

Establishing transparent interorganizational relationships through shared goals for anti-corruption in Brazil

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Abstract. Market changes and the need to remain competitive have lead organizations to establish partnerships that allow them to share resources with each other for better handling an identified opportunity. Such associations are also established at the government level, where the limited resources are shared at the service of society's common good. However, besides having a mutual or compatible goal, it is common that partner organizations have distinct characteristics, which may lead to several challenges to be faced. The present research explores the interorganizational relationship management. For this, this paper outlines an approach based on shared goals, making the involved organizations more transparent, integrated, prepared to interoperate their processes and information and able to develop skills to act and achieve shared goals even with existing differences. An anti-corruption partnership in Brazil illustrates the approach application.

Keywords: Interorganizational relationships; Process integration; Shared goals.

1 Introduction

Transformations in the economy, globalization, technological innovations, fast dissemination of information, the need for reducing time and cost of product development cycle, the urge for providing more transparency in existing processes and information, have led to organizations' adaptation to remain competitive. A new organizations approach to face this dynamic and unpredictable environment has been crossing their own borders and establishing partnerships with other organizations, which may be their rivals or operate in businesses than their own [1][2][3][4][5].

When organizations need to collaborate to achieve a common goal, they can establish different types of relationships, such as alliances, networks, joint ventures, outsourcing etc. Choosing the most appropriate type of interorganizational relationship considers the goals to be achieved and common interests; confidence arising from the transparency between those involved; cooperation scope; relationship duration; communication structure; decisions autonomy; relationship formalization etc. [4][6][7][8]

[9]. Regardless the adopted interorganizational relationship type, they all aim to combine resources, knowledge or power in benefit of organizations, and share the results achieved from partnership [5][10]. These relationships allow organizations to share human and financial resources, systems, work processes and information, enabling them having access to a wider range of tools at a more favorable cost than they would on their own. In addition, they can organize information that is related to the same business process, but as each part of this process is performed by a different organization, it is distributed in isolated databases. Moreover, these organizations can respond to market challenges more quickly by complementing existing skills [4][10].

Such investment in interorganizational relationships is not restricted to organizations that aim to remain competitive in an increasingly challenging environment. It is something that also occurs in the governmental scope, where the limited resources and isolated processes and information are shared at the service of society's common good to solve complex public problems [11][12]. In several Brazilian anticorruption actions [13][14][15][16][17][18], it is possible to notice the articulation of different governmental agencies. As they are responsible for some investigation aspect, whether in terms of responsibility or access to information, these agencies must collaborate and make decisions to identify and punish those involved in corruption acts.

However, besides having a mutual or compatible goal, it is common that these organizations have distinct characteristics, which can act both positively and negatively to the partnership. Positive aspects of the interorganizational relationship were already mentioned. Nevertheless, this new interorganizational group stimulates the interaction of several organizations, thus increasing the probability of facing misunderstandings and influencing the partnership performance alignment [19][20]. Partner organizations should develop skills to work in this new dynamic, identifying, integrating and managing all shared elements to ensure that these elements favor the execution of activities supporting the group strategy integration and shared goals achievement [5][19][20][21][22]. If it is not possible to establish a compromise between all existing dynamics, the interorganizational relationship may fail [9][21].

Present research identifies a challenge in the interorganizational relationship management. This paper explores the challenges related to public transparency, outlining the approach for managing interorganizational relationships based on shared goals. By understanding the opportunity that has generated the organizations' joint work, it is possible to detail what is required to achieve the shared goal. After analyzing each participating organization, and consequently determining the existing and missing inputs in this partnership, responsibilities should be assigned. We claim that this approach makes the involved organizations more transparent, integrated, prepared to interoperate their processes and information and able to develop skills to act and achieve shared goals even with existing differences. The approach is applied to an anti-corruption partnership and is critiqued to guide further work.

The paper is organized as follows: Section 2 characterizes the interorganizational relationships dynamics when handling anti-corruption actions, besides discussing related papers. Section 3 describes the proposed approach for managing interorganizational relationships based on shared goals, discussing the importance of transparency on it. Section 4 illustrates the approach application to an anti-corruption partnership and discusses the obtained results. Finally, Section 5 concludes the paper.

