

Radio Frequency Identification (RFID) Technology: A Competitive Value for Logistics Management.

The Radio Frequency Identification is an emerging tool for automating identification and inventory management in logistics.

It refers to the use of wireless non-contact system that uses radio-frequency electromagnetic fields to transfer data from an Electronic Product Code attached to the object, for the purposes of automatic identification and tracking.

In RFID, the Radio frequency portion of the electromagnetic spectrum is used to transmit signals.

This system consists of an antenna and a transceiver, which read the radio frequency and transfers the information to a processing device and a transponder which contains the Radio Frequency circuit and information to be transmitted.

The antenna transmits the information to the reader that converts the radio waves into digital information that is passed to the computer analysis.

Today, there is an increasing demand for RFID by many business organizations.

Therefore, let's have a look about some of the driving factors why organizations are keen on making them RFID enabled.

First comes the Security

Consumers are demanding more secured and accurate information for the safety and security of humans, pharmaceuticals, food, and other valuable and highly mobile assets. The safety and the security can be increased through implementation and proactive positioning.

Global Standards

Much progress has been made creating global and industry standards , increasing compatibility and Returns on Investment.

Maturing Technology

The increased read ranges / accuracy, better anti collision techniques, declining infrastructure and hardware cots, provides greater abilities to integrate systems seamlessly.

RFID has been more immediate and available to many industries through breakthroughs in active real time locating systems.

Mandates

The US Department of Defense, Wal-Mart, Target, Albertson's and Tesco were the pioneers to issue mandates for RFID compliant shipments. These mandates trickled down to all supporting industries and companies that support these large organizations.

BENEFITS OF RFID TECHNOLOGY IN BUSINESSES

Benefits, let's see what benefits an organization can enjoy with RFID

Automatic Non-Line-of-Sight Scanning

The most attractive offerings is the Automatic non line of sight scanning which does not require particular orientation for scanning. This characteristic provides many benefits throughout the supply chain.

They can communicate with tags in milliseconds and scan multiple items simultaneously. This will also aid to automate many supply chain activities that have typically been labor intensive.

Labor Reduction

The automation of supply chain activities reduces the labor to a greater extent.

A research conducted by Katrina Michael and Luke McCarthy of the **University of Wollongong in Australia,**

The cost of labor amounts to 50 to 80% of the total distribution cost in a typical distribution center.

Further research revealed generally 60 to 93% of the cost of receiving and cost of checking could be reduced through RFID.

This shows even a small reduction in the labour delivers a considerable amount of savings.

Enhanced Visibility

The RFID technology equates a greater visibility for all stakeholders in the supply chain.

Improved visibility lowers the distribution and handling costs whilst reducing the levels of inventory.

Inventory visibility can also be used for faster response to customer demands and market trends.

Real time Inventory Information

Real-time inventory information are important for inventory optimization and decision making which helps to prevent stock outs, locate stock within a store and enables more yield effective pricing strategies.

Integrated Opportunities

RFID offers new and unlimited marketing opportunities. Tracking customer purchases before they leave the store offers information that can immediately be used for the cross selling of related other products.

Improved overall supply chain performances

RFID Improves overall supply chain performance providing managers with real-time information for enhanced decision-making.

Further it enables effective Materials Management & Inventory Control reducing bottlenecks and minimizing overstocking.

Strengthen customer, supplier relationship

The Customer-supplier relationships will be improved by fostering communication and information-sharing between business firms, suppliers and customers. The two-way communication makes it possible for timely shipment of orders which is a key priority for customers.

CONSUMER BENEFITS

Consumer Savings

Most notably, consumer savings will result with decreased costs in the supply chain.

Manufacturing companies approach supply and demand in the only way that they know.

They produce goods based on historical information and trends. Historical information and trends are by no means an exact science.

Conversely, RFID allows companies to match their demand and supply better. Vast quantities of products will not be produced and retailers will not overstock excessive amounts of products destined to be held in the inventory.

Authenticity and Improved security of prescription drugs

RFID can also be used to distinguish genuine products from counterfeit products.

It's a key consumer benefit given that counterfeits could contain decreased dosages and elements as opposed to the genuine.

Consumers have no fool proof method of vetting their prescriptions which could lead to potential health issues associated with ingesting counterfeit drugs.

IMPLEMENTATION BARRIERS

As we see the potential applications are numerous, it is essential to address the industry and the consumer perspective issues and mandates resulted as barriers for implementation.

The common mistake made by organizations is the assumption of cost of acquisition as the main cost of implementation.

As implementation standards remain in the early stages, the largest cost of implementation is the cost for professional services like,

Consultancies.

Architectural designs

Platform selection,

Integration, installation and management

Lack of Industry Standards

The use of RFID is not something new however; it is very recently an industry-wide adoption of the technology was developed. Therefore, lack of industry standards remains as a major challenge in implementation.

Further, implementation has been hampered by high costs and unreliable hardware, resulted in organizations being reluctant to invest heavily until worldwide standards are established.

CONSUMER-GOODS SUPPLIERS AND MANUFACTURERS

Poor understanding about the approaches to integrate the technology into the existing IT infrastructure has become another implementation barrier.

Implementation is specific to companies based on their size, industry, and relationships with other business organization.

The use of RFID tagged products by manufacturing companies will have different implementation needs than retail companies that receive these products.

Manufacturers, will initially be concerned how to modify their warehouses and production lines, while retail companies will initially be concerned with processing the data received from the RFID tagged products.

Manufacturing companies to implement approaches to satisfy their business needs. Without a clear understanding about the different approaches required, the organizations will remain resistant and do not overcome barriers to implement technology in their business operations.

RETAIL ORGANIZATIONS

The real value for Retail organization come from how the information derived from RFID tags and systems are applied to enterprise applications that control core business processes.

To realize the benefits, they should upgrade their IT infrastructure in a number of areas, and their interfaces with other business will have to be closer.

In addition, centralizing the functionalities and integrating with legacy systems will require a new level of integration capabilities.

Therefore, implementation becomes difficult with new data sources, processing mechanisms, recipients, network capabilities, where none were previously needed and a new category of devices to communicate with and manage.

RFID creates huge volumes of data as many as 10 to 100 times than conventional barcode systems causing a huge increase in the daily volume of data on the corporate IT system.

Even though, manufacturers and retailers prepare to embrace RFID ,the knowledgeable consumers are reluctant.

The misconceptions about the technology has created tremendous privacy concerns that are preventing consumers from accepting the new technology.

Retailers claim that they are applying RFID to track and trace goods from the manufacturing plant to the store and onto the shelf.

They also claim that it is about product data, not customer data. Many informed consumers claim the technology could endanger privacy by allowing remote tracking of people and what they own, carry or have bought.

Ladies and gentlemen with this I conclude my presentation and thank you very much for patience hearing.