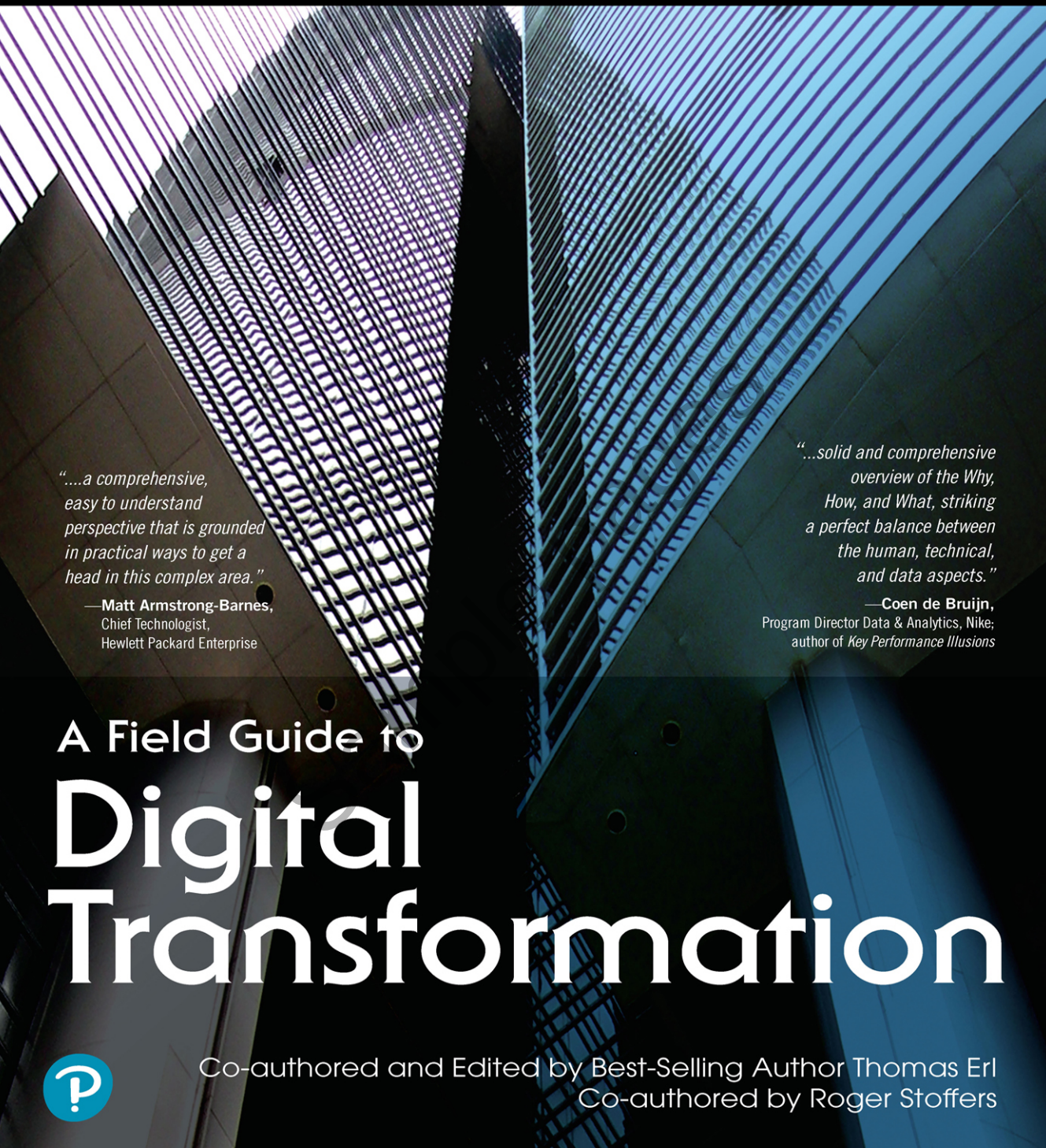
THE PEARSON DIGITAL ENTERPRISE SERIES FROM THOMAS ERL



"....a comprehensive, easy to understand perspective that is grounded in practical ways to get a head in this complex area."

—**Matt Armstrong-Barnes,**
Chief Technologist,
Hewlett Packard Enterprise

"...solid and comprehensive overview of the Why, How, and What, striking a perfect balance between the human, technical, and data aspects."

—**Coen de Bruijn,**
Program Director Data & Analytics, Nike;
author of *Key Performance Illusions*

A Field Guide to Digital Transformation

Co-authored and Edited by Best-Selling Author Thomas Erl
Co-authored by Roger Stoffers

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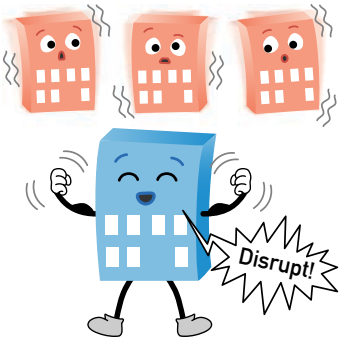


Now comes the fun part. We get to learn about the many positive things a digital transformation can bring. Organizations undergoing digital transformation often look forward to "shaking things up" in their markets and communities.

