Course Learning Outcomes for Unit V

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

2. Distinguish the similarities and differences between the personal knowledge management tools.

5. Evaluate the approaches to developing organizational knowledge management strategies.

Reading Assignment

Chapter 8:
Social Media Information Systems

Chapter 9:
Business Intelligence Systems

Unit Lesson

In Unit IV, we discussed the cloud and how the cloud works as well as the types of business processes and ERP systems. In this unit, we will discuss uses of social media for developing a personal brand, the use of reporting on mobile devices, some innovative application for mobile and the cloud, and the unique application of social networking for healthcare. You will also learn about some practical applications for business intelligence systems, specifically reporting, the use of animation for reporting on a mobile device, and the advantages of storing data in the cloud.

The display shown in the mobile device at the start of Chapter 8 is a report with data from a cloud database (Figure 1).

![Figure 1. Report Display](Kroenke, 2015, p. 284)
Because it is being served from the cloud, it is accessible by doctors, patients, health clubs, employers, insurance companies, and others who are not yet known to be involved (such as Lindsey). In this case, Lindsey learns that her mother has engaged in 11 treadmill exercises but has done almost nothing during those sessions.

It is common for those recovering from heart surgery to take exercise classes. Such classes provide control to ensure neither too much nor too little exercise is done; they also offer emergency assistance and the society of a group for encouragement. However, patients need to arrange transportation to the class. In the last unit, we discussed the PRIDE system (The Performance Recording, Integration, Delivery, and Evaluation). This system was developed as an embryonic, entrepreneurial opportunity that uses mobile devices, data-gathering exercise equipment, and the cloud to share integrated data among healthcare providers, heart surgery patients, health clubs, health insurance companies, and employers. PRIDE provides a way for patients to exercise at home and still have a group experience. They do not have emergency support, however, so this capability would need to be limited to patients who are unlikely to need emergency care.

Once the class begins, class members’ performance will be displayed on the member’s mobile phones. The user interface for the class is shown on page 323 in Chapter 9. Dr. Flores can use this prototype not only to demonstrate that the technology will support the application, but also to find out if his mostly elderly parents will use it. One of the purposes of the prototype is to find out if it will provide the needed motivation so that elderly patients will use it. An example (Figure 2) of one such application can be found at: https://www.endomondo.com/

Another example of this type of innovative technology is in the use of exercise equipment over the cloud. In order to maintain exercise regimen during extreme weather conditions such as high temperatures during the summer and extreme cold during the winter months, one can purchase a treadmill to help maintain exercise goals (minimum of 30 minutes, five days per week). Some types of exercise equipment have the ability to download and store exercise programs. For example, some treadmills by ProForm are equipped with a slot for an iFit Live wireless module training program (Figure 3).
This enables the treadmill to communicate with the user's wireless network and download personalized workouts, create their own workouts, track their workout results, race against other runners, and access many other features (Figure 4).
The user can then monitor their progress via a mobile app on a compatible phone (i.e., iPhone, Android) and on the web from a laptop or tablet. In addition to the training programs, there is also an online community to help promote exercise and to provide motivation (Figure 5).

![Image of iFit Community Social Web](image1.jpg)

**Figure 5. iFit Community Social Web**

Mobile technology and the cloud open doors for many new, innovative reporting applications.

The active nature of user experiences on mobile devices sets different expectations with regard to what a report is. In the opening figure in Chapter 9, page 323 (Figure 6), Maggie is competing against her prior workouts, in real time, on her bike. In the past, we would not have considered this a report, but it is.

![Image of PRIDE Tracker Interface](image2.jpg)

**Figure 6. PRIDE Tracker Interface**

(Kroenke, 2015, p. 323)
This example provides a great use for exception reporting. Dr. Flores wants his patients to exercise neither too much nor too little. If they are exercising too much, he wants to be notified in real time. This also demonstrates how Dr. Flores is catching on to the ways that applications are developed. He wants to be able to enter profile workouts and assign patient prescriptions on the basis of profiles. Ultimately, this feature was added to the PRIDE prototype, and supporting data is stored in the Profile, Profile Workout, and Equipment tables. Each workout, optionally, is then based on a Profile as shown page 280 (Figure 7).

The risks to Dr. Flores and Maggie in using exception-based PRIDE reporting for guiding at-home patient exercise is that PRIDE data eliminates data silos; patient data can be used for reports to all of the PRIDE participants, including doctors, patients, and health clubs. By eliminating silos, this enables all the parties to the PRIDE system to gain more information from that data. For example, doctors can use PRIDE data to compare patient exercise prescriptions to exercises performed. This opens the door to the use of data mining on the practice data (such as cluster and regression analyses). Other than competing against past performances, patients can use PRIDE data for their own benefit by keeping track of their exercise history over time, noting improvements or lack thereof, combining exercise data at home with that at health clubs, and possibly share their data with friends as is done at Endomondo: https://www.endomondo.com/. For health clubs and personal trainers, PRIDE could provide better reporting about what members are doing in the club than the club currently provides. In addition, the club and personal trainers can provide better services to individuals by combining club records with records of exercise at home. The club could also set up events in which some members are working out in the club and others are working out at home such as animating a competition on cell phones and on a group display in the club. Animation is a new type of reporting that can be used to create innovative and motivating reports.

In this litigious world, Dr. Flores probably should check with his attorney and the provider of his professional insurance to determine how to limit his liability in case patients misuse the system or in case it fails, either of which can happen. Maggie and other developers need to do the same. It is possible that this aspect of the application will become infeasible for legal reasons. Exception-based reporting for health care of at-risk patients may have liabilities that make it infeasible.
Privacy and Security

The availability of cheap cloud processing makes processing consumer data easier and less expensive every day. The result is more and more data, and that data is processed by more and more sophisticated algorithms. No one knows where this is going, and the U.S. government is so tied in knots that it is unlikely any effective governmental regulation will be created. Orwell’s book, *1984*, which was science fiction when published, has become a reality.

Should we care about the price of getting a good price on whatever we are looking for? How much personal privacy are we willing to sacrifice? It would be easier to relax about data aggregators if we knew what they are storing about us and also how they are processing it. If they use algorithms that are 95% reliable, what happens to the five percent for whom the results are wrong? All of this processing is happening in secret, behind closed doors.

Since 9/11, in the name of increased security, the U.S. government gathers and processes data about, well, who or what? We do not really know. The 1974 privacy act seems naïve today, and nothing in that act keeps the government from buying business intelligence from data aggregators.

In the security guide on page 362, Megan was able to combine data in reports that she receives for her job with data in a combination of public documents to infer at least one employee’s salary and possibly several others. She is not supposed to have this data. The fact that both the new-employee report and the employee newsletter were delivered electronically greatly simplified her task. This fact enabled her to readily search those documents. In truth, this problem has existed for as long as records have been kept. It is becoming a larger factor today because more reports are being produced, and those reports are being produced in readily searchable form. Thus, more data can be searched faster.

The critical question is: What can be done about it? Who has the time to consider every possible inference from combinations of every available document? Who has the ability to make every possible inference? No one.

Reference


Suggested Reading

Chapter 8 Presentation

Chapter 9 Presentation


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


Learning Activities (Non-Graded)

Course Flashcards: 
From the Textbook:
Using MIS InClass 8, Any Kayakers Here at the Grand Canyon? p. 296
Using MIS InClass 9, pp. 350-351
Ethics Guide, Unseen Cyberazzi, pp. 336-337
Guide, Developing Your Personal Brand, pp. 316-317
Guide, Data Mining in the Real World, pp. 364-365
Using Your Knