

# WHITE PAPER

## The Auto-ID Transformation: Succeeding in a large-scale change effort

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### ABSTRACT

Auto-ID has the power to revolutionize how companies make, buy, and sell their products. In order to reap the full benefits of the new system, it will require commitment throughout the organization, the supply chain, and followed by the rest of the industry. To succeed, such an adoption will require the commitment of all those involved.

Auto-ID is a transformational change. Historically, how change has been managed has often been overlooked. There is the misconceived notion that the implementation is successful when the technology has been installed and operating properly. Realistically, the implementation can only be deemed successful when the organization has embraced the new change, has been transformed, and has an operating system with measurable benefits. A transformation involves a change in people's behaviors and perspectives. The technology is merely the enabler. To make it work requires the collected commitment and collaboration of various parties.

This paper discusses the key considerations in executing a successful Auto-ID transformation management program. Managing transformational change correctly will fulfill the original business objectives, decrease disruption to current business processes, and increase cooperation and collaboration of all those involved.

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### Biography

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Joyce Lo leads the Auto-ID Center's Business Case Action Group. The group is charged with examining the business benefits of Auto-ID applications that will ultimately drive the adoption of Auto-ID standards and technology. Joyce has spent over six years consulting as a project manager and change agent in various ERP and eMarket implementations and other transformational initiatives. She specializes in the consumer goods sector and more recently focused on supply chain management. Joyce received her undergraduate degree in accounting at the University of Illinois.

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## 1. INTRODUCTION

Auto-ID has the power to revolutionize how companies make, buy, and sell goods. This technology will enable companies to receive real-time or near real-time information to better forecast demand and more efficiently run their supply chains. The technology encompasses a mix of complicated RFID technology, process reengineering, and system improvements. These are all factors for a successful **installation**; however a successful **implementation** requires a carefully managed **change** program that will enable the organization to complete its transformation.

<sup>1</sup> ACN-Auto-ID-BC-004, Nov. 2002

A recent Accenture study estimated that a retailer could save approximately \$16.7 million in labor costs alone after installing an Auto-ID system.<sup>1</sup> Improved operating efficiencies and cost savings are primary benefits of an Auto-ID system, however financial objectives cannot be achieved without having tremendous effects to the organization. In order to receive the greatest business benefits from the technology, processes will need to be reengineered and systems reconfigured within the four walls of an organization and eventually throughout the supply chain. The new Auto-ID system will have disruptive tendencies similar to enterprise resource planning (ERP) installations and the introduction of the Internet. Depending on the size and timing of the implementation, the new system could potentially have the combined effects of ERP and the Internet. In order to achieve success as described by the business objectives in the business case, this transformation needs to be managed correctly.

This paper will discuss some of the key requirements to succeed in transformational change efforts such as Auto-ID. Success is measured by achievement of business benefits, increased performance, and sustainability. A transformation is not complete until it is engrained into a company's culture: 'In how we do things around here'. This paper will walk through the key elements of facilitating commitment in order to transform the organization achieving a successful and sustainable implementation.

## 2. WHY MANAGE CHANGE?

A successful implementation is often based on whether the technology was installed and working properly. However, an implementation failure may not be due to an error in engineering or installation. The technology can be installed, thoroughly tested, and in working order, but still fail to meet the original business objectives established. 'Implementations that go sour' is attributable to improper or lack of change management at all levels of the organization and the supply chain (if applicable). Lack of managing change can result in:

- Lack of commitment and increased anxiety throughout the organization
- Lack of cooperation and trust between trading partners
- Failure to meet business objectives
- Failure to deliver an executable system
- Disruption in process and productivity

The failure to facilitate commitment throughout the organization and manage resistance can be detrimental to the implementation. Preventative measures can be taken early in the project lifecycle to reduce later risks and barriers, however can only be done if there is an appropriate change management program in place.

### 3. SUCCESSFUL CHANGE FACTORS

<sup>2</sup> Christensen, 1997.

Auto-ID may be seen as a threat to a number of individuals in the organization. Some may claim that it is a ‘disruptive technology’. As coined by Clayton M. Christensen in his book **The Innovator’s Dilemma**.<sup>2</sup> Auto-ID has the potential to be a disruptive technology, however it doesn’t need to be if managed correctly. Auto-ID is a transforming technology. Technologies become disruptive when change is not managed correctly and the organization is not guided through the transformation. New innovative technology, such as Auto-ID will change how people do, see, and experience their new organization and this can be achieved successfully and not painfully if planned correctly.