The best starting point for assessing the value proposition of a digital transformation initiative is to understand the benefits and goals commonly associated with successful digital transformation efforts. These benefits and goals need to be married with the organization's own business goals so as to determine:

- when (or whether) an organization should invest in and commit to digital transformation
- to what extent the organization should carry out digital transformation
- the rate at which the organization should transform

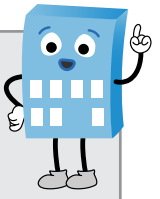
This chapter begins by summarizing the following primary organizational benefits that result from an organization's successful digital business transformation and the corresponding competency it needs to gain in the automation and data science technologies associated with the previously described technology drivers:

- Enhanced Business Alignment
- Enhanced Automation and Productivity
- Enhanced Data Intelligence and Decision-Making

The chapter then continues by explaining the strategic goals that can be attained by applying the enhancements and capabilities the organization gains from the previously described benefits:

- Improved Customer Experience and Customer Confidence
- Improved Organizational Agility
- Improved Ability to Attain Market Growth

TIP
Realizing key benefits is what helps attain key goals.



Digital transformation results in business and technology enhancements that lead to improvements that help attain goals.

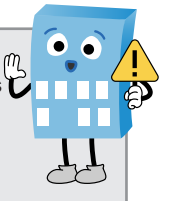
Enhanced Business Alignment

Traditionally, organizations were often structured around business silos based on specific products, services or lines of business.

A digital transformation can introduce the need for:

- previously isolated or separated business departments to collaborate in support of common business goals (Figure 4.1)
- previously separated business and IT departments to collaborate more closely in support of common business goals
- existing business processes and models to be optimized, reengineered and/or further innovated in support of new business goals
- single-purpose business processes previously focused on specific products to be consolidated with others in support of new business goals (Figure 4.2)
- new business processes and models to be introduced and merged with existing business processes and models in support of new business goals (Figures 4.1 and 4.2)

CAUTION
The actual benefits of rethinking and combining business processes will relate directly to the quality of the newly designed business process. The goal is to consolidate and streamline, but there is always the danger of a new workflow becoming overly complex or convoluted.



These business transformations and the resulting cross-departmental collaborations that are formed naturally align the business of an organization with its strategic business goals, several of which may be focused on improving customer-centricity.

This type of business alignment can strengthen an organization culturally, but primarily benefits the organization by establishing a solid foundation upon which automation and data science technology enhancements can be applied. These technologies can be effectively utilized by human workers to enable the organization to realize its business goals to their full potential.

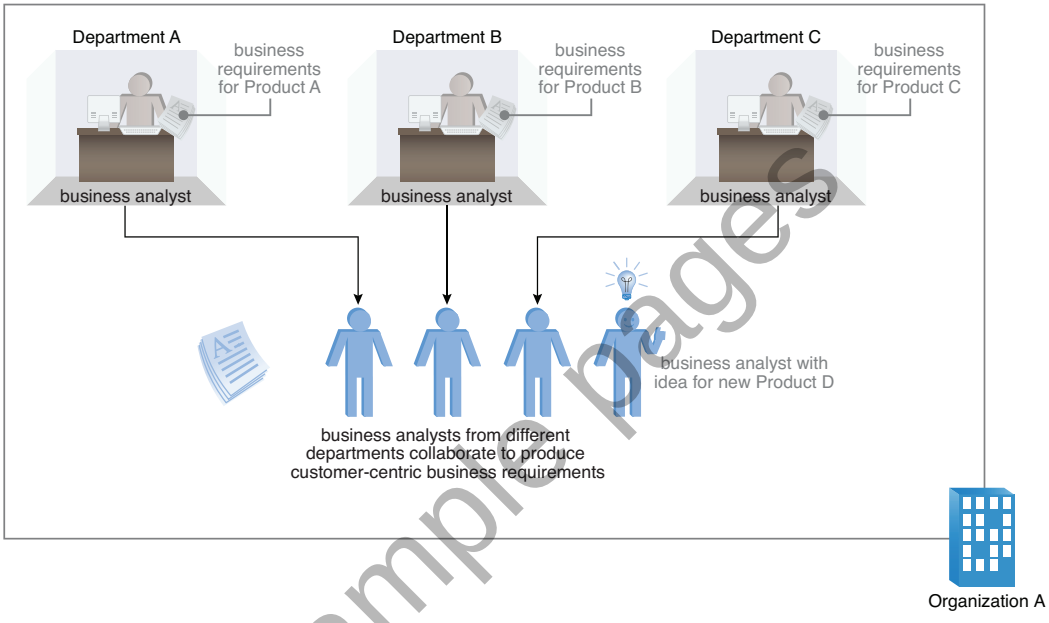


Figure 4.1

A common goal of digital transformation initiatives is to eliminate product "silos" so as to establish an environment that fosters collaboration and alignment across departments. For example, to improve customer-centricity, those groups or departments originally responsible for business analysis as it pertained to individual products, now work together to provide a consolidated customer experience through which all products (and new products) can be explored. New, broader performance and customer success metrics and indicators are commonly established to measure the collective outcome of these types of collaborations instead of measuring only the performance of individual contributions.

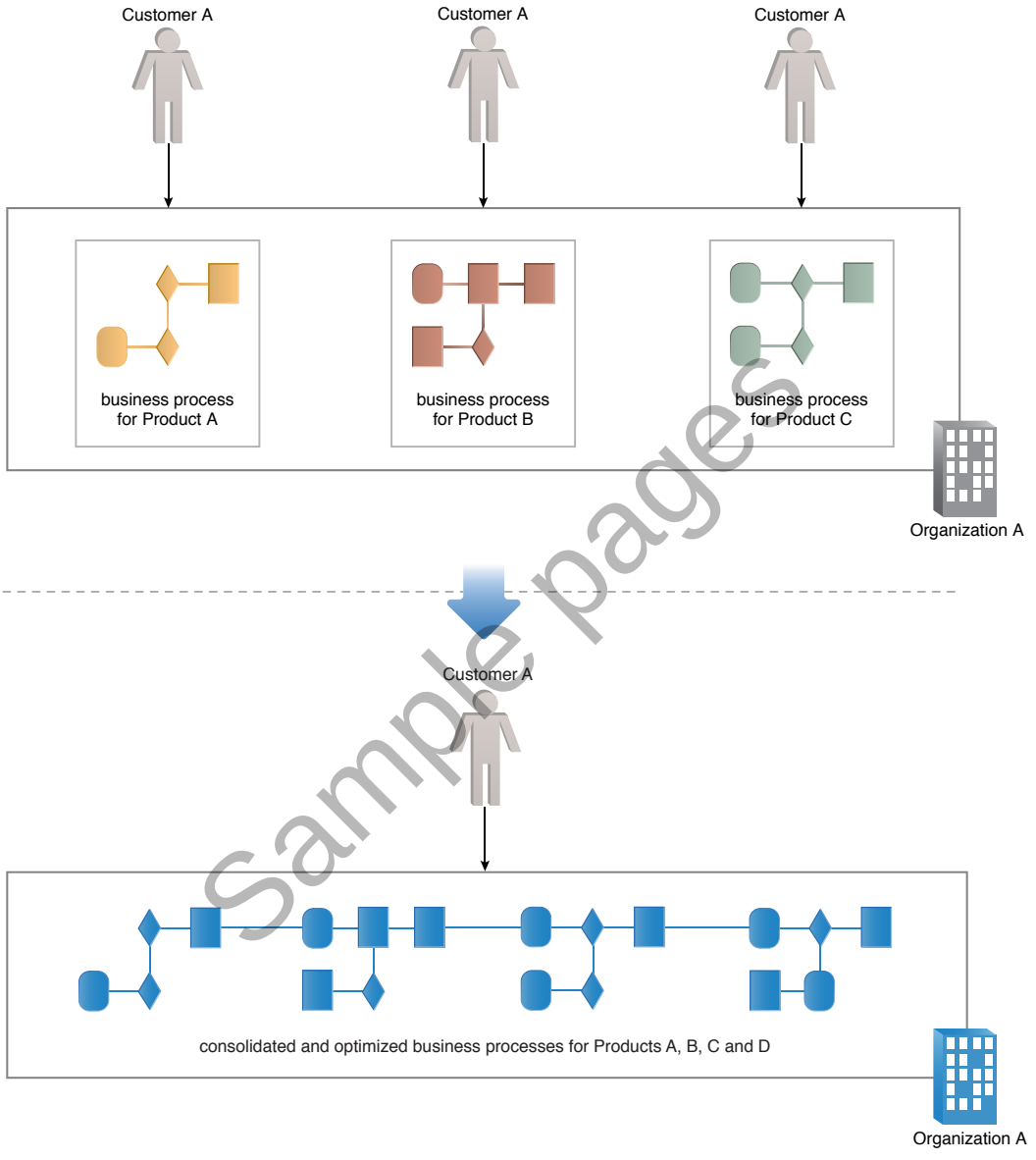


Figure 4.2

Customer A wants to obtain three different products from Organization A. Previously, Customer A had to interact with Organization A via three separate workflows and systems (top), which may have even required the creation of three individual accounts. A transition toward a customer-centric solution results in a consolidated customer experience enabling Customer A to carry out transactions in relation to the three products in a single environment (bottom). Customer A is further able to discover new products while in the consolidated environment.

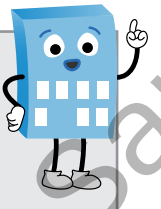
Enhanced Automation and Productivity

An organization undergoing a digital transformation can extend the reach and improve the quality of its automation capabilities significantly. Solutions can be built using combinations of technologies that can enable organizations to automate business tasks so as to boost operational productivity.

For example, automation technologies can:

- automate tasks that previously needed to be performed manually
- automate new tasks in support of new products and services
- automate data collection across environments outside of organization boundaries
- automate actuating tasks in remote devices outside of organization boundaries
- automate tasks at a higher usage capacity than what was previously achievable
- automate tasks more reliably than what was previously possible
- automate decision-making
- improve the security and quality of storage for private, sensitive and important business data

TIP
Introducing new automation will inevitably also impact how business processes and workflows need to be designed.



What is significant about digital transformation environments is how they combine these technologies into distinct platforms that help achieve strategic goals via their collective features (Figure 4.3).

NOTE

Technologies relevant to this benefit are covered in *Chapter 10: An Introduction to Digital Transformation Automation Technologies*.

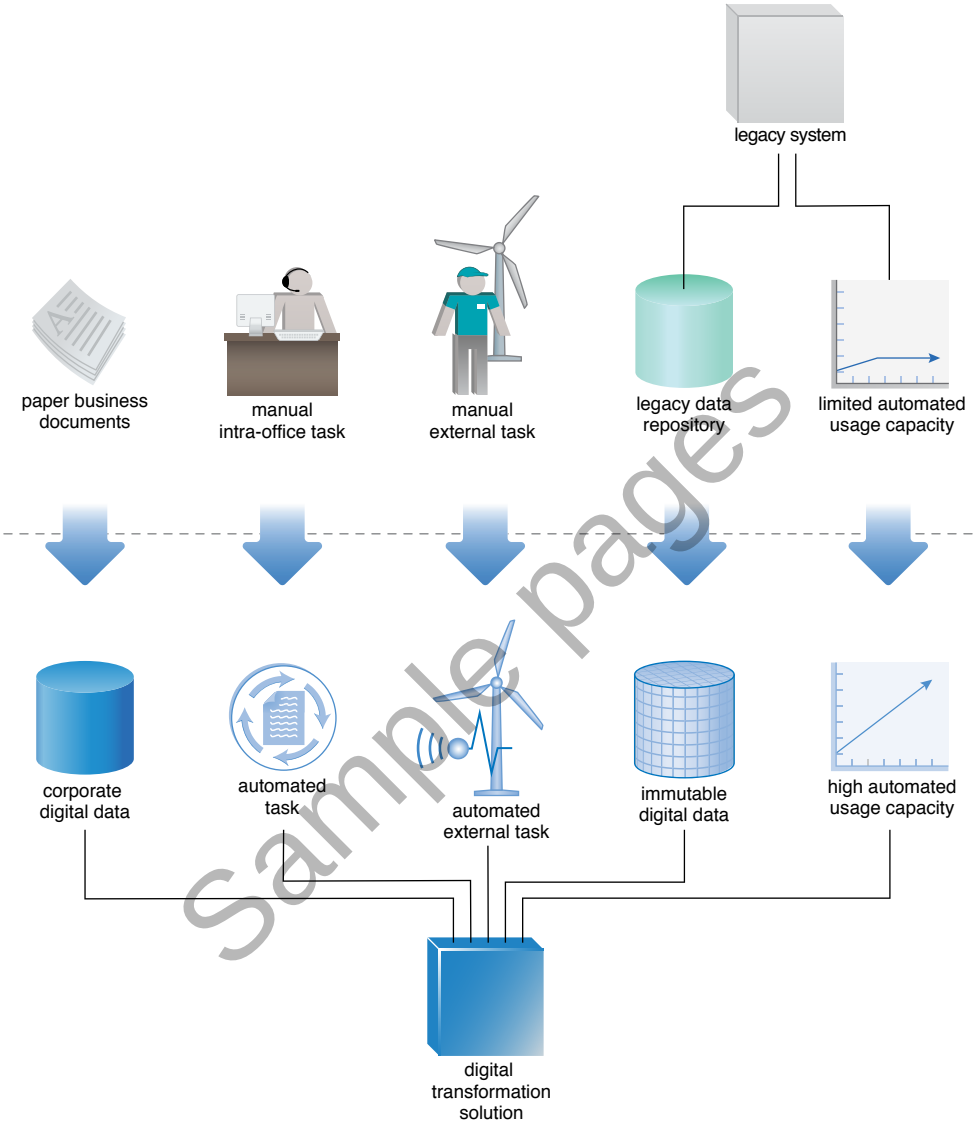


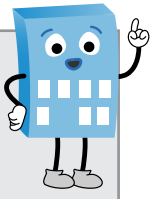
Figure 4.3

The application of digital transformation technology improves the quality and efficiency of a range of operational business tasks.

Enhanced Data Intelligence and Decision-Making

As previously explained, digital transformation solutions can accumulate valuable data intelligence, enabling them to produce deeply insightful analysis results in realtime or near-realtime. This can significantly empower organizations with new insights, new ideas and more decisive and successful decision-making capabilities.

TIP
Much of what constitutes a successful digital transformation relies on the successful attainment of this benefit.



Organizations further have the option to defer some decision-making responsibilities to the underlying digital transformation solutions themselves. When doing so, decisions can be made and executed at the same rate (realtime or near-realtime) as that of the data processing (Figure 4.4).

NOTE

Technologies relevant to this benefit are covered in *Chapter 11: An Introduction to Digital Transformation Data Science Technologies*.

Improved Customer Experience and Customer Confidence

One of the foundational objectives of digital transformation is to foster a shift toward establishing a customer-centric culture, resulting in improved relationships with customers, attracting new customers and supporting all of this via enhanced automation.

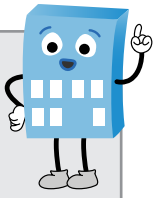
Customer-centric solutions have the potential of capturing the interest and enhancing the satisfaction and confidence of customers.

This brings with it several core benefits, including:

- increasing the speed at which customers are served by reducing the time-to-value of services
- improving the effectiveness with which services are delivered to customers by enhancing their quality

- increasing the "warmth" of the customer experience
- improving customer confidence and loyalty by maintaining on-going relationships with customers beyond individual transactions

Digital transformation solutions aim to achieve these improvements by being designed, from the ground up, with customer-centricity in mind (Figure 4.5), as further explored in *Chapter 6: Realizing Customer-Centricity.*



TIP

When we use the term "customer" we are not just referring to business customers. A customer can be any user, employee or client of an organization, whether the organization is a for-profit business or a non-profit or public organization.

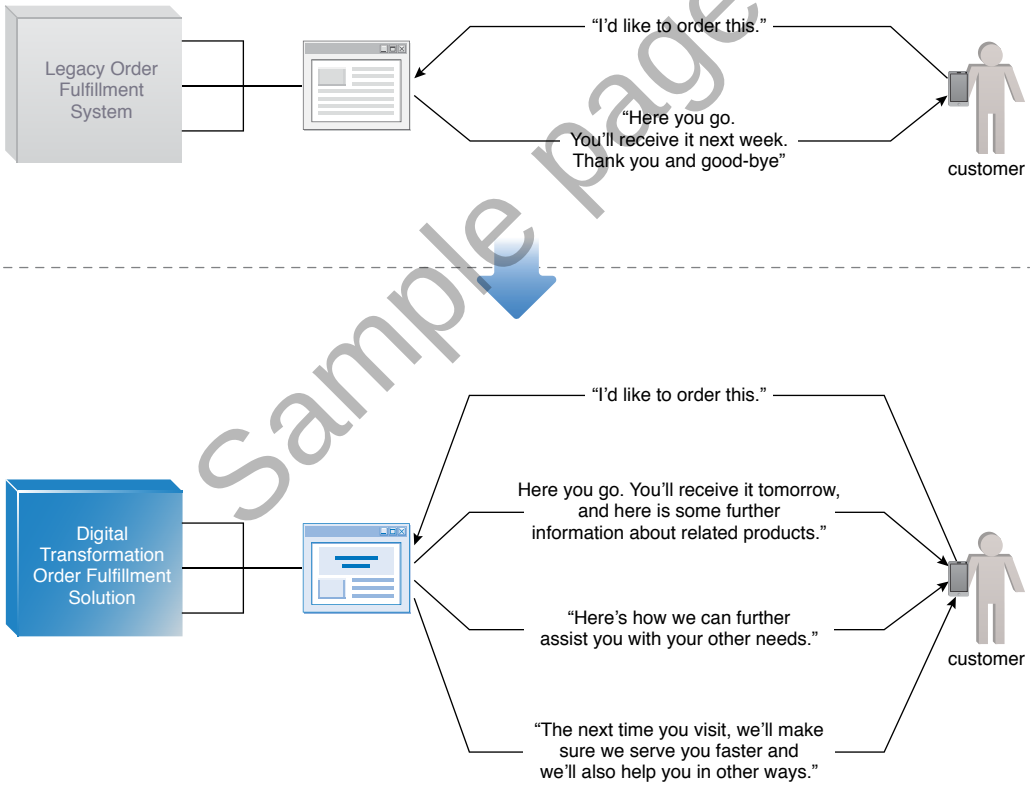


Figure 4.5

Digital transformation solutions are designed to be customer-centric so as to enable customers to interact with an organization in new ways and to make the customers' experiences as positive and effective as possible.

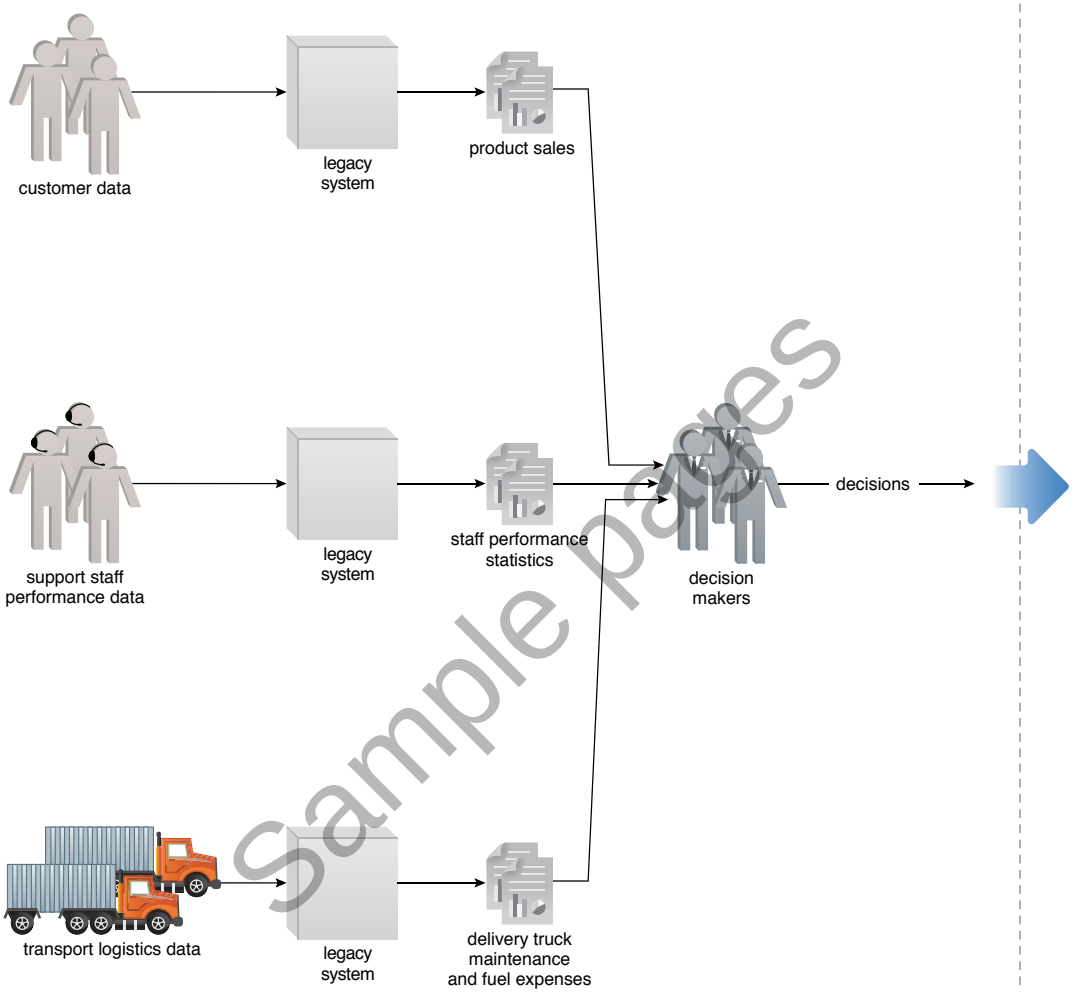


Figure 4.4

Traditional legacy systems produce various independent reports for human decision makers. Digital transformation solutions process and consolidate input data from a range of sources with the aim of producing enhanced reports at a faster rate and with greater data intelligence. The reported data may be provided to human decision makers or to data science systems that can make and act upon decisions autonomously.

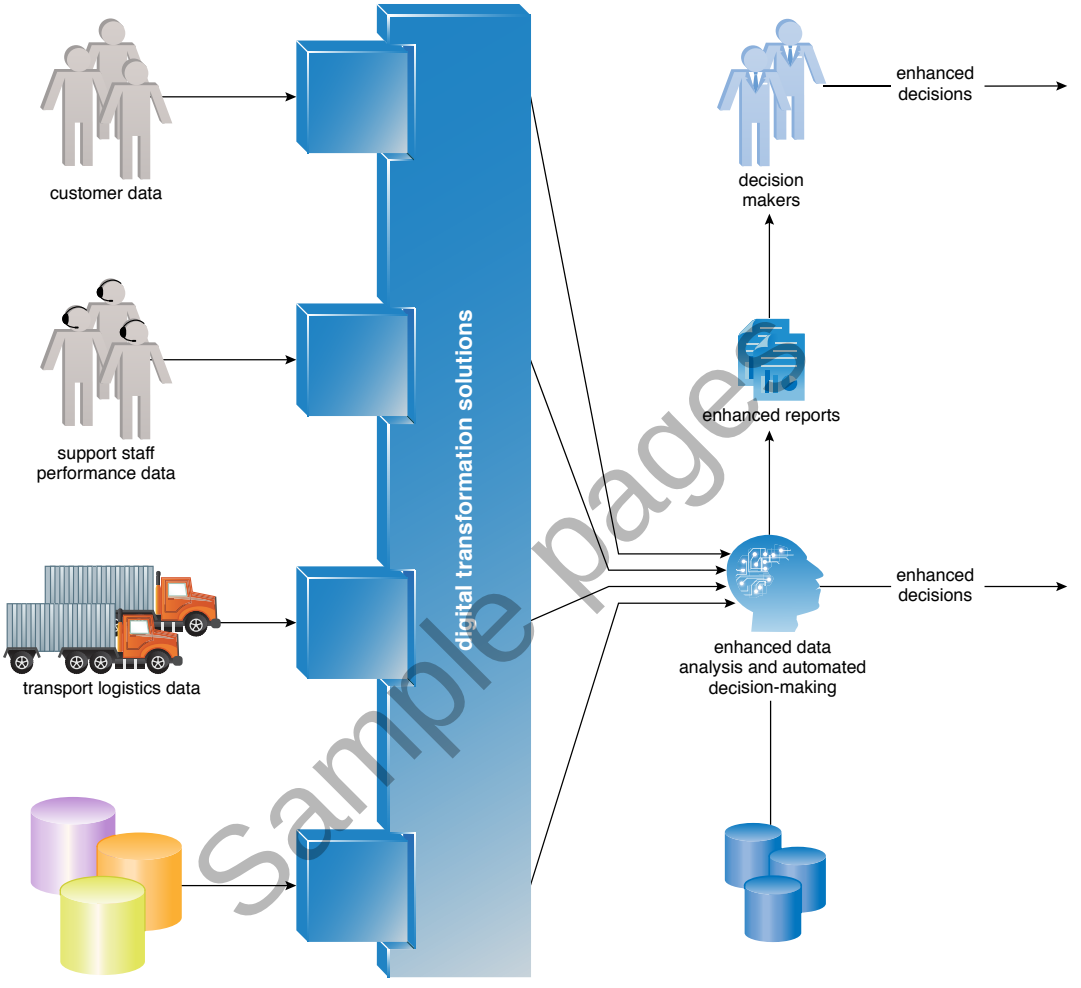


Figure 4.4 (continued)

Improved Organizational Agility

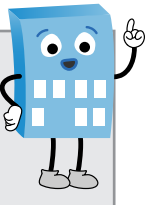
Digital transformation can transform an organization to become more agile in its ability to:

- Adapt to unforeseen business changes, such as new or existing disruptive competitors (that may be introducing new or improved products into a market), internal changes (the resignation of key executives, changes in internal funding, labor unrest), regulatory changes (new taxes, policies and other regulations that affect how a business operates) (Figure 4.6).
- Swiftly introduce new products or services into a market so as to maximize its ability to disrupt an existing marketplace before competitors can adapt and respond.
- Refine and adjust its business processes and models in response to new data intelligence, which the organization will also want to carry out swiftly to maximize potential benefits before competitors can themselves adjust.

This increased level of organizational agility can enable businesses to maneuver in response to planned or unplanned business change, with less impact to its operations and automation solutions.

TIP

Digital transformation solutions are ideally designed to evolve with the organization's business. This means that as the business changes, the underlying automation solutions are updated to enable those changes, preferably with minimal application development impact. To support this, a DevOps approach can be considered, along with technology architecture models that advocate broad standardization, such as SOA.



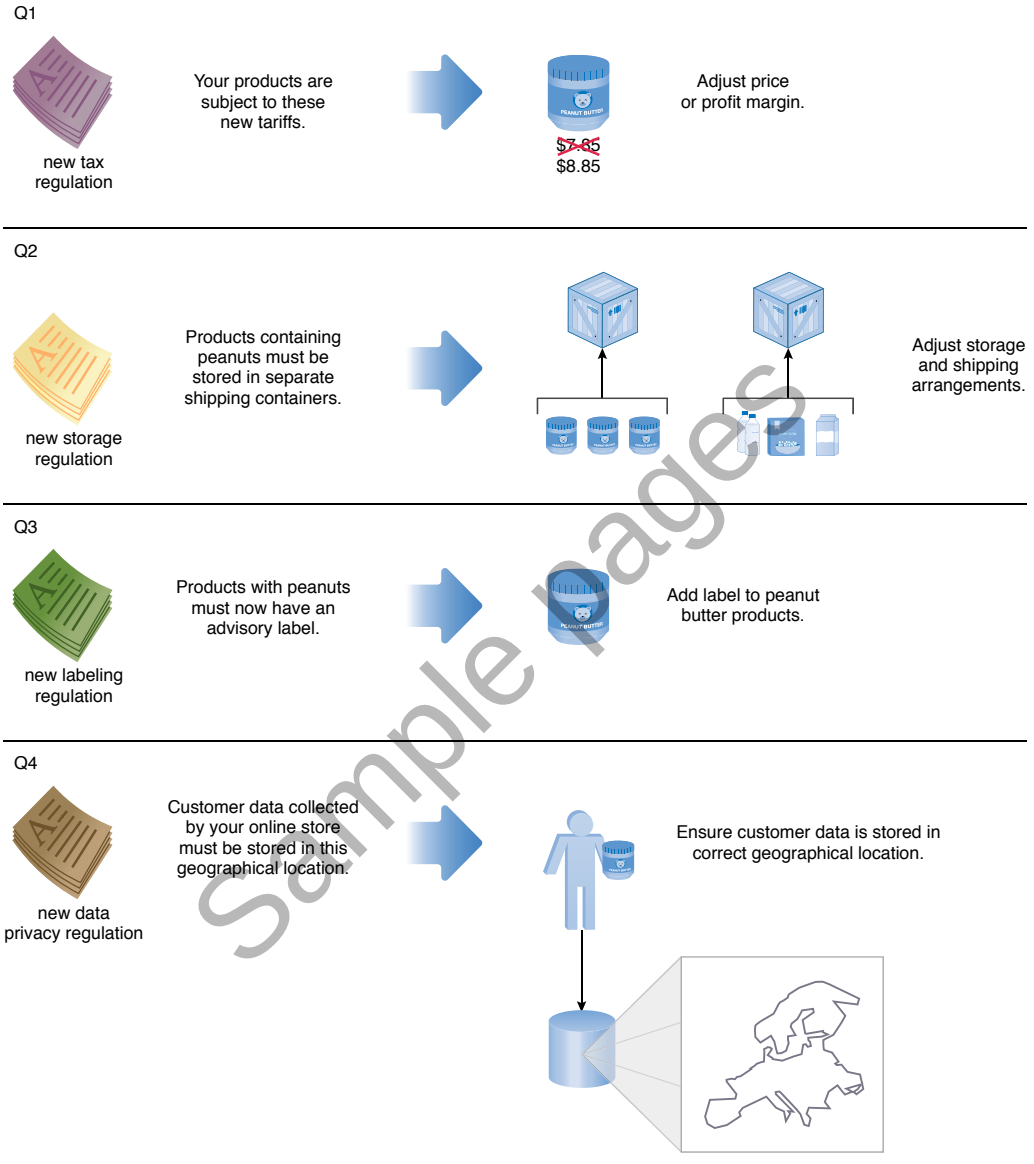


Figure 4.6

Over the course of a year, a business selling food products is required to adapt to a series of regulatory changes that impact some of its products. The improved alignment of its underlying automation systems allows the organization to more efficiently adjust its operations to accommodate such unforeseen changes.

Improved Ability to Attain Market Growth

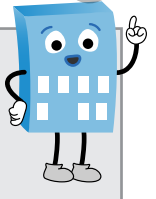
Digital transformation platforms enable an organization to make significant enhancements in how its business currently operates and, often more importantly, to introduce new products and services to disrupt existing markets in pursuit of growth.

This can lead to several avenues for increasing market share and revenue, such as:

- being able to reach a wider range of customers by moving more products and services online
- being able to reach new customers by adding new products and services to their offerings
- being able to increase the frequency of (existing and new) customers returning by improving customer experience

Furthermore, the technologies associated with digital transformation provide many opportunities for underlying automation solutions to become highly optimized, such as:

- optimizing business workflows by improving the quality of automation technology
- optimizing organization-wide workflows by introducing new automation technology in support of cross-departmental collaboration
- carrying out tasks faster and with less overhead by replacing manual labor with automation logic
- carrying out decisions in realtime and with less expense by replacing human decision makers with automated decision logic
- continually improving and refining business operations in response to new digital data intelligence that is collected, analyzed and fed into decision-making responsibilities carried out by humans and machines



TIP
The extent to which an organization can be successfully disruptive is often tied directly to the quality of data intelligence it collects and the resulting quality of decisions made based upon that data intelligence.

By repeatedly building upon these enhancements, organizations can continue to optimize their operations while continuing to increase the scope and revenue potential of their businesses (Figure 4.7).