

How does Organisational Culture Influence the Relationship between Information Technology Governance and Organisational Performance in the Financial Services Industry?

Research-in-Progress

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Abstract

The aim of this research is to examine how organisational culture moderates the relationships between IT governance performance measurement systems (ITG-PMS) usage and three organisational outcomes (i.e., organisational learning orientation, information systems (IS) strategic alignment and organisational performance). While the IS literature has been informative about various mechanisms of ITG, very few empirical insights are available on how various usage patterns of ITG-PMS influence organisational outcomes moderated by organisational culture in the financial services industry. Different organisational culture types lean towards different strategic outcomes and may lead to different usage patterns of ITG-PMS to enhance organisational learning orientation. This could in turn influence IS strategic alignment and overall organisational performance. This study will develop hypotheses that will be tested via surveys.

Keywords: Organisational Culture, Information Technology Governance, Organisational Performance

Introduction

In a dynamic and competitive world, Information Technology (IT) is considered a strategic driver that has the capacity to enhance an organisation's ability to survive and innovate (Kappelman et al. 2018). Given the growing strategic importance of IT in the finance industry, top executives are now paying increased attention to responsible investment in IT assets to mitigate IT-related risks by adopting controls and more financial accountabilities in decision making (De Haes and Van Grembergen 2006; Van Grembergen and De Haes 2005; Weill and Ross 2004). Hence, the concept of IT governance (ITG) has emerged in recent years and been popularised among practitioners and academics. Poor ITG will

lead to unsuccessful IT projects and loss of competitiveness and will negatively impact the organisation's overall performance (Wu et al. 2015). By implementing and using appropriate ITG mechanisms, organisations can enhance positive outcomes such as organisational learning orientation, information systems (IS) strategic alignment and higher organisational performance (Weill and Ross 2004; Wu et al. 2015). Therefore, top executives will pay considerable attention to ensure that the decision rights and accountability for IT investments are properly established, monitored and controlled by using ITG mechanisms such as ITG performance measurement systems (ITG-PMS) to enhance positive organisational outcomes. Empirical literature states that diagnostic and interactive ways of performance measurement systems (PMS) usage generate various benefits (Guenther and Heinicke 2018) including the organisation's orientation to learning (Widener 2007).

According to Rowlands et al. (2018), organisational culture is one of the most important organisational factors influencing ITG and organisational performance. Organisational culture varies from one organisation to another and consists of elements such as expectations, values, norms and goals held in common by members of an organisation (Quinn and Rohrbaugh 1983). Among all cultural elements, organisational values are considered a key element because they represent the priorities that organisations assign to certain status or outcomes (Henri 2006b). Therefore, organisational culture has the potential to moderate the relationship between ITG-PMS usage and organisational learning orientation as organisational culture guides the search for and interpretation of information based on its core values (Harris 1994).

The motivation for the current study stems from two reasons. First, previous empirical research, which has focused on IT governance and firm performance, used various perspectives to model the relationship between IT governance and organisational performance. There is still no consensus as to exactly how IT governance enhances organisational performance, and it is still unclear by which precise mechanism or mechanisms IT governance exerts its effects on organisational performance. Secondly, even though alignment has been considered as a primary goal for many organisations, empirical research examining the relationship between alignment and organisational performance has produced conflicting findings. According to theories in organisational culture, an organisation's effectiveness primarily depends on the congruence of the culture expressed as the company's dominant characteristics (Quinn and Rohrbaugh 1983). Previous studies indicate that certain types of organisational cultures lean towards certain types of performance outcomes (See for e.g. Aasi and Rusu 2017; Aasi et al. 2016; Aasi et al. 2018b).

This study expects to contribute to IT governance and strategic alignment literature in several ways. Firstly, this study distinguishes between two ways in which a typical organisation wishes to use its performance measures as diagnostic and interactive (Simons 1995) and relate it to ITG context. Secondly, this study proposes the usage of ITG-PMS as a construct that captures crucial IT governance practices, which provides an institutionalised context within which social alignment occurs due to organisation's orientation towards learning and later leads to IS strategic alignment and higher organisational performance. Thirdly, this study highlights the influence of organisational culture on the relationship between ITG-PMS usage and organisational learning orientation to complement the previous research that explored the organisational culture and IT governance performance. Fourthly, the current study helps business and IT professionals understand the path of value creation and its governance mechanism. Furthermore, this study provides business and IT professionals with some general guidelines on the design and usage of IT-focused PMS. Lastly, the conceptual research model explains and provides certain guidelines for the design of governance practices to create learning-oriented organisation.

Literature Review

Organisational Culture

Organisational culture is a complex phenomenon and no consensus has been reached among researchers (Leidner and Kayworth 2006). The notions of assumptions, beliefs, shared values and significant meanings are more commonly associated with culture (Cameron and Ettington 1988; Schein 2010).

Organisational culture, therefore, can be defined as “an enduring set of values, beliefs, and assumptions that characterize organisations and their members” (Cameron and Ettington 1988). Values are the priorities assigned to certain states or outcomes while beliefs are behavioural norms regarding acceptable and unacceptable behaviour. Assumptions reflect unconscious elements of the culture that are not even directly knowable by organisational members. Along with Henri (2006b), the current study attempts to capture organisational values that create meaning in the organisational setting. This study operationalises the organisational culture based on the competing values framework (CVF) (Quinn and Kimberly 1984; Quinn and Rohrbaugh 1983).

Based on organisational values, Quinn and Rohrbaugh (1983) developed the CVF that classifies organisational culture along two sets of polar axes to reflect competing tensions of organisations. The first-dimension ranges from values related to “flexibility” at one end to “control” at the other end. The second-dimension ranges from “organisational” focus to “people” focus values. Together these two dimensions form four quadrants (i.e. group, developmental, rational and hierarchical) to represent different sets of organisational assumptions. According to Quinn and Kimberly (1984) and Quinn and Rohrbaugh (1983), these four culture types are ideals as there is no single organisation that perfectly fits into one single quadrant as every organisation consists of a combination of values to form its own distinctive culture. Therefore, CVF emphasises the need to balance organisational values based on multiple and often conflicting performance criteria. CVF has been used to model organisational forms, to understand organisational life cycles and the impact on leadership and organisational culture (Cameron and Quinn 2011). As a result, this framework appears to have some utility in the ITG setting. Organisational culture perhaps determines the specific ways a particular ITG mechanism such as PMS is structured and used by top management to achieve higher ITG performance (Aasi et al. 2016; Aasi et al. 2018a; Janssen et al. 2013). According to Henri (2006b), the influence of organisational culture on PMS use primarily depends on the congruence of the culture type with the company’s dominant characteristics. No single organisation perfectly fits into a single culture, but each reflects a varying emphasis on various values (Quinn and Kimberly 1984; Quinn and Rohrbaugh 1983). By employing a theoretically sound survey instrument, it is possible to discover organisational values and how they influence the ways organisations use specific ITG mechanisms.

Theoretical Model and Hypotheses Development

The research model is shown in Figure 1.

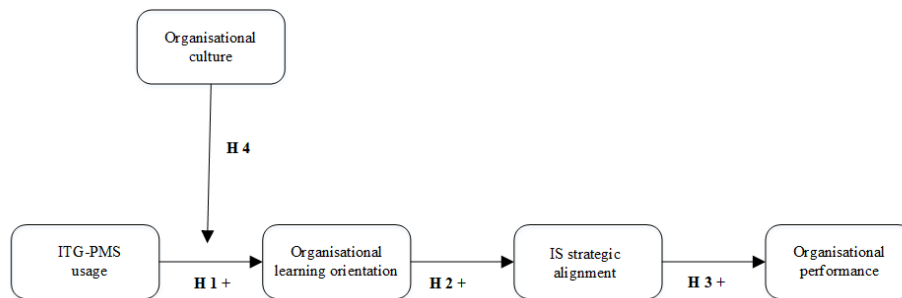


Figure 1. Research Model

ITG-PMS Usage and Organisational Learning Orientation

Literature in management control systems states two dimensions of PMS usage, namely interactive and diagnostic uses of PMS (Ferreira and Otley 2009; Guenther and Heinicke 2018; Henri 2006a; Simons 1995; Widener 2007). The purpose of the interactive use of PMS is to enhance top managers’ abilities to anticipate and effectively manage future strategic uncertainties (Simons 1995). Interactive use involves top managers to engage in scanning and seeking behaviours that may result in the development

of new opportunities (i.e. new behaviours and experience). It also helps managers to handle complex situations with which executives may have little experience (Widener 2007).

