Executive Summary
Nascent Research

Project Title    Supplier-Customer Relationship Factors Leading to RFID Adoption and Usage
Project Leader  Professor Frederick J. Riggins

Main Objective
Develop a model of relationship factors to predict the adoption and level of usage of Radio Frequency Identification (RFID) technology by a set of suppliers of a major business customer. Specifically, the model will examine the best approach that a customer should use with its suppliers to encourage adoption and use of RFID technology when the customer can actively or passively encourage trading partner adoption. The model will include factors associated with the perceived level of trust in the relationship, the uncertainty of the future business relationship, the approaches used by the customer to encourage adoption, and the level of reciprocal investments made by both the supplier and customer. This research is based on prior research on supplier-customer relationship factors leading to the adoption of electronic data interchange (EDI). One of the objectives of this research is to determine what principles learned from trading partner management within the EDI context are transferable to the RFID context.

Research Questions
• What relationship climate factors are important for predicting the adoption and usage of RFID? What RFID-specific factors are important for predicting the adoption and usage of RFID?
• Under what conditions should a customer use positive incentives (carrot) versus negative threats (stick) to persuade suppliers to adopt and use RFID? Do the two approaches result in different results in terms of simply adoption versus more value-added usage of RFID?
• How are trading partner incentive mechanisms different in the EDI context compared to the RFID context?
• To what extent does prior usage of interorganizational system (IOS) technology, such as EDI, impact adoption of RFID?

Description
EDI required direct cooperation between trading partners to achieve benefits from the IOS technology. While RFID is not an IOS technology, it is an IOS-enhancing technology where more benefits can be achieved from the technology when trading partners cooperate. Recently several major retailers and government agencies have mandated adoption of RFID with their suppliers. Much research has been done on trading partner adoption of EDI and we believe much of what has been learned there may be applicable to trading partner management policies for RFID. That research showed that the customer’s reciprocal investments in the form of technology-related support increases usage of the technology. However, whether the customer used the carrot versus stick approach resulted in different motivations to adopt the technology versus how the suppliers actually used it. In the proposed research we will conduct a survey with a major customer’s suppliers to determine the suppliers’ attitudes toward adopting and using RFID in cooperation with the customer. All responses to the survey by the suppliers will be kept confidential from the customer to encourage survey participation. Only the overall aggregate findings of the study will be communicated to the customer.

Potential Outcomes
1. Identify when customers should use the carrot or stick approach in dealing with their suppliers to encourage RFID adoption and usage.
2. Identify the factors that lead some suppliers to adopt and use RFID while other suppliers are more resistant.
3. Inform managers about trading partner management policies to encourage technology adoption and use.

Funding Requirements and Timetable
This research does not require any funding at this time, however the backing of a major customer is needed to encourage supplier participation in the study to facilitate improved respondent participation.