# E-Business Standards Setting

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## INTRODUCTION

Many industry sectors are facing a number of challenges to the established relations between players (the automotive sector is a particularly prominent case in point; see also Gerst & Jakobs, 2006). To meet the production requirements, standardization of processes, systems, and data are inevitable. A current trend in manufacturing is that OEMs[1] attempt to cooperate with fewer suppliers, but on a worldwide scale.

The use of ICT[2] related technologies, particularly e-business systems, facilitates the creation of a network of relationships within a supply chain. Yet, such inter-organizational integration requires interoperability that cannot be achieved without widely agreed standards. But how should standards be set, and who has—or should have—a say in the standardization process? In many cases, an SME[3] supplier does business with more than one OEM. In this situation, bi-lateral standardization to improve the cooperation between OEMs and suppliers, and between different suppliers, respectively, is inefficient. Still, this has been the approach of choice in many cases.[4] However, possible alternatives are available.

In the automotive industry, for example, portals were developed as a form of sector-specific harmonization. Yet, these attempts to develop standardised technology largely failed. This holds particularly for the most prominent example, Covisint. Its failure may be attributed to various technical, organizational, and economic reasons. The main contributing factors, however, included the unequal power distribution during the development process (only the large OEMs had a say; the suppliers were largely left in the cold), and the equally imbalanced distribution of benefits (which mirrored the power distribution). The fact that Covisint was sector-specific probably represented another problem as many suppliers did not only do business within the automotive sector, but with other industries as well (see Gerst et al. (2006) for a far more detailed discussion of this subject).

This rather negative example suggests that perhaps yet another alternative approach should be deployed. One straightforward such alternative would be to take these activities to a dedicated standards organization. After all, portal technology relies heavily on underlying e-business standards such the extended markup language (XML), the UDDI registry (universal description, discovery, and integration), the Web services description language (WSDL), SOAP, and many others. Moreover, many of these organiza-tions offer a more level playing field for smaller companies, certainly in theory (see Jakobs (2004) for a perhaps more realistic view).

## BACKGROUND

These days, a network of standards developing organizations (SDOs[5]) operates at various geographical levels. They issue what is commonly referred to as "de-jure" standards—although in fact none of their standards has any regulatory power.[6] In addition to these *formal* bodies, a huge number of consortia and industry fora have entered the e-business standards setting arena over the last decades (a recent survey found around 300 (ISSS, 2005)). These organizations produce so-called *de-facto* standards. Those who develop standards specifically relevant for e-business include for example, the *World Wide Web Consortium* (W3C), the *organization for the advancement of structured information standards* (OASIS), and the *open group*.

As a result of this diversity, companies are faced with an almost impenetrable Web of standards setting bodies (SSBs[7]) with complex inter-relations. Each of these bodies has its own membership base (frequently overlapping, though), works within a specific environment, and has defined its own set of rules. The resulting fragmentation of the standards-setting arena—and overlap of the activities of individual SSBs—means that interoperability between standards from different sources cannot necessarily be assumed. Accordingly, improving coordination in e-business standards setting has become a major issue. At the same time, however, we observe fierce competition in standards setting.

Standardization had always been the SDOs' monopoly. However, in the 80s consortia began to emerge, invading the SDOs' territory. This move was also helped by the deregulation of the telecommunication sector. Eventually, the SDOs started fighting back. As a result, these days competition in ICT/e-business standards setting occurs at different levels, and organization wishing to become active in standards setting need to select the SSB best suited to their specific needs.

## COMPETITION IN STANDARDIZATION

Over the last three decades, the proliferation of SSBs has lead to an extremely complex situation in the market

for standards in the e-business sector. Figure 1 gives an impression of the situation today (the figure is far from giving the full picture, though).

The emergence of such a huge number of SSBs, often with overlapping coverage, caused a fragmentation of the market for standards development. In addition, the ICT and e-business domains are subdivided into different industry sectors, each of which has specific needs and requirements. Consequently, sector-specific standards are being developed and used, thus further contributing to the fragmentation of the market.

This fragmentation, in turn, triggers competition. Different SSBs covering similar ground are struggling for influence, implementers, and market shares. In the e-business sector—whose standards are highly relevant for any portal development—such competition between SSBs may be observed, for example, in the cases of RosettaNet and ebXML, and for the semantic Web services initiative (SWSI) and the W3C.[9]

Competition between SSBs implies an element of choice. That is, users may select the one standard (out of a number of competing ones) that best meets their requirements. Analogously, prospective standards setters may select the most promising platform for their activities. The downside, however, is that a wrong choice may easily lead to a negative outcome; a user may be locked in a loosing technology not accepted by the market. Likewise, standards setters may eventually find that the standard they pushed has lost against

competitors. Thus, a sensible selection becomes imperative in both cases. In the case of a company wishing to set a new standard, or to influence an emerging one, this process will need to be based on two metrics:

- The role the company wishing to adopt in the standardization process,
- The characteristics of the SSBs.

Companies' business models and strategies in the e-business sector differ widely. In most cases, the respective degree of interest of a company wishing to get involved in a new standards setting activity will differ widely. For some, the nature of a standard, or even the fact that a new standard will materialise, may be a matter of life or death. For others, an emerging new standard may be of only rather more academic interest. Accordingly, prospective participants in a standardization activity may be subdivided into three categories: "leader," "adopter," and "observer," respectively.[10] The motivation to actively participate in standards setting, and for joining—or maybe even establishing—an SSB will be very different for members of each individual category, and may be summarised as follows (see also Jakobs & Wallbaum (2005a)):

- **Leaders:** These are companies for which participation in a certain standards-setting activity is critical. "Leaders" aim to control the strategy and direction

*Figure 1. The ICT/e-business standardization universe today (Excerpt adapted from Jakobs, 2000)[8]*
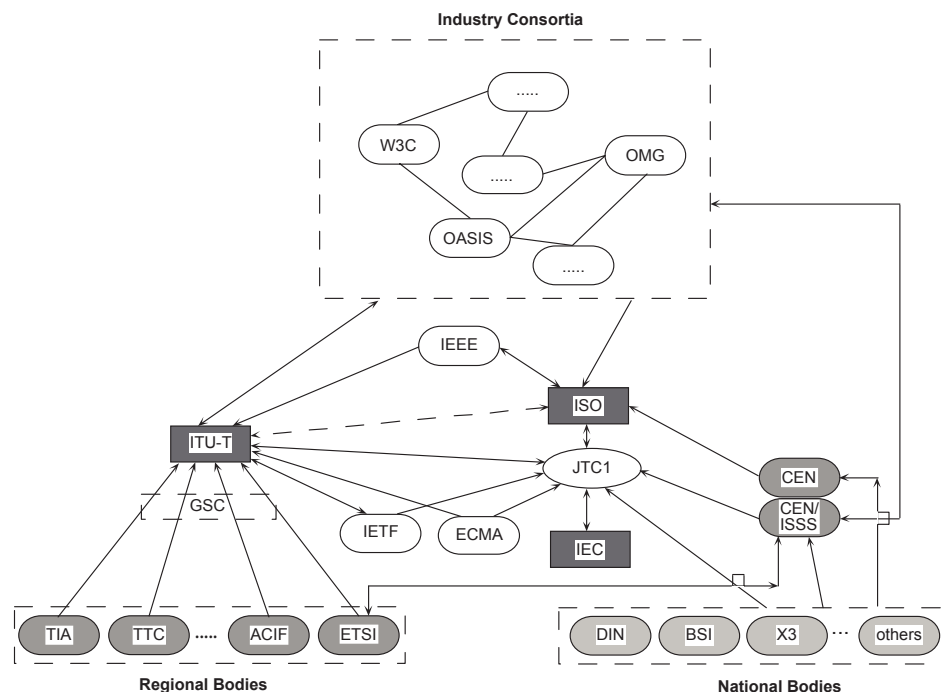
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