Implementing RFID in your organisation - A roadmap

Martin Green, Unipart Solutions Practice

If you are hoping that by ignoring RFID it will go away, be careful. A year ago, there was intense activity and interest in the subject. Both Tesco and Metro issued plans to their suppliers about RFID and every other conference was full of case studies. Wal-Mart mandated RFID for their suppliers, to be implemented over a period of time. Tescos, Metro and Albertsons made similar announcements. Now you could be forgiven for thinking that it is all a lot of hype and that pressure for you to implement RFID is declining.

Don't be fooled. It is simply that attention has switched from talk to action and that some of this action is in the background. Lessons have been learned from some of the early trials and energy is being devoted to putting some of the basics in place. For example, in the grocery sector, agreement on standards is only now being completed. These (the so called GEN2 Standards) are due to be ratified early in 2006. Adoption of these standards will have a significant impact on the industry as they are an open standard. They will be available from many equipment vendors and therefore prices are expected to drop. They are also recognised at a global level and will soon have ISO accreditation. In the meantime, Wal-Mart is keeping up the pressure in the US. Having mandated RFID tags from its top 100 suppliers during 2005, it is now moving onto the next 200 suppliers in 2006. At the same time it has published results from an independent research study showing that products with RFID tags had between 11% and 16% fewer Out of Stocks than untagged products. Results like this will only encourage other retailers to follow.

In the aviation sector, these background technical discussions are only just starting and will take a number of months to resolve. This follows a number trials using RFID tags for tracking baggage. Clearly this can only be effective if there is agreement on standards at a global level. These discussions involve the airport operators, carriers and government departments. However, once completed, they will facilitate the use of RFID for baggage tracking around the world.

In the healthcare sector similar work is being undertaken to allow item level tagging to control prescription drugs and prevent counterfeiting.

In short, most organisations operating in key sectors such as retail, airline, healthcare and logistics need to be prepared, even if they are not yet 'enabled'.

But how do you get an organisation prepared to face this technological challenge? After all, you may have looked at this a year ago and decided there was no business case. Your customers may have said nothing for a while (maybe they are working with your competitors?) and the last conference may have told you that the technology and standards were still developing.

It may also be that RFID has no apparent home in your organisation. The impetus needs to come from somewhere else. For example, the logistics department may claim there is no benefit over bar codes, the IT department doesn't want to destabalise their systems and marketing don't want to run the risk of upsetting consumers who are suspicious of tags. The impetus needs to come from somewhere.

Unipart Solutions Practice have developed a simple six step process that lays the foundations for evaluating and implementing RFID in your organisation, without committing to expensive infrastructure and software. (See figure 1.) The six steps can be followed more or less sequentially and at a pace that suits the needs of your business. The aim is to undertake as much of the 'groundwork' as possible before a major customer demands compliance in an unrealistic timescale.

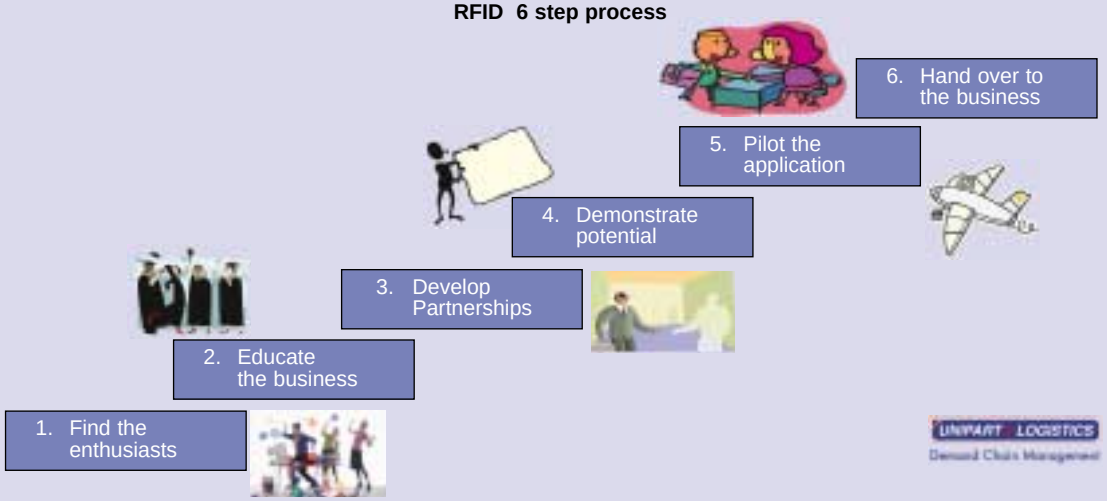
Furthermore, the business can set its own criteria for when it wants to move from one stage to the next.

STEP 1 FIND THE ENTHUSIASTS

Every organisation has them. People who are prepared to experiment, try something new, challenge the *status quo*. They may be individuals who have already read about RFID and have a basic knowledge. They may already have some ideas. They may be just 'free thinkers' or 'techno geeks'. They are as likely to come from the marketing department as they are from production or IT. The objective is to create a core of people that will form the first seeds of a change programme. This group becomes a 'community of interest' with a mission:

- To ensure there is a basic level of knowledge and understanding amongst that group and to exchange information on latest developments.

Figure 1



- To help develop the strategy for preparing the business.
- To go into the business as ambassadors, trainers and enthusiasts
- To generate initial ideas.

This group may well develop into a 'steering group'.

