


# IT Governance in SMEs: The State of Art


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## ABSTRACT

The adoption of Information and Communication Technologies (ICTs) by small and medium-sized enterprises (SMEs) leads to cost reduction in processes and organizational effectiveness. The effective use of ICTs, however, greatly depends on their good governance, especially due to the impact generated by investments in information and communication technologies. In this scenario, we aimed at defining the state of art of IT governance in SMEs. A broad review of the literature on IT governance in SMEs was performed. The results indicated a field of research with little development, with 32 studies identified until the year 2018. Three research lines were observed. Initially, the researchers have discussed the barriers and characteristics of ITG in SMEs. In the next step, the studies were directed to the establishment of an ITG framework applicable to SMEs reality. The last line of research observed the IT capacities in relation to the environment in which the SME operates. The studies indicated a prevalence of qualitative approaches under the positivist paradigm.

## KEYWORDS

Barriers to ITG, Complex, Dynamic Environment, Information Technology Governance, IT Capacity, IT Leverage, ITG Framework, Literature Review, Munificent, Small and Medium Enterprises

## INTRODUCTION

Literature has been demonstrating that the adoption of Information and Communication Technologies (ICTs) by Small and Medium Sized Enterprises (SMEs) leads to the reduction of costs in processes, improvement in the delivery of services to clients and suppliers, organizational effectiveness, access to new business opportunities (Giotopoulos, Kontolaimou, Korra, & Tsakanikas, 2017), market knowledge, greater competitiveness, and capacity for internationalization (Ntwoku, Negash, & Meso,

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2017; Organisation for Economic Co-operation and Development [OECD], 2017). ICTs increase the capacity of enterprises to survive in the competitive market of the 21st century (OECD, 2017). The effective use of ICTs, however, greatly depends on its good governance, especially due to the impact generated by investments in information and communication technologies (Wu, Straub, & Liang, 2015). The mere acquisition of ITs does not imply that competitive advantage is ensured (Carr, 2003), but should take place in alignment with the strategic objectives of the businesses (Carr, 2004).

The establishment of ITG mechanisms (De Haes & Grembergen, 2004; Weill & Ross, 2004) that may direct the practices of IT governance in the organizations has been spread by a growing need in order to meet regulatory milestones (De Haes; Grembergen, 2006). The creation of frameworks in ITG (Information Systems Audit and Control Association, 2012), international standards (International Organization for Standardization, 2015) and sets of best practices in IT (Cater-Steel, Toleman, & Tan, 2006; Winniford, Conger, & Erickson-Harris, 2009) have been established as the correct path for ITG implementation in organizations. However, there has been criticism by literature with regard to the suitability of such practices in organizations with limited financial and human resources, as it is the case of SMEs (Asgarkhani, Cater-steel, Toleman, & Ally, 2017; Ayat, Masrom, & Sahibuddin, 2011; Bartens, De Haes, Lamoén, Schulte, & Voss, 2015; Guldentops, 2014; Omari, 2016; Silva & Campos, 2017; Vogt, Küller, Hertweck, & Bond, 2011).

Few studies in ITG in the context of SMEs have been developed. Huygh and De Haes (2016) identified only 13 studies that took place between 2008 and February 2015. Research that aims at the development of SMEs in the current digital economy may contribute for a group of organizations that represent about 90% of the companies from all over the world, and provide the basis for emerging economies (Ayat et al., 2011; Suarez-Ortega, Garcia-Cabrera, & Knight, 2015). SMEs are considered essential players for an inclusive globalization and growth (OECD, 2017).

In this context, the following objectives have been established: identifying new works that approach the theme, analyzing the major contributions in the literature, and defining the state of art of ITG in SMEs. In order to guide the research, the following question has been defined: “What is the state of art of IT governance in small and medium sized enterprises?”.

## BACKGROUND

Considering the results of this study, and those presented by Huygh and De Haes (2016), the state of the art of ITG in SMEs was divided into three sections. The first discusses the barriers and characteristics of ITG in SMEs (Alberti & Verdún, 2010; Ayat et al., 2011; Devos, Landeghem, & Deschoolmeester, 2009a, 2009b; Devos, Landeghem, & Deschoolmeester, 2012a, 2012b; Garbarino-alberti, 2013; Giraldo, Herrera, & Gómez, 2010; Huang, Zmud, & Price, 2009; Koornhof, 2009; Lee, 2013; Levstek, Hovelja, & Pucihar, 2018; Min & Junhe, 2009; Put, 2012; Silva, Da Silva, & Pereira, 2018; Ștefănescu, 2015; Thomas, 2010; Vogt, Küller, Hertweck, & Bond, 2011). Next, studies that sought to structure an ITG framework applicable to the SMEs reality were presented (Enagi & Van Belle, 2017; Bergeron, Croteau, Uwizeyemungu, & Raymond 2017; Curry, Marshall and Kawlek, 2016; Guldentops, 2014; Lin, Chou, & Wang, 2011; Olutoyin & Flowerday, 2016; Padfield, 2015; Rozehnal & Novak, 2016; Wilkin, Couchman, Sohal, & Zutshi, 2016; Yokkhu & Papasratorn, 2018). Finally, the capacities in IT are analyzed in relation to the environment where the SME operates (Limaj, Bernroider, & Choudrie, 2016; Neirotti & Raguseo, 2017; Neirotti, Raguseo, & Paolucci, 2018). In the next pages the three generations of research are discussed in a relational and critical view.

### Barriers and Characteristics of ITG in SMEs

In the context of ITG in SMEs, the study conducted by Huang et al. (2009) has considerable relevance. The authors were based on categories of analysis (decisions in IT, localization of decision rights and ITG mechanisms) already consolidated in literature for large organizations, and sought to understand how SMEs can optimize IT performance through governance practices. The results pointed out by

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