

Chapter 14

The Role of the Individual in ICT Standardisation: A Literature Review and Some New Findings

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ABSTRACT

This chapter discusses the influence individuals have in the ICT standards development process. The chapter draws upon ideas underlying the theory of the Social Shaping of Technology (SST). Looking through the SST lens, a number of non-technical factors that influence ICT standards development are identified. A literature review on the role of the individual in ICT standards setting and a case study of the IEEE 802.11 Working Group (WG) show that in a standards body's WG, the backgrounds, skills, attitudes, and behaviour of the individual WG members are crucially important factors. Yet, the case study also shows that in most cases employees tend to represent the ideas and goals of their respective employer. The chapter observes that the non-technical factors are ignored all too often in the literature. It argues that a better understanding of the impact and interplay of these factors, specifically including the skills and attitudes of the WG members, will have significant implications both theoretical and managerial.

1. INTRODUCTION AND MOTIVATION

E-business, mobile commerce, e-procurement, supply chain management – Information and Communication Technologies (ICT) have changed the way business is done, sometimes beyond recognition. One of their common characteristics is the electronic exchange of information between entities that may well be located anywhere on the globe. This, in turn, signifies the need for interna-

tionally accepted – and implemented – rules that govern this information exchange. Such rules are typically referred to as ‘standards’.

Colloquially, the term ‘standard’ is used for specifications of very diverse origins. Windows is an industry/proprietary standard, http is a consortium standard and IEEE 802.11 (aka WiFi) is a formal standard. Yet, regardless of their respective origin, (successful) standards are crucial building blocks of all virtually all ICT systems. Think of

it – the success of the Internet, for instance, is to no small amount rooted in the simplicity and effectiveness of its core standards, TCP/IP¹.

In the 1980s standards and standardisation began to attract the attention of researchers. Initially, economists developed the greatest interest, although their focus was rather more on dominant designs that emerge through market forces than on consensus-based standards that emerge from standards bodies' committees or working groups. They used, for example, transaction cost theory to determine if and when a firm would switch from one standard to another or used the theory of network externalities to describe the uptake of a new product or service². Subsequently, social scientists and some computer scientists joined the bandwagon. With the increasing importance of patents in ICT standardisation the importance of Intellectual Property Rights (IPR) increased as well and attracted researchers of the legal persuasion. These days, many other disciplines also contribute to standardisation research.

Nonetheless, one aspect of standardisation has received little attention so far – the role of the individual standards setter, i.e. those people who populate the working groups (WGs) and committees of the various Standards Setting Organisations (SSOs³). While many political decisions are made above WG level, these people are in charge of the actual standards development. Both technical and strategic decisions are made here, and the economic well-being of a firm that fails to have its Intellectual Property (IP) incorporated into an emerging standard may be severely damaged as a result.

In fact, and perhaps a bit surprisingly, I would consider these people to be one of the major influencing factors in standardisation. And since the development of an ICT standard may well take a couple of years, at least the core members of the individual WGs will over time form a tightly knit community. These communities have, for example, been described as “dense trans-national personal networks” (Henrich-Franke, 2008) or as a group for

whom “the value of the ... community ... exceeded corporate loyalty in many situations” (Isaak, 2006). Thus, we should look at the motivations, attitudes and views that influence these people's work if we want a better understanding of why a particular standard emerged the way it did. Once enough such knowledge has been accumulated it may help shape future standardisation activities in a way that maximises a new standard's value for society at large.

The remainder of the paper is organised as follows. Section 2 offers some more background and some further motivation for the subsequent study by discussing the importance of ICT standards. Section 3 introduces the theoretical background – the Social Shaping of Technology (SST) approach. Section 4 discusses the importance of the individual in standards setting based on a literature review. To test and perhaps complement these theoretical findings section 5 outlines some relevant findings from a case study. Finally, some concluding remarks are made in section 6.

2. A BIT ABOUT STANDARDS

2.1 Definition

The term ‘standard’ does not really lend itself to a useful definition. The Oxford Dictionaries⁴, for example, define a standard as “something used as a measure, norm, or model in comparative evaluations”. According to Merriam-Webster⁵, a standard is “something established by authority, custom, or general consent as a model or example”. ISO 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, 2012).

All these definitions are too generic to be readily applied to a specific domain like ICT. However, when the term ‘standard’ appears throughout the

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