STEP 2 EDUCATE THE BUSINESS

This is the first step in raising the awareness of RFID in the business. This can be done either by setting up a small exhibition or developing a series of 'roadshows'. It covers general points like:

- What is RFID?
- Why is it important?
- What challenges does it raise for the business?
- What are the benefits
- What is the business doing about it?

This education programme should touch all levels of the organisation, including the board.

STEP 3 DEVELOP PARTNERSHIPS

When implementing RFID, companies need to establish working relationships with a number of parties. Apart from their customers (who may be demanding RFID), it will be necessary to have:

- A hardware supplier (tags, readers etc)
- A software supplier (for handling the interface between the readers and your own systems)
- Standards bodies who are defining technical requirements within industry sectors.
- Consultants and business analysts to advise on technology and business issues (if you do not have the resources or skills in-house).

These partners will help you develop a strategy, business case and support early trials (see steps 4 and 5). As with all business partnerships, finding the right fit is critical. Your current systems supplier may already have the appropriate contacts. If not, a more rigorous selection process may be required. Companies are increasingly offering integrated services, or are forming their own networks to offer a one stop shop. One approach, introduced by Unipart, is called 'RFID in a box'. This is a basic 'starter kit' consisting of hardware, software and technical advice that companies can deploy on an experimental basis on their own sites. It enables them to move on to step 4 below by demonstrating the opportunities to their business colleagues.

STEP 4 DEMONSTRATE THE POTENTIAL

There are likely to be objections that 'RFID will not work in our environment'. This may be a valid argument where there are large quantities of liquid (e.g. drinks) or metal (e.g. racking or product in roll cages). However, design improvements can now overcome the majority of difficult environments. A simple demonstration can be set up in a corner of a warehouse to act as both an on-site example and to test the physics required to operate in your particular facility. This demonstration will normally be supported by a supplier at minimal cost. Equipment can be loaned for a short period while lessons are learned about the constraints of your particular operation.

Some companies have established demonstration 'supply chains'. These facilities provide an opportunity to both demonstrate the technology and (more importantly) identify which of the key business processes can be improved by the use of RFID. They provide an environment where managers can experiment with not only new technology, but new ways of working. This also provides an environment where managers have the opportunity to think about RFID in a wider context. We have

frequently observed that where management teams think of RFID simply as an electronic bar code, the expense of implementation is difficult to justify. However, when it is put in a wider context, different opportunities emerge. For example security, controlling counterfeiting, warranty management and asset management are all potential applications for RFID and provide far greater benefits then is possible with bar codes. Often managers need to have these opportunities explained and demonstrated before they can see the potential.

STEP 5 PILOT AN APPLICATION

Once the above steps have been completed, and when the time is right, you will be ready to move towards a pilot. This should be restricted to a small, low risk part of the operation. A pilot that is restricted to internal operations only may be an easy place to start. For example, several companies have started with simply tracking equipment such as totes. Pilots that involve minimal process change are also easier to implement, but are less likely to show a financial return.

More complex pilots may involve working with trading partners such as customers or suppliers. For example, some companies are already working with packaging and equipment suppliers to learn how best to embed RFID tags into product. Other pilots with customers have been used to demonstrate the opportunities and to help build a business case.

STEP 6 HANDOVER TO THE BUSINESS

Ultimately the business must take responsibility for developing RFID and the processes that it supports. This cannot be done by the community of interest or a steering group. The business units responsible must own the future developments and roll out of wider RFID initiatives. While the business units must take responsibility, they will inevitably need to call on the resources and expertise built up by the team involved in the pilots. As already indicated, the benefits of RFID may not be obvious to key players, hence the importance of the steps laid out above. More significantly, successful implementations may well require a 'cross functional' approach, involving purchasing teams, sales, marketing, manufacturing and logistics. Frequently projects of this nature are difficult to get off the ground due to lack of ownership. Thus there is a need to identify a 'business champion' at a high level in the organisation.

This six step process ensures that there is a core team of expertise that can facilitate further developments, support the business and develop new ideas when appropriate.

CONCLUSIONS

In spite of all the hype over the past three years, there is still a great deal of uncertainty about RFID.

- Is the technology reliable?
- Will I be forced to comply by my customers?
- How much will it cost? Is there a business case?
- What effect will it have on my business processes?
- What effect will it have on my systems infrastructure?

And there are many more questions.

This phased, six step programme has shown that a gradual approach to RFID can enable a company to develop its strategy on a step by step basis, with investment only taking place as confidence builds. More importantly it ensures that people in the business (both operators and management) are kept informed and involved at every step. In this way, you will not be 'on the back foot' when either a customer or a competitor forces you down the RFID route.

About the author

Martin Green is Senior Supply Chain Consultant – Unipart Solutions Practice. He has worked extensively in the retail and FMCG supply chain. Following 10 years as a consultant with Deloitte and Touche, he was appointed Head of Logistics Development for Asda, with particular responsibility for improving the performance of the depot network. During this period he worked extensively with a number of major suppliers on supply chain initiatives aimed at improving the flow of products into stores. Martin then joined Nestle UK as Head of Supply Chain Development. Here he was responsible for a range of initiatives including working closely with major customers on supply chain issues, including event management (especially promotions), data integrity and 'on-shelf availability'. He was on the development board for CPGmarket.com and also worked closely with Nestle SA developing a supply chain development academy for training managers around the world. Martin has played an active role in a number of industry bodies including ECR UK, FDF (Food and Drink Federation) Supply Chain Committee and the CILT (Institute of Logistics and Transport) Supply Chain Faculty. He is a Visiting Research Fellow at Cranfield University.