Chapter 2
Benefits, Classifications and Research Surrounding Standardization and IT Standards

INTRODUCTION

Standards have been in existence since the beginning of recorded history. One of the earliest indications of a standard is the beginning of written alphabets by the Egyptians and Babylonians around 4000 BC (Krechmer, 1996). Another example of early standards effort is the work done by Shih Huang-Ti, the founder of the Chinese Empire, under whose reign the Great Wall was built. He enforced one law, one weight, and one measure to rule out discord and confusion between petty states. The standards proposed by the Chinese Emperor were used only for the construction of the Great Wall and are no longer used today, but the testament of his efforts are still seen today. (Perry, 1955 as cited in Deshpande & Nazemetz, 2003a)
The term “standard” has multiple definitions. Indeed the Oxford English dictionary offers up to thirty different definitions of the word “standard” (OED Online, 2005). However, a commonly cited definition is one offered by the International Organization for Standardization (ISO), which defines a standard as: “A document, established by consensus and approved by a recognized body, that provides, for common and repeated use, rules, guidelines, or characteristics for activities or their results, aimed at the achievement of the optimum degree of order in a given context” (ISO/IEC, 1996).

Although this definition sheds light on what a standard is, it does not give an indication of the multiple dimensions of a standard. These additional dimensions relate to issues like how a standard is developed, when a standard is developed and why a standard emerges. The remainder of this section addresses some of these dimensions by looking at the standardization process, the benefits of standardization and the classification of standards.

The Standardization Process

The standardization process, which deals with the development and utilisation of standards, is characterised by intricate interactions between stakeholders and organizations known as ‘standardizers’. According to the National Standardization Strategic Framework (NSSF, 2004a), these standardizers may be formal or informal alliances of public and private sector groups which are set up to assist the standardization process and work with stakeholders to develop solutions appropriate to their needs. These stakeholder needs, which may be sourced from business, government or society, drive the standardization process. Therefore, standardization activities bring together representatives from different stakeholder groups with diverse needs. These groups include: regulators, researchers, standards developers, standards sellers, standards purchasers, trainers, consultancies, certification and accreditation bodies, testing houses as well as users of the standards themselves (NSSF, 2004a). Figure 1 in the previous chapter, which is an adaptation and extension of the NSSF ‘standardization map’, depicts these interactions through a macro view of the standardization process (NSSF, 2004b). Looking at the right of Figure 1 in Chapter 1 it is evident that the perceived ‘outcome’ of the standardization process is the realisation of socio-economic benefits.

The NSSF recognise in their supporting notes that their original map only focuses on the ‘outcomes’ of the standardization process, which are the socio-economic benefits, and not the ‘outputs’. Therefore, the original map was adjusted and extended to indicate the ‘outputs’ of the standardization process, which are the ‘publication of standards’, and ‘the adoption and use of standards’.
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