

RETAILING STUDY TO BENEFIT RFID PRODUCTS DESIGN

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ABSTRACT

As widely known- retailing is a business of low margin and high volume. The initial euphoria and hype of this business is getting over by now, and “survival of the fittest” phase has started. Moreover, with the entry of big international players like Wal-Mart, Metro and others, the competition is getting further intensified. Thus, the retailers are forced to look into avenues which would help them bringing down costs and improve their supply chain efficiencies. One of the promising tools for this is RFID - which has shown great potentials to enhance the inventory visibility across the entire retailing chain.

This paper talks about a study being conducted in the Indian Retailing Industry – to know the expectations of Indian retailers from the adoption of RFID into their business. The outcome of the study should be helpful in two ways – the retailing players to know the current status of RFID adoption in their industry and plan out their future strategies, and for the RFID product /systems designers - to cut out their products and services exactly to suit the industry needs.

Keywords : Retailing, Product Design

1.1 Background –

Radio Frequency Identification (RFID) is one of the promising technologies of recent years. It is evolving as a major enabler for tracing & tracking of goods and assets around the world. Several reports from books, journals, and studies have revealed multiple benefits of this new technology to the prospective users. Thus, the RFID technology is expected to revolutionize the conventional supply chains, making them real-time and more efficient, with near-total visible inventory across the material flow.

Success of pilot projects and rollouts by retailing giants like Wal-Mart, METRO has raised great expectations in this industry for improving their supply chains. Anticipating the potential benefits, almost all major retailers in the advanced world are setting up timelines for the adoption of RFID across their supply chains

In the Indian context, the organized retailing is growing at a very fast pace in recent years. Not only the local players, but several MNCs are rushing to grab the lucrative Indian market, mainly in the urban areas. In order to remain competitive in the crowded market, the players are striving to offer more and better services at lesser prices. Thus, sooner or later, the retailers in India are compelled to follow their global counterparts, by adopting RFID technology for making their supply chains more efficient and transparent.

Several studies are carried out in the advanced world, revealing the current status of RFID technology adoption, problems faced by them, factors responsible for fast or slow adoption, and in general the mindset or expectations of the potential users. However no such data is found in the context of the organized Indian retailing industry. Taking a cue from the international studies, a research in Indian retailing industry is undertaken here, to seek an answer on the current stage of this RFID innovation, its constraints and critical success factors for implementation and widespread adoption.

1.2 Purpose of the study –

The first major organization to adopt RFID in retailing supply chain was Wal-Mart of US. Their target till 2007 was to rope in 800 suppliers into the RFID fold. Their extranet - *Retail Link*, enables suppliers to access information about their shipments in the entire supply chain, within 30 minutes of the RFID tags being read¹. Another giant retailer – Metro Group of Germany has declared its target of equipping 800 of its stores to receive RFID tagged deliveries by Jan. 2007². RFID is being explored by many other leading retailers like Carrefour, Tesco, Target, Mark & Spencer extensively.

According to Accenture, RFID solution can increase inventory turns by 10 to 15%³. Greater inventory turns facilitate capital resource optimization, increased margin procurement and significant reductions in

¹ Computer World, March 7, 2005.

² RFID Journal, 26th October 2006. (www.rfidjournal.com/article/articleview/2772/)

³ PSC White paper: Evolution or revolution? Bridging the gap between barcode legacy systems and RFID in the retail supply chain, 2003. (www.pscnet.com)

obsolete inventory levels. Such high benefit of RFID would greatly impact the operating results of a business organization, making it more competitive. In today's competitive business scenario, the business war is not between retailer A and retailer B, but between the entire supply chain of retailer A with that of B. The basic aim while designing a market oriented supply chain is -how does one meet the single most objective of "Customer getting right product, at right time, at right price" This is possible if his supply chain is working at full efficiency level, capturing and utilizing the material flow data across all levels in the chain.

