



## Ascending Retail IT Automation: Five Principles for Success

How the retail industry can use IT automation to drive innovation and achieve digital transformation.

By Nicholas Brigman, Vice President, Technology Strategy

Digital is becoming embedded in every aspect of the economy. It transforms the way companies interact with customers and suppliers, innovate products and services, and manage operations. The retail industry has been a leader in digital channels and digital sales, but it has lagged in using digitization to empower employees and optimize backoffice processes. To that end, we explore five key principles for creating an IT automation platform that can foster innovation and extend digital transformation throughout the business.

**CompuCom**<sup>®</sup>



## Digital Opportunity

While the promise of digital in the retail industry is substantial, the challenges of leveraging digital throughout the business can seem daunting. Supply chain and operations must work seamlessly with in-store and digital sales. Speed and flexibility are imperative to continually place the right product at the right price in the right channel at the right time. Bricks-and-mortar retailers struggle to match companies like Amazon® that have digitized their entire business.

Each retailer's organizational structure is unique, as are the potential combinations of technologies to achieve superior customer experience and competitive advantage. New capabilities — such as internet of things (IoT) devices that can track and interact with customers — spawn imaginative ways of connecting buyers with your products and your brand.

---

Few businesses can absorb large increases in spending to deliver innovations ... without improvements in revenue and margin.

---

While the promise of digitization is appealing, getting there requires investment. Digitization increases the number of devices in the enterprise, and it affects the cost of execution. In an industry characterized by narrow margins, few businesses can absorb large increases in spending to deliver innovations such as personalized customer experiences without improvements in revenue and margin.

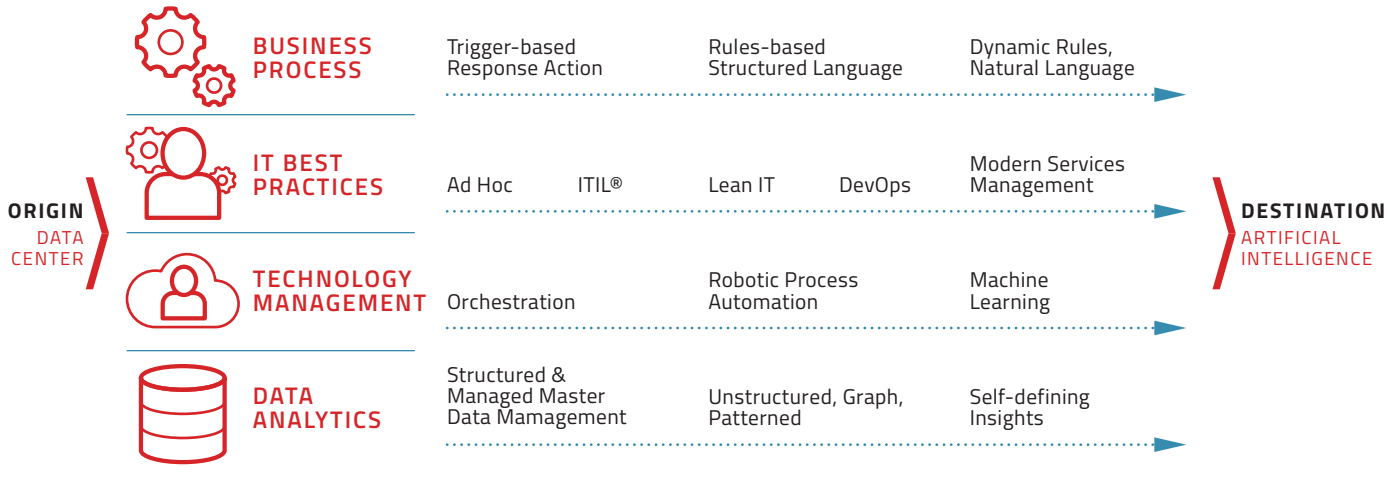
The solution is IT automation, achieved through the evolution of artificial intelligence (AI). Without AI-enabled IT automation, no retailer can manage the new complexity of operations while achieving innovations that will enable it to compete and win in the digital economy. Across industries, there are at least 200 real-world use cases for AI in the enterprise.<sup>1</sup> It's no wonder spending on AI will balloon from \$358 million in 2016 to \$31.2 billion by 2025, a 64 percent compound annual rate of growth.<sup>2</sup>

Modern automation relies on the contextual use of knowledge. Data and analytics can evolve to produce information and knowledge. And when knowledge is interpreted through the lenses of business process, stated goals or external factors, it can evolve to produce insights.

1, 2 "Artificial Intelligence for Enterprise Applications," Tractica, Q3 2016

CompuCom® has recognized four interdependent paths of innovation that lead to AI. (See Figure 1.) These four paths are critical to enabling business models that leverage data and analytics to diversify and increase revenues, increase margins and sustain relevancy with customers.

**Figure 1: Paths of Innovation in IT Automation**



## Automation Platform

The digital platform economy is here. Cloud computing, big data and analytics, and advanced algorithms are enabling business ecosystems that foster new business models and markets. Who would have imagined a few years ago that Airbnb® could become the world’s largest hotel chain without owning a single property?

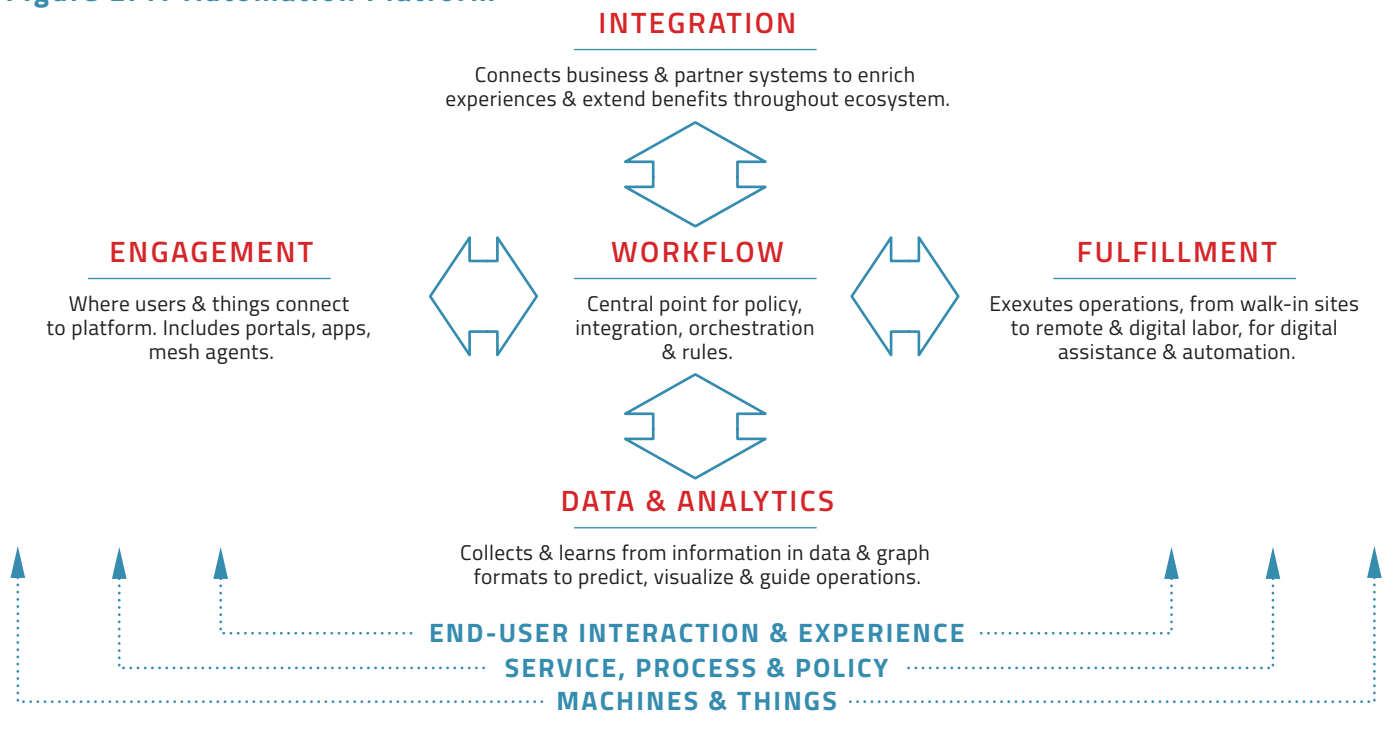
Digital platforms create value by facilitating exchanges between two or more interdependent entities. Key to the success of platforms is their ability to curate producers and cultivate consumers. Interestingly, these factors are also at the heart of the retail business model.

With the influx of IT-enabled things in stores and the supply chain, retail IT operations can benefit greatly from digital platforms that focus on infrastructure. CompuCom has been building such a platform for industries like retail, healthcare and financial services. Why? Because the IT department can no longer manually cobble together technologies and manually respond to end-user needs. The business needs to move too quickly, and technologies are too diverse. Without an IT function that continually automates, the business will be hampered — or it will find solutions outside IT.

What capabilities does an IT automation platform require? What kinds of automation should it enable? Should it be a single piece of software? Should it be enabled by one provider, or many? These are just a few of the questions CompuCom has considered in designing our own IT automation platform. The answers are transforming our own business and enabling us to help IT leaders achieve digital transformation in their organizations.

At the foundation, an IT automation platform involves three planes of operation: a machine layer; a service, process and policy layer; and an end-user interaction and experience layer. These are exemplified in the talking “pucks” that have become popular in home automation. They converse with humans, convert the conversation to a job to be done, and convert the job to machine interaction that produces a result. (See Figure 2.)

**Figure 2: IT Automation Platform**








## Five Principles of Platform Design

Once you understand the need for an IT automation platform, you’re ready to think about design. CompuCom has developed five foundational principles to guide design of an automation platform that helps deliver the desired business outcomes:

- 1. Seamlessly engage end users, devices and things to elevate end-user experiences.** We have identified “Five Es” to elevate participant experiences: empowerment, enrichment, expedience, efficiency and effectiveness. (See Figure 3.) We can understand the need for these attributes through our own experiences as consumers. A key word to keep in mind is “fluidity.” We all hate long waits, dropped handoffs, transfers to nowhere and the need to resupply information. We love getting stuff done without friction, interacting with firms that understand our history, and controlling the pace and outcome of the interaction. Your platform must be well-integrated to enable rich, multichannel engagement for everyone.

**2. Create a scalable orchestration and policy mesh to deliver expedience, efficiency and effectiveness.** Business outcomes intersect with customer and end-user experience. At the machine layer, the number of devices and things that must be managed and orchestrated will become vast. Capacity, administration, performance and security are just the beginning. New technologies typically start out as proprietary before they're standardized. The platform must abstract the proprietary from the general to engage innovation as early as possible. A platform that can secure, segregate and manage the relationships of things within a given policy will go a long way to achieving your desired outcomes.

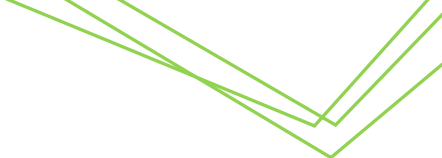
**Figure 3: The Five Es of Elevated Outcomes**

				
<b>EMPOWERMENT</b>	<b>ENRICHMENT</b>	<b>EXPEDIENCE</b>	<b>EFFICIENCY</b>	<b>EFFECTIVENESS</b>
<b>OBJECTIVE</b> Reduce the number of touches, redirects & resupplies of information.	<b>OBJECTIVE</b> Anticipate & supply guidance for next steps & actions to success.	<b>OBJECTIVE</b> Reduce the time to get what is wanted.	<b>OBJECTIVE</b> Reduce the total cost of operations or ownership.	<b>OBJECTIVE</b> Increase successful outcomes & process consistency.
<b>MEASUREMENT</b> Total touches, redirects & restarts per issue.	<b>MEASUREMENT</b> Click-through percent on recommendations & automation success.	<b>MEASUREMENT</b> Total time to complete the task with low-level wait & process.	<b>MEASUREMENT</b> Total cost/flow to complete by skill mix & choice.	<b>MEASUREMENT</b> Satisfaction, successful outcomes & process consistency.

**3. Maintain publish-and-subscribe flexibility to rapidly respond to shifts in innovation and easily connect with customers and partners.** There is already an abundance of automation-focused startups. There will be winners and losers. At the same time, you need to engage 30 years of legacy systems. Depending on your scope, you may be able to live with point-to-point integrations. But if you need an IT automation platform with multiple layers, a modern enterprise service bus may be the best solution.

Deploying a platform that lets you create discrete services at all three foundational layers will increase connectivity and reuse. It will also allow rapid integration of microservices and predefined connectors, or application program interfaces (APIs), increasing speed to market. And, it will enable high flexibility to substitute and combine technologies to reduce the risk of lock-in.

**4. Provide ways to explore and execute new insights to drive effectiveness.** If you want to see and interpret a market in new ways, you need data, and lots of it. It may be your data, or it may be external data such as travel forecasts, event calendars and weather streams.



Insights typically fall into one of two categories: known and unknown. Your platform should be able to produce warnings or execute findings of known issues quickly. CompuCom Advanced Service Analytics, for example, uses process mining to measure and flag process deviations.

Unknown insights require exploration. You need tools that combine and orient data in new ways to reveal clusters and correlations. Your platform should provide a sandbox that lets people test and evolve scenarios via algorithms and what-if models. Algorithms are more likely to be trusted if decision makers can add their insights and tweak the models.<sup>3</sup>

---

The goal of these five principles is to elevate personal experience and achieve business outcomes.

---

**5. Blend digital and human interaction to grow insights.** This principle focuses on communication between people and AI — the interplay between reasoning and learning. Consider Bloom’s Taxonomy, a set of hierarchical models that cover learning objectives in cognitive, affective and sensory domains. Bloom’s Taxonomy was created to improve communication among educators when designing curriculums. But what happens when everyone is an educator and everyone has input — and “everyone” includes humans and robots?

Your IT automation platform must be able to learn and arbitrate the needs of the end user, the policy and the intent of the company. Imagine new Payment Card Industry (PCI) standards being invoked on retail or healthcare in the pharmaceuticals space. Can you express those once, and then have your automation calculate the impact of the change?

The goal of these five principles is to elevate personal experience and achieve business outcomes. While there are many models for defining experience, we have found the Five Es to be the most effective at tracking experience across stakeholders. An intrinsic benefit of a platform is its ability to log workflow and results. Be sure to build robust logging into your platform, because you’ll need it for debugging, tuning, value estimation and benchmarking. It too becomes yet another useful data source to mine and improve.

<sup>3</sup> “4 Models for Using AI to Make Decisions,” Harvard Business Review, January 2017

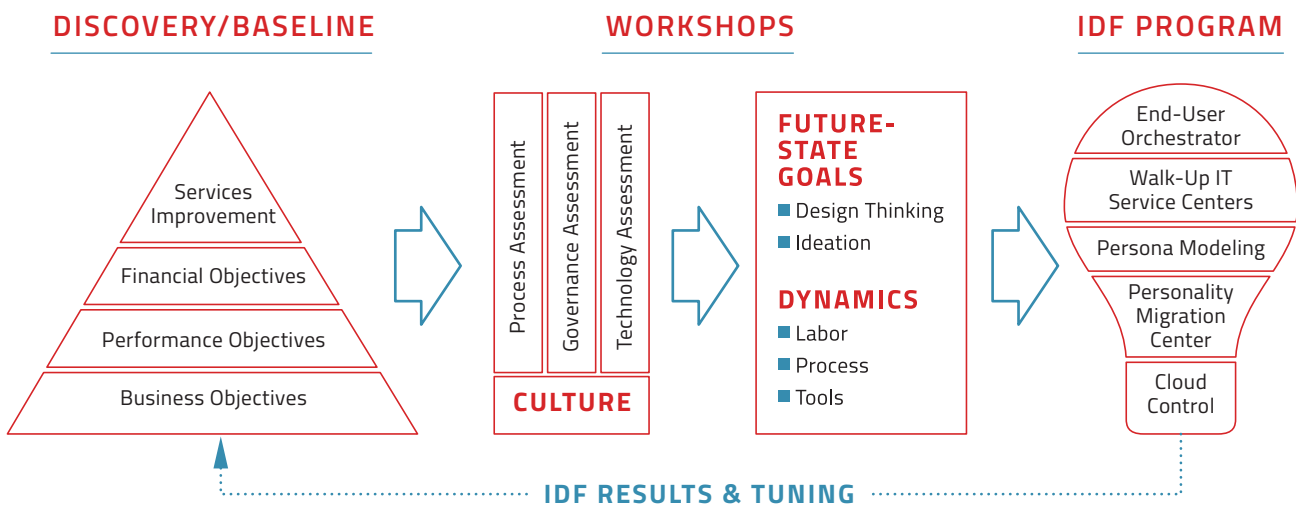


# Innovation Delivery Framework™

Every retailer has its own set of challenges and its own appetite for risk. Some will approach platforms slowly, while others will embrace platforms and quickly move toward integrating multiple platforms.

To meet retailers where they are, CompuCom has developed an Innovation Delivery Framework™ (IDF™) to help you sequence and plan your innovation. (See Figure 4.) The goal is to use innovation to achieve continual improvement in the short term and transformation in the long term, in governance, technology, process and culture.

**Figure 4: Innovation Delivery Framework (IDF)**



IDF provides a customized roadmap tuned to individual culture, business goals and appetite for change. Baseline assessments can be performed in advance to put real numbers behind current-state perspectives, and to help business leaders visualize opportunities for progress.

IT automation has an important role to play in the retail industry. It can reduce costs, promote innovation and ultimately drive digital strategy. Understanding these five principles is a first step to creating an IT automation platform — and to embracing the digital future of your retail business.



## ABOUT COMPUCOM

CompuCom Systems, Inc., a global company headquartered in the U.S., provides IT managed services, infrastructure solutions, consulting and products to Fortune 1000 companies committed to enhancing their end users' experience. Founded in 1987, privately held CompuCom employs approximately 11,500 associates. For more information, visit [www.compucom.com](http://www.compucom.com).

©2017 CompuCom Systems, Inc. All rights reserved. CompuCom is a registered trademark and Innovation Delivery Framework and IDF are trademarks of CompuCom Systems, Inc. All other trademarks and product names mentioned herein are the property of their respective owners in the United States, Canada and/or other countries and are used with permission. All articles and studies quoted herein are the property of the author and are used with permission. The information contained herein is subject to change without notice.

Airbnb® is a registered trademark of Airbnb, Inc.  
Amazon® is a registered trademark of Amazon Technologies, Inc.  
ITIL® is a registered trademark of AXELOS Ltd.

**CompuCom.**