

## eBCM Mindset & Agreement: **COOPERATION AND COORDINATION; STANDARDS AND STANDARDISATION**

LEARNING OBJECT #06

# THE NECESSITY TO SYNCHRONISE

## Outline

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## Introduction

One of the characteristics of eBusiness is networking, because one target of electronic tools is to ease communication between the parties in business. Networking demands harmonisation and standards is a key success factor. In the eBusiness arena it is recognised that standards are imperative for interoperability and efficiency of business operations, e.g. electronic catalogues, classification systems, harmonisation of online dispute resolution (ODR) systems in Europe, and for information security. eBusiness methods enable companies to link their internal and external processes and systems more efficiently and flexibly, to work more closely with suppliers and partners, and to better satisfy the needs and expectations of their customers.

eBusiness involves business processes spanning the entire value chain: electronic purchasing and supply chain management, processing orders electronically, handling customer service, and cooperating with business partners. Harmonised eBusiness solutions facilitate the exchange of data between companies. eBusiness software solutions allow the integration of intra and inter company business processes.

Targets of standardisation and harmonisation are business rules and processes, data that is transferred and technical solutions used. In communities, be they sector-based, regional, national or global, there are infrastructures (solutions provided for shared usage) that are part of harmonisation and intended to help companies in implementing solutions. However, these infrastructures are not developed enough (to a great extent they are national or sector-based) and leave a lot of harmonisation to be implemented in individual cases.

## Challenges

Challenges for harmonisation and standardisation are many:

- The increasing connectivity of markets, economies, and ways of life across countries, enabled by fast developing technology means that the world is definitely shrinking. Still in terms of accessibility of information and ease in communication, electronic community is alien and a far removed reality for many. This is due to non uniform development of different communities and countries and also to heterogeneous accessibility to technology.

- Pace of change especially in technology is fast and harmonisation could mean slowing down that pace since cooperation simply takes a lot of time and effort.
- Stakeholders' time is valuable. It is not easy to get most important parties to participate in cooperation work. Also consensus among stakeholders as a ground rule in standardisation is normally not easily established.
- There is a need for companies to recognise local and international standards and technical framework concerning eBusiness. However, since standardisation at this level is normally voluntary work for common good, it takes time and benefits not only the organisations providing input but also the competition, there is a lack of willingness to participate. While, in reality, all organisations do benefit from the use of standards, this does not translate into motivation to contribute to standardisation. The consequence is that in some cases stakeholder's market needs are not given due attention in standardisation work, such may be the case for European SMEs.
- Harmonisation affects business situations and especially the stakeholders with good market positions are afraid of such changes. New solutions may even be seen as a threat to a company's existence.
- Also companies are different; some are very advanced in business processes and utilize modern tools while others are rather primitive. ICT technology may even seem to be too expensive for some SME companies.
- A company's partners may be quite different, in size, in mentality, in business practices etc. Some are adaptable, some are demanding. The cultures, business practices, technologies etc. in different countries may be quite different.

### **Value for companies and their businesses**

Many companies and businesses face an increasingly tumultuous operating environment. With funding pressures intensifying, companies face the challenge of meeting steadily rising expectations among their key target groups - both in terms of the quantity and quality of the services provided. The companies are not only called upon to do more and do it better, but also to do it with a leaner budget.

Value of synchronisation is to:

- Support a company or value network to be more responsive to customers' needs when reorienting its processes and improving operational efficiency.
- Drive major increases in productivity by elevating efficiency and effectiveness of the processes and allow both management and staff to spend more time on core tasks.
- Give managers a practical means of overseeing processes used to run business operations and also support management in developing the company (e.g. making easier comparisons with other companies).
- Make possible to have increased number of customers and to be able to serve all of them with high quality and still profitably.
- Make easier to implement new partnerships efficiently and with qualified processes.
- Make possible to achieve critical mass in solution usage, which is necessary in order to use ICT cost effectively and take advantage of economies of scale.

### **Value for systems and processes**

The objective of synchronisation as to systems and processes is to support improvement of processes, both inside a company and between companies in value chains and value networks. Coordination and synchronisation are prerequisites to:

- Improve the daily work processes and enable end-to-end "straight-through processing" by interconnecting data and procedures. "Straight through processing" enables the entire trade process to be conducted electronically without the need for re-keying or manual intervention.
- Let systems and products work with other systems or products without special effort by a user, who should have a seamless, streamlined user experience.
- Eliminate redundant business processes and data replications.