It is a natural tendency for people to resist change. For a transformational initiative to achieve success the change must be embraced throughout the organization. In the case of Auto-ID, the change may also need to be embraced beyond the four walls of the organization. The following sections will discuss the key factors to a successful transformational initiative by strategic visioning, establishing short-term wins, managing stakeholders, and effective communication.

#### 3.1. Strategic Visioning

<sup>3</sup> “The Importance of Vision.”  
RFID Journal. Oct 2002.

In 1997, many CEOs were reluctant to incorporate the Internet into their business. By 2000, CEOs were wasting millions of dollars on Internet technologies for fear of being left behind.<sup>3</sup> Companies who thought strategically and embraced the Internet into all aspects of their business and into the core of their culture were much more successful than those who were reactionary. As we can see by the Internet, it is not necessarily the importance of being first mover or being left behind, but an understanding and commitment to where you are going and why – we refer to this as **vision**.

It is important to set a clear direction before the implementation begins. A vision will help align, direct, and inspire people. The vision is the future state of where the technology will lead the organization and its partners. Underlying the vision are the objectives that all tasks will eventually be traceable to.

In order for employees and partners to commit to and align their tasks to the new direction, there are a number of criteria that impact the effectiveness of the vision. The vision must be:

1. **Imaginable:** Depicts the future – what the future will look like
2. **Attractive:** Appeals to long-term interests of stakeholders (stakeholders will be further discussed in the next chapter)
3. **Realistic:** Encompasses viable and attainable goals
4. **Flexible:** Broad enough to withstand changing environments and individual responses
5. **Communicable:** Clear and focused so that it is easily understood

<sup>4</sup> Kotter, 1996, p. 79

In John Kotter’s book **Leading Change**, he notes that the most effective transformational visions share the following characteristics:<sup>4</sup>

1. They are ambitious enough to force people out of comfortable routines.
2. They aim in a general way at providing better and better products or services at lower and lower costs, thus appealing greatly to customers and stockholders.
3. They take advantage of fundamental trends, especially in globalization and **new technology**.
4. They make no attempt to exploit anyone and thus have a certain moral power.

The vision should be powerful, succinct, inspiring, and results-oriented. The vision should be detailed enough so that individuals can understand the new direction of the organization, but general enough to sustain changing conditions. Those who have been entrenched in the technology may find it difficult to move away from the details in order to see the bigger picture. The details are important; however they are the steps in achieving the vision and should not be the vision itself.

### 3.2. Short-Term Wins

A vision is the future state of a company. A fully operable Auto-ID system across the supply chain may take anywhere from five to ten years to complete. The journey in achieving the vision will be comprised of a number of projects. To ensure that the stakeholders involved don't fall complacent – the projects or the path to the vision should be made up of short-term wins.

Short-term wins are the end result of each project. Each project should be independent enough so that there are clear and demonstrable results that are measurable against its business case. Each project and application of Auto-ID should build upon one another and together show a clear path toward the Auto-ID vision. Complex change efforts can lose momentum if short-term goals are not achieved and celebrated. Many companies will not support long initiatives without seeing results within the first year of the project. Without short-term wins, employees will also become unmotivated and become resistant.

### 3.3. Stakeholder Management Program

To communicate the vision effectively throughout the organization, one must first understand who will be impacted. It is critical to understand where support already exists within the organization and where there is resistance. Auto-ID is a revolutionary technology that will not only impact the organization, but also its partners. Inter – or Intra-organizational resistance that is not addressed could be detrimental to the project. Resistance that is not controlled can mean the end to the project. We will briefly review the keys to managing stakeholders in this section.

#### 3.3.1. Internal Commitment

An Auto-ID implementation will in fact, change many facets of an organization. Auto-ID will affect business processes, information technology, and how people will execute their work at all different levels of the organization. In order to prepare the organization for this change, it is imperative to have the commitment of the influencers and those effected. A careful and effective stakeholder analysis and management program will enable successful organizational transformation.

When managing internal stakeholders it is important to analyze what the needs of each stakeholder group is, where each group is resistant, and what groups are most critical to the success of the project. Understanding and addressing barriers and blockages early on will allow for a smoother implementation. It is better to address something before it occurs during a critical point of the project and becomes a crisis.

