



Understanding transnational information systems with supranational governance: A multi-level conflict management perspective [☆]



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ABSTRACT

Management of transnational information systems (TIS) faces major challenges, as the diversity of both organizational and national contexts provides increased potential for conflict. This is even more so, especially in the case of supranational TIS, where an additional source and layer of potential conflicts is added by a supranational body, such as the EU, which can impose TIS by law. This paper seeks to explore "how to understand conflicts that occur when developing and implementing supranational TIS." Understanding conflicts can help TIS managers to take proactive, rather than reactive, measures to handling conflict situations that they encounter. We propose a multi-level conflict management framework and utilize an interpretive case study methodology to demonstrate how it can be applied in the context of one supranational TIS (a transit system that was introduced in the EU), taking the management perspective of one national government (here the Netherlands). Our findings indicate that the national government simultaneously faces multiple conflicts as it is positioned between the supranational body, its own IT department, and national businesses. Unlike TIS studies reporting avoidance as a viable strategy in the early stages of TIS development, our study implies that when the deadline approaches, there is little room for avoiding conflicts; rather, they are faced and addressed promptly. This study provides a novel theoretical perspective to analyzing TIS management, and contributes to the efforts of developing methods and tools to aid TIS managers in their practices.

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1. Introduction

Transnational information systems (TIS),¹ or systems that "transcend both national and organizational boundaries" (Cavaye, 1998, p. 17), are increasingly being introduced in practice. Examples include international payment systems, systems linking public administration agencies, international traffic control and logistics systems linking different countries

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¹ The term Transnational Information Systems (TIS) appears also in the research on multi-national corporations. In this paper, however, we adopt the definition of Cavaye (1998) and the related TIS research, as it encompasses elements of both inter-organizational systems (systems crossing organizational boundaries), as well as national boundaries, especially as this corresponds closely to the empirical phenomenon of our investigation.

(Cavaye, 1998). In the area of eCustoms in the EU, for example, we see a proliferation of TIS systems that are currently being introduced to control cross-border trade activities (DG TAXUD, 2008). These eCustoms systems can be seen as a specific type of TIS, which are characterized by supranational governance (we will refer to them as supranational TIS), as their development and adoption are driven by a supranational body (EU) and the Member States are obliged by law to adopt them.

The eCustoms systems in the EU are an interesting TIS phenomenon for investigation: they affect all 27 Member State governments and trading businesses, and are of an enormous scale and impact. For example, an impact assessment study related to the introduction of only one such supranational TIS (the Export Control System (ECS)) in a single EU Member State (UK) reveals that the ECS will affect 83,000 businesses, of which 5%, i.e. around 4000 firms, will need to make adjustments to their IT systems to report the data. The remaining 95% are expected to be handled by around 1500 agents, who will have to make adjustments to their systems. The estimated costs are a one-time investment of up to £ 6.6 million transition costs for affected stakeholders, and additional average annual costs of up to £ 1 million.² These figures refer to one system and one Member State only. The effects become even greater when we take

² Impact assessment of the Export Control System (ECS). Available online at: <http://www.hmrc.gov.uk/ria/ia-ecs-july09.pdf> (last accessed 12 March, 2015).

into account that all 27 Member States are obliged by law to implement these systems. Furthermore, next to the Export Control System, a number of other TIS are being introduced in parallel.

In addition to costs related to the development and maintenance of interfaces, the system also introduces dependencies in the logistic processes of businesses, as they have to wait for a reference number generated by the government system before they can ship the goods (Baida et al., 2007). However, the disruptions can potentially be much worse than that, as Customs Authorities play a key role in cross-border trade activities. An example of the introduction of one eCustoms system (the Integrated Cargo System) in a single country (Australia) shows that a failure in the system can bring a whole economy to a halt:

“The failure of the new integrated cargo system implemented by the Customs Service a week ago has produced “a catastrophe” on the wharves of Melbourne, Sydney, Brisbane and Perth,” says Steve Morris, executive director of the Customs Brokers and Forwarders Council of Australia. “There is a clear and present crisis,” Mr Morris said. “Freight cannot be cleared by stevedores or put through quarantine and security because faulty data is being returned by the system. Containers are backing up at freight terminals all over Australia, operators are facing huge penalties for storage and for failure to deliver goods on time Transport operators are also being hit and are reassigning trucks rather than lose money by having them wait for freight that does not clear”.³
[Barker, 2005]

The Australian case refers to one system and one country only; one can only imagine what the gravity of a failure of eCustoms systems would be in the case of the European context, keeping in mind that the supranational TIS span across all 27 Member States and that the economic activities of the whole EU could be disrupted.

