Chapter 4: Paper Living Lab – Integration of SMEs

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Abstract The focus of the Paper Living Lab (PaperLL) was in designing new government procedures such a way that the needed control level in customs is achieved, while the same systems can reduce the operating costs of enterprises. This was achieved through designing and implementing a demonstration ICT system Webmerca. SMEs can use it for their electronic Business-to-Business processes and their large business partners can exchange business data between it and their ERP systems. The governmental actors having control needs can piggyback on the system: customs and tax official can collect the information they need from the system. Analysis of the demonstration system revealed that it could improve the customs control compared to the current processes. At the same time it reduces the costs of managing order-delivery-invoicing process of large companies that buy products and services from SMEs.

Keywords: Supply Chain Management SCM, Small and Medium size Enterprice SME, Single Administrative Document SAD, RosettaNet

1 The Paper Living Lab

A major challenge for the European Governments is to provide increased security and control over international trade, while at the same time decreasing the administrative burden for small and medium sized enterprises (SMEs) (Autere et al., 2008). It is broadly perceived that information and communication technology (ICT) is a key enabler for solving this dilemma (Martikainen et al., 2006). ICT makes the design of the new government procedures possible so that the needed control level is achieved, and, if the systems are well designed, can even reduce costs. The focus of the Paper Living Lab (PaperLL) was in developing solutions to these challenges. From a practical level, the aim was to create an innovative ICT platform for SMEs (Autere et al., 2008). The platform takes care of the formal business communications between SMEs, their customers and suppliers, and governmental organizations. Based on the information collected from ordinary trade processes, the system

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can produce the information that customs and taxation authorities need to control the businesses.

The consortium responsible for PaperLL realised that SMEs would be very slow to adopt electronic systems if they were not in demand for major customers. Therefore, a platform was built, where PaperLL took place in order to meet the needs of a large industrial customer in the region, namely, UPM-Kymmene. Special attention was also paid to the problems that were related to trade between Finland and Russia.

2 Current practices and reform plans

2.1 UPM and its environment

Finnish companies play an important role in the global forest industry. Two of the three largest forest companies in Europe, UPM-Kymmene (UPM) and StoraEnso, originated in Finland. In 2009 Finland was the third largest paper and board exporting country in the world.

The paper and board industry in Finland has extensive international connections. The supply chain of Finnish paper and board companies crosses borders, and the markets for products are also abroad. For instance, UPM buys five million m$^3$ of wood in Russia each year. The majority of this volume is exported to Finland, and the remainder goes to the company’s two plants in Estonia.

The Finnish forest industry exports 66 percent of its total exports to European countries, while 20 percent of exports go to Asia and North America. However, future exports are increasingly moving to Asia. Because of this transformation, international trade facilitation is of growing importance, as exports to Asia mean crossing the European Union border. Russia also plays a role in this shift, as the railroad route across Russia to China is an alternative to marine transportation in these exports.

The customer side of the Finnish paper industry consists of large companies, either large printing houses or wholesalers, whereas the supplier side is extremely heterogeneous. The supplier ecosystem of the Kaukas paper mill of UPM has two major types of business partners. The first type consists of commodity suppliers that provide wood, chemicals and other supplies that are raw materials in paper. Energy is also this type of supply in paper manufacturing. This chain is characterized by well predictable heavy flows of small variety of materials bought on long term contracts.

The second type of suppliers consists of providers of spare parts, technical supplies and maintenance and repair services. These are characterized by a large variety of items and services, small orders and batch sizes, and unpredictable demand. This supply chain consists of larger services or wholesale companies such as YIT Industria Oy focusing on the construction business and Asea Brown Boveri (ABB) (services) Oy, and a huge variety of small and medium size businesses ranging down to self-employed craftsmen.