International Journal of IT/Business Alignment and Governance
Volume 10 • Issue 1 • January-June 2019

Inter-Organizational IT Governance Research:
A Literature Review

Ari Helin, Turku School of Economics at University of Turku, Turku, Finland
https://orcid.org/0000-0002-0089-6658

ABSTRACT

The current operational environment for organizations is changing, which has effects on IT functions and IT activities. Various forms of networks, collaborations, and alliances are operational models, which organizations are using to an increasing extent. This reality has brought with it a need for improved IT governance (ITG). ITG research for inter-organizational arrangements will be needed. In the research, the target is to identify the current state of the inter-organizational ITG research among the information systems (IS) domain. The literature review covers academic articles and conference proceedings during this millennium. The findings of the current literature review reveal that interest towards ITG research is still quite limited. The future view of inter-organizational ITG research is quite clear: more research will be needed in the inter-organizational area, which is the current playground for several organizations today.

KEYWORDS

Enterprises, Governance of IT, Information Technology Governance, Inter-Organizational, IT Governance, ITG, Literature Review, Public Organizations

INTRODUCTION

The importance of information technology (IT) for the success of organizations has been widely recognized (Ali & Green, 2012; De Haes & Van Grembergen, 2009). IT systems are crucial for the success of public and private organizations (Ali & Green, 2007; Amali, Mahmuddin & Ahmad, 2014; Sohal & Fitzpatrick, 2002). Current operational environment for organizations is changing, which has effects also to their IT functions and IT activities. Various forms of networks, collaborations and alliances are operational models, which organizations are using to an increasing extent. Simultaneously, digitalization is spreading new operating models with new processes and new business models everywhere. Public organizations are under financial pressures to develop their current IT services and to develop new operative models. Also, demands for digitalization and the rise of social media are driving public organizations to convert their IT services to better respond to new civil requirements. The role of IT is changing from support function to management guiding function even within public organizations. This reality has brought with it a need for improved IT governance. Gartner defines IT

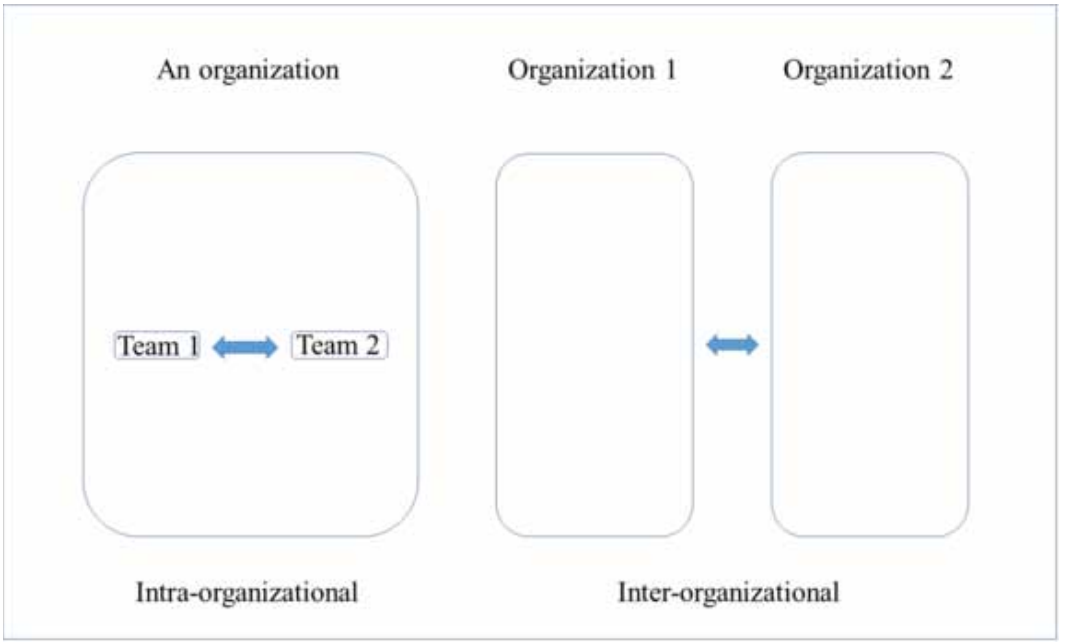
DOI: 10.4018/IJITBAG.2019010103

Copyright © 2019, IGI Global. Copying or distributing in print or electronic forms without written permission of IGI Global is prohibited.

governance as "the processes that ensure the effective and efficient use of IT in enabling an organization to achieve its goals (Gartner, 2019). According to ISO/IEC standard, IT governance (or governance of IT) is a "system by which the current and future use of IT is directed and controlled." Also, the "governance of IT is a component or a subset of organizational governance" (ISO/IEC 38500:2015, 2015). Being important for the success of the organization and being a subset of organizational governance, the importance of IT governance has been growing steadily (Heroux & Fortin, 2013). IT governance (ITG) established its position as a key success factor for companies during last decades (Ali & Green, 2007; Lunardi, Becker, Macada & Dolci, 2014; Zhang, Zhao & Kumar, 2016). With the help of effective IT governance, enterprises can get benefits out of the IT investments, which they have done and create advantages compared with less effective enterprises (Prasad, Heales & Green, 2010; Weill & Ross, 2004). Inter-organizational IT cooperation enables global business practises (Zarvić, Stolze, Boehm & Thomas, 2012). Currently, when both private and public organizations are networking and using various collaboration arrangements in order to success, ITG research for inter-organizational arrangements, i.e. ITG research for any IT related joint arrangements taking place between two or more organizations, will be needed. The difference between "intra-organizational" and "inter-organizational" is shown in Figure 1.

