MIT SCALE RESEARCH REPORT

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The Global SCALE Network allows faculty, researchers, students, and affiliated companies from all six centers around the world to pool their expertise and collaborate on projects that will create supply chain and logistics innovations with global applications.

This reprint is intended to communicate research results of innovative supply chain research completed by faculty, researchers, and students of the Global SCALE Network, thereby contributing to the greater public knowledge about supply chains.

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RFID in Retail Promotion
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Executive Summary

A large portion of the retail business today is being driven by promotions. Retailers on an average earn between 12%-15% of their revenue through in-store promotions. Many studies have shown that the returns on trade promotions are not very satisfactory. Suppliers would normally employ merchandisers to check the stores on a periodic basis to make sure that the promotions are being executed properly. However, it is difficult to identify poor promotional execution as suppliers can only check a limited number of stores.

Wal-Mart, Target and few other large retail chains have made it mandatory for its suppliers to place RFID tags on every case and pallet delivered to them. Most of these retail giants do not offer any information to the suppliers on direct benefits of implementing RFID; instead, suppliers must find their own return on investment from the technology. Understanding how to use the RFID data is the one of the key factors to maximize return on investments.

Initially when implementing RFID, many suppliers choose lowest cost solutions and placed tags on every case with little thought to the read rate further along the supply chain. However, suppliers are now understanding the importance in accuracy of read rates and the value that can be extracted from achieving higher read rates.

In order to maximize return on investments, suppliers and retailers want to investigate:

- How RFID be utilized to enhance the execution of promotions in the Retail industry?
- How do suppliers and retailers benefit from RFID based promotion execution?
- How do read rates influence the value of RFID information on promotions?
To answer these questions, we have developed quantitative models, which determine and analyze, under various conditions, the benefits suppliers and retailers will have. Analysis is also done on the effect of imperfect read rates have on the value of RFID in promotional execution.

We concluded that a small increase in read rate can generate a substantial increase in revenue. However, the cost of improving read rate must be calculated to see what percentage of read rate would show a positive return on investment. We also showed the expected increase in profits the supplier and the retailer would have after sending personnel.