Power and Trust: Can They Be Connected in an Interorganizacional Network?

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Abstract. Studies on interorganizational networks tend to be dense in their different aspects such as structural characteristics, nature of the links and transactional content, but light on power in networks. The purpose of this paper is to study a possible correlation between power and trust in an interorganizational network. Using quantitative methodology based on a survey sample made in 29 food companies that belong to a Brazilian food association, it was possible to statistically correlate power and trust in this network. The findings can be of importance to present what aspects the companies in this network pay more attention to: power, trust and their relationship, and to present a methodology that can be reproduced for the studies of power in networks. As a characteristic of empirical studies in networks, the temporal transversality of the nature of the sample does not allow generalizations.

Keywords: Power · Networks · Trust · Methodology · Quantitative

1 Introduction

Due to the great complexity of the modern days, the competition and the interdependency between the organizations, some of them do not operate isolated, but in strategic alliances, including suppliers, customers and even competitors, when they exchange raw materials, products, services, and develop technology, services and products in partnership. Such strategic alliance was called interorganizational networks [1].

A new range of studies was opened to analyze the interorganizational networks under a wide variety of approaches, mainly in its structural characteristics, nature of the links and transactional content, when trust, commitment and cooperation were usually studied, leaving power in networks as an obscure variable with a few studies [2].

There are still gaps in the academic studies in knowledge on power in networks [3, 4], that would require more researches [2].

Politics and power involve the organizations in a process of giving and receiving, difficult to be unveiled [5], as in the interactions between people there are social exchanges, and with it, power emerges [2].

Power is so relevant in interorganizacional networks that it should constitute one of the four theoretical mechanisms of its analysis. The other ones are: access to resources, trust and signaling [6].

Studies on networks tend to be dense in matters such as trust and negotiation, but exceptionally light on themes such as power and domination among their members [2].

The aim of this research is to correlate power and trust, using quantitative approach, in the interorganizacional network subject of this study, and to analyze the results. The findings can be of importance to show what the companies in this network pay more attention to: power, trust and their relationship, for future researches in this area.

2   Literature Review

This chapter aims to provide an overview of power in interorganizational networks and trust.

2.1   Power in Interorganizational Networks

Power can shape and reshape the networks as their actors are always interacting; and from these interactions, interests arouse, when actors tend to fight for power to themselves, or to stop the power of others, and that can change the structure and patterns of the network, showing its dynamics, in opposite to the idea of a perennial position of the networks structure [7].

The changes in networks can be positive or negative, depending on the relationship between the organizations that compose the network: their gains and loss, advantages or disadvantages, time and energy to keep the relationships in the networks, and others [8].

Each actor in the network represents an individual organization that keeps its own independency. Organizations can have different interests, and when it is difficult to reach an understanding in the networks, conflicts can arouse, when the harmony can be difficult to maintain and the network can reach a collapse [9–11].

In interorganizational networks both conflicts and cooperation are present [12], so it is necessary to consider power in all its dimensions, as well as the human beings search for power to reach their dreams, hopes, interests … [4].

It is difficult to provide a taxonomy of power, due to the many windows power opened to observe the daily life [13–15], with each author seeing power through different approaches. In Table 1 it can be seen some authors and their different approaches.

The concept of power used in this research was of the conscious submission [17] as in Table 1, when power varies from control to influence of the network.

Table 1. Different approaches on power in networks (Source: adapted [16])

Concept of power	Basic idea	Authors	Year
Collective changes	Movement of material goods for the community, lived under the sign of spontaneity	Mauss	1925
Collective purpose	Actors from a given community must perform actions legitimized by their society	Parson	1968
Exercise	Power manifests itself associated with relationships, regardless of ownership or legitimacy	Foucault	1979
Interdependency	Power as the basis for regulation of relations between actors of networks - formal and informal governance	Powell	1983
Group agglutinative	Power groups the individuals by their position of way of communication in their social interactions	Luhmann	1997
Base for network analysis	Variable conditional on the level of analysis of the decision to be adopted in the research (dyad, ego or network)	Zaheer et al. [6]	2010
Conscious submission	Actors in networks analysis benefits and efforts to stay in the network and consciously submit to power – that varies from control to influence.	Telles et al. [17]	2014

2.2 Trust

Trust can be defined as the understanding that the other actors of the network will take the right attitude, no matter the consequences, in result of the compromise that is being generated by the longtime of interaction among the actors of the network [18]; that reflects the reputation and value of each agent within the network [19].

3 Methodology

This work uses a descriptive research as the main objective is to study a phenomenon (power) in a specific population (network), with a nuance of exploratory research [20]. The approach will be quantitative as the purpose is to stablish a statistical relation between power and trust in networks [21].

3.1 Planning the Research

To operationalize the research, here follows how it was planned.

Sample. This study was performed at a network of a Brazilian food association, composed of 44 associated companies. This association had 12 years of activity in a very competitive market, and this made it special for the research. The actors chosen

had more than one year of association and were up to 60 km far from the association head office. The sample of the research was composed of 29 food companies (66 % of the total).

Strategy of Research. For data collection it was chosen a sample survey [22] with the application of a printed questionnaire that was delivery on hands to the each actor – that represents the company in the food association -, in their own companies, for immediate fulfilling.

For this research 729.7 km were covered to perform the interviews that lasted about 1 h, each one.