In the current research, the target is to identify the current state of the inter-organizational ITG research among the information systems (IS) domain. The IS domain has been selected due to the fact that ITG focuses on information systems. The IS domain is also the core area of the authors' research. The current research is done systemically through a traditional narrative literature review for the latest ITG related research articles (Boell & Cecez-Kecmanovic, 2015). The literature review covers academic articles and conference proceedings during the past 20 years, i.e. during this millennium, the timeline between the year 2000 and the present time using major databases and leading IS journals. The timeline of 20 years has been selected due to the fact that in the IS domain, the year 2000 was the year of Y2K bug, the "millennium bug", due to which new demands for information systems were set (Augustyn, 2019). 20 years represent a timeline, where in the IS domain, the latest IT development will be seen. To make the review process even more clear, it is also decided that books are left out

Figure 1. Intra-organizational vs Inter-organizational



due to the fact that the research focuses on IS, the uncertain availability of books and due to the fact that journals are often more up-to-date than books (Bandara, Miskon & Fielt, 2011; Dale, Elkjaer, van der Wiele & Williams, 2001). The purpose of the research is to identify the areas, which have (and which have not) been at the centre of ITG research during this millennium.

The article is structured as the following. In the next section, the background of the research is explained and the research questions are presented. Thereafter the description of the literature research process is presented followed by the clarification of the categorization. The following section presents the overview of the reviewed articles. The next section discusses the results of the research. The last section concludes the article with suggestions for future research.

BACKGROUND

The importance of IT governance has kept the research interest strong during the current millennium. According to a research, effective ITG will improve organization's profits (Weill & Ross, 2004). IT governance acts as a link between IT and business goals. With effective IT governance, alignment between business success and IT can be enabled (Ali & Green, 2012). Today, organizations have understood the importance of IT governance and it has been implemented actively (De Haes & Van Grembergen, 2009). This has increased the importance of ITG research. Various literature reviews focusing on ITG have been published during the timeframe. A prompt search is organized to identify existing literature reviews focusing on ITG. The identified literature reviews have been presented in Table 1.

Most of the identified literature reviews focus on various conceptual issues of ITG with only a few literature reviews focusing on issues related to companies or other organizations. No literature review was found to focus on inter-organizational ITG. However, in today's business environment, various networks, collaboration structures and alliances are a reality in the business environment and organizations are doing their best to cope with ever growing challenges (Prasad, Green &

Table 1. The literature reviews focusing on ITG

Authors	Year	Target	Main Focus
Brown & Grant (2005)	2005	A framework proposed to provide a logical structure for ITG	conceptual
Haghjoo (2012)	2012	IT governance and business value	conceptual
Novotny, Bernroider & Koch (2012)	2012	to clarify the dimensions of ITG	conceptual
Pereira & da Silva (2013)	2013	IT governance mechanisms	conceptual
Aasi, Rusu & Han (2014)	2014	cultural issues influencing IT governance	cultural
Mangalaraj & Singh (2014)	2014	focus on IT governance frameworks and COBIT	conceptual
Noraini, Bokolo, Rozior & Masrah (2015)	2015	IT governance and risk assessment	conceptual
de Faria, Schmitz, Alencar, da Silva & Stefaneas (2015)	2015	IT governance and game theory	conceptual
Ghildyal & Chang (2017)	2017	IT governance and benefits models	conceptual
Vejseli & Rossmann (2017)	2017	the impact of IT governance on firm performance	business
Levstek, Hovelja & Pucihar (2018)	2018	IT governance mechanisms and contingency factors	conceptual
Khouja, Rodriguez, Halima & Moalla (2018)	2018	IT governance in higher education institutions	education
Jonathan & Rusu (2018)	2018	IT governance in public organizations	public

Heales, 2012). The current research reveals, whether the ITG research has been following the development which has happened in the business environment resulting in the complex operational environment. The research is in the form of literature review, details and findings of which to be presented in the following.

RESEARCH QUESTIONS

The purpose of this article is to detect the current state of the ITG research in the IS domain during this millennium with special interest targeted to the ITG research for inter-organizational ITG between organizations. In order to reach the research objective, the following research questions are set:

RQ1: What are the targets of the research of inter-organizational ITG?
RQ2: How is research divided between empirical and conceptual studies in the inter-organizational ITG research?
RQ3: What are the main outcomes of the research on inter-organizational ITG research?

By choosing the above research questions, the current stage of ITG research with special interest towards inter-organizational ITG will be revealed.

It is worth noticing that in the current research, organizations are considered public organizations if they are part of national governmental structures, if they are owned by national governments or if they are non-profit organizations. In addition to this, hospitals and universities are also considered public organizations in the current research. Enterprises are generally considered as profit making, private organizations. In addition, banks are included in the enterprise category. IT governance is considered inter-organizational, if joint IT governance takes place between two or more different organizations.

LITERATURE REVIEW PROCESS

The systematic literature review process is conducted following the guidelines by Webster & Watson (2002) and considering constructive comments by Brocke vom, Simons, Riemer, Niehaves, and Plattfaut, (2015) and Boell and Cecez-Kecmanovic (2015). In the search process, Volter library service, provided by the university is used. Volter library service uses databases in Primo Central Index (Volter, 2018) for search. Primo Central Index includes references from over 900 different databases e.g. Web of Science, ProQuest, Scopus, JSTOR, Pubmed and DOAJ. Other databases included in the search are EBSCO, Emerald Journals, ISI and Wiley.

Due to the fact that research articles focusing on the research of ITG in the IS domain are sought to find, the search is conducted focusing on the titles, the abstracts and the keywords of the articles. The keywords used in the search and the combination of keywords used in the search are presented in Table 2. The combinations of keywords, which caught most of the hits, were “IT governance” and “inter-organizational”/ “common”/ “shared”. Together with the combination keyword, which received most of the medicine related hits (“ITG” + “common”), the total number of articles found with these keyword combinations was almost two thirds of the identified articles (63%). Backward or forward search technique was applied to identify even more relevant articles.