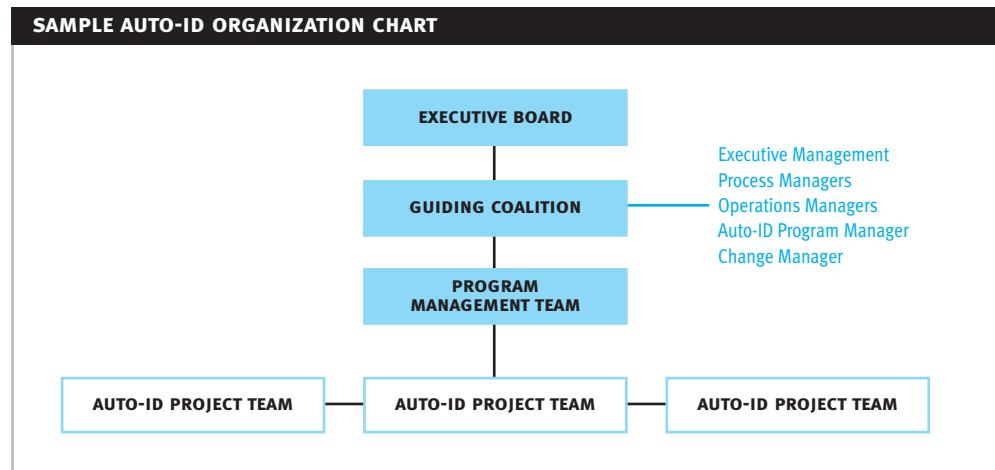
##### 3.3.1.1. STEERING GROUP

Best practices states that a major change is impossible unless supported by the head(s) of the organization. In many cases this would be the CEO or president. Not only is it important to have the head of the organization as an active and vocal supporter, but also a team of influential individuals. Many times before a project starts a steering group is formed. This steering group is generally made up of senior leaders in the organization. The purpose of having a steering group is to have a coalition of individuals to lead, advocate, and make sure that the vision is achieved.

To ensure that the vision is achieved, it is important that the steering group consists of the appropriate individuals. This group or coalition should be made up of senior executives and line managers that are committed to the Auto-ID vision. The members of the group should exhibit unique expertise, information, positive reputations, hold key relationships, and show leadership. The group should be large enough to include all the important facets of the organization, but small enough to be productive and elite. The group should also be equally made up of leaders and managers. The leaders will be the visionaries of the group or the spokespersons. They will lead the direction of change and empower members of the organization. The managers will assure that there is progress being made in accordance with the Auto-ID vision and the proper plans are in place to eventually achieve the vision.

The following figure shows a sample organization structure for an Auto-ID Implementation:

Figure 1



### 3.3.1.2. EXECUTIVE BOARD

The Executive Board will need periodic progress updates of the Auto-ID implementation. The Executive Board will be most concerned with the return on investment of the project. It is important to know where there is resistance at this level of the organization. The continued support of the Board will assist in funding, project approvals, and advocacy. The Board also has the power to cut a project at anytime. Early cooperation and support for the Auto-ID implementation will enhance the commitment level throughout the organization and achievement of the Auto-ID Vision.

### 3.3.1.3. EXECUTIVE MANAGERS

Executive Managers' will be effected by the Auto-ID system. Configuration or process re-engineering may need to be performed in their business areas due to the implementation of the new system. In order to have full cooperation, it important to have the Executive Managers own the vision, communicated the vision, and lead it within their suborganizations. Their ongoing support and advocacy will be critical throughout the life of the implementation.

### 3.3.1.4. FRONT-LINE – OPERATION STAFF

The operations staff will be most affected by the Auto-ID technology implementation. Workdesign and roles will change, in order to adapt to the new system. For instance, front-line mangers will have greater responsibility for replenishment since the near real-time demand data will be feeding into their systems. In other cases, an entire organization redesign may be necessary. Coperations staff will need to be fully acquainted with the new system and understand how to execute it. Proper execution will be dependent upon the level of commitment and ownership of the individual. In order to establish commitment,

communications by front-line managers to the operations staff need to be consistent while advocating the new technology. The Front-Line managers have the greatest influence with the front-line staff and will be the most effective in communicating the change.

### 3.3.2. Supply Chain Collaboration

To receive the full benefits of an Auto-ID system, the collaboration of trading partners will be necessary. The greatest benefits of the new Auto-ID system will be the availability of near real-time information. Instead of the traditional manufacturers 'pushing' products out to retail, real-time demand data will enable a 'pull' from manufacturing. No matter where you are in the supply chain, you will need the collaboration of both your suppliers and customers.

