

High Performance Enabled through
Radio Frequency Identification
Accenture Research on Manufacturer Perspectives

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Over the last two decades, manufacturers have improved supply chain efficiency through a number of initiatives from Kanban and ISO 9000 to Six Sigma and Lean Manufacturing. Each one has delivered significant improvements. Now, with the advent of radio frequency identification (RFID) and electronic product code (EPC) technology, the supply chain is poised for nothing less than complete transformation. As the technology becomes ubiquitous, it will allow seamless communication across the value chain — from suppliers to end users. When that occurs, Accenture believes manufacturers can realize step changes in business performance by creating new and innovative business models.

To further the insights Accenture has gathered through nearly a decade of involvement in RFID/EPC, we launched a survey of manufacturing executives across consumer goods and pharmaceutical companies. Our aim: to determine how prevalent RFID/EPC compliance mandates are today, and to gauge manufacturers' views on how and where it will deliver the greatest payoffs. The study involved RFID/EPC decision-makers from major manufacturers in the United States and Europe, particularly the United Kingdom, Germany and France. A total of 80 companies were interviewed by telephone in April of 2004.

"The mandate was implemented by a customer, but we were heading that way already. This gave us the push — it expedited our implementation by two to three years at least."

— US consumer goods,
non-food manufacturer

The RFID landscape: mandates and return on investment

Where are companies in terms of mandates? And what return on investment do they expect? The Accenture study found that a little more than half of US companies were under mandate to implement the technology, while only 22 percent of European counterparts reported likewise. The difference could be explained by marketplace dynamics: In the United States, mandates from retailers like Wal-Mart are clearly outlined and have definitive deadlines for compliance; in Europe, there appears to be "room for interpretation" from companies like Metro, that are phasing in mandates to key suppliers.

Although one-third of companies expect the return on investment from RFID/EPC to be high, many companies appear to be unsure of its value. In fact, two-thirds reported being "unconvinced" as to the benefits of the technology.

Greatest benefits throughout the value chain

Whether uncertain or convinced of high returns – nearly all participants appeared to agree on one point: The benefits delivered through RFID/EPC go beyond the four walls of individual organizations. The Accenture survey participants

were asked to rank – one through three – the areas that promise to realize the greatest benefits through RFID/EPC: within their individual organizations, across multiple organizations (extending beyond their own to include suppliers and customers) or in store operations. Eighty-six percent of manufacturers surveyed report that the greatest benefits would come across multiple organizations and within store operations. (See Figure 1.)

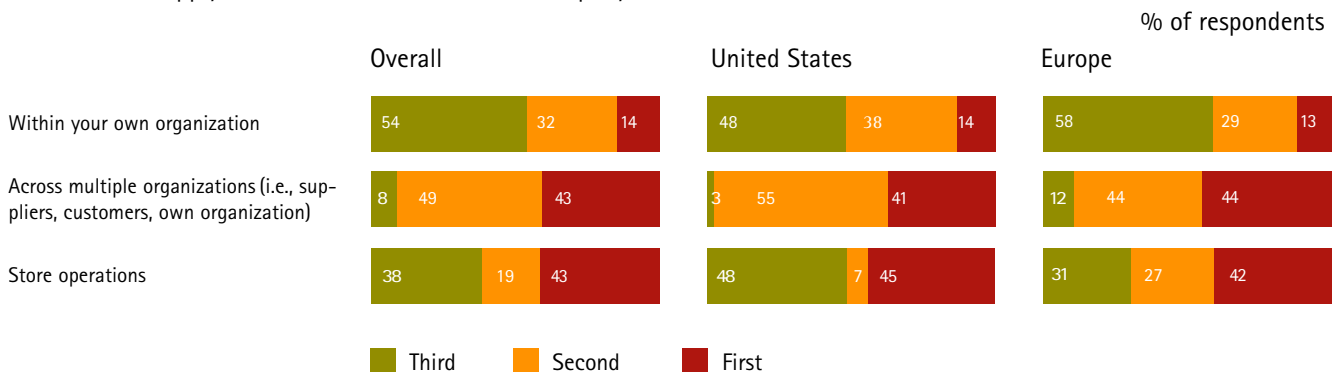
Despite this finding, the push to drive RFID/EPC within their own value chains is at an early state: Only 8 percent of companies have mandated that their own suppliers adopt RFID.

"In the long term, there are huge benefits for the manufacturer, retailer and consumer. We just need to start small and work up on implementation, learning lessons on the way."