In order to make sure that all relevant IS journals will be covered, the top eight journals from the AIS (The Association for Information Systems, 2019) Senior Scholars’ Basket of Journals are also reviewed using the top three keyword combinations identified with the general search, namely “IT governance” and “inter-organizational/common/shared”. The journals included are: European Journal of Information Systems, Information Systems Journal, Information Systems Research, Journal of AIS, Journal of Information Technology, Journal of MIS, Journal of Strategic Information Systems and MIS Quarterly. The identified articles were combined with the articles found with previous searches

Table 2. Keywords and their combinations used in the search

Keyword		Keyword
	and	"inter-organizational"
"IT governance"		"joint"
"ITG"		"between organizations"
"information technology governance"		"among organizations"
"ICT governance"		"shared"
"governance of IT"		"common"
The common search criteria: "Full text available", "Peer reviewed", "English language" and "The year of publication from 2000". Note: In the search for relevant conference papers, the criteria "Peer reviewed" is not used.		

and duplications were removed. Articles with non-matching titles were removed, and articles which were not focusing on IT governance or inter-organizational issues were removed.

The literature search process used is presented according to the guidelines by Moher, Liberati, Tetzlaff, Altman & Prisma Group (2009) in Figure 2.

After the removal for redundant articles, the total number of relevant research articles focusing on inter-organizational ITG revealed to be 26. These articles were further processed as explained in the next section, categorization.

Categorization of Articles

The section includes the categorization of the collected articles. In order to group the collected articles according to the relevant content, the articles are categorized based on the following information: the name of the article, authors, year of publishing, publication type, the name of publication, the research method, and main outcome of the research.

Content details about the articles were collected while reading the relevant parts of the articles (mainly the research method, data gathering and findings and conclusion) through and identifying the details needed. The list of categorized articles is enclosed in the appendix. The findings are discussed in more detail in the next chapter, findings.

OVERVIEW OF THE ARTICLES REVIEWED

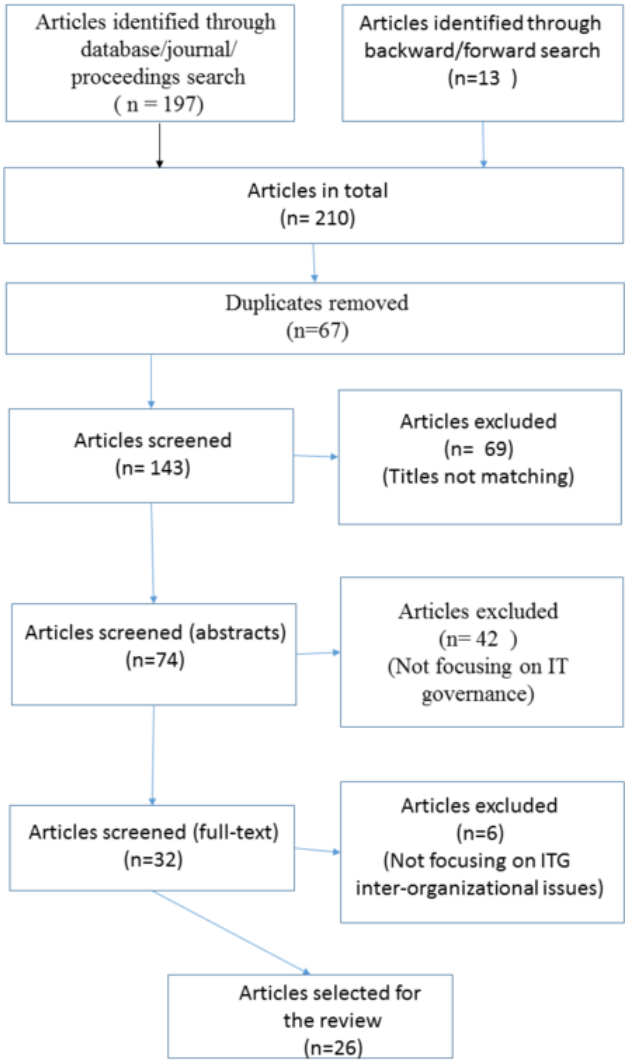
The object of the current study is to identify the current state of the inter-organizational ITG research among the information systems (IS) domain. With the help of a literature search, totally 26 relevant articles were identified. These articles include nine conference papers presented in eight different conferences. The years for conferences are presented in Figure 3.

The conference, which have two inter-organizational ITG related papers at the same time is the International Conference on Theory and Practice of Electronic Governance (ICEGOV, 2014). All other conferences had an inter-organizational ITG related presentation. The list of conferences is presented in the Table 3.

26 inter-organizational ITG related articles include 17 journal articles published in 13 different journals. The year with the most inter-organizational ITG related articles is 2013 with five articles followed by 2012 with three articles. The publishing years for journals are presented in Figure 4.

The journal with most of the inter-organizational ITG related articles is European Journal of Information Systems with three relevant papers followed by International Journal of Accounting

Figure 2. The literature search process



Information Systems and International Journal of Information Management with two articles each. The list of journals is presented in Table 4.

There are 22 different authors, who have acted as the first author. Acklesh Prasad has been the first author for two journal articles (Prasad, Green & Heales, 2012, 2013) and one conference paper (Prasad, Green & Heales, 2011), Anne-Marie Croteau has published one journal article (Croteau, Bergeron & Dubsky, 2013) and one conference paper (Croteau & Bergeron, 2009) and Tomi Dahlberg has published two conference papers (Dahlberg & Helin, 2014; Dahlberg, 2015). The rest of the authors have published one journal article/conference paper each. The list of authors is presented in Table 5.

RESULTS AND DISCUSSION

In this section, the results of the literature review are presented and discussed according to the research questions.

