also been collected.

A content analysis is in progress and is based on innovation episodes observed within the three OVSN. These episodes are submitted to a synchronic codification, for example elements of their structuration processes of habitualization, objectification e sedimentation (Tolbert and Zucker, 1996). Episodes are also submitted to a diachronic codification: the evolutionary process of structuration that results in innovation. Some examples of the initial categories adopted, grounded on the structuration process of OVSN and on the resulting innovation are: new methods for organizational processes, new methods for organizing responsibilities and decision-making, and new approaches to improve relationships with stakeholders.

5. Analysis of expected results and conclusion

Our research intends to analyze the importance of OVSN in the entire process of innovation in organizational practices, evidencing how this occurs dynamically and over time. In adopting this approach, we hope to find relationships between OVSN and organizational innovation, relationships that transform the context of the organizations according to the strategies of legitimation and the structuration theory. We also hope that institutional pressures will not be strong enough to undermine the performance of OVSN, or the legitimation of innovations beyond OVSN. We also stated that different features and tools of OVSN influence the structuration of organizational innovation.

Combining these two themes - virtual organizational social networks and organizational innovation – should point out a number of challenges to overcome. Thus, the objective is that theoretical reflections and empirical analysis can collaborate with the production of new knowledge for academic use and create useful subsidies for practitioners and organizations to use OVSN more efficiently. OVSN are not based on the standard hierarchical model of organizations, being transversal in its constitution and actions. This transversality should contribute to the development of organizational innovation.

In order to study the research problem developed and presented, a case study analyzing three OVSN is under development. Data will be collected until July 2017 and the analysis of this data has started yet.

6. References

Alänge, S.; Jacobsson, S.; Jarnehammar, A. (1998). Some aspects of an analytical framework for studying the diffusion of organizational innovations. *Technology Analysis & Strategic*, v. 10, p. 3–21.

Birkinshaw, J.; Hamel, G., Mol, M. J. (2008). Management innovation. *Academy of Management Review*, v. 33, p.825–845.

Burt, R. S. (2010) *Neighbor networks: Competitive advantage local and personal*. New York NY: Oxford University Press.

Bobsin, D.; Hoppen, N. (2014). The Structure of Organizational Virtual Networks. In: Lapo Mola; Ferdinando Pennarola; Stefano Za. (Org.). *From Information to Smart society: Environment, Politics and Economics.*. 1a ed. Heidelberg: Springer, p. 19- 30.

Boyd, D.M.; Ellison, N.B. (2007). Social network sites: Definition, history, and scholarship. *Journal of Computer-Mediated Communication*, v. 13, n. 1, p. 45-67.

Chesbrough, H. (2006) *Open business models: how to thrive in the new innovation landscape*. Harvard Business School Press, Boston.

Damanpour, F., Walker, R. M., Avellaneda, C. N. (2009). Combinative effects of innovation types and organizational performance: A longitudinal study of service organizations. *Journal of Management Studies*, v. 46, p. 650–675.

DiMaggio, P.; Powell, W.W. (1983) The Iron Cage Revisited: Institutional Isomorphism and Collective Rationality, *American Sociological Review*, 48(2), p. 147-160.

Ellison, N. B.; Boyd, D. (2013). *Sociality through Social Network Sites*. In Dutton, W. H. (Ed.).

Giddens, A. (1984). *The Constitution of Society: Outline of the Theory of Structuration*. Chicago: Polity Press.

Giddens, A. (1993). *New Rules of Sociological Method*. Polity Press, Cambridge, MA.

Guan, J.; Zhang, J.; Yan, Y. (2015). The impact of multilevel networks on innovation. *Res. Policy*, v. 44, n. 3, p.545–559.

Hoppen, N.; Bobsin, D. (2015). Institutional pressures for the adoption of Organizacional Virtual Social Networks. In: Conf-IRM 2015, 2015, Ottawa. *Proceedings of the 2015 International Conference on Information Resources Management*. Auckland: The University of Auckland, 201, p. 1-10.

Kadushin, C. (2012). *Understanding social networks: theories, concepts and findings*. Oxford University Press.

OECD/Eurostat. (2005) *Oslo Manual: Guidelines for Collecting and Interpreting Innovation Data, 3rd Edition, The Measurement of Scientific and Technological Activities*, OECD Publishing, Paris.

Oinas-Kukkonen,H.; Lyytinen,K.; Yoo, Y. (2010) Social Networks and Information Systems: Ongoing and Future Research Streams. *Journal of the Association for Information Systems*, v.11, special issue, p. 61-68.

Langley, A.; Abdallah, C. (2011). Templates and Turns in Qualitative Studies of Strategy and Management. *Research Methodology in Strategy and Management*, vol. 6, p. 201-235.

Mignerat, M.; Rivard, S. (2009). Positioning the institutional perspective in information systems research. *Journal of Information Technology*, v.24, p.369–391, 2009.

Monge, P. R.; Contractor, N. S. (2003). *Theories of communication networks*. New York, NY: Oxford University Press.

Rost, K. (2011). The strength of strong ties in the creation of innovation. *Res. Policy,* v.40, n. 4, p.588–604.

Senac. (2015). Departamento Nacional. *Relatório geral*. Rio de Janeiro.

Tolbert, P. S.; Zucker, L. G. (1996). The institutionalization of institutional theory [Electronic version]. In S. Clegg, C. Hardy and W. Nord (Eds.), *Handbook of organization studies*. London: SAGE.

Wang, C.; Rodan, S.; Fruin, M.; Xu, X. (2014). Knowledge networks, collaboration networks, and exploratory innovation. Academy of Management, v.57, p. 484–514.

Wu, L., Lin, C.-Y.; Aral, S.; Brynjolfsson, E. (2009). Value of Social Network - A Large-Scale Analysis on Network Structure Impact to Financial Revenues of Information Technology Consultants, *Winter Information Systems Conference,* Salt Lake City, UT.

Zheng,W. (2010). A social capital perspective of innovation from individuals to nations: where is empirical literature directing us? *International Journal of Management Reviews*, v.12, p. 151–183.