Chapter 8
Innovation-Centric Checklist Application: Product Life Cycle Support Adoption and Diffusion

INTRODUCTION

PLCS (Product Life Cycle Support) was one of the motivations behind this research and triggered the research question into the factors and barriers critical to the adoption of data-exchange standards. A review of the literature showed that there was a gap within the SC4 community with regards to the factors critical to the adoption of the standards and there was a need for more empirical studies in IT standards adoption research. In light of this, a novel combined innovation- and adopter-centric approach was taken to establish the factors and barriers critical to the adoption of data-exchange standards. A retrospective case study of two SC4 standards was carried out to test and verify the factors identified in the original model, developed in Chapter Three. The finalised model, shown in Figure 6 of Chapter 5, identified the

DOI: 10.4018/978-1-60566-832-1.ch008
key factors and showed the interrelationships amongst the key factors. Therefore the aim of this chapter is twofold:

- To verify and test the factors identified in the innovation-centric model and note any emergent factors or issues based on the current factors surrounding the adoption of PLCS.
- To predict the adoptability of PLCS in light of the issues and factors that emerged using the ‘Adoption Checklist’.

By carrying out this analysis, steps can be identified that will help to facilitate the adoption of PLCS. On a more general level, this chapter will predominately demonstrate the applicability of the ‘Adoption Checklist’ as a tool for stakeholders and decision makers involved in the adoption and diffusion of data-exchange standards such as PLCS.

PLCS Overview

Application protocols are the implementable data specifications of STEP. Therefore, ‘STEP implementation’ refers to the practical incorporation or implementation of an Application protocol within a company for the purpose of data exchange. Studies have been undertaken into the implementation of various other STEP Application protocols within industry (Pratt & Anderson, 2001; Peng & Trappey, 1998). However, this chapter is focused on the development, implementation and more importantly, adoption of Application protocol 239, known as the standard for Product Life Cycle Support (PLCS).

The purpose of the PLCS is to “establish structured data exchange and sharing capabilities for use by industry to support complex engineered assets throughout their total life cycle” (OASIS PLCS TC, 2005). PLCS was developed to meet the needs of governments, original product and/or equipment manufacturers, operators and third party service providers. Subsequently, the following industry groups can benefit from the adoption of PLCS (PLCS Inc., 2002):

- Transportation – commercial and military aircraft and associated aero engines
- Transportation – commercial and military truck fleets
- Transportation – commercial and military ships
- Transportation – locomotives and trackside equipment
- Heavy industrial machinery
- Power generation
- Oil and gas process plant.
Where Are You? Consumers’ Associations in Standardization: A Case Study on Switzerland
Christophe Hauert (2013). *Innovations in Organizational IT Specification and Standards Development* (pp. 139-153).
[www.igi-global.com/chapter/you-consumers-associations-standardization/70696?camid=4v1a](www.igi-global.com/chapter/you-consumers-associations-standardization/70696?camid=4v1a)

Legal Protection of the Web Page
[www.igi-global.com/chapter/legal-protection-web-page/60557?camid=4v1a](www.igi-global.com/chapter/legal-protection-web-page/60557?camid=4v1a)