Figure 3. Conference years with inter-organizational ITG papers

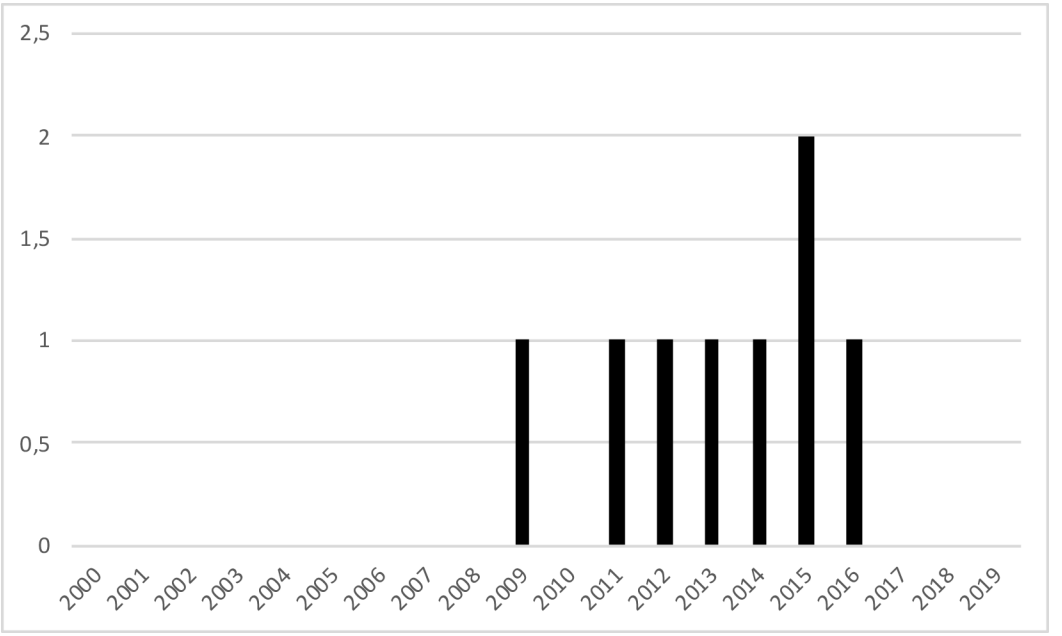


Table 3. Conferences with inter-organizational ITG papers

Conference	Article	Year of Conference
The 12th International Joint Conference on e-Business and Telecommunications	Safdar, Richards & Raahemi (2015).	2015
The 48th Hawaii International Conference on System Sciences	Dahlberg (2015).	2015
The 49th Hawaii International Conference on System Sciences	Ulriksen, Pedersen & Ellingsen (2016).	2016
The International Conference on Theory and Practice of Electronic Governance	Dahlberg & Helin (2014); Klischewski (2014).	2014
The 42nd Hawaii International Conference on System Sciences	Croteau & Bergeron (2009).	2009
The Americas Conference on Information Systems	Prasad, Green & Heales (2012).	2011
The Americas Conference on Information Systems	Kravets & Zimmermann (2012).	2012
The Nineteenth Americas Conference on Information Systems	Trang, Kolbe & Opitz (2013).	2013

RQ1: What are the Targets of the Research of Inter-organizational ITG?

Among the reviewed 26 studies of the inter-organizational ITG research, four different target categories can be identified. There are studies, which focus on 1) guidance and strengthening the current understanding about inter-organizational ITG, studies, which 2) monitor the implementation of ITG, studies, which 3) suggest an improvement or an extension and studies, which 4) seek to develop a concept/definition/model. Due the fact that one study (No. 9) aims to cover two different