A secondary data is therefore gathered on the experiences of global retailers on their RFID technology adoption, and then similar research study is being conducted to investigate what is happening on this front in the Indian organized retailing industry and to address related issues such as awareness level, critical success factors responsible in the process of adoption, cost of implementation vis-à-vis likely benefits, perceived risk in early adoption etc.

The outcome of this research study should help the prospective users of RFID technology (viz. organized retailers) and the vendors of hardware and software, to strategize their actions for faster adoption of this technology, with the ultimate objective of enhancing supply chain performance.

1.3 Issues being dealt in this research study:

1.3.1 Most Ideal KPIs for the Retailing Business :

To become result oriented, cost-effective as well as customer friendly, a retailing operation needs to ideally set first some key performance indicators (KPIs) for its own evaluation. Such KPIs can be in multiples and may vary from the top strategic functional level, to the tactical level, to its day-to-day operational level. Hence, this research tries to identify the KPIs set by the retailing executives, as their own targets. SCOR (Supply Chain Operating Reference) Model propagated by the Supply Chain Council offers wide range of such KPIs.

One subtle objective here is - to find if RFID technology can really provide any help or solution, for improving the measurement of such KPIs.

1.3.2 Current Status of RFID adoption in Indian Retailing:

Any new technology takes its own time to percolate down the industry, depending on various factors. Hence, it is proposed to find the exact status of this RFID technology adoption in the Indian retailing industry. Everett Roger has done a great work in this regard in his famous book "Diffusion of Innovation". Based on this analogy, this research takes the stock of current situation w r t the RFID adoption in ORI. Such status positioning would help provide basis to the industry leaders to take stock of the current situation and then plan accordingly for further suitable actions.

1.3.3 Expectations of the potential RFID users in Retailing:

Any expensive technology adoption like RFID would not be welcome by the industry, unless it serves a definite purpose and gives substantial additional benefit over current practices. Hence, we would attempt to find from the retailing industry – What exact expectations (or benefits) these retailing executives have in their minds, and wish to get them fulfilled. Further, this technology adoption being a long drawn program, what would be their utmost priorities in such expectations?

1.3.4 Assessing feasibility of the adoption of RFID :

Finally, the industry would not go ahead and pursue RFID technology adoption unless one finds concrete evidence showing that it meets the expectations or targeted purposes. Hence, final objective of the study is - to assess the feasibility, whether the adoption of RFID technology would meet the expectations of the ORI in enhancing their supply chain efficiency performance.

1.4 : Benefits of this study to the Industry

This study is being carried out with a definite purpose in mind that eventually it should benefit the 2 segments of the retailing industry –

1.4.1 The retailing players would come know the present status of this new RFID technology adoption in their industry, how is it progressing and accordingly how they should plan out their future strategies, either to take first mover advantage or not to lag behind the competitors.

1.4.2 The RFID Product /Systems Designers, to cut out or design their products and services exactly to suit the industry needs and expectations.

1.4.3 Besides above, the study would attempt to address the secondary issues like:

- The possibility of collaborative practices among the technology vendors and potential users i.e. Retailers,
- Required infrastructures that may support its practical implementation.

Conclusions:

Pilot Study of the above research is completed and full scale survey is underway. The analysis of the data collected so far leads to primary conclusions on the following lines-

1. Indian Retailing Executives, for evaluating the performance of their retailing supply chains, have proposed KPIs in the areas like - Inventory, Timely Responsiveness, Revenue Collection, Qualitative Aspect of Delivery .
2. Some Retailing Managers follow their own proposed KPI's. Others do not follow, or are unable to follow because of non-availability of suitable mechanism, to capture the appropriate data in desired manner.

3. The awareness level about RFID technology, it's functioning and benefits are steadily rising among Indian Retailing Executives.
4. Indian Retailing Executives expect following benefits from RFID adoption in their supply chains -
 - (a) SKU Traceability across the entire retailing supply chain
 - (b) Improved inventory management
 - (c) Reduction in "Out-of-stock" situations and thereby increasing revenue.
 - (d) Reduction in human errors, thefts, shrinkages etc.

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