- Avoid complex systems and unnecessary data conversions.
- Minimise errors inherent in manual processes.
- To have efficient business processes.
- Introduce mainstream enterprise “software-as-a-service” (enables companies to access remotely systems managed centrally by service providers).
- Makes possible to access and analyse company data at any time from a range of perspectives, for example sorted according to customers, products, product groups or countries.
- Reduce the overall cost of gaining information.

Coordination and synchronisation also:

- Encourage development of innovative Internet-based business processes.
- Strengthen security by eliminating gaps among proprietary software systems.
- Improve privacy by giving users complete control over their data.
- Enable real-time enterprise scenarios and forecasts.

### **Value for personnel**

eBusiness is valuable for the company and its business and also the staff gets value of it. The existence of the company is more secure and the company is able to reward better its personnel.

Synchronised eBusiness solutions make people's jobs easier and improve the day by day activities. Everything is faster, there is less manual work, costs are reduced, feed-back from customers and partners is more positive, there are fewer mistakes and better and more real-time information is available. People can get rid of boring tasks. Many see this development as a threat to job security, since it is imperative that some tasks and even some jobs become obsolete or not necessarily carried out by people any more. However, this translates into more time for other important tasks, and for employees willing to take advantage of this change, it offers ample opportunities to increase own knowledge, learn new skills and improve job prospective.

Coordination and synchronisation make the systems simpler and more homogenous and so they are easier to learn. People understand better processes in work and even when systems are renewed they feel more confident.

### **Managers' role**

Managers, when they implement partnerships and purchase eBusiness solutions, must be aware of trends, possibilities and development of eBusiness. Especially they must understand the benefits of harmonisation both within the company and value chains or value networks that are relevant to the company. They should also know the development within their business sector and be able to adapt the company's processes to that.

### **The means to harmonise eBusiness solutions**

A role of eBusiness infrastructure is to minimise the need for harmonisation in individual cases, the better the infrastructure is the less there is need for additional coordination and synchronisation. eBusiness infrastructure is imperfect compared to e.g. telephone and email infrastructures, which allow any user to call or send a message to any other user without problems. eBusiness is dispersed like telephone networks were 100 years ago and email was 20 years ago.

A major obstacle for harmonisation is paper documents that are still used together with electronic ones. They must be typed into the systems separately, archived separately, moved manually etc. The recipient can scan them into electronic ones, but that is an additional cost. The vision is to do all procedures electronically that will save time and money.

By email it is possible to send documents fast and cheaply, but it is not a preferable way to send documents. Email is built for human interaction and its usage requires user actions both in sender and recipient organisations. The modern way to send documents is to use those methods that are specifically created for communication between systems (e.g. EDI, electronic data interchange and ebMS, ebXML Messaging Service).

There are also other interim solutions, which only partly support automation of processes. One very popular in warehouses and retailing is barcodes. New technologies (like Radio Frequency Identification, RFID) are emerging that support more automatic procedures.

Harmonisation of eBusiness solutions deals with processes, data and technology. Standards have an important role in harmonisation and companies should utilise existing global, national or sector based standards whenever it is feasible. When it is not possible, conversions are normally needed. Usage of common product or services is then preferable to own implementations.

### The benefits of standards

“A standard may be simply defined as an agreed way of doing something. It is a benchmark by which actual or projected performance can be measured. [...]

A standard may describe:

- How two pieces of disparate technology can interoperate through a common interface.
- How companies can meet a government regulation.
- A level of accomplishment or knowledge such as a professional certification.
- A quality of a service or product.
- Specific business processes.”<sup>1</sup>

Standards have been around a long time as a reference in communication between individuals. The first coded standards being commonly accepted symbols carved on walls in the early times of human history. “Possibly the first technical standard was a unit standard - a common number system. The first wave of civilisation, the Agrarian wave, defined units of weight and measure (unit standards) as early as 3500 BC. The definitions of such unit standards were kept by a primary authority, such as the king or temple by 3000 BC”.<sup>2</sup>

Technology has been defined as *the process of applying established knowledge to meet identified market and social needs*.<sup>3</sup> This definition carries the very nature and purpose of standards, i.e. as being a *technology enabling tool, a qualitative reservoir of knowledge and guidance for stakeholders, within markets and/or society, in their quest for advancing towards a desired state of development*. As technology evolves, the complexity of standards does also, thereby becoming a representation of community’s level of technical maturity. Standards can be used to describe any technology, of any functional or organisational level, from describing unit symbols to codes of conduct and ethics.

