Course Learning Outcomes for Unit VIII

Upon completion of this unit, students should be able to:

5. Examine information systems decision making from a managerial perspective.
   5.1 Explain the value of knowledge management in organizations and decision making.
   5.2 Discuss the value of information systems in supporting management decision making.
   5.3 Describe the different tools and their capabilities for supporting decision making.

Reading Assignment

Chapter 11: Managing Knowledge

Chapter 12: Enhancing Decision Making

Unit Lesson

What is Knowledge?

Most of us, at some point in our educational journey, have learned the difference between data, information, and knowledge. We have discussed data in great detail in this course, so we know that data includes the base transactions of our systems. Those transactions mean little unless we use tools and turn it into information. Laudon and Laudon (2016) refer to this information as “categories of understanding” (p. 430). We can discern sales information and inventory information, for example, via organized categories. What do we do with that information? If we need a simple question answered, we can simply query the information. For example, we may query a database to see what a specific customer’s annual sales were for 2014. Also, we may pull a simple report. For example, you may manage all of the customers in New York City, so your report may list the annual sales for all those customers in New York City. That is information.

Knowledge is an asset to an organization and can take the form of information that has been put into some sort of context. It can also take the form of tacit knowledge in the minds of employees. Regardless of the type of knowledge, organizations need to manage it. According to Laudon and Laudon (2016), knowledge management refers to “the set of business processes developed in an organization to create, store, transfer, and apply knowledge” (p. 431).

In many organizations, knowledge management is not a high priority, but for those that realize the value, there are systems that can be used for enterprise-wide management. They help us to manage information and have capabilities for capturing, storing, retrieving, distributing, and preserving knowledge. There is also the opportunity for accessing internal information, such as reports, documents, and e-mails. What purpose is it to have an enterprise knowledge management system? Where is the value for businesses? The answer is better business processes and decisions!

The Business Value of Decision Making

We use much of the information and knowledge captured in organizations for the purpose of decision making. Sales data is used to make decisions about inventory levels, the purchase of new products, credit levels, and so on. Not only can you make decisions about an individual customer, but you can also make decisions about a specific store or even organization-wide decisions. There are decisions made at all levels of the organizations, and some may be small with little impact or large with a business-wide impact. The actual value to the business is based on many different factors. Regardless, it is important to note that information systems will likely be involved in almost every decision in some way.

How do Information Systems Support Management Decision Making?

There are different types of decisions used at different levels of management. For example, structured decisions are fairly routine and not considered to be very risky. Lower-level management uses them for the most part. Unstructured decisions require a good amount of insight and judgment. They are more likely to be riskier decisions and tend to be made by senior management. Finally, there are semi-structured decisions, which contain some of both characteristics and are usually made by middle management. Regardless of the decision type and role, information systems can support the decision-making process. In fact, in many cases, computer technology is relied upon pretty heavily for decision making.

Some technologies that aid in decision making are discussed in the sections below.

Decision support systems (DSS): A DSS is an information system that is utilized to assist in the decision-making process. A DSS consists of several different components, but the most important thing to understand is that the DSS accepts information from both internal and external sources to make quick decisions under rapidly changing conditions. The DSS technology provides easy graphical user interfaces and models to aid in decision-making processes (Laudon & Laudon, 2016).

Business intelligence (BI): Business intelligence is a broad term used to describe an infrastructure designed to store, integrate, process, analyze, and report data. All types of data that are included in this definition include what is referred to as *big data*. Big data is simply a term to describe data so large that it does not fit effectively in standard databases. BI information can be stored in transactional databases, especially as database management systems improve and become more efficient. More likely, though, the data will be moved to a data warehouse built appropriately for the organization and its needs. Part of the BI infrastructure includes tools for analytics and handy user interfaces such as dashboards, reports, and scorecards.

We could say that BI offers rich information quickly to the decision makers and the analytic tools help them to make sense of that information. You might even say that the analytic tools help us to turn information into knowledge.

One of the more valuable uses for analytics involves forecasting or predictive analytics. Many times, managers need to be able to use models to predict the outcome of future events. Predictive analytics uses statistical tools and data mining, for example, to predict future trends. One or more predictors may be changed to see what the outcome might be. A good example might be marketing expenditures. If your marketing budget is $100,000 per year and you have four product lines, what might be the best way to allocate those funds? If you have historical data, you can use it along with your predictive variable to predict what the outcome will be. For example, if you spend $50,000 of the marketing allowance on product line A, what will be your predicted net profits?

Information systems are also used for other types of decision support. For example, senior management may use executive support systems (ESS) to fully understand the performance of the organization. The balanced scorecard methodology allows for the organization's strategy and objectives to be operationalized into four dimensions. This just means it breaks them down into four areas to be measured more effectively. The four dimensions are financial, customers, business, process, and learning and growth.

Another management method is business performance management (BPM), which allows management to translate an organization's objectives into operational targets. This means that management will have understandable and achievable targets to measure against. Finally, there are group decision-support systems (GDSS), which are interactive systems that allow decision makers to work together to solve problems. It is a collaborative system that focuses on decision-making tools (Laudon & Laudon, 2016).

As you can see from the list of available technologies and decision support tools, information systems are a key component in their development and use. Technology is ever-changing, and the benefits are evident in the tools that are available to assist managers—regardless of the level in making sense of the information and in transforming that information into knowledge for aiding in making those important, strategic decisions.

Reference

Laudon, K. C., & Laudon, J. P. (2016). *Management information systems: Managing the digital firm* [VitalSource Bookshelf version] (14th ed.). Retrieved from https://bookshelf.vitalsource.com/#/books/9780133898309/

Suggested Reading

The following article discusses research that was performed, and provides a discussion of the impact of business intelligence system usage on managerial decision quality; as well as organizational performance. The article is relevant to our discussion in this unit as we are discussing the value of information systems in decision making.

In order to access the resource below, you must first log into the myCSU Student Portal and access the Business Source Ultimate database within the CSU Online Library.

Wieder, B., Ossimitz, M., & Chamoni, P. (2012). The impact of business intelligence tools on performance: A user satisfaction paradox? *International Journal Of Economic Sciences & Applied Research*, *5*(3), 7-32.

Learning Activities (Nongraded)

Review the Management Decision Problem 12-8 on page 493 in your textbook.

Create a seven to ten PowerPoint slide presentation that you would present to Applebee's CEO.

Be sure to describe the following in your presentation:

- Describe how business intelligence would be of help for the proposed strategy.
- Determine the data that Applebee's organization would need to collect.
- Explain the types of reports that would be useful in helping management make their decision on how to improve the menu and profitability.

You may use various sources including your textbook and the CSU Online Library. Be sure to cite all sources used in a reference slide with proper APA formatting (cover and reference slides do not count in the length requirement). You may also use the slide notes function.

As this is a nongraded activity, this work cannot be uploaded to Blackboard. If you would like your professor's feedback on your work, send this document to them in an email with a note that you would like to receive feedback on your non-graded activity.