Figure 4. Journal publishing years for inter-organizational ITG articles

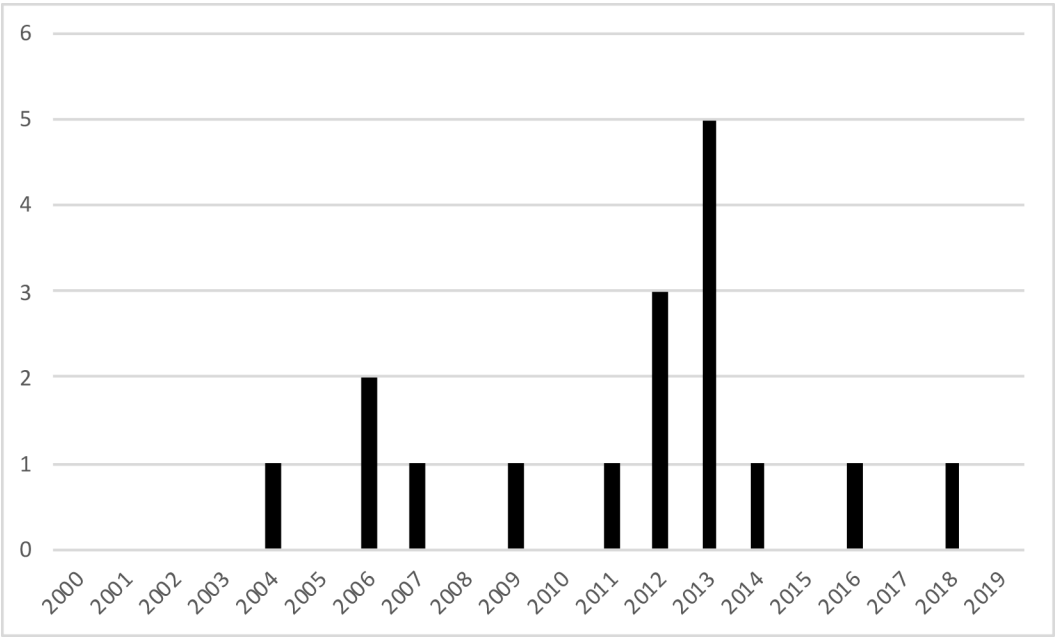


Table 4. Journals with inter-organizational ITG articles

Journal	Article	Publishing Year
EDPACS	Peterson (2004).	2004
European Journal of Information Systems	Grant & Tan (2013); King (2013); Xiao, Xie & Hu (2013).	2013
Financial Executive	MacDonnell & Bamberger (2006).	2006
International Business Research	Croteau, Bergeron & Dubsky (2013).	2013
International Journal of Accounting Information Systems	Bowen (2007); Prasad, Green & Heales (2012).	2007, 2012
International Journal of Information Management	Kooper, Maes & Lindgreen (2011); Zarvić, Stolze, Boehm & Thomas (2012).	2011, 2012
International Journal of Innovation, Management and Technology	Mahy, Ouzzif & Bouragba (2016).	2016
Journal of Information Systems	Prasad, Green & Heales (2013).	2013
Journal of Information Systems and Technology Management	Heindrickson (2014).	2014
Journal of the Association for Information Systems	Beck (2018).	2018
MIS Quarterly	Tanriverdi (2006).	2006
MIS Quarterly Executive	Fonstad (2009).	2009
Pacific Asia Journal of the Association for Information Systems	Chong & Tan (2012).	2012

Table 5. The authors of the articles

Authors	Type of Publication	Publishing Year
Beck (2018)	Journal article	2018
Bowen (2007)	Journal article	2007
Chong & Tan (2012)	Journal article	2012
Croteau & Bergeron (2009)	Conference paper	2009
Croteau, Bergeron, & Dubsky (2013)	Journal article	2013
Dahlberg (2015)	Conference paper	2015
Dahlberg & Helin (2014)	Conference paper	2014
Fonstad (2009)	Journal article	2009
Grant & Tan (2013)	Journal article	2013
Heindrickson (2014)	Journal article	2014
King (2013)	Journal article	2013
Klischewski (2014)	Conference paper	2014
Kooper, Maes, & Lindgreen, (2011)	Journal article	2011
Kravets & Zimmermann (2012)	Conference paper	2012
MacDonnell & Bamberger (2006)	Journal article	2006
Mahy, Ouzzif, & Bouragba (2016)	Journal article	2016
Peterson (2004)	Journal article	2004
Prasad, Green, & Heales (2011)	Conference paper	2011
Prasad, Green, & Heales (2012)	Journal article	2012
Prasad, Green, & Heales (2013)	Journal article	2013
Safdar, Richards, & Raahemi (2015)	Conference paper	2015
Tanriverdi (2006)	Journal article	2006
Trang, Kolbe, & Opitz (2013)	Conference paper	2013
Ulriksen, Pedersen, & Ellingsen (2016)	Conference paper	2016
Xiao, Xie, & Hu (2013)	Journal article	2013
Zarvić, Stolze, Boehm, & Thomas (2012)	Journal article	2012

targets, the total number of articles in the list is 27. Table 6 presents the studies according to their above-mentioned targets.

RQ2: How is Research Divided Between Empirical and Conceptual Studies in the Inter-Organizational ITG Research?

It was found in n an earlier study, that ITG research lacks empirical studies (Brown & Grant, 2005). Based on the current research, this is not the case in the research for inter-organizational ITG research. The current research reveals that articles including empirical data exist to a large extent. Out of 26 articles included in the review, inter-organizational ITG research is pure conceptual in seven articles (27%) and 19 articles (73%) have empirical material included. Both single case studies and multiple case studies were in use utilizing interviews and surveys. Table 7 presents the division between empirical and conceptual research.

Table 6. The targets of the inter-organizational ITG research

Research Targets	No. of Articles	Articles
Guidance/strengthening current understanding	15	Beck (2018); Bowen (2007); Chong & Tan (2012); Croteau & Bergeron (2009); Croteau, Bergeron & Dubsky (2013); Fonstad (2009); Grant & Tan (2013); Heindrickson (2014); Klischewski (2014); MacDonnell & Bamberger (2006); Mahy, Ouzzif & Bouragba (2016); Peterson (2004); Trang, Kolbe & Opitz (2013); Ulriksen, Pedersen & Ellingsen (2016); Zarvić, Stolze, Boehm & Thomas (2012).
Implementation monitoring	3	Dahlberg (2015); Dahlberg & Helin (2014); Grant & Tan (2013).
Suggesting improvement or extension	4	King (2013); Prasad, Green & Heales (2011); Prasad, Green & Heales (2012); Prasad, Green & Heales (2013).
Concept/definition/ model development	5	Kooper, Maes & Lindgreen (2011); Kravets & Zimmermann (2012); Safdar, Richards & Raahemi (2015); Tanriverdi (2006); Xiao, Xie & Hu (2013).

Table 7. The division of the studies

Method	No. of Articles	Articles
Empirical	19	Beck (2018); Bowen (2007); Chong & Tan (2012); Croteau & Bergeron (2009); Croteau, Bergeron & Dubsky (2013); Dahlberg (2015); Dahlberg & Helin (2014); Fonstad (2009); Heindrickson (2014); King (2013); Klischewski (2014); Peterson (2004); Prasad, Green & Heales (2011); Prasad, Green & Heales (2012); Prasad, Green & Heales (2013); Safdar, Richards & Raahemi (2015); Tanriverdi (2006); Ulriksen, Pedersen & Ellingsen (2016); Zarvić, Stolze, Boehm & Thomas (2012).
Conceptual	7	Grant & Tan (2013); Kooper, Maes & Lindgreen (2011); Kravets & Zimmermann (2012); MacDonnell & Bamberger (2006); Mahy, Ouzzif & Bouragba (2016); Trang, Kolbe & Opitz (2013); Xiao, Xie & Hu (2013).

RQ3: What are the Main Outcomes of the Research on Inter-Organizational ITG Research?