The diagnostic use of performance measures provides top executives with feedback information regarding organisational expectations that are not met (Simons 1995). The main purpose of using PMS diagnostically is to communicate agendas through the identification of critical success factors. Therefore, the use of PMS diagnostically facilitates single loop learning because it only communicates organisational expectation (Kloot 1997). According to Hult and Tomas (1998), in order to learn, organisations must be oriented to learning. An organisation is oriented to learning when it has systems such as PMS and a culture that support and facilitate understanding of the organisation and its environment (Henri 2006a; Widener 2007). Sinkula et al. (1997) state that learning-oriented organisations emphasise values that promote organisational commitment to learning, create open-mindedness and share organisational vision among organisational members. This facilitates the creation of common knowledge and understanding among the business and IT managers responsible for strategic IT management to solve problems and determine emerging opportunities (Armstrong and Sambamurthy 1999; Preston and Karahanna 2009). By creating a shared understanding between business and IT, learning-oriented organisations facilitate social alignment between business and IT to share organisational vision, communications and mutual understanding among IT and business managers to solve problems and identify future opportunities (De Maere et al. 2017; Reich and Benbasat 2000). As discussed above, both interactive and diagnostic dimensions of ITG PMS usages expect to enhance organisational learning orientation. Thus, it can be formally hypothesised as:

H1: *IT governance performance measurement usage is positively associated with organisational learning orientation.*

Organisational learning orientation and IS strategic alignment

According to Sinkula et al. (1997), organisations that are competent learners are known as learning-oriented organisations. Learning orientation displays four characteristics: commitment to learning, shared vision, open-mindedness and intra-organisational knowledge sharing (Calantone et al. 2002; Sinkula et al. 1997). Sinkula et al. (1997) argue that, in a learning-oriented organisation, commitment to learning and open-mindedness influence the intensity of learning while shared vision influences the direction of learning. A shared vision is needed because it provides a common direction to organisational members and ideas may be interpreted differently due to diverse interests in an organisation (Calantone et al. 2002). Extant research in IS indicates that the shared vision, shared knowledge and participation between the IT and business managers in information interpretation is positively associated with IS strategic alignment (e.g. Armstrong and Sambamurthy 1999; Chan et al. 2006; Chen 2010; Huang 2009; Hung et al. 2010; Preston and Karahanna 2009). According to previous empirical research, shared understanding is enabled by increasing the respective level of business and IS knowledge of the CIO and other top management teams (Preston and Karahanna 2009), and it is developed through knowledge integration between the CIO and CEO (Armstrong and Sambamurthy 1999; Kearns and Lederer 2003). When a shared understanding of IT and business objectives exists among the business and IT managers of an organisation, they are more likely to establish a well-conceived business and IT strategies since they can communicate more effectively with each other; in turn, better communication leads to more effective process-level decisions (Das et al. 1991; Reich and Benbasat 2000). Since more information leads to a better understanding and better decisions (Daft and Lengel 1986), it can be argued that learning-oriented organisations facilitate IS strategic alignment because a shared vision, knowledge and understanding of the overall business and IT strategic direction is linked to the strategic choices the executive team makes (Preston and Karahanna 2009; Wu et al. 2015). The following hypothesis reflects this:

H2: *Organisational learning orientation is positively associated with IS strategic alignment.*