The questionnaire was divided in three parts.

In the first part it was asked to inform the companies in the network that the interviewed actor used to keep in touch more frequently (to get information, advices, experience change, …). After that, it was asked to provide a grade – from 0 % (minimum) to 100 % (maximum) of the influence that the already named company (more frequently contacted) exerted over the interviewed actor, as shown in Table 2.

Table 2. First part of the questionnaire. (Source: adapted [16])

	Name of the company in the network more contacted	Name of the actor more contacted	Grade of influence of this actor/company in your decisions (%)										
1º			0	10	20	30	40	50	60	70	80	90	100
2º			0	10	20	30	40	50	60	70	80	90	100
3º			0	10	20	30	40	50	60	70	80	90	100
…			0	10	20	30	40	50	60	70	80	90	100

In the second part of the questionnaire it was asked to the interviewed actor to mark in a Likert scale of 5 points, where 1 point corresponds to "Disagree completely" and 5 points represents "Agree completely", five assertions about power in networks and two about trust in networks, as shown in Table 3.

Table 3. Second part of the questionnaire. (Source: adapted [16])

Nr.	Assertion	Disagree completely	Disagree partially	Neither agree nor disagree	Agree partially	Agree completely
		①	②	③	④	⑤

Assertions about power that got correlations in the survey:

11. Everybody can speak their minds in the Association.
14. Even with conflicts it is possible to be heard in decision-making meetings in the Association.

Assertions about trust that got correlations in the survey:

18. I trust in the Association (members of the association as a whole) guidelines.
19. I trust in the Board guidelines.

In the third part of the questionnaire it was asked to the interviewed actor to freely talk about how he/she saw the food association, and along the speech, it was tried to observe if what the actor was talking was coherent with what was marked in the first and second parts of the questionnaire for check [23].

Analysis. For analysis, the questionnaires that resulted from the survey of the 29 food Brazilian companies were divided in four stratums, accordingly to the medium of the grades they received based on the results of Table 1, as presented in Table 4.

Table 4. The sample was divided in four stratums for power and trust analysis. (Source: adapted [16])

Stratum	Medium grade resulted from Table 1
Low power	1.5–2.5
Regular power	2.6–5
Satisfactory power	5.1–7.5
High power	7.6–10

Ten actors were excluded for receiving grade zero, and two more for refusing to fulfil Table 1.

It was used the IBM SPSS Statistic v. 21 to verify the Pearson's correlation coefficient between the six assertions of power and the two of trust (Table 3) for each stratum in separate.

4   Results

Here follows the analysis of the Pearson's correlation of the assertions that were significant in the research.

In the stratum "low power", the power to speak his mind in the association is correlated to the trust the actor has in the members of the association as a whole.

The stratum "regular power" showed that the power to speak their mind in the association is correlated to the trust the actor has in the members of the Board of Directors.

In the stratum "satisfactory power", the power to speak their mind in the association is correlated to the trust the actor has in the members of the association as a whole, or in the members of the Board of Directors.

By the other side, the stratum "high power" showed that the power to be heard during decision-making meetings in the association is correlated to the trust the actor

has in the members of the association as a whole, or in the members of the Board of Directors.

The statistical values are shown in Table 5.

Table 5. Pearson sample correlation observed between power and trust in the survey.

Stratum	Pearson sample correlation coefficient (r)	Level of significance (p) (for two tailed test)
Low power	1.00	0.000
Regular power	0.98	0.014
Satisfactory power	0.98	0.038
	0.98	0.038
High power	0.92	0.028
	1.00	0.00

4.1 Validation of the Findings

For validation of the results, it was compared for each stratum, the degree of importance the assertion that reached the acceptable Pearson correlation coefficient between power and trust, was of importance to the group that composed each stratum, as follows in Table 6.

Table 6. Comparison of the relative importance that the power assertion – that reached the acceptable Pearson correlation coefficient – has to the group.

Stratum	Relative importance of the power assertion to each group
Low power	75 %
Regular power	50 %
Satisfactory power	100 %
High power	75 %

This comparison was not made with trust, because it has just two assertions, so both could be considered of significance.

As the assertions that reached the Pearson correlation between power and trust reached a considered level of importance, the correlation between power and trust can be confirmed.

5 Conclusions

It was made a survey in 29 Brazilian companies of a food network to analyse power and trust among their members.

It was found that power and trust point to be correlated in this study of interorganizational network.

The stratums: "low power", "regular power" and "satisfactory power" value the power to speak their minds in the Association.

The stratum "high power" values the power to be heard in decision-making meetings in the Association.

As power increases, the stratum with greater power ("satisfactory" and "high power") is divided in correlating power based on the trust of members of the Board, and based on the members of the Association as a whole.

There is not a common vision of power and trust among the members of the network under study, what can show the different interests members have in this network, what can cause conflicts to be overcome by their members, pointing that power can shape and reshape the networks as their actors are always interacting [7].

As a limitation of this research, the survey portrays a cross-section, figuring a moment in the life of the network which may not reflect the way power and trust are usually connected in this network.

As a characteristic of empirical studies in networks, this temporal cross-section of the sample nature does not allow generalizations.

Future researches were suggested in other networks, using the same methodology developed here, to confirm the findings and to study in deep the consequences of the connections between power and trust as appointed here.

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