Chapter 6
BOMOS: Management and Development Model for Open Standards

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ABSTRACT
E-Business standards, or standards for interoperability, are developed outside the traditional standard development organizations, often within industry specific domain organizations. These organizations need some guidance in how to develop and manage standards for their specific domain in order to achieve long lasting standards that actually achieve interoperability between organizations. The Dutch government, together with the standards community, decided to publish a tool called BOMOS for giving guidance to the management and development of open standards. BOMOS is not profoundly grounded on scientific evidence, but it builds on the best practices already used in domain standardization. This chapter will present two highlights of BOMOS: the activity model for management of standardization, and a development approach for standards.

INTRODUCTION
The management and development of standards is no easy task. Nevertheless, standards are often developed without considering the further development and management of the standard. The cause of this is often the use of project funding to develop a standard, or a corresponding facility. This does not fit well with the continuous development and management of standards.

The purpose of this chapter is to assist organizations in managing and improving standards. The main question for this chapter is:
How can we as an organization develop (and continue to develop) and manage the standard?

The Netherlands Open in Connection, a Dutch government program stimulating open standards, received many questions on how to develop and maintain open standards, in particular since the use of open standards has become obligatory in many cases. Based on these questions it was decided to set up a working group to share best practices between different standardization communities from different domains. Participating domains included education, government, building and construction, temporary staffing standards, etc. Also standardization experts from NEN (Dutch formal standardization institute), TNO and Novay participated. The result was captured in what is called BOMOS, a management and development model for open standards, which aims to support and inspire standardization communities and their clients in the structural design of the management and further development of standards.

Following the first publication in 2009, a new series of workshops took place in 2010. The users of the first version were also represented. In total 6 workshops took place, and 17 experts representing 13 organizations involved in standardization. Their experiences and new insights were used to develop and expand BOMOS further into version 2, which is in 2011 available in both Dutch and English language (Folmer & Punter, 2011).

This chapter continues with the background including setting the scope of this research. Thereafter the state of the art in this research domain will be described, before the activity model from BOMOS is being presented. The chapter will then continue with the development approach captured in BOMOS and will end by a discussion and conclusion section.

BACKGROUND

The main reasons for organizations to aim for interoperability are effectiveness and efficiency in cooperating with, for example, partners, suppliers and customers within the chain. A lack of interoperability is costly, as a range of studies show. For example, the cost of the lack of interoperability in the automobile industry in the United States is estimated at a billion dollars, and a design period that is two months longer than is strictly necessary (Brunnermeier & Martin, 2002). The government also has an interest in aiming for interoperability, but has an additional reason from a social point of view. For example, consider the consequences of an emergency if the various emergency services were not interoperable. In addition, issues of interoperability arise in themes such as the electronic patient record and the young people at risk referral index. Standards are an important model in achieving interoperability, and in addition, important for supplier independence.

Standards come in all shapes and sizes. There are a great many classifications of standard types (De Vries, 2006), but within government the European Interoperability Framework (European Commission, 2004) is used as a guiding principle. This distinguishes between technical and semantic interoperability, which also means a distinction between technical and semantic standards. The technical (infrastructural) oriented standards can often be transferred one-on-one from international consortia. Standards of a semantic nature often require a national user group (community) in order to develop a national profile. In the context of national law and/or national specific business (and government) processes, it is necessary to adapt international standards to the national situation.

Features of semantic standards:

- They are often a specific interpretation of international standards.
- They are often for a specific intrinsic problem:
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