As with internal stakeholders, in order to have a successful system across the supply chain – you will need the collaboration of many players. Collaboration means:

1. Trust and honesty,
2. Agreement of measures, requirements, and timing,
3. Cooperation,
4. Commitment,
5. Ownership, and
6. Partnership

Without the following components collaboration between trading partners cannot truly be achieved. The following two sections will discuss collaboration upstream and downstream of the supply chain.

#### 3.3.2.2. CUSTOMERS

Implementing an Auto-ID system to streamline the costs in a supply chain will eventually work downstream and provide a lower cost to the customer/consumer. It is important to work with your customer in order to understand the requirements of each of the systems. Collaboration with trading partners means a certain amount of dependence on another partner's system. For instance, manufacturers will be dependent on the demand information received by the retailer in order to know what to produce. To save supply chain costs across the supply chain, trading partners will need timely information from one another. To ensure an effective and efficient system, it is extremely important for trading partners to begin collaboration early, agreeing on timing, data, and security requirements.

Figure 2

CONSIDERATIONS TO DISCUSS WITH CUSTOMERS
<b>Important considerations to discuss with your customers include:</b>
1. Data and timing requirements for each Auto-ID system
2. Data security and ownership
3. Back-up systems
4. EPC™ compliance
5. Consumer privacy concerns

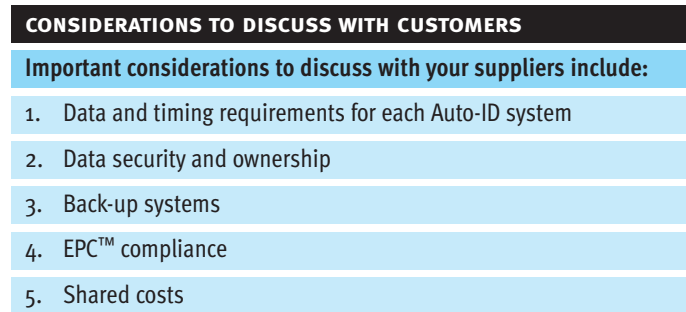
#### 3.3.2.3. Suppliers

During the ebusiness revolution, we witnessed the rise of B2B eMarkets. Those who have had first-hand experience know that one of the major reasons for most failures was the inability to attract suppliers. In the case of eMarkets, suppliers were more concerned about losing their margins over collaborating to save costs across the supply chain. Setting high expectations with suppliers without considering their concerns, could lead to resistance and the reluctance to participate.



The focus for most industries is the consumer, customer, or buyer. With advances in innovation, the focus for many companies is and will always be customer satisfaction. Of course, the customer is what keeps the business surviving and profitable. However, the suppliers cannot be overlooked as they were with eMarkets. For true collaboration to occur in an Auto-ID value chain, the ‘Build it and They will Come’ eMarkets model must not be repeated. Collaboration requires that all parties involved **work together** toward an Auto-ID empowered supply chain.

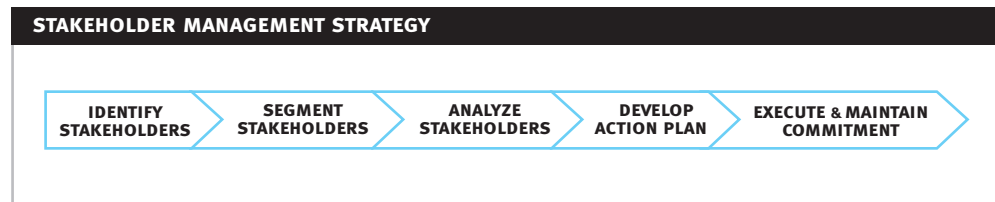
Figure 3



### 3.3.3. Stakeholder Management Strategy

This section provides a template to begin your stakeholder strategy. The methodology provided here is simple and customizable to the environment. The key importance is that the steps are included and there is a management strategy in place. Managing your stakeholders correctly will ensure a successful project while minimizing the risks of organizational crisis.

Figure 4



- **Identify Stakeholders:** Identify individuals or groups who are affected by the change or who can affect the outcome of the change.
- **Segment Stakeholders:** Segment stakeholders based on similar characteristics and current positioning. Example dimensions include:
  - Degree to which stakeholders will be impacted
  - Anticipated level of support
  - Breadth of influence
  - Level in the organization or type of customer and/or supplier
- **Analyze Stakeholders:** Analytical measure to assess commitment and resistant levels to transformation vision and implementation.
- **Develop Action Plan:** Develop cascading influence plan that leverages influencers and addresses resistance.
- **Execute and Maintain Commitment:** Continue to analyze support and resistant levels of stakeholders through the life of the implementation.

Becoming familiar with your stakeholders will better enable you to understand where there is resistance and where there is support. By managing your stakeholders through an action plan, you will be better situated to move them to committing to and owning the Auto-ID vision. The most critical component of an action plan is a communications program, which will be discussed in the next section.

### 3.4. Communications Program

A part of the stakeholder action plan will be the development of a communications program. In order for communications to be effective, it must be specific, targeted communications per stakeholder group. Communication messages should be individualized to the targeted group and all stakeholders should be targeted.

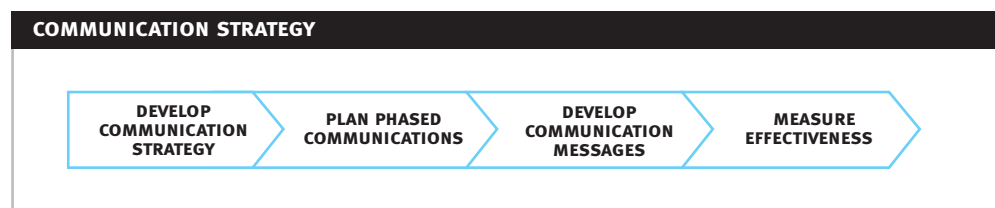
A common pitfall of communicating projects is to communicate to all individuals of the organization the same way. Each group and each level will be affected differently and it is imperative that the change manager understands and caters to each groups needs.

An Auto-ID implementation has the potential to change various processes, operations, and roles in the organization. Change often causes stress and anxiety. This could significantly increase the resistance to the Auto-ID change effort. According to Vijay K. Verma in his book **Human resource skills for the project manager**, job stress can be caused by role ambiguity. Role ambiguity is a result of job insecurity, lack of communication, and changes in jobs. A carefully developed strategy and plan can help reduce stress, thereby reducing overall resistance of the Auto-ID effort.

#### 3.4.1. Communications Strategy

This section provides a template to begin your communication strategy. The methodology provided here is simple and customizable to the environment. The key importance is that the steps are included and there is a management strategy in place. Creating an action plan such as a communication strategy will decrease resistance and enable a successful transition to Auto-ID.

Figure 5



- **Develop Communication Strategy:** The strategy should include objectives of the communications program, who the audiences are, and what the critical points that need to be communicated.
- **Plan Phased Communications:** The plan should contain when the communications go out, who should deliver the communication, and the proper communication medium.

Figure 6: Communication Mediums

SAMPLE COMMUNICATION MEDIUMS		
Group Meetings	One-on-One Meetings	Focus Groups
Newsletters	FAQs	Marketing Campaign
Surveys	Intranet	Bulletins

- **Develop Communication Messages:** Messages is what you want the audience to understand.

Figure 7: Communication Message Characteristics

MESSAGES SHOULD BE:	
<b>Targeted:</b>	relevant to the audience and include 'what's in it for me?'
<b>Realistic:</b>	honest and achievable
<b>Visionary:</b>	must communicate vision or show relationship to change vision
<b>Empowering:</b>	inspire people to act
<b>Clear:</b>	succinct and to the point
<b>Consistent:</b>	messages to different groups should be non-conflicting in content

- **Measure Effectiveness:** A metric used to gauge that the audience is receiving and understanding the messages.

The overarching purpose of communications is to promote the change vision, increase support, inform the audience of changes and progress, and inspire others. Committing to the vision requires more than communications, it also requires that actions are consistent.

### 3.4.2. Commitment to the Vision

The purpose of the communication strategy is to inspire cooperation from individuals in the organization by showing commitment to the Auto-ID vision. Commitment can be expressed in communication and **action**. Many times the vision is communicated, but actions are not consistent. The following table illustrates some of the most common patterns to avoid.