– European food manufacturer

Figure 1. Ranked areas of most benefit

The greatest benefits of RFID are believed to lie in implementation throughout the extended supply chain rather than within the company.



For now, manufacturers focus on the short term

It is perhaps not surprising – given the countdown of mandates – that many participants are focused on the short-term benefits of RFID/EPC. The top-rated benefits are ones that speak directly to current retailer demands and include:

- Improved lot track and trace (58 percent)
- Improved recall management (51 percent)
- Better shipping and receiving (47 percent)

The longer-term benefits of the technology that fall into the area of supply chain planning – namely reduction in inventory and working capital, improved revenue through reduction in out-of-stocks, and reduced expediting costs – failed to gain significant recognition. (See Figure 2.)

Priority areas for implementation

When asked which areas were a priority for implementing RFID/EPC, answers correlated with the stated benefit areas. Track and trace was rated a top priority by more than half of the executives (54 percent), closely followed by warehouse management (53 percent). Transport and logistics and inventory management came next in line (52 and 49 percent respectively). The study showed relative agreement between regions on priorities, except in terms of demand planning and asset tracking: Europeans found these areas to be less of a priority for RFID/EPC. (See Figure 3.)

Figure 2. Strength of drivers by category (rating out of 5)

Most potential benefits are not intuitively recognized.

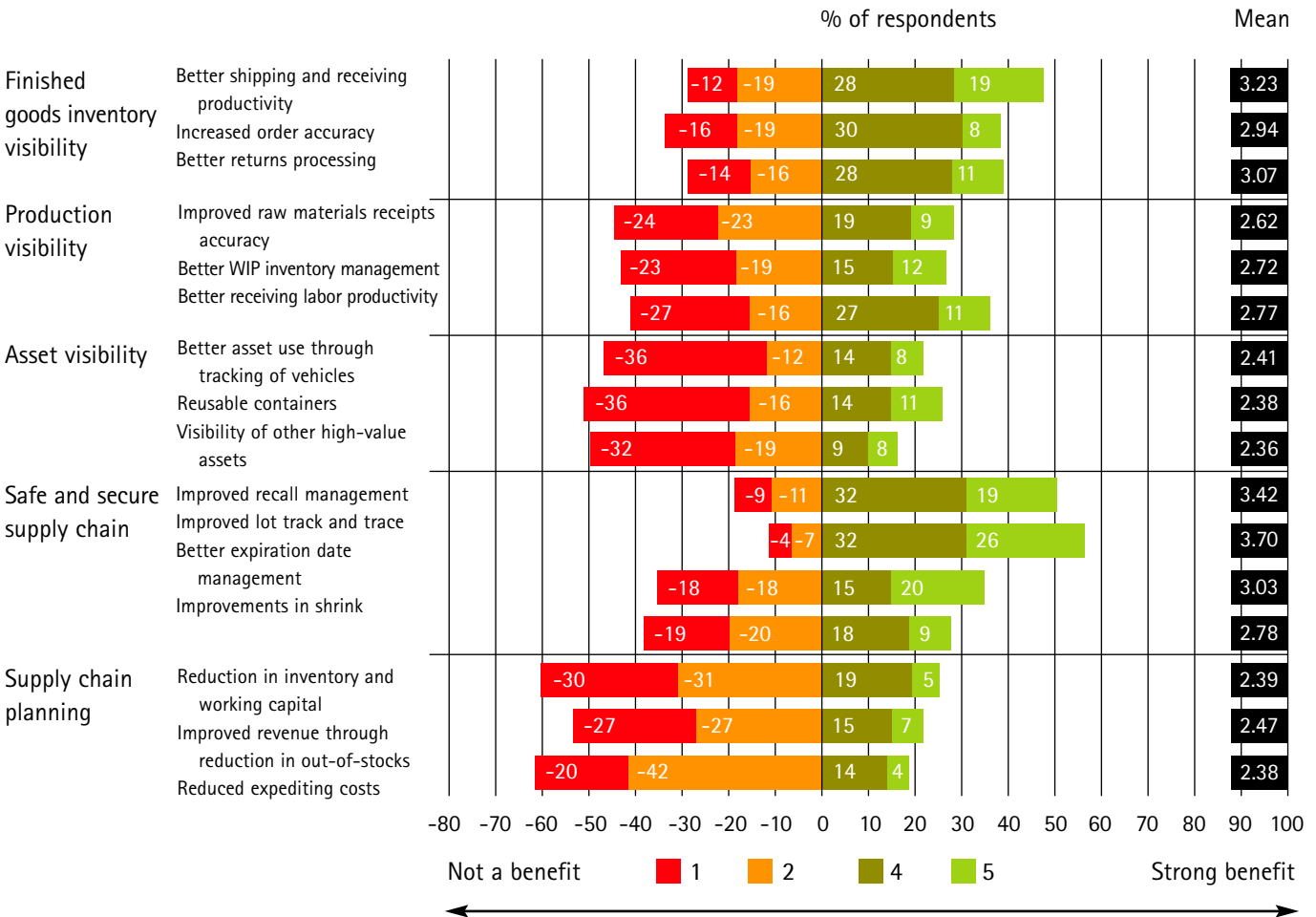
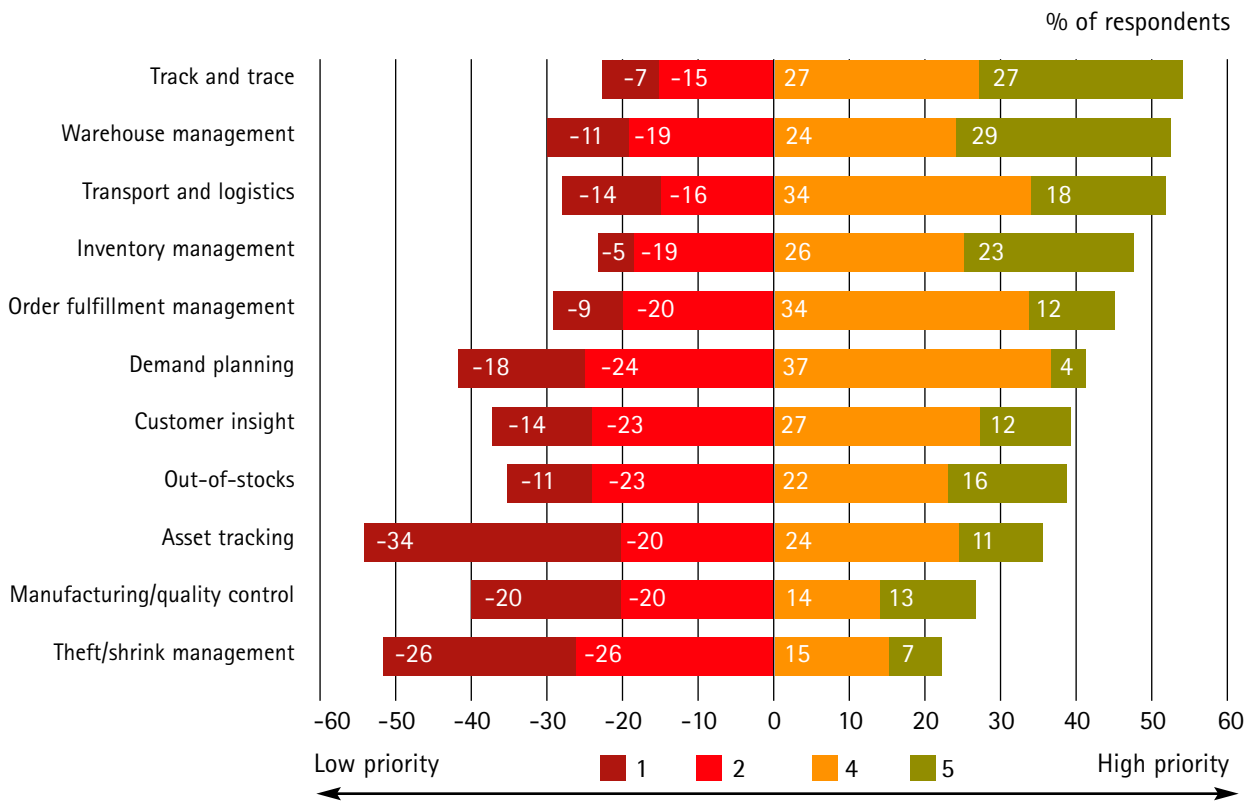


Figure 3. Priority applications of RFID (rating out of 5)

Priority areas for implementation are driven by core manufacturing logistics requirements.



“From a warehousing point of view, we didn't gain a great deal. But from a manufacturing point of view, having installed on individual lines gives massive benefits.”

— European food manufacturer

RFID barriers are cost and stability

When asked to rate barriers to implementing RFID/EPC, cost issues and the stability of approach were identified as the leading challenges. Substantial concern over market standardization and lack of collaboration were also cited. Concerns over market stability and standards received higher ratings by US participants, where the pressure to comply is greater. Although consumer perceptions and privacy issues receive a great deal of media attention, the respondents to the survey did not see these issues as significant barriers to implementation. (See Figure 4.)

"We realize at some point we are going to have to implement RFID. But the cost and complexity will be the biggest barriers. We want to put it off as long as possible even though we know it's coming."

— US white goods appliance manufacturer

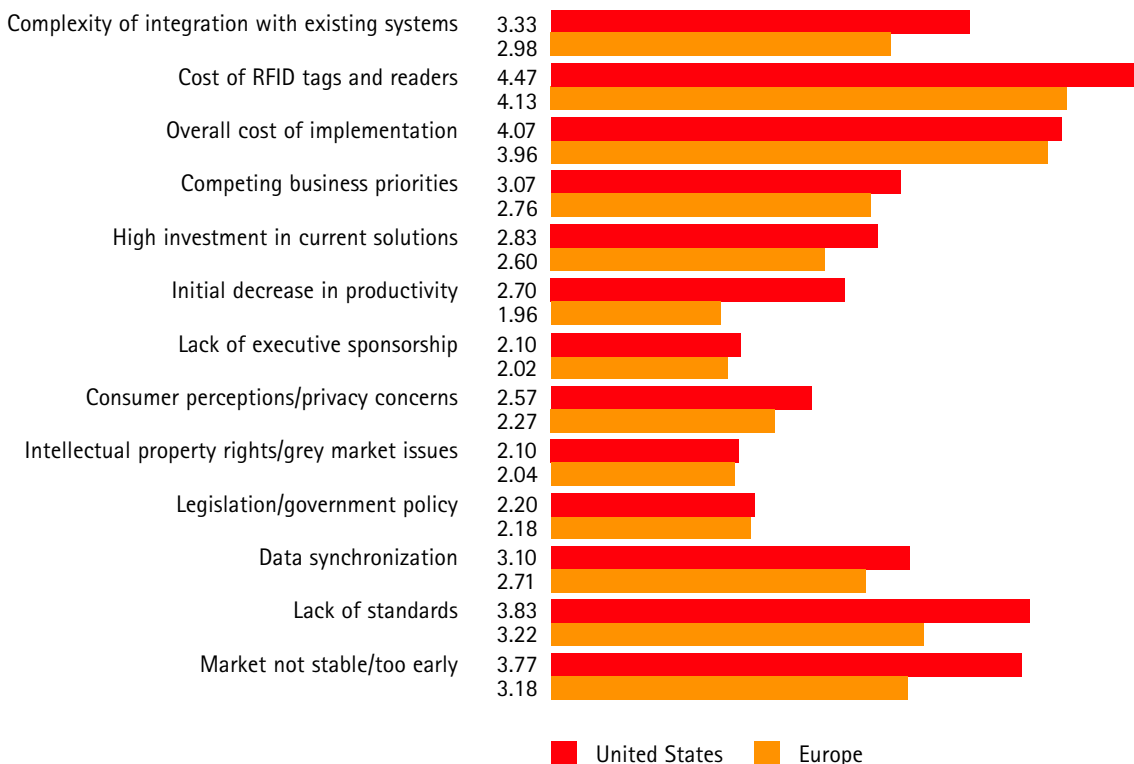
Full implementation a few years ahead

The Accenture survey results reveal a great deal of skittishness over the full-scale implementation (below pallet level to include case and/or item level) of RFID/EPC technology. Although nearly all of the US companies surveyed are currently "building or evaluating a business case" for RFID/EPC — with 21 percent in pilot phase and 3 percent rolling out implementations — the picture changes on the other side of the Atlantic: Only 40 percent of companies are conducting RFID/EPC business cases today; 16 percent are piloting the technology; and 7 percent are rolling out an RFID/EPC implementation.

RFID/EPC implementations don't show a marked upswing until well into 2005 in the United States and Europe. The ubiquity of the technology at the case and item level won't arrive until 2007 or later according to most companies. (See Figure 5.)

Figure 4. Barriers to RFID, US vs. Europe (mean rating out of 5)

Concerns over market stability and standards are heightened in the United States, where pressure to comply plus investigation is more advanced.