The major driving force for modern time’s standardisation is the quest for economic gains from applying technology, better use of resources, more efficiency in the provision of products and services to government, businesses and consumers, enhanced welfare of people and Nature’s sustainability. Research on the economic impact of standardisation has shown that about 1% of the Gross National Product and about quarter the growth rate of Germany,

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<sup>1</sup> Best Practice... Next Practice; Stephen Munden and Sherrie Bolin; BSI 2005

<sup>2</sup> <http://www.csrstds.com/fundtec.html>

<sup>3</sup> Engineering Council of South Africa Standards and Procedures System;  
<http://www.ee.wits.ac.za/~ecsa/gen/g-04.htm#Technology>

Austria and Switzerland can be accounted to standards<sup>4</sup> and 13% of Britain's increased productivity during the period of 1948-2002.<sup>5</sup>

“Globally there are well over half a million published Standards. These are the products of over 1,000 recognised Standards development organisations worldwide. These figures do not take into account the innumerable internal Standards, which underpin any successful business. A conservative estimate of the number of people currently involved in the standardising process worldwide is over half a million”.<sup>6</sup>

The nature and purpose of eBusiness standards as being a technology enabling tool, a qualitative reservoir of knowledge and guidance for stakeholders, is to provide:

- Simplicity in the process of making agreements between stakeholders.
- Support in coordination and implementation of complex tasks.
- Support in design.
- Support in communication, operations, control and revision.
- Support in managing operational and personal security.
- Enhancement in the accessibility of information.
- Credibility to solutions and businesses.

...with the benefit of:

- Ease in business development.
- Ease in coordination and management.
- Streamlined and secure business processes.

...resulting in:

- More economic benefit to businesses and welfare of society.

Even though the promise of economic and social benefits by utilisation of standards is apparent, the quality of standards is always dependant of the contributions from stakeholders, the infrastructure used for developing standards and the development stage of the technology in question. However, it is not enough to capture the best practices and knowledge in a standard if there is not general stakeholders' interest to apply the standard.

A failure in standards making can have a considerable negative effect on technical development, possibly delaying the necessary consensus making for years, even though the reason for what went wrong has been removed. It can take years to rebuild stakeholder's confidence in the process and convince them to reallocate the necessary resources in employee time, funding and political support.

On the other hand, if the standard setting process is efficient, creating publicly accessible best practice guidance in the utilisation of technology, it is a win-win situation, which everyone in the respective stakeholder community benefits from. The knowledge documented will then create a spin-off of ideas and opportunities, new technologies and thereby initiate the making of new standards in an expanding and spiral-like development.

## Standards in eBusiness

“In order to be able to reap the (full) benefits of eBusiness, a degree of harmonisation of business processes is required: companies are increasingly using information and communication technologies to link these processes. Not only internally, but also (and that's where the real “eBusiness” comes in) with their suppliers, customers and for cooperation with business partners. This means that these parties must be able to read, and interpret correctly, each

<sup>4</sup> DIN (Deutsches Institut für Normung) (2000). Economic benefits of standardization – Summary of results – Final report and practical examples. Berlin/Vin/Zürich: Beuth Verlag GmbH.

<sup>5</sup> DTI (Department of Trade and Industry) (2005). The Empirical Economics of Standards. DTI Economics Paper No. 12. London: DTI.

<sup>6</sup> <http://www.standards.org.au/cat.asp?catid=3>

others' data. Today, many systems cannot do this without special manual intervention or compatibility programmes. To overcome this efficiently requires seamless automatic cooperation, amongst others based on compatible standards for computer systems. This cooperation process is called interoperability; it is basically the single most important hurdle for business trying to use the internet for transactions."

CEN/ISSS eBIF

eBUSINESS ROADMAP - addressing key eBusiness standards issues 2006-2008

The eBCM model's Core represents what has been called, the key elements of eBusiness or building blocks. Each of these elements represents a specific subset of the knowledge and technology required for eBusiness to become fully functional. For many of the building blocks, standards have been used for documenting the knowledge and technology, as indicated in the following drawing, where examples of different eBusiness standard topics have been recognised and associated to the respective building blocks. For more detailed information, refer to other literature and standards organisations' websites.