IS strategic alignment and organisational performance

Literature insists that IS strategic alignment (referred to as intellectual alignment in extant literature) is one of the resources that an organisation can develop that addresses how business strategy can be used to support and be supported by the IT strategy (Kearns and Lederer 2003; Wu et al. 2015). Research also indicates that without IS strategic alignment, IT strategies might fail to reflect the strategic direction of the firm, resulting in lower returns on their IT investment, marketplace confusion and erosion of the firm's competitive advantage (Kearns 2005). Moreover, organisations with higher strategic alignment can achieve higher long-term profitability, availability of financial resources and sales growth than firms with lower IS alignment (Cragg et al. 2002; Croteau and Raymond 2004). In pursuit of strategic level IS alignment, top managers focus on the broader concerns of competitive strategy and strategic IS planning and assume department-level alignment will result from a well-conceived strategy (Das et al. 1991; Huang and Hu 2007). Specifically, organisations take a strategy-level (or top-down) perspective of the organisation as they consider the competitive environment and enterprise-wide (versus department-level) capabilities; this perspective allows the firm to leverage its technologies strategically and to differentiate itself from the competition (Das et al. 1991; Kearns 2005; Peppard et al. 2014). Therefore, organisations focused on aligning their IT and business strategies will be better positioned to create a competitive advantage (Kearns 2006; Kearns and Lederer 2000) and achieve superior financial performance (Avison et al. 2004; Byrd et al. 2006; Das et al. 1991). Empirical research also suggests aligning IS and the business strategies is also relevant to other aspects of firm performance (Luftman and McLean 2004; Schwarz et al. 2010; Wu et al. 2015). For example, studies have found a positive relationship between IS strategic alignment and productivity (Lee et al. 2004; Schwarz et al. 2010). In particular, the model used by Schwarz et al. (2010) included productivity as an indicator of organisational performance along with profitability. IS strategic alignment also increases customer benefits. For example, researchers have found a positive relationship between IS alignment and customer satisfaction (Kunnathur and Shi 2001; Li et al. 2006). Thus, the following hypothesis is consequently suggested:

H3: *IS strategic alignment is positively associated with organisational performance.*

The moderating effect of organisational culture

Organisational culture is believed to be the most influential organisational force that supports organisational learning orientation (Janz and Prasarnphanich 2003). In order for organisational learning to take place, individuals in the organisation must engage in behaviours that can create new knowledge (Harris 1994). Employee abilities to engage in learning-oriented behaviours are influenced by the manner in which the organisation's top managers view these behaviours (Farrell 2000). Top managers' emphasis on the importance of learning behaviours creates organisation-wide learning-oriented values and behaviours (Farrell 2000; Sinkula et al. 1997). According to Hurley and Hult (1998), learning orientation is a cultural domain where organisational members agree on the basic value of the importance of learning. For an organisation to have a learning orientation, the organisation's culture must consist of shared values that lend support to learning behaviours. These shared values will then manifest themselves into the organisation's structure, mission, strategy, processes and behaviours (Hurley and Hult 1998). On the other hand, organisational cultures that support organisational learning will create organisational systems such as PMS that provide opportunities for learning and support learning behaviours (Henri 2006b; Widener 2007). Thus, the following hypothesis is proposed:

H4: *Organisational culture moderates the relationship between ITG-PMS usage and organisational learning orientation.*

Methodology

The empirical data for this study will be collected through surveys from middle level IT managers in Australian listed companies operated in financial services industry. We will use validated instruments from previous research studies. The data will be analysed by SmartPLS 2.0.

Conclusion

The aim of this research is to examine how organisational culture moderates the relationships between IT governance performance measurement systems (ITG-PMS) usage and three organisational outcomes (i.e., organisational learning orientation, IS strategic alignment and organisational performance) in organisations operated in the financial services industry. This study expects to contribute to IT governance and strategic alignment literature in several ways. Firstly, this study distinguishes between the usage of ITG-PMS as diagnostic and interactive (Simons 1995). Secondly, this study proposes the usage of ITG-PMS as a construct that captures crucial IT governance practices, which provides an institutionalised context within which social alignment occurs due to the organisation's orientation towards learning and later leads to IS strategic alignment and higher organisational performance. Thirdly, this study highlights the influence of organisational culture on the relationship between ITG-PMS usage and organisational learning orientation to complement the previous research that explored the organisational culture and IT governance performance. Fourthly, the current study helps business and IT professionals understand the path of value creation of its governance mechanism.

References

- Aasi, P., and Rusu, L. 2017. "Facing the Digitalization Challenge: Why Organisational Culture Matters and How It Influences It Governance Performance,").
- Aasi, P., Rusu, L., and Han, S. 2016. "The Influence of Organisational Culture on It Governance Performance: Case of the It Department in a Large Swedish Company," *System Sciences (HICSS), 2016 49th Hawaii International Conference on: IEEE*, pp. 5157-5166.
- Aasi, P., Rusu, L., Leidner, D., Perjons, E., and Corrales Estrada, M. 2018a. "How Does the Organisational Culture of Collaborative Networks Influence It Governance Performance in a Large Organisation?" *Proceedings of the 51st Hawaii International Conference on System Sciences*.
- Aasi, P., Rusu, L., Leidner, D., Perjons, E., and Estrada, M. C. 2018b. "What Is the Role of Organisational Culture in It Governance Performance of Collaborative Virtual Networks?" *International Journal of IT/Business Alignment and Governance (IJITBAG)* (9:1), pp. 21-37.
- Ali, S., and Green, P. 2005. "Determinants of Effective Information Technology Governance: A Study of It Intensity," *Proceeding of International IT Governance Conference*.
- Ali, S., and Green, P. 2006. "Effective Information Technology Governance Mechanisms in Public Sectors: An Australian Case," *PACIS 2006 Proceedings*, p. 99.
- Ali, S., and Green, P. 2012. "Effective Information Technology (It) Governance Mechanisms: An It Outsourcing Perspective," *Information Systems Frontiers* (14:2), pp. 179-193.
- Armstrong, C. P., and Sambamurthy, V. 1999. "Information Technology Assimilation in Firms: The Influence of Senior Leadership and It Infrastructures," *Information systems research* (10:4), pp. 304-327.
- Avison, D., Jones, J., Powell, P., and Wilson, D. 2004. "Using and Validating the Strategic Alignment Model," *The Journal of Strategic Information Systems* (13:3), pp. 223-246.
- Bedford, D. S., Bisbe, J., and Sweeney, B. 2018. "Performance Measurement Systems as Generators of Cognitive Conflict in Ambidextrous Firms," *Accounting, Organisations and Society*.
- Benaroch, M., and Chernobai, A. 2017. "Operational It Failures, It Value Destruction, and Board-Level It Governance Changes," *MIS Quarterly* (41:3), pp. 729-A726.
- Boehm, B., and Turner, R. 2005. "Management Challenges to Implementing Agile Processes in Traditional Development Organisations," *IEEE software* (22:5), pp. 30-39.
- Byrd, T. A., Lewis, B. R., and Bryan, R. W. 2006. "The Leveraging Influence of Strategic Alignment on It Investment: An Empirical Examination," *Information & management* (43:3), pp. 308-321.
- Calantone, R. J., Cavusgil, S. T., and Zhao, Y. 2002. "Learning Orientation, Firm Innovation Capability, and Firm Performance," *Industrial marketing management* (31:6), pp. 515-524.
- Cameron, K. S., and Ettington, D. R. 1988. *Culture, the Conceptual Foundation of Organisational*. Norwell, Mass Kluwer.
- Cameron, K. S., and Quinn, R. E. 2011. *Diagnosing and Changing Organisational Culture: Based on the Competing Values Framework*. Hoboken, UNITED STATES: John Wiley & Sons, Incorporated.

- Chan, Y. E., Huff, S. L., Barclay, D. W., and Copeland, D. G. 1997. "Business Strategic Orientation, Information Systems Strategic Orientation, and Strategic Alignment," *Information systems research* (8:2), pp. 125-150.
- Chan, Y. E., Sabherwal, R., and Thatcher, J. B. 2006. "Antecedents and Outcomes of Strategic Is Alignment: An Empirical Investigation," *IEEE Transactions on engineering management* (53:1), pp. 27-47.
- Chen, L. 2010. "Business-IT Alignment Maturity of Companies in China," *Information & management* (47:1), pp. 9-16.
- Cragg, P., King, M., and Hussin, H. 2002. "IT Alignment and Firm Performance in Small Manufacturing Firms," *The Journal of Strategic Information Systems* (11:2), pp. 109-132.
- Croteau, A.-M., and Raymond, L. 2004. "Performance Outcomes of Strategic and IT Competencies Alignment," *Journal of Information Technology* (19:3), pp. 178-190.
- Daft, R. L., and Lengel, R. H. 1986. "Organisational Information Requirements, Media Richness and Structural Design," *Management science* (32:5), pp. 554-571.
- Das, S. R., Zahra, S. A., and Warkentin, M. E. 1991. "Integrating the Content and Process of Strategic Mis Planning with Competitive Strategy," *Decision sciences* (22:5), pp. 953-984.
- De Haes, S., and Van Grembergen, W. 2004. "IT Governance and Its Mechanisms," *Information Systems Control Journal* (1), pp. 27-33.
- De Haes, S., and Van Grembergen, W. 2006. "Information Technology Governance Best Practices in Belgian Organisations," *System Sciences, 2006. HICSS'06. Proceedings of the 39th Annual Hawaii International Conference on: IEEE*, pp. 195b-195b.
- De Haes, S., and Van Grembergen, W. 2009. "An Exploratory Study into IT Governance Implementations and Its Impact on Business/IT Alignment," *Information Systems Management* (26:2), pp. 123-137.
- De Maere, K., De Haes, S., and Kutzschenbach, M. v. 2017. "CIO Perspectives on Organisational Learning within the Context of IT Governance," *Int. J. IT Bus. Alignment Gov.* (8:1), pp. 32-47.
- Farrell, M. A. 2000. "Developing a Market-Oriented Learning Organisation," *Australian journal of management* (25:2), pp. 201-222.
- Ferreira, A., and Otley, D. 2009. "The Design and Use of Performance Management Systems: An Extended Framework for Analysis," *Management Accounting Research* (20:4), pp. 263-282.
- Galbraith, J. 1977. *Organisation Design*. Reading, Mass.: Addison-Wesley Pub. Co.
- Guenther, T. W., and Heinicke, A. 2018. "Relationships among Types of Use, Levels of Sophistication, and Organisational Outcomes of Performance Measurement Systems: The Crucial Role of Design Choices," *Management Accounting Research*.
- Hardy, G. 2002. "Make Sure Management and IT Are on the Same Page," *Information Systems Control Journal* (3).
- Harris, S. G. 1994. "Organisational Culture and Individual Sensemaking: A Schema-Based Perspective," *Organisation science* (5:3), pp. 309-321.
- Henri, J.-F. 2006a. "Management Control Systems and Strategy: A Resource-Based Perspective," *Accounting, Organisations and Society* (31:6), pp. 529-558.
- Henri, J.-F. 2006b. "Organisational Culture and Performance Measurement Systems," *Accounting, Organisations and Society* (31:1), pp. 77-103.
- Héroux, S., and Fortin, A. 2018. "The Moderating Role of IT-Business Alignment in the Relationship between IT Governance, IT Competence, and Innovation," *Information Systems Management* (35:2), pp. 98-123.
- Huang, C. D., and Hu, Q. 2007. "Achieving IT-Business Strategic Alignment Via Enterprise-Wide Implementation of Balanced Scorecards," *Information Systems Management* (24:2), pp. 173-184.
- Huang, L. K. 2009. "The Contingent Role of Innovation between IT Management Sophistication and Strategic Alignment," *Journal of Global Information Management (JGIM)* (17:2), pp. 60-92.
- Hult, G., and Tomas, M. 1998. "Managing the International Strategic Sourcing Process as a Market-Driven Organisational Learning System*," *Decision Sciences* (29:1), pp. 193-216.
- Hung, R. Y. Y., Yang, B., Lien, B. Y.-H., McLean, G. N., and Kuo, Y.-M. 2010. "Dynamic Capability: Impact of Process Alignment and Organisational Learning Culture on Performance," *Journal of World Business* (45:3), pp. 285-294.
- Hurley, R. F., and Hult, G. T. M. 1998. "Innovation, Market Orientation, and Organisational Learning: An Integration and Empirical Examination," *Journal of Marketing* (62:3), pp. 42-54.
- Hussin, H., King, M., and Cragg, P. J. E. J. o. I. S. 2002. "IT Alignment in Small Firms," (11:2), pp. 108-127.
- Janssen, L. A., Luciano, E. M., and Testa, M. G. 2013. "The Influence of Organisational Culture on IT Governance: Perception of a Group of IT Managers from Latin American Companies," *System Sciences (HICSS), 2013 46th Hawaii International Conference on: IEEE*, pp. 4485-4494.
- Janz, B. D., and Prasarnphanich, P. 2003. "Understanding the Antecedents of Effective Knowledge Management: The Importance of a Knowledge-Centered Culture," *Decision sciences* (34:2), pp. 351-384.
- Joshi, A., Bollen, L., Hassink, H., De Haes, S., and Van Grembergen, W. 2018a. "Explaining IT Governance Disclosure through the Constructs of IT Governance Maturity and IT Strategic Role," *Information & Management* (55:3), pp. 368-380.
- Joshi, A., Huygh, T., De Haes, S., and Van Grembergen, W. 2018b. "An Empirical Assessment of Shared Understanding in IT Governance Implementation," *Proceedings of the 51st Hawaii International Conference on System Sciences*.
- Kappelman, L., Johnson, V., McLean, E., and Maurer, C. 2018. "The 2017 SIM IT Issues and Trends Study," *MISQ Exec* (17:1), pp. 53-88.
- Kearns, G. S. 2005. "An Electronic Commerce Strategic Typology: Insights from Case Studies," *Information & Management* (42:7), pp. 1023-1036.

- Kearns, G. S. 2006. "The Effect of Top Management Support of Sisp on Strategic Is Management: Insights from the Us Electric Power Industry," *Omega* (34:3), pp. 236-253.
- Kearns, G. S., and Lederer, A. L. 2000. "The Effect of Strategic Alignment on the Use of Is-Based Resources for Competitive Advantage," *The Journal of Strategic Information Systems* (9:4), pp. 265-293.
- Kearns, G. S., and Lederer, A. L. 2003. "A Resource-Based View of Strategic It Alignment: How Knowledge Sharing Creates Competitive Advantage," *Decision sciences* (34:1), pp. 1-29.
- Kloot, L. 1997. "Organisational Learning and Management Control Systems: Responding to Environmental Change," *Management Accounting Research* (8:1), pp. 47-73.
- Kunnathur, A., and Shi, Z. 2001. "An Investigation of the Strategic Information Systems Planning Success in Chinese Publicly Traded Firms," *International Journal of Information Management* (21:6), pp. 423-439.
- Lee, H., Yu, J., and Kim, H. 2004. "An Empirical Study on the Integrated Performance Model for the Effect of Information Technology Investment," *PACIS 2004 Proceedings*, p. 31.
- Leidner, D. E., and Kayworth, T. 2006. "Review: A Review of Culture in Information Systems Research: Toward a Theory of Information Technology Culture Conflict," *MIS Quarterly* (30:2), pp. 357-399.
- Levitt, B., and March, J. G. 1988. "Organisational Learning," *Annual review of sociology* (14:1), pp. 319-338.
- Li, D., Ji, S., and Li, W. 2006. "Information Management Environment, Business Strategy, and the Effectiveness of Information Systems Strategic Planning," *PACIS 2006 proceedings*, p. 54.
- Luftman, J., and McLean, E. R. 2004. "Key Issues for It Executives," *MIS quarterly Executive* (3:2), pp. 89-104.
- Lunardi, G. L., Gastaud Maçada, A. C., Becker, J. o. L., and Van Grembergen, W. 2017. "Antecedents of It Governance Effectiveness: An Empirical Examination in Brazilian Firms," *Journal of Information Systems* (31:1), pp. 41-57.
- Meyerson, B. 2001. "Using a Balanced Scorecard Framework to Leverage the Value Delivered by Is," in *Information Technology Evaluation Methods and Management*, G. Wim Van (ed.). John Wiley & Sons, Inc., pp. 212-230.
- Peppard, J., Galliers, R. D., and Thorogood, A. 2014. "Information Systems Strategy as Practice: Micro Strategy and Strategizing for Is," *The Journal of Strategic Information Systems* (23:1), pp. 1-10.
- Preston, D. S., and Karahanna, E. 2009. "Antecedents of Is Strategic Alignment: A Nomological Network," *Information systems research* (20:2), pp. 159-179.
- Quinn, R. E., and Kimberly, J. R. 1984. "Paradox, Planning, and Perseverance: Guidelines for Managerial Practice," in *Managing Organisational Transitions*, R.E. Quinn and J.R. Kimberly (eds.). Homewood, IL: Dow Jones-Irwin, pp. 295-313.
- Quinn, R. E., and Rohrbaugh, J. 1983. "A Spatial Model of Effectiveness Criteria: Towards a Competing Values Approach to Organisational Analysis," *Management Science* (29:3), pp. 363-377.
- Reich, B. H., and Benbasat, I. 2000. "Factors That Influence the Social Dimension of Alignment between Business and Information Technology Objectives," *MIS Quarterly* (24:1), pp. 81-113.
- Rowlands, B., De Haes, S., and Van Grembergen, W. 2018. "Understanding the Dimensions of It Governance Culture," in *Technology Adoption and Social Issues: Concepts, Methodologies, Tools, and Applications*. IGI Global, pp. 920-930.
- Schein, E. H. 2010. *Organisational Culture and Leadership*. Wiley.
- Schlosser, F., Beimborn, D., Weitzel, T., and Wagner, H.-T. 2015. "Achieving Social Alignment between Business and It – an Empirical Evaluation of the Efficacy of It Governance Mechanisms," *Journal of Information Technology* (30:2), pp. 119-135.
- Schwarz, A., Kalika, M., Kefi, H., and Schwarz, C. 2010. "A Dynamic Capabilities Approach to Understanding the Impact of It-Enabled Businesses Processes and It-Business Alignment on the Strategic and Operational Performance of the Firm," *Communications of the Association for Information Systems* (26:1), p. 4.
- Simons, R. 1995. *Levers of Control: How Managers Use Innovative Control Systems to Drive Strategic Renewal*. Boston, Mass.: Harvard Business School Press.
- Sinkula, J. M., Baker, W. E., and Noordewier, T. 1997. "A Framework for Market-Based Organisational Learning: Linking Values, Knowledge, and Behavior," *Academy of Marketing Science. Journal* (25:4), p. 305.
- Tallon, P. P., Kraemer, K. L., and Gurbaxani, V. 2000. "Executives' Perceptions of the Business Value of Information Technology: A Process-Oriented Approach," *Journal of Management Information Systems* (16:4), pp. 145-173.
- Tessier, S., and Otley, D. 2012. "A Conceptual Development of Simons' Levers of Control Framework," *Management Accounting Research*:0).
- Van Grembergen, W., and De Haes, S. 2005. "Measuring and Improving It Governance through the Balanced Scorecard," *Information Systems Control Journal* (2:1), pp. 35-42.
- Van Grembergen, W., and De Haes, S. 2009. "The It Balanced Scorecard as a Framework for Enterprise Governance of It," in *Enterprise Governance of Information Technology*. Springer, pp. 111-136.
- Weill, P., and Ross, J. 2005. "A Matrixed Approach to Designing It Governance," *MIT Sloan Management Review* (46:2), p. 26.
- Weill, P., and Ross, J. W. 2004. *It Governance: How Top Performers Manage It Decision Rights for Superior Results*. Harvard Business School Press.
- Widener, S. K. 2007. "An Empirical Analysis of the Levers of Control Framework," *Accounting, Organisations and Society* (32:7-8), pp. 757-788.
- Wu, S. P.-J., Straub, D. W., and Liang, T.-P. 2015. "How Information Technology Governance Mechanisms and Strategic Alignment Influence Organisational Performance: Insights from a Matched Survey of Business and It Managers," *Mis Quarterly* (39:2), pp. 497-518.