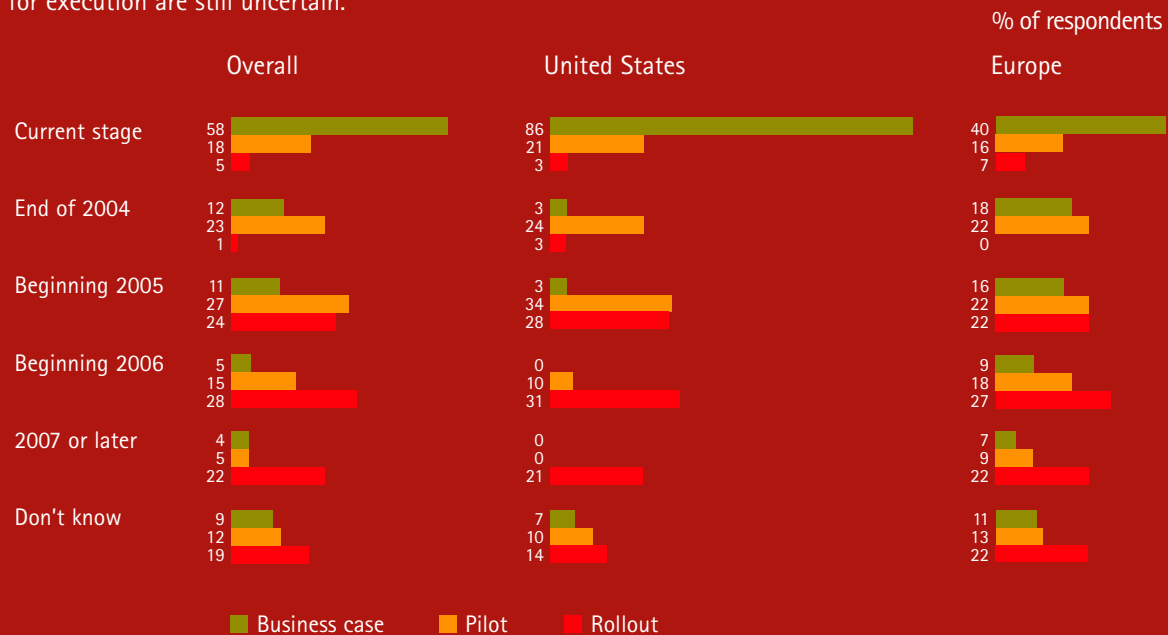
High-performance value chains through RFID

It would appear from Accenture's survey findings that the inevitability of RFID is fully appreciated by manufacturers — but benefits remain unclear. More than half of US respondents are currently under mandate to implement RFID/EPC, and nearly all of those surveyed are at least developing business cases. Of Europeans, only 22 percent are under mandate today, but 40 percent are working on some stage of an RFID/EPC business case. Although there is an expectation of high return on investment, two-thirds of study participants are still unconvinced of the benefits of the technology. When asked whether benefits will be greater within individual companies or "outside the four walls," an overwhelming majority chose the latter.

Accenture believes that the hesitation expressed in the marketplace today will turn to action as RFID/EPC becomes pervasive across value chains. When that happens, the technology will provide a launch pad for far more than improvement. It will ultimately revolutionize the business performance of manufacturers and create opportunities for innovation and new ways of generating revenue.

Figure 5. Timeline for planning and implementation of RFID

Though the United States is significantly further forward in examining RFID, timelines for execution are still uncertain.



About Accenture

Accenture is a global management consulting, technology services and outsourcing company. Committed to delivering innovation, Accenture collaborates with its clients to help them become high-performance businesses and governments. With deep industry and business process expertise, broad global resources and a proven track record, Accenture can mobilize the right people, skills and technologies to help clients improve their performance. With approximately 90,000 people in 48 countries, the company generated net revenues of US \$11.8 billion for the fiscal year ended August 31, 2003. Its home page is www.accenture.com.

Accenture is a pioneer in the area of RFID and electronic product codes: We are a founding member of EPCglobal (formerly the Auto-ID Center), the group that is setting the standards for this technology around the world. For the past eight years, the Accenture Technology Labs have been immersed in RFID and electronic product code research and development. Accenture offers high-performance solutions that help our clients across varied industries to seize the opportunities this technology offers — from efficiency and profitability to complete value chain transformation. We are recognized by analysts and the media as the leader in RFID and electronic product code technology and its impact on business environments. For more information on Accenture and our innovative research in this area, please visit www.accenture.com/silentcommerce.

For more information on how Accenture can help you improve your business performance through RFID/EPC, contact:

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