TRUST AND TECHNOLOGY IN ELECTRONIC INTER-ORGANIZATION RELATIONSHIPS

Abstract

Relationships among individuals or organizations have always been playing a relevant role in their private, social or business lives. Nowadays, this role has become fundamental, as people and organizations are often centred on creating, developing and maintaining relationships. Usually, there are several components that can influence relationships. The most important component is the trust level among the parties. According to Chiles and McMackin (1996), trust is a key factor for relational exchange.

In literature, there are several studies that give a definition of trust or make a review in order to find a common definition among several contexts; i.e. sociological, psychological, organizational and computer science (Rousseau et al. 1998; McKnight and Chervany 2001, Kramer 1999, Mayer et al. 1995). Levi (1998) writes: "Trust is not one thing and it does not have one source; it has a variety of forms and causes". Some authors consider trust as a result of a combination of beliefs, attitudes, intentions and behaviours (Bhattacherjee 2002), while others see trust only as a risk liability (Mayer et al. 1995).

From the organizational point of view, trust is strongly linked with opportunistic behaviour (Chiles and McMackin 1996). If there is a high perception of trust, the parties can adopt less elaborate safeguard rules. The opposite is also valid. If we consider the transaction costs theory (Williamson 1985) and the agency theory (Eisenhardt K. 1985), transaction costs and agency costs are meant to protect against and to control the potential opportunistic behaviour of the other party involved.

Due to the continuous expansion of IT technologies and the enormous diffusion of internet, it is possible to distinguish between two kinds of relationships:
- Traditional relationships that take place in ordinary life in which information technology plays a marginal role. In this case, we can speak only of two concepts of trust: institutional (McKnight, 1998) and social (often defined as customer trust) (Granovetter, 1985).
- Digital (or online) relationships that are strongly IT based. In this context (E-business/E-service/E-commerce) IT influences the institutional and social trust concept. Additionally to this occurs also the concept of technological trust (trust in technology) (Reeves and Nash 1996, Misiolek et al. 2002, Ratnasingam and Pavlou, 2002)

This work pays more attention to digital (or electronic) relationships. For this reason, it is important to understand the role of IT and how it can increase the trust perception or the opportunistic behaviour control, using an interpretative approach of design research and viewing the relationships among the organization through the TFI (Technical, Formal, Informal) model, as show in figure 1.
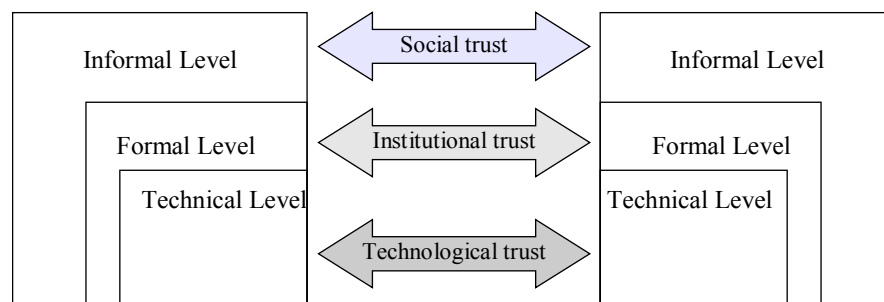
Figura 1.   *The relationships between the three trust concepts and the TFI levels*

This work does not consider the IT mechanisms that improve the institutional or social trust level (i.e. feedback mechanisms that aim to improve the subject reputation); instead it concentrates upon those mechanisms that act on the technological trust level. Related to this point it starts from the seven IT mechanisms classification defined by Ratnasingam (2002) and defines another taxonomy formed by three classes: the access, the transfer and the management of the information. It considers only the first one, and the federated authentication and authorization infrastructure (Federated AAI) as security mechanism.

This work proposes the adoption of this specific AAI in a conceptual case (virtual organization) and in a real case (LD-CAST[1]).

At the end it presents an analysis of 25 cases of federated AAI adoption in four main contexts (e-gov, educational, e-health and e-service) and their relative motivations linked with tangible and intangible aspects.

In the future step this research aims to analyze how the use of federated AAI combined with biometric system can influence trust user's perception.

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[1]LD-CAST (Local Development Cooperation Actions Enabled By Semantic Technology) – this project aims at enabling cross border cooperation between European chambers of commerce (CC) in order to support the development of private company initiatives. The project will build a European network of LD-CAST Portals that will enable end users (mainly private companies) to access in a seamless mode the services provided by public organisations registered in each LD-CAST portal

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