

INFUSING TRUST IN RELATIONSHIP BUILDING WITH AGENT-ORIENTED INFORMATION SYSTEMS

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In e-commerce, the role of customer relationship building becomes prominent, with the formation of trust between any parties being the essential prerequisite. Designed around principles derived from a series of trust related constructs, agent-oriented information systems could provide the environment and facilitate the expressiveness demanded for the establishment and support of lasting commercial relationships.

PROBLEM STATEMENT

The frantic pace of Internet commercialization has turned e-commerce into a battlefield for business prevalence. The compression of time and space and the instant access of consumers to information precipitate unprecedented discontinuities in the conduct of business. Consumers that are able to choose and to act on their choices with the click of a button have forced organizations to realize that even a strong brand name is vulnerable and cannot safeguard profit levels. To leverage the full potential of business-to-consumer e-commerce, companies have to focus on finding novel approaches for building strong and long-term relationships with the global consumer.

The cornerstone for a successful and lasting relationship with the customer is *trust*,

especially during the initial fragile phase of its establishment, when the perception and disposition of the customer is inherently fluid. It is during this short time period that the infusion of trust could determine the customer's future behavior and ensure loyalty towards the business. According to McKnight *et al*, (1996), the formation of trust starts with *trusting beliefs*. These lead to *trusting intention*, which in turn becomes manifest in *trusting behavior*. Customer perceptions of a vivid e-commerce experience [trusting beliefs] should thus be carefully managed to make the customer develop a consistent disposition towards the business [a trusting intention], so that he/she will be induced to engage in the online buying process in a repeated manner [a trusting behavior].

Web sites should be transformed to customer-centric servicescapes, offering a digital experience that should contribute towards the development of an indelible relationship between the business and the customer. Such a servicescape should integrate the separate but partially overlapping functions of making, enabling and keeping customer promises [Wanninger *et al*, 1997]. As this environment allows for iterative reciprocal interaction, it is considered ideal for the evolutionary nature of trust formation based on the fulfillment of made promises. Leveraging a customer's pre-existing trusting beliefs, a promise such as the provision of a product or service is made aiming to augment the customer trusting intention towards the servicescape. Keeping the promise is fundamental in nurturing a customer's trusting beliefs in leading to a repeated use of the servicescape. It is through this cyclic interactive process, and the intertwining of promise fulfillment and trust formation that customer loyalty eventually is achieved.

In conjunction with a set of principles stemming from a thorough understanding of the above series of trust related constructs, agent orientation can inform the design of information systems serving such environments. The personalized,

autonomous, adaptive and proactive nature of agents provides for the high level of interactivity and expressiveness that is needed for an effective and fulfilling customer experience within the e-servicescape, leading to a trusting relationship. Using agent concepts and techniques, an implementation of such a servicescape will be a three-dimensional virtual environment aiming not only to be an alternative to the physical experience, but also ultimately to surpass it.

RESEARCH QUESTIONS

Initially, agents facilitate customer navigation and action within the virtual servicescape contributing to the creation of an illusionary sense of a realistic spatial commercial context. By being consistent with the customer's mental model of the physical shopping experience, the virtual environment allows for the preservation of existing trusting beliefs about the business. This results in a trusting intention to use agents, culminating to a trusting behavior, and hence loyalty. We believe that there are two key research themes emanating. These are:

- ❑ In what ways and how the principles derived from the trust related constructs, and those described by the agent paradigm could inform the design of the virtual servicescape?
- ❑ What sort of business services could be provided through the servicescape, and how should its performance be evaluated in terms of added value to the business?

Regarding the first, research should focus on how the bi-directional communication between the business and the customer could be enhanced using agent-oriented techniques. More specifically, it should be examined how agent-orientation extends the current level of expressiveness offered by conventional systems and applications to include conceptualizations of trust and promises. For example, avatars or different

kinds of actors representing customers in the virtual e-commerce world can be implemented as agents, supporting the customer through all the stages of the buying process according to the Consumer Buying Behavior (CBB) model, or acting as consumer surrogates using predefined criteria to perform shopping-related activities [Maes *et al*, 1999]. Once the servicescape is in place, the products/services offered though it should be defined in relation to macro business goals and objectives. With the objective of establishing trust and offering a more sophisticated form of experience, research should examine the viability of such services as mix and match service and product offerings from business partners or even competitors, and the creation of customer communities endorsing communication between existing and potential customers.

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