Over a decade ago Cavaye (1997, 1998) pointed out that most individual TIS were being developed on an ad hoc basis and that there were no general techniques, tools or guidelines to aid development of systems involving independent partners from different organizations and nationalities. It was surprising to us that apart from a handful of contributions, this area still remains largely unexplored, despite the growing number of TIS being developed and despite their enormous scale and impact.

In terms of management, the development and implementation of TIS pose great challenges. What makes TIS extremely complicated and difficult to manage is the diversity of both organizational and national contexts. Differences in customs, business practices and regulations across national borders provide for increased potential for conflicts (Cavaye, 1995; Kumar & van Dissel, 1996). Conflicts can disrupt the whole process, as partners may decide to withdraw or may become difficult partners (Cavaye, 1998). In addition, research indicates that differences and related conflicts initially tend to be ignored and avoided in order to get the TIS up and running; however, they do not get resolved and will reappear at a later stage (Cavaye, 1998). Conflicts are therefore inherent to the development and implementation of TIS. This is even more so in the case of supranational TIS, which are the subject of our investigation, where an additional layer of potential conflict is added: that of a supranational body, such as the EU, which can impose TIS by law.

Here we advocate that parties need to acknowledge the inherent nature of conflicts in the context of supranational TIS (rather than ignore or dismiss them) and make them part of their management practices. Making these conflicts explicit is a first step in that direction. A key question then becomes: *How can we understand conflicts that occur when developing and implementing supranational TIS?* More specifically, we seek to understand what defines a conflict situation, how parties act, and what influences their decisions for action. Answering these

questions will help TIS managers to be better aware of the conflict situations that they may encounter, and this will keep them better informed and prepared to develop strategies for actions, rather than reacting on an ad hoc basis.

In order to address the above, we propose a conceptual framework which combines multi-level analysis with theory on conflict management, and then we demonstrate how it can be applied in the context of supranational TIS. The framework can be seen as an initial contribution (focusing specifically on conflicts) to the establishment of a set of tools and methods that can help practitioners in managing the development and implementation of TIS. Our contribution to research is a novel theoretical perspective to analyze TIS management practices.

The remaining part of this paper is structured as follows. In Section 2 we provide an overview of related IOS literature, we discuss TIS management issues and highlight conflict management as an area posing managerial challenges and requiring further investigation. Second, we introduce our conceptual framework which combines multi-level analysis with theories on conflict. Our interpretive case methodology is discussed in Section 3. In Section 4 we present our case analysis, and the paper ends with a discussion and then conclusions.

2. Theoretical framework

2.1. Insights into the EU and the Dutch policy context

This study was inspired by the implementation of a supranational TIS in Europe, with a specific focus on one EU member state – the Netherlands. Before we go further into reviewing earlier IOS and TIS literature it is important to keep in mind the broader policy context in which the systems that are subject to our study were developed. This context reflects a broader process of European integration which has been going on for decades, as well as the underlying diversity of interest of Member States. In this light the role of Dutch Customs is discussed, also in relation to IT policies and systems.

In the post World War II era, a major goal was to reduce the risk of confrontations between European nations by moving towards a more integrated Europe. A starting point for this process was economic integration, where trade barriers between countries were removed. The European Union was established as a Customs Union. This meant that first of all, the internal borders disappeared and a common European market was created, meaning that the goods could travel freely within the EU without the need to pay import duties. The Community Customs Code⁴ is the legal framework that provides the basis for Customs affairs in the EU and it applies to all Member States. The duties that are collected by the Customs offices are mainly used to finance the EU budget, and the Member States handling the import formalities receive a fee for providing services to the EU. It is important to mention, however, that the power of EU legislation over the Member States is not so strong when it comes to indirect taxation, such as value added tax and excise.

The introduction of information technologies, and especially the Internet and mobile telephony, has enabled the development of the Information Society in Europe and has enabled further collaboration among businesses, governments and citizens. Within the context of the European Union (EU) this sector represents nearly 4% of employment in the EU. The EU actively promotes the development and dissemination of new information and communication technologies (ICT), in accordance with Articles 179 to 180 of the Treaty on the Functioning of the European Union (TFEU). Moreover, Internet usage is widespread throughout the European Union (EU). Over one person in two uses the Internet on a daily basis within the EU.

The development of EU-wide customs systems can be seen in the light of this European integration between EU member states, as a way for Member States to exchange and share customs information

³ Barker, J. (2005). New Customs IT cargo system fails to deliver, available on-line at: <http://www.theage.com.au/news/national/new-customs-it-cargo-system-fails-to-deliver/2005/10/20/1129775901865.html> (last accessed 12 March, 2015).

⁴ Since 2013 has been renamed Union Customs Code.

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