# Chapter 18
# Standardization:
## Its Acceptability Among Software Professionals

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## ABSTRACT

*This chapter looks at standardization practices of large scale software development businesses and its acceptability among software professionals. The article reports the results of a survey conducted among software professionals on standardization practices of their organisations. The results show that majority of the organisations are complying with standardization related guidelines in their businesses. A significant number of employees are unaware about the standardization practices adapted by their organisations. The conclusions remarks that the organisations have to gear up their efforts towards introducing and maintaining global standards in the production and delivery of software products and services to their clients. Significant attention towards training and development related to standardization practices is recommended. Future research is warranted in investigating the effectiveness of existing global standards related to software production and delivery in large scale software development organisations.*

## 1. INTRODUCTION

Standardization research in general is a well-documented theme in the published literature. There has been plethora of references for standardization in the published literature (Koch, 2016; Esbensen and Bjorn, 2014; Godfrey, 2013; Vrontis et al., 2009; Veleva et al., 2001; Joha et al., 2014; Paju et al., 2013; Labuschagne et al., 2005; Koper, 2004; Cagnin et al., 2013; Azapgic et al., 2003; Downes, 2007; Hardjono et al., 2004; Muller et al., n. d.; Smith et al., 1996). In contrast, there has been a number of recent relevant studies that have been documented in constructing and validating a framework to assess and benchmark sustainability initiatives in software businesses. For example, business sustainability conceptualization (Sambhanthan et al., 2016); business sustainability frameworks (Sambhanthan et al., 2016); waste management strategies for software development companies (Sambhanthan et al., 2016) and green business practices for software development companies (Sambhanthan et al., 2015) are a few to highlight.

However, there is an observable vacuum in terms of documented studies dealing with standardization in software development organizations. Are standardisation practices effectively implemented in software businesses? What are the employee perceptions of standardization practices? This article explores these questions in detail with data collected from software businesses. The software development businesses are increasingly adapting standardisation practices in their day to day business activities (Virtusa Corporation, 2013; Infosys, 2014; Accenture, 2014; Capgemini et al., 2014, Cognizant, 2012; Tata, 2014; HCL, 2012; ITC, 2013; Larsen et al., 2014, Mahindra, 2013; Wipro, 2013). Regardless of whether to apply in the products developed by the organisations or in the product development process itself; standardization has a significant role to play in deciding the impartiality and conformity of the products and services to target consumer groups and organisations of variable categories. For example, the ISO 31000 standard on international risk management has relevance and applicability to any organization concerned in terms of managing the organizational risks associated with the core product development process. Hence, this article focuses on analysing and documenting the standardization related concerns in software development firms. The research uses a mixed method approach combining qualitative content analysis with quantitative survey research that leads towards more legitimate conclusions on the standardisation and related perceptions on software development businesses.

## 2. DATA COLLECTION

A content analysis method with quantitative data collection technic has been used for transcribing and surveying the green energy management practices of organizations. Ten large scale software development companies were selected from one country and the sustainability reports of those ten firms were downloaded and subjected to content analysis. The country's leadership in software export has been taken into consideration when selecting the country for report sampling. The list of standards that are documented in the reports were compiled based on a rigorous analysis of the reports. A number of quantitative and qualitative research questions were formulated based on the framework built as part of the report analysis. An online quantitative survey based data collection approach has been conducted using the online survey design platform.

The Figure 1 depicts the country wise respondent rates to this survey. India records the highest participation rates followed by the United States and Sri Lankan participants. There are very less number of responses received from the Australian participants according to the statistics placed in Figure 1.

The Figure 2 depicts the organization size based on employee number.

The Figure 3 depicts the organization size based on employee levels. The types of staff who have filled in this survey includes environmental managers, software development managers and energy engineers. The gathered responses were cleaned and subjected to quantitative and qualitative analysis and the results have been documented in this chapter.

## 3. RESULTS

The results of the pertained study show that the responses include almost 50% from software industry and the rest are from other industries. The Figure 4 depicts the number of responses recorded from both these categories of industries.

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