2 Interorganizational relationship dynamics for anti-corruption

According to the Transparency International assessment [23], corruption remains a “plague” around the world, making clear that Society no longer tolerates these actions and demands that this problem is tackled. Brazil does not show up well in this scenario, obtaining 40 points (from 0, highly corrupted to 100, very clean), thus occupying the 79th place of 176 countries assessed. This organization further states that the best performers countries share key characteristics such as access to information and citizen participation. Access to information allows creating an open democratic society with engaged citizens, providing them with tools to understand and use information and stimulating critical thinking about the information and services provided [24].

For this reason, transparency, or lack thereof, has been at the top of the Brazilian public agenda in many aspects and its importance has been highlighted by the increasing demand for e-Gov provision [25]. The Brazilian Strategy of Digital Governance (EGD) [26] aims to guide and integrate the Federal Government digital governance initiatives. It contributes to generating benefits for the Society by expanding access to government information, improving digital services and increasing social participation. One of its principles is openness and transparency. It states that, according to the Access to Information Law [27] and Transparency Law [28], data and information are public assets that should be available to Society to promote transparency and publicity to the public resources use in programs and services, thus generating social and economic benefits. These laws have encouraged active transparency, which has resulted in greater availability of information in public organizations’ institutional websites. This information availability also allows Society to identify corruption cases, such as the most recent case involving misappropriation of scholarships at UFPR [29].

Anti-corruption actions often demand the articulation of different governmental agencies. As they are responsible for some investigation aspect, these agencies need to collaborate so those involved in corruption acts are identified and punished. Therefore, these agencies can share existing human and financial resources, systems, equipment, work processes, skills and information to solve complex public problems, thus having access to a wider range of tools at a more favorable cost than they would on their own. In addition, they can organize information that is often related, but as each information is created and/or controlled by a different agency, it is distributed in isolated databases. Moreover, they are able to respond to the identified challenges more quickly and with more quality by complementing existing skills [4][10][11][12].

However, these agencies should be prepared to face the challenge of working in this new dynamic, or this ecosystem regarding involved software [30][31]. By acting alone, each agency only manages its own personnel, processes, information, systems, equipment and financial resources to achieve the desired goals. Establishing an interorganizational relationship stimulates the interaction of agencies with different characteristics, cultures and values, thus influencing the different agencies performance alignment [5][10][20]. In this new interorganizational group, agencies’ members, who operated according to a set of values and basic assumptions, need to cooperate, thus evidencing existing differences [5][10][11][20]. It increases the probability of facing misunderstandings and conflicts since agencies have different forms of planning, decision-making, resource allocation, process and information definition [19]. If it is not possible to establish a compromise between the variety of existing dynamics, with

agencies facing relationship problems and conflicts, the interorganizational relationship may fail, even leading to an enormous loss to Society [9][21].

Thus, for an effective collaborative work, ensuring that the existing elements favor the execution of activities supporting anti-corruption, it is necessary to minimize beliefs and work styles differences. Governmental agencies need to identify, integrate and manage all shared elements, developing skills that enable them to cope even with existing differences so that joint work is effective, shared goals are achieved and the relationship can be considered successful [19][20][21][22]. However, making these agencies integrated and with skills to cope besides their differences is not a trivial task. Appropriate methods, techniques and tools are required.

Authors argue that organizations' members are key elements for interorganizational alignment, acting as channels through which all organizational dynamics are shared with the partner organization [20][21][22]. In a mixed and multicultural context, these organization's members must cooperate, evidencing differences. Thus, it is necessary to encourage them to be committed to shared goals, be aware of differences and learn to behave in a new organizational dynamic to ensure the joint work effectiveness.

Enterprise Architecture is another aspect to be considered [1][3][19][32][33][34][35]. The way organizations establish their ways of planning; decision-making; existing knowledge and skills identification, security and application; resource allocation; process, systems and information designing etc., differs from each other. With the need to work together, participating organizations should explain how to model and organize the information flow, facilitate the knowledge exchange and maintain intellectual property rights. Within Enterprise Architecture, a key factor for an interorganizational relationship is the Process Architecture [36][37]. Organizations develop and maintain a great collection of business process models to represent the complex system that they are, becoming necessary to capture and analyze these processes and their interdependencies with each other. It becomes a greater challenge when handling cross-organizational processes. Thus, understanding the existing architecture allows understanding how each organization can best contribute to the partnership, establish agreements to use the available resources and better integrate them.

Business and shared goals modeling also become more complex in this context, with definitions and changes impacting the entire partnership [22]. Methodologies for understanding an organization should be improved and extended to deal with interorganizational relationship particularities [9][19][38][39][40].

Besides that, it is also necessary to think over systems adopted by participant organizations (Interorganizational Information Systems – IOIS) so that they support the necessary activities for the partnership, are not impacted by the existing differences and are aligned with business strategy [41][42][43][44].

Although describing proposals that could help organizations involved in partnerships, the cited studies are only interested in some aspect of interorganizational relationships management, also neglecting the transparency aspect. Partner organizations should develop skills to work in this new dynamic, identifying, integrating and managing all shared elements to ensure that these elements favor the execution of activities supporting the group strategy integration and shared goals achievement. Mechanisms that makes these organizations more transparent, integrated, prepared to in-

teroperate their processes and information and able to act and achieve shared goals even with existing differences are still required.

3 Managing interorganizational relationships based on shared goals

The main goal of this research is to explore the interorganizational relationship management. It is proposed that the integration of organizations involved in interorganizational relationships be oriented to the shared goals (Fig. 1). The need for joint work arises from the identification of an opportunity of interest to both organizations, with the goal being the common element of these organizations. From this goal, the other aspects can be designed. This orientation is possible since the goals created for a certain aspect at organizational processes modeling time can be implemented in execution time, guaranteeing this alignment [45].



Fig. 1. Approach for managing interorganizational relationships based on shared goals

The first step is to understand the opportunity that has generated the organizations' joint work. It is necessary to determine the shared goal to be achieved, from which the other aspects will be designed. It is important to highlight that this shared goal could be challenging and complex, being necessary to detail it into different subgoals and explicit the relationship between them. From this, it is possible to detail how the partnership will perform to achieve the shared goal (Fig. 2). It involves identifying processes, roles, information, systems, skills, considering the rules that define them.

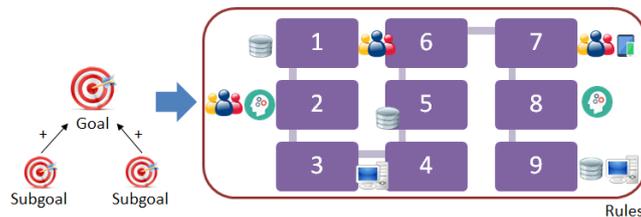


Fig. 2. Required inputs for shared goal achievement

With this detailing, it is possible to map what each participating organization can supply to achieve the shared goal (Fig. 3). It involves (a) the culture characterization,

(b) the existing skills identification and (c) the identification of processes, information, systems, technology and financial resources of each organization.



Fig. 3. Organizations' available inputs

By understanding the participating organizations, it is possible to identify the available inputs in the partnership (**Fig. 4**). This is possible from the intersection between each participating organizations' mapping (**Fig. 3**) and the detailing of how the partnership should act to achieve the shared goal (**Fig. 2**).

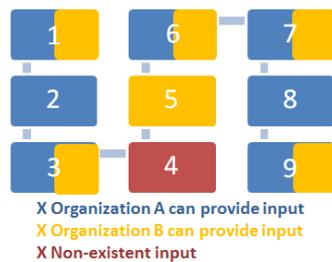


Fig. 4. Partnership' available inputs



Fig. 5. Partnership process

After this step, the partnership processes should be defined (**Fig. 5**). Organizations already have procedures to handle some required circumstances. In case the partnership does not have the necessary inputs and according to the related aspects, it is necessary: (a) process: finding an organization to integrate the partnership, searching for external training, developing (or even replacing) the required process; (b) personnel: hiring staff or training available staff that are not involved in partnership; (c) system: acquiring or developing system; (d) information: generating information or searching for information externally; (e) technology: acquiring or renting equipment.

Finally, it is necessary to assign the responsibility of each organization involved in partnership (**Fig. 6**). It requires identifying what is under the responsibility of each organization and what is under shared responsibility. If more than one partner can provide the same input, a negotiation should take place to determine which of them will be responsible for performing the activity. It should consider the service capacity, the involvement in other activities and the activity strategic importance. For shared activities, cultures, processes and information must be integrated.



Fig. 6. Responsibilities assignment

It is argued that such an approach allows organizations involved to become more integrated, prepared to interoperate their processes and information and able to act and achieve shared goals. When applied at the governmental level, it could also provide organizational transparency, adding social values related to characteristics such as auditability, accessibility, comprehension, clarity, reliability, etc. [25][46].

4 Proposal application: Anti-corruption partnerships in Brazil

In Brazil, the Federal Police conducts investigations of criminal offenses against the political and social order or in detriment to Federal Government interests, as well as infractions with interstate or international repercussions. According to the investigation direction, the Federal Police reaches agreements with other governmental agencies to conduct the investigation by sharing resources and exchange private data. Regarding corruption and public money misappropriation, the Internal Revenue Service (IRS) should be involved. This agency is responsible for federal taxes administration, tax evasion combat and illegal acts related to international trade (smuggling, piracy, trafficking etc.).

Given this context, the first step for proposed approach application is to understand the opportunity that has generated the agencies collaboration. Thus, the shared goal is to combat corruption, identifying, investigating and punishing people and/or organizations who have misappropriated public money (**Fig. 7**).

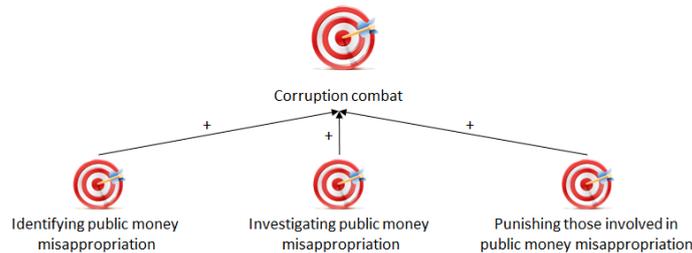


Fig. 7. Understanding opportunity for agencies collaboration

From this shared goal, it is possible to detail the necessary inputs for the partnership operation. During corruption combat, Federal Police agents (intelligence and

operational) and IRS agents should perform a set of activities (irregularity identification, irregularity verification, operation planning, operation execution and sending evidence to Justice). These actions require some information, captured from Federal Police database, income tax return, banking operations, authorized wiretapping, court orders etc.; use some systems from Federal Police and IRS; need equipment as vehicles, guns etc.; and must follow the rules defined by Brazilian laws (Fig. 8).

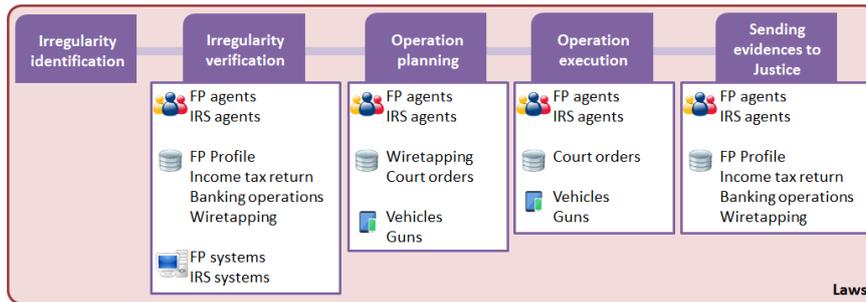


Fig. 8. Required inputs for corruption combat

With this detailing, it is possible to map what both Federal Police and IRS can supply to the partnership, thus identifying how it will operate to combat corruption (Fig. 9). For instance, Federal Police (blue) can provide agents, information retrieved from its database and authorized wiretapping, existing systems, vehicles and guns. IRS (yellow) can provide agents, information from income tax return, existing systems and vehicles. However, those agencies cannot provide some required inputs (red). For instance, the banking operations must be retrieved from Financial agencies and court orders must be determined from Justice agents. Therefore, it is necessary to gather this information externally.

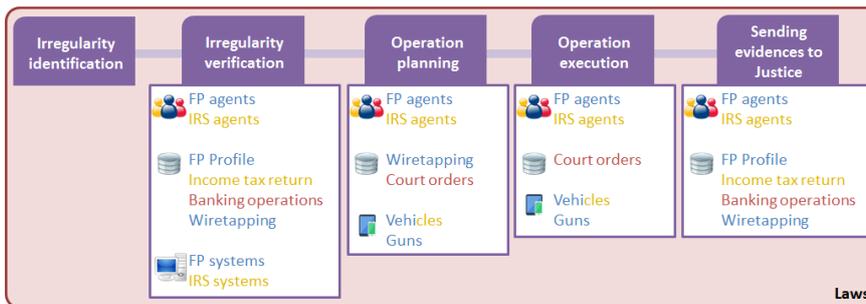


Fig. 9. Partnership available inputs for corruption combat

Finally, it is necessary to assign responsibilities for involved agencies (Fig. 10). Considering the activities nature, the IRS will be responsible for irregularity verification since this agency administrates federal taxes. The Federal Police will be responsible for the operation execution since it has the power to comply court orders in its

attributions and sending information to Justice. Both agencies will be responsible for irregularity identification, either through internal investigation or Society's denunciations, besides operation planning.

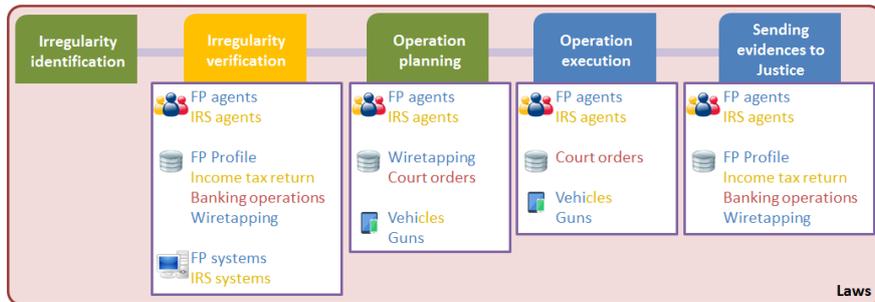


Fig. 10. Responsibilities assignment for corruption combat

5 Conclusion

The need to remain competitive in an increasingly dynamic and challenging environment lead organizations to establish partnerships for combining resources, knowledge and power in benefit of participating organizations. Such need also increases at the governmental level, with different agencies collaborating for Society's interests. However, it is a challenge to make these organizations being integrated and working in a new dynamic, thus ensuring the joint work are effective and successful.

This paper has explored the challenge of managing interorganizational relationships, especially those related to public transparency. It has described an approach to support the interorganizational relationships management based on shared goals, from which it is possible to determine what is required to achieve this shared goal and what the partnership can provide to this end. It is argued that proposed approach makes the involved organizations more transparent, integrated, prepared to interoperate their processes and information and able to develop skills to act and achieve shared goals even with existing differences.

The anti-corruption partnership has illustrated the approach application. It has allowed exploring the interorganizational relationship management, besides providing an alternative for different agencies to plan and organize their joint work to achieve a shared goal in a transparent way.

However, it is important to highlight some research challenges. The first challenge concerns the goal detailing. It cannot be so clear to organizations describe the goal shared by the partnership, besides subgoals arising from it. It is also possible to handle organizations that know how to handle required circumstances, but their internal processes may not be described in a structured way. Besides that, organizations may face difficulties in providing non-existent inputs for the partnership because they cannot find a way to do it. Finally, negotiation for responsibilities assignment can be arduous. Solutions to overcome these challenges still need to be developed.

As future work, the specification of a prototype to support approach application is under development, taking into account the public administration peculiarities. In

addition, we will work on mechanisms to evaluate the partnership performance and the transparency degree achieved to both involved organizations and Society. Besides that, we aim to evaluate the proposed approach in a real scenario, besides applying it in other domains than the government. The obtained results will provide inputs for a better understanding of approach application impact and help its improvement and evolution.

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7 References

1. Drews, P.; Schirmer, I.: "From Enterprise Architecture to Business Ecosystem Architecture". In: International Enterprise Distributed Object Computing Conference, pp. 13-22, Ulm (2014).
2. Guanciale, R.; Gurov, D.: "Privacy Preserving Business Process Fusion". In: Business Process Management Workshops, LNBIP 202, pp. 96-101, Haifa (2014).
3. Mueller, T.; Schuldt, D.; Sewald, B.; Morisse, M.; Petrikina, J.: "Towards inter-organizational Enterprise Architecture Management". In: Americas Conference on Information Systems, Chicago (2013).
4. Ranaei, H.; Zareei, A.; Alikhani, F.: Inter-organizational Relationship Management: A Theoretical Model. *International Bulletin of Business Administration*, n. 9, pp. 20-30 (2010).
5. Van Fenema, P.; Keers, B.; Zijm, H.: "Interorganizational Shared Services: Creating Value across Organizational Boundaries" in *Shared Services as a New Organizational Form*, v. 13, pp. 175-217 (2014).
6. Del-Río-Ortega, A.; Gutiérrez, A. M.; Durán, A.; Resinas, M.; Ruiz-Cortés, A.: "Modeling Service Level Agreements for Business Process Outsourcing Services". In: International Conference on Advanced Information Systems Engineering, LNCS 9097, pp. 485-500, Stockholm (2015).
7. Del-Río-Ortega, A.; Resinas, M.; Durán, A.; Ruiz-Cortés, A.; Toroa, M.: "Visual PPINOT: A Graphical Notation for Process Performance Indicators". *Decision Support Systems* (2015).
8. Khalfallah, M.; Figay, N.; Ghodous, P.; Da Silva, C.F.: "Cross-Organizational Business Processes Modeling Using Design-by-Contract Approach". In: International IFIP Working Conference on Enterprise Interoperability, LNBIP 144, pp. 77-90, Enschede (2013).
9. Sebu, M.; Ciocârlie, H.: "Merging business processes for a common workflow in an organizational collaborative scenario". In: International Conference on System Theory, Control and Computing, pp. 134-139, Cheile Gradistei (2015).
10. Harrison, J.: *Strategic Management of Resources and Relationships*, New York: Wiley (2003).
11. Luna-Reyes, L.; Picazo-Vela, S.; Luna, D.; Gil-Garcia, R.: "Creating Public Value through Digital Government: Lessons on Inter-Organizational Collaboration and Information Technologies". In: Hawaii International Conference on System Sciences, pp. 2840-2849 (2016).

12. Markus, M.L.; Bui, Q.: "Governing Public Sector Interorganizational Network Infrastructures: The Importance of Formal and Legal Arrangements". In: Hawaii International Conference on System Sciences (2011).
13. BBC: "Brazil's Odebrecht corruption scandal", <http://www.bbc.com/news/business-39194395>
14. The Guardian: "Brazil: explosive recordings implicate President Michel Temer in bribery", <https://www.theguardian.com/world/2017/may/18/brazil-explosive-recordings-implicate-president-michel-temer-in-bribery>
15. The Guardian: "Brazil's former richest man sought by police in vast corruption inquiry", <https://www.theguardian.com/world/2017/jan/26/brazil-corruption-investigation-eike-batista-bribes>
16. The New York Times: "Sérgio Cabral, Ex-Governor of Rio de Janeiro, Arrested on Corruption Charges", <https://www.nytimes.com/2016/11/18/world/americas/sergio-cabral-rio-governor-corruption.html>
17. The Wall Street Journal: "Brazil's Former House Speaker Eduardo Cunha Arrested in Corruption Investigation", <https://www.wsj.com/articles/brazils-former-house-speaker-eduardo-cunha-arrested-in-corruption-investigation-1476895613>
18. Time: "Brazil Prosecutor Says Massive Corruption Probe Could Double in Size", <http://time.com/4651414/brazil-corruption-probe-car-wash/>
19. Legner, C.; Wende, K.: "The Challenges of Inter-organizational Business Process Design – a Research Agenda". European Conference on Information Systems (2007).
20. Zhu, Z.; Huang, H.: "The Cultural Integration in the Process of Cross-border Mergers and Acquisitions. International Management Review", v. 3, n. 2, pp. 40-44 (2007).
21. Hofstede, G.; Hofstede, G. J.: "Culture and organizations: Software of the mind". McGraw-Hill, (2005).
22. Bocanegra, J.; Pena, J.; Ruiz-Cortes, A.: "Interorganizational Business Modeling: An Approach for Traceability of Goals, Organizational Models and Business Processes". IEEE Latin America Transactions, v. 9, n. 1, pp.847-854 (2011).
23. Transparency International: "Corruption perception index", https://www.transparency.org/news/feature/corruption_perceptions_index_2016
24. Fung, A.; Graham, M.; Weil, D.: "Full disclosure, the perils and promise of transparency", Cambridge University Press, Cambridge (2007).
25. Denis, J. A.; Nunes, V.; Ralha, C.; Cappelli, C.: "E-gov Transparency Implementation Using Multi-agent System: a Brazilian Study-Case in Lawsuit Distribution Process". In: Hawaii International Conference on System Sciences, pp. 2772-2781 (2017).
26. Planejamento: Portaria nº 68 – Estratégia de Governança Digital da Administração Pública Federal, <http://www.planejamento.gov.br/EGD/arquivos/portaria-68-07-03-2016.pdf>
27. Brasil: Lei nº 12.527 – Lei de acesso à informação, http://www.planalto.gov.br/ccivil_03/_ato2011-2014/2011/lei/112527.htm
28. Brasil: Lei complementar nº 131 – Disponibilização em tempo real de informações, https://www.planalto.gov.br/ccivil_03/Leis/LCP/Lcp131.htm
29. Gazeta do Povo: "Estudante detectou sozinha desvio milionário de bolsas que a UFPR não viu", <http://www.gazetadopovo.com.br/vida-e-cidadania/estudante-detectou-sozinha-desvio-milionario-de-bolsas-que-a-ufpr-nao-viu-52c7c52x896li4rb2qkrjeona>
30. Kutvonen, L.: "Enhancing the Maturity of Open Service Ecosystems and Inter-enterprise Collaborations". In: International IFIP Working Conference on Enterprise Interoperability, LNBIP 144, pp. 6-21, Enschede (2013).
31. Santos, R.; Cappelli, C.; Maciel, C.; Leite, J. C.: "Transparência em Ecossistemas de Software". Workshop de Desenvolvimento Distribuído de Software, Ecossistemas de Software e Sistemas-de-Sistemas, pp. 75-79, Maringá (2016).