Figure 8: Communication Message Characteristics

EXAMPLES OF ACTION PATTERNS THAT ARE INCONSISTENT WITH COMMUNICATIONS
<b>Pattern #1:</b>
An excellent Auto-ID vision is developed, however commitment is facilitated by holding only a few small meetings and sending out a few memos to the Executive Managers.
<b>Issues:</b>
<ul style="list-style-type: none"><li>- Executive Managers will not have a true understanding of the new Auto-ID organization vision.</li><li>- Executive Managers will fail to communicate changes to line managers who will then fail to communicate to their operational staff. The operational staff, those in the frontline, will be the executors of the new system in warehouses, distribution centers, and stores. If not properly communicated to, they will not understand the importance and impact of the change.</li><li>- Resistance will arise that may impede the project because people are not prepared for the organizational change.</li><li>- People will not understand the importance and impact of the change.</li></ul>
<b>Pattern #2:</b>
Executive managers of the organization spend a considerable amount of time speaking to employee groups, however line managers are silent.
<b>Issues:</b>
<ul style="list-style-type: none"><li>- Executive managers will not seem credible.</li><li>- Line managers' silence will be interpreted as not being supportive of the new initiative and cause cynicism among the employees.</li></ul>

Continuation of Figure 8

**Pattern #3:**

Communication was executed in newsletters, meetings, and bulletins, but executives make decisions that are not consistent with the communications.

**Issues:**

- Actions can be interpreted as the change initiative isn't important and not a company priority.
- Executives will appear hypocritical or in opposition of Auto-ID initiative.

These are just a few examples of how actions can discredit the communication messages, the communicator, and question the character of upper management. This can increase resistance and reduce support for the Auto-ID initiative. Reduced support for the initiative can slow down or cause problems to arise in the final implementation and/or execution of the new Auto-ID system. Major resistance could also end the project altogether.

## 4. MAKING IT LAST...

Change will only stick when it become deeply rooted in an organizations' social norms and shared values, when it become 'the way we do things around here'. In order to support the technology change, it is important to show how people's behaviors support the new system. Performance measures and promotion criteria will need to be adapted and realigned to the objectives of the Auto-ID vision and system.

A complete Auto-ID transformation can take anywhere between five to ten years depending on the complexity and required collaboration of partners. During that period, leaders and proponents of the technology may retire or be replaced. In succession planning, it is important to plan for succession by those who support the initiative. If they do not or are resistant, an action plan must be prepared quickly to gain their support.

Once the project is complete and the technology is installed and working properly is when too many organizations declare victory. However, the change process is not complete until there is evidence that the original goals were accomplished, performance of the new system can be measured, and that it is fully embraced by the entire organization.

Intra-organizational Auto-ID implementations may take a little longer as collaboration between multiple trading partners will be needed. Collaboration and trust between trading partners will be critical to fully reap the benefits of Auto-ID. Much like the bar code, companies and trading partners will be required to work in partnership to achieve industry wide cost savings – the true benefit of the technology.

In 1984, a decade after the UPC was launched only 33 percent of retail outlets were equipped with scanners. In 1999, a symposium called Twenty-Five Years Behind Bars was held in Washington DC, where a number of business, academia, and government leaders examined the success the bar code. The success of the barcode was dependent the collaboration between trading partners and entire industries. It took over two decades for the bar code to achieve global success. Speculators expect that Auto-ID adoption will occur at a faster rate, however at least ten years before global acceptance will be reached.

## 5. SUMMARY

Auto-ID will transform how businesses operate today. Instead of the ‘push’ from manufacturing, we will see a ‘pull’ from retail via near-real-time demand information. Marketing will be better able to forecast demand. Supply chains will be able to replenish goods quicker and reduce inventory waste. Finance will be able to reconcile payments of goods faster. Each department will somehow be effected by this new technology and each department will have the potential to benefit from this new technology.

In order for an Auto-ID transformation to fully develop, the change must be managed properly. Critical factors to managing the transformation into and Auto-ID corporation includes:

1. Establish a **change vision** that is powerful, succinct, inspiring, and results-oriented.
2. Create **short-term wins** to show proof of returns and to keep momentum alive.
3. Manage **internal stakeholders** by establishing a powerful and respected guiding coalition that is committed to the vision and can inspire the organization. Collaborate with **external stakeholders** including both customer and supplier.
4. Create a proactive **communications program** that keeps the entire organization informed, excited, and helps reduce resistance and gain support.

A properly installed Auto-ID system requires organization and engineering. Managing the Auto-ID transformation of an organization requires behaviour to change thus requiring a management of that change requires managing change. Such management involves flexibility, understanding, compassion, and communication to all of those being effected. This management often continues beyond the life of the project until the organization has fully embraced the change.

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