

# Chapter 9

## Towards a Reference Framework for Generational Analyses on Information Technology Professionals

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### ABSTRACT

*In light of the sociology of generations, this theoretical trial relates literature on information technology (IT) professionals, IT professional management, IT project teams, and generational studies to elaborate a reference framework that supports the research on the intergenerational dynamics of the field. The proposed framework offers a definition and structure for the concept of IT generation and contemplates the dimensions related to (1) technological contemporary changes, (2) culture bearers, (3) continuous nature of generational change, (4) generational succession, (5) knowledge transmission and sharing, and (6) intergenerational conflict, allowing future empirical research on the IT generational phenomena.*

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## INTRODUCTION

The term “information technology” (IT), as a specific term, has its origins in the 1950s, when Leavitt and Whisler (1958) anticipate the impact of sociological, political and cultural approaches to an organizational context traditionally occupied by engineers and mathematicians, and state “The new technology does not yet have a single established name. We shall call it information technology” (p. 41).

IT is, therefore, the nomenclature that embraces these multiple knowledge domains and it is, from a sociotechnical perspective, a study area that investigates and explains the effectiveness of computational artifacts in the organizational scope, since it contemplates the technical (technology and processes) and social (structures and people) levels in the organizations.

The IT professional is the individual who acts in IT activities and is paid for his/her work. According to Bureau and Suquet (2009), this generally involves tasks related to design (system analysis, computer programming, system implementation, system testing, requirement elicitation), management (of projects, teams and resources) and use (technical support, operational support, training, etc).

The specialists who built the IT field originated from different professional communities (mathematicians, physicists, engineers, etc.) – since there was no academic formation in IT – and were trained by computer manufacturers. Currently, IT professionals are formed mainly by formal education processes (Grajek, 2011; Segre and Rapkiewicz, 2003), but the influence of technology providers remains (De Moura Jr and Helal, 2014).

The IT industry formally employs high proportion (80%) of young individuals in IT related jobs (Olinto, 2005; Ieger and Bridi, 2014), which is considered proportionately higher than observed for this same age group in the EAP (economically active population) of other professions. These young professionals generally act in teams, composed of a small number of professionals with complementary capacities and skills (Katzenbach and Smith, 2003; Mathieu *et al.*, 2000; Peled, 2000).

Team composition have been investigated from the academic-scientific and managerial perspectives (Burnes, 2006). Studies have been conducted more frequently on member personality traces (Devaraj *et al.*, 2008; Siau *et al.*, 2010), leadership and group sense (Grabrielsson *et al.*, 2009; Mumford *et al.*, 2002; Tsai *et al.*, 2012) and knowledge creation and sharing (Jakubik, 2011; Salazar *et al.*, 2012).

It is known that values, principles and behaviors of a professional group or subgroup can be defined by a shared worldview (Mannheim, 1993). As a result, sharing a specific worldview, roughly, can help identify a professional generation in the organizational environment. Notwithstanding, a brief incursion into the literature related to generations and IT suggests a peculiar absence of the theme as an object for recent research. With exception for the study of Joseph *et al.* (2010), for

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