The reviewed inter-organizational ITG studies provided an interesting view for the current state of inter-organizational ITG research. It seems that ITG research is still in the early phase of development. A research believes that the particular research is among the first to link emerging modes of inter-organizational IT governance to the success of inter-organizational relationships, another research confirms that now is the time to introduce ITG to companies. Anyway, a research confirmed that the establishment of the voluntary inter-organizational ITG caused big benefits through IT cooperation. ITG is based on collaboration, where a need for different competence is recognized. A research confirms a key factor, which is an ICT governance organization. Governance should not be viewed as a hierarchical framework. Various organization models for inter-organizational ITG are in use, which may all be good. A federal governance structure was mentioned being appropriate for a collaborative network. IT resources and management processes are important sources of cross-unit synergy in multi-business companies. Organizations IT governance structures should help organizations sustain their IT-related capabilities. However, collaborative organizational structures present challenges in managing the IT resources. Still, a lot of challenges are still ahead while, according to a study, the best ITG practices cannot be transferred directly from companies to public sector. Theories used to describe intra-organizational IT cooperation, namely RBV, TCE and social network theory, can be used in inter-organizational ITG context.

CONCLUSION

The findings of the current literature review reveal that interest towards ITG research. The number of different publications is 13 with the foremost journal publishing three ITG related articles. Inter-organizational ITG research has attracted interest and there are already 22 persons acting as the first authors of the articles. These details are all confirming the growing importance of ITG among the IS domain.

Research with empirical content appears to be the most appreciated way to conduct research with 73 percent (19 articles) of all research articles. The fact that various types of empirical research material have been used differs from the ITG literature review in 2005 (Brown & Grant, 2005), where they commented about the small amount of empirical research. This gives a positive indication about the real world involvement.

The goal for the research question one (RQ1) was to identify the targets of the research of inter-organizational ITG. Based on the review, four different categories of targets were identified. The category, which has received most of the interest was "guidance/strengthening the current understanding about inter-organizational ITG" with 15 articles followed by "concept/definition/model development with five articles, "suggesting improvement or extension" with four articles and "implementation monitoring" with three articles.

The goal for the research question two (RQ2) was to find out, how research is divided between empirical and conceptual studies in the inter-organizational ITG research. According to the review, articles with empirical material is the leading research model with 19 articles while articles with conceptual content appeared in seven articles.

The goal for the research question three (RQ3) was to clarify the main outcomes of the research on inter-organizational ITG research. For the RQ3, no clear and congruent answers were noted. However, the importance of inter-organizational ITG was widely acknowledged. Various modes of operations were welcomed and more research and theory support were expected.

The fact that inter-organizational ITG research is still in a minor position creates an important area to study. In addition, public organizations are nowadays more and more dependent on joint IT systems, so more inter-organizational ITG research for this environment is needed.

New challenges open good possibilities for inter-organizational ITG research in the future. There are a lot of opportunities for research to focus on public organizations. Inter-organizational ITG research focusing on organizations working together but located in different countries would be of real interest. Even though empirical content is good and welcomed, more research with pure conceptual content and new theory creation for inter-organizational IT governance will be needed.

The current research has limitations. The literature review could be more comprehensive using different keywords for search within different themes. There may be some misinterpretations about the contents of the identified articles, which may cause some (minor) deviations to the numbers and to the division between the categories. However, despite these, the current state of inter-organizational ITG research is quite clear: more research will be needed in the inter-organizational ITG area, which is the current playground for several organizations today.

REFERENCES

Aasi, P., Rusu, L., & Han, S. (2014). The Influence of Culture on IT Governance: A Literature Review. *Paper presented at 47th Hawaii International Conference on System Science*. Academic Press. doi:10.1109/HICSS.2014.546

Ali, S., & Green, P. (2007). IT Governance Mechanisms in Public Sector Organisations: An Australian Context. *Journal of Global Information Management*, *15*(4), 41–63. doi:10.4018/jgim.2007100103

Ali, S., & Green, P. (2012). Effective information technology (IT) governance mechanisms: An IT outsourcing perspective. *Information Systems Frontiers*, *14*(2), 179–193. doi:10.1007/s10796-009-9183-y

Almeida, R., Pereira, R., & da Silva, M. M. (2013). IT Governance Mechanisms: A Literature Review. In *Proceedings of International Conference on Exploring Services Science* (pp. 186-199). Springer. doi:10.1007/978-3-642-36356-6_14

Amali, L. N., Mahmuddin, M., & Ahmad, M. (2014). Information technology governance framework in the public sector organizations. *Telkomnika [Telecommunication Computing Electronics and Control]*, *12*(2), 429–436. doi:10.12928/telkomnika.v12i2.51

Augustyn, A. (2019). Encyclopaedia Britannica. *Y2K bug*. Retrieved from https://www.britannica.com/technology/Y2K-bug

Bandara, W., Miskon, S., & Fielt, E. (2011). A systematic, tool-supported method for conducting literature reviews in information systems. In *Proceedings of the19th European Conference on Information Systems*. Association for Information Systems.

Beck, R., Müller-Bloch, C., & King, J. L. (2018). Governance in the blockchain economy: A framework and research agenda. *Journal of the Association for Information Systems*, *19*(10), 1020–1034. doi:10.17705/1jais.00518

Boell, S. K., & Cecez-Kecmanovic, D. (2015). On being "systematic" in literature reviews in IS. *Journal of Information Technology*, *30*(2), 161–173. doi:10.1057/jit.2014.26

Bowen, P. L., Cheung, M.-Y. D., & Rohde, F. H. (2007). Enhancing IT governance practices: A model and case study of an organization's efforts. *International Journal of Accounting Information Systems*, *8*(3), 191–221. doi:10.1016/j.accinf.2007.07.002

Brown, A. E., & Grant, G. G. (2005). Framing the frameworks: A review of IT governance research. *Communications of the Association for Information Systems*, *15*, 696–712. doi:10.17705/1CAIS.01538

Chong, J. L. L., & Tan, F. B. (2012). IT Governance in Collaborative Networks: A Socio-Technical Perspective. *Pacific Asia Journal of the Association for Information Systems*, *4*(2), 31–48. doi:10.17705/1pais.04202

Croteau, A. M., & Bergeron, F. (2009). Interorganizational Governance of Information Technology. In *Proceedings of the 42nd Hawaii International Conference on System Sciences (HICSS)*, Big Island, HI. IEEE. Academic Press.

Croteau, A. M., Bergeron, F., & Dubsky, J. (2013). Contractual and Consensual Profiles for an Inter-organizational Governance of Information Technology. *International Business Research*, *6*(9), 30–43. doi:10.5539/ibr.v6n9p30

Dahlberg, T. (2015). Cooperation benefits in the establishment of voluntary inter-organizational IT governance for healthcare and social welfare IT - A case study. *Paper presented at the 48th Hawaii International Conference on System Sciences (HICSS)*, Kauai, HI. Academic Press. doi:10.1109/HICSS.2015.370

Dahlberg, T., & Helin, A. (2014). Formation of voluntary inter-organizational IT governance for healthcare and social welfare IT: Theoretical background and empirical evaluation. In *Proceedings of the 8th International Conference on Theory and Practice of Electronic Governance (ICEGOV'14)*, Guimaraes, Portugal. ACM. doi:10.1145/2691195.2691230

Dale, B. G., Elkjaer, M. B. F., van der Wiele, T., & Williams, A. R. T. (2001). Fad, fashion and fit: An examination of quality circles, business process re-engineering and statistical process control. *International Journal of Production Economics*, *73*(2), 137–152. doi:10.1016/S0925-5273(00)00165-1

de Faria, M. M., Schmitz, E. A., Alencar, A. J., da Silva, M. F., & Stefaneas, P. S. (2015). Analyzing IT Governance Initiatives with Game Theory: A Systematic literature Review. *Journal of Software*, *10*(9), 1056–1069. doi:10.17706/jsw.10.9.1056-1069

De Haes, S., & Van Grembergen, W. (2009). An Exploratory Study into IT Governance Implementations and its Impact on Business/IT Alignment. *Information Systems Management*, *26*(2), 123–137. doi:10.1080/10580530902794786

Fonstad, N. (2009). Building enterprise alignment: A case study. *MIS Quarterly Executive*, *8*(1), 31–41.

Gartner. (2019). IT governance. *IT Glossary.* Retrieved from https://www.gartner.com/it-glossary/it-governance/

Ghildyal, A., & Chang, E. (2017). IT Governance and Benefit Models: Literature Review and Proposal of a Novel Approach. *International Journal of e-Education, e-Business, e-. Management Learning*, *7*(2), 123–131.

Grant, G., & Tan, F. B. (2013). Governing IT in inter-organizational relationships: Issues and future research. *European Journal of Information Systems*, *22*(5), 493–497. doi:10.1057/ejis.2013.21

Haghjoo, P. (2012). Towards a Better Understanding of How Effective IT Governance Leads to Business Value: A Literature Review and Future Research Directions. *Paper presented at 23rd Australasian Conference on Information Systems*, Geelong, December 3-5. Academic Press.

Heindrickson, G., & Santos, C. D. Jr. (2014). Information technology governance in public organizations: How perceived effectiveness relates to three classical mechanisms. *Journal of Information Systems and Technology Management*, *11*(2), 297–326. doi:10.4301/S1807-17752014000200005

Héroux, S., & Fortin, A. (2013). Exploring information technology governance and control of web site content: A comparative case study. *The Journal of Management and Governance*, *17*(3), 1–49. doi:10.1007/s10997-011-9200-7

ICEGOV. (2019). *International Conference on Theory and Practice of Electronic Governance*. Retrieved from http://www.icegov.org/about/

ISO/IEC 38500:2015 (2015). IT governance. *ISO (the International Organization for Standardization).* Retrieved from https: //www.iso.org/obp/ui/#iso:std:iso-iec:38500:ed-2:v1:en

Jonathan, G. M., & Rusu, L. (2018). IT Governance in Public Organizations: A Systematic Literature Review. *International Journal of IT/Business Alignment and Governance*, *9*(2), 30–52. doi:10.4018/IJITBAG.2018070103

Khouja, M., Rodriguez, I. B., Ben Halima, Y., & Moalla, S. (2018). IT Governance in Higher Education Institutions: A Systematic Literature Review. *International Journal of Human Capital and Information Technology Professionals*, *9*(2), 52–67. doi:10.4018/IJHCITP.2018040104

King, N. (2013). Exploring the impact of operating model choice on the governance of inter-organizational workflow: The US e-prescribing network. *European Journal of Information Systems*, *22*(5), 548–568. doi:10.1057/ejis.2012.47

Klischewski, R. (2014). From e-government strategy to services: Challenges of inter-organizational IT governance in Egypt. In *Proceeding of the International Conference on Theory and Practice of Electronic Governance (ICEGOV'14)*, Guimaraes, Portugal. ACM. doi:10.1145/2691195.2691257

Kooper, M. N., Maes, R., & Lindgreen, E. E. O. R. (2011). On the governance of information: Introducing a new concept of governance to support the management of information. *International Journal of Information Management*, *31*(3), 195–200. doi:10.1016/j.ijinfomgt.2010.05.009

Kravets, J., & Zimmermann, K. (2012). Inter-organizational Information Alignment: A Conceptual Model of Structure and Governance for Cooperations. In *Proceedings of the Americas Conference on Information Systems (AMCIS2012),* Seattle, WA. AISeL.

Levstek, A., Hovelja, T., & Pucihar, A. (2018). IT Governance Mechanisms and Contingency Factors: Towards an Adaptive IT Governance Model. *Organizacija*, *51*(4), 286–310. doi:10.2478/orga-2018-0024

Lunardi, G. L., Becker, J. L., Macada, A. C. G., & Dolci, P. C. (2014). The impact of adopting IT governance on financial performance: An empirical analysis among Brazilian firms. *International Journal of Accounting Information Systems*, *15*(1), 66–81. doi:10.1016/j.accinf.2013.02.001

MacDonnell, U., & Bamberger, J. (2006). Sound IT Governance Requires Breadth & Depth. *Financial Executive*, *22*(2), 54–56.

Mahy, Y., Ouzzif, M., & Bouragba, K. (2016). Toward a Shared View of IT Governance. *International Journal of Innovation, Management and Technology*, *7*(4), 125–131. doi:10.18178/ijimt.2016.7.4.658

Mangalaraj, G., Singh, A., & Taneja, A. (2017*).* IT Governance Frameworks and COBIT- A Literature Review. *Paper presented at Twentieth Americas Conference on Information Systems*, Savannah. Academic Press.

Moher, D., Liberati, A., Tetzlaff, J., & Altman, D. G.Prisma Group. (2009). Preferred reporting items for systematic reviews and meta-analyses: The PRISMA statement. *PLoS Medicine*, *6*(7), 1–6. doi:10.1371/journal.pmed.1000097 PMID:19621072

Noraini, C. P., Bokolo, A. Jr, Rozi, N. H. N., & Masrah, A. A. M. (2015). Risk assessment of IT governance: A systematic literature review. *Journal of Theoretical and Applied Information Technology*, *71*(2), 184–193.

Novotny, A., Bernroider, E. W. N., & Koch, S. (2017). Dimensions and Operationalisations of IT Governance: A Literature Review and Meta-Case Study. In *Proceedings of the 2012 International Conference on Information Resource Management*. Vienna, Austria: WU Vienna University of Economics and Business.

Pereira, R., & da Silva, M. M. (2012). A literature review: Guidelines and contingency factors for IT governance. *Paper presented at European, Mediterranean & Middle Eastern Conference on Information Systems*, Munich, Germany, June 7-8. Academic Press.

Peterson, R. (2004). Crafting information technology governance. *EDPACS*, *32*(6), 1–24. doi:10.1201/1079/44819.32.6.20041201/85112.1

Prasad, A., Green, P., & Heales, J. (2011). IT Governance in Collaborative Organizational Structures. In *Proceedings of the Americas Conference on Information Systems (AMCIS2011)*, Seattle, WA. AISeL.

Prasad, A., Green, P., & Heales, J. (2012). On IT governance structures and their effectiveness in collaborative organizational structures. *International Journal of Accounting Information Systems*, *13*(3), 199–220. doi:10.1016/j.accinf.2012.06.005

Prasad, A., Heales, J., & Green, P. (2010). A capabilities-based approach to obtaining a deeper understanding of information technology governance effectiveness: Evidence from IT steering committees. *International Journal of Accounting Information Systems*, *11*(3), 214–232. doi:10.1016/j.accinf.2010.07.013

Safdar, M., Richards, G., & Raahemi, B. (2015). A model of effective IT governance for collaborative networked organizations. *Paper presented at the 12th International Joint Conference on e-Business and Telecommunications (ICETE)*, Colmar, France. Academic Press. doi:10.5220/0005537401910202

Sohal, A. S., & Fitzpatrick, P. (2002). IT governance and management in large Australian organisations. *International Journal of Production Economics*, *75*(1-2), 97–112. doi:10.1016/S0925-5273(01)00184-0

Tanriverdi, H. (2006). Performance effects of information technology synergies in multibusiness firms. *Management Information Systems Quarterly*, *30*(1), 57–77. doi:10.2307/25148717

The Association for Information Systems. (2019). *Senior Scholars' Basket of Journals.* Retrieved from https://aisnet.org/page/SeniorScholarBasket

Trang, S. T.-N., Kolbe, L. M., & Opitz, N. (2013). In *Proceedings of the Nineteenth Americas Conference on Information Systems (AMCIS2013)*, Chicago, IL. Academic Press.

Ulriksen, G.-H., Pedersen, R., & Ellingsen, G. (2016). Establishing ICT Governance for Regional Information Infrastructures in Healthcare. *Paper presented at the 49th Hawaii International Conference on System Sciences (HICSS)*, Koloa, HI. Academic Press. doi:10.1109/HICSS.2016.636

Vejseli, S., & Rossmann, A. (2017). The Impact of IT Governance on Firm Performance - A Literature Review. *Paper presented at Twenty First Pacific Asia Conference on Information Systems*, Langkawi. Academic Press.

Volter. (2018). Primo Central Index. *International articles.* Retrieved from https://utu.finna.fi/Primo/Home

vom Brocke, J., Simons, A., Riemer, K., Niehaves, B. & Plattfaut, R. (2015). Standing on the Shoulders of Giants: Challenges and Recommendations of Literature Search in Information Systems Research. *Communications of the Association for Information Systems, 37*, 205-224.

Webster, J., & Watson, R. T. (2002). Analyzing the past to prepare for the future: Writing a literature review. *Management Information Systems Quarterly*, *26*(2), 13–23.

Weill, P., & Ross, J. W. (2004). *IT Governance: How Top Performers Manage IT Decision Rights for Superior Results*. Boston, MA: Harvard Business Review Press.

Xiao, J., Xie, K., & Hu, Q. (2013). Inter-firm IT governance in power-imbalanced buyer-supplier dyads: Exploring how it works and why it lasts. *European Journal of Information Systems*, *22*(5), 512–528. doi:10.1057/ejis.2012.40

Zarvić, N., Stolze, C., Boehm, M., & Thomas, O. (2012). Dependency-based IT Governance practices in inter-organisational collaborations: A graph-driven elaboration. *International Journal of Information Management*, *32*(6), 541–549. doi:10.1016/j.ijinfomgt.2012.03.004

Zhang, P., Zhao, K., & Kumar, R. L. (2016). Impact of IT Governance and IT Capability on Firm Performance. *Information Systems Management*, *33*(4), 357–373. doi:10.1080/10580530.2016.1220218

Ari Helin is a Ph.D. Student. Research interests: IT Governance, ICT cooperation, municipal ICT deployment.