32. Choi, T.; Kröschel, I.: "Challenges of governing inter-organizational relationships: Insights from a case study". In: European Conference on Information Systems, pp. 1-16, Münster (2015).
33. Köpke, J.; Eder, J.; Künstner, M.: "Projections of Abstract Interorganizational Business Processes". In: International Conference on Database and Expert Systems Applications, LNCS 8645, pp. 472-479, Munich (2014).
34. Montarnal, A.; Wang, T.; Truptil, S.; Bénaben, F.; Luras, M.; Lamothe, J.: "A Social Platform for Knowledge Gathering and Exploitation, Towards the Deduction of Inter-enterprise Collaborations". *Procedia Computer Science*, v. 60, pp. 438-447 (2015).
35. Dang, D.; Pekkola, S.: "Systematic Literature Review on Enterprise Architecture in the Public Sector", *The Electronic Journal of e-Government*, v. 15, i. 2, pp. 132-154 (2017).
36. Eid-Sabbagh, R-H.; Dijkman, R.; Weske, M.: "Business Process Architecture: Use and Correctness". In: International Conference on Business Process Management, LNCS 7481, pp. 65-81, Tallinn (2012).
37. Eid-Sabbagh, R-H.; Hewelt, M.; Weske, M.: "Business Process Architectures with Multiplicities: Transformation and Correctness". In: International Conference on Business Process Management, LNCS 8094, pp. 227-234, Beijing (2013).
38. Bouchout, K.; Alimazighi, Z.: "Inter-Organizational Business Processes Modelling Framework". In: Conference on Advances in Databases and Information Systems, Vienna (2011).
39. Lawall, A.; Schaller, T.; Reichelt, D.: "Restricted Relations between Organizations for Cross-Organizational Processes". In: Conference on Business Informatics, Lisbon (2014).
40. Lin, D.; Ishida, T.: "Coordination of Local Process Views in Interorganizational Business Process". *IEICE Transactions on Information and Systems*, v. E97-D, n. 5, pp. 1119-1126 (2014).
41. Hsu, C.; Lin, Y-T.; Wang, T.: "A legitimacy challenge of a cross-cultural interorganizational information system". *European Journal of Information Systems*, v. 24, pp. 278-294 (2015).
42. Kauremaa, J.; Tanskanen, K.: "Designing interorganizational information systems for supply chain integration: a framework". *The International Journal of Logistics Management*, v. 27, n. 1, pp. 71-94 (2016).
43. Sun, K.; Lai, W. C.: "ISAM-based inter-organization information systems alignment process". In: International Conference on Computer Science and Service System, pp. 1358-1361, Nanjing (2011).
44. Sun, K.; Yu, K.: "Research on project management for Inter-Organizational Information Systems". In: International Conference on E-Business and E-Government, pp. 1-4, Shanghai (2011).
45. Santana, J.; Gonçalves, F.; Cappelli, C.; Santoro, F.: "Providing semantics to implement aspects in BPM". *International Workshop on Process Engineering* (2016).
46. Cappelli, C.; Leite, J. C.: "Software Transparency", *Business and Information System Engineering*, v. 2, i. 3, pp. 127-139 (2010).