

# Process Automation and Computers

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## WHAT'S COVERED

People use processes on a daily basis. In this tutorial, we will take a look at processes related to businesses and automation with computers and software development.

Our discussion will break down as follows:

## 1. Business Processes

You have probably heard the term *process* before, but what exactly does it mean? A **process** is a series of tasks that are completed in order to accomplish a goal. Every day, each of us will conduct many processes without even thinking about them: getting ready for work, using an ATM, reading our e-mail, etc. A **business process** is a process that is focused on achieving a goal for a business. Anything from a simple process, such as making a sandwich at Subway, to a complex one such as building a space shuttle, utilizes one or more business processes. Processes are something that businesses go through every day in order to accomplish their mission. The better their processes, the more effective the business. Some businesses see their processes as a strategy for achieving competitive advantage. A process that achieves its goal in a unique way can set a company apart. A process that eliminates costs can allow a company to lower its prices, thus retaining more profit.



### TERMS TO KNOW

#### Process

Series of tasks that are completed in order to accomplish a goal.

#### Business Process

Process that is focused on achieving a goal for a business.

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## 2. Automation and Computers

Organizations that are serious about improving their business processes will also create structures to manage those processes. **Business process management (BPM)** can be thought of as an intentional effort to plan, document, implement, and distribute an organization's business processes with the support of information technology. Due to the speed and efficiency with which information technology can process information, computers can be used to automate a multitude of business processes. **Automation** refers to the method of making a process function automatically or with very minimal human interaction. Automation enables business

process management to occur by utilizing software applications to automate important business processes. However, while automation can make a business more efficient, it cannot be used to provide a competitive advantage. Furthermore, not all of an organization's processes should be managed this way. An organization should look for processes that are essential to the functioning of the business, and those that may be used to bring a competitive advantage. Listed below are some examples of how automation is used in businesses and in everyday life.

Example of Automation	Description
Advertising and Marketing	Automated cross-selling enables web browsers and websites to suggest products to consumers by saving browsing habits and purchase history data. For example, when you make a purchase from Amazon.com, your purchase history is saved, and similar or related items are automatically recommended to you the next time you visit Amazon.com, or when you refresh your page during the same browsing session. Additionally, when you leave the Amazon website, Amazon.com can still make purchase recommendations automatically while you are on the Internet.
Online Software Applications	Automated software applications, such as Microsoft Office Online or Google Docs, provide users the ability to collaborate in real time on documents. For example, students in a language arts class can collaborate on a research paper outline in real time using Google Docs. One student initially sets up the document and invites other students (with Google accounts) to view and/or edit the document. Users can then make edits, suggestions, and have conversations that reference the content of the document, all within the original file.
Customer Billing	Automated billing software can send information to and receive information from a company database, in order to automatically generate a customer bill that can then be automatically printed out to be mailed. Additionally, the bill can be emailed to customers. For example, a public utility company, such as Progress Energy, can have its meter readers input data from the field into a device that communicates monthly power usage information to the company's database. An automated script (program) can then take this data and compute a customer's monthly bill total. Another small script (program) within the database can take this final total, and place it within the company's billing system to be included on a customer's bill, which is then automatically printed and mailed to the customer.
Text Autofill/Autocorrect	Web browsers and text messaging applications enable users to enter text faster through autocorrect features. For example, the autocorrect feature found in most text messaging applications makes suggestions for a word a user may be typing, based on stored words preloaded into the application, and words used by the user in previous messages.
Importing/Exporting Data	Automated software can be used to collect data. Data can then be managed by automatically routing it to various databases. For example, a customer's billing information can be extracted from a database, and then merged or exported from the database to a text-based document to generate a customer bill.



## TERMS TO KNOW

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#### Business Process Management (BPM)

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## 3. Automation in Software Development

Recall that software development describes the process that software is put through when it is being developed. In some cases, as software is being developed, project managers will look for opportunities to automate some of the more repetitive tasks associated with the process of software development. Tasks such as software testing, quality assurance testing, web link testing, database connectivity, and file transfer are all processes that can be automated during software development. These and other types of tests can be conducted at anytime. Other benefits of automation in software development lay in its ability to reduce the time it takes to develop an application, while increasing the efficiency with which an application can be developed.



#### SUMMARY

The advent of information technologies has had a huge impact on how organizations design, implement, and support **business processes**, as information systems are now tied into organizational processes. Using business process management, organizations can empower employees and leverage their processes for competitive advantage. **Automation** enables businesses to utilize business process management, because software is automated to complete routine tasks. In this tutorial, we discussed **automation** and the role it plays in business processes and **software development**.

Source: Derived from Chapter 8 of "Information Systems for Business and Beyond" by David T. Bourgeois. Some sections removed for brevity.

<https://www.saylor.org/site/textbooks/Information%20Systems%20for%20Business%20and%20Beyond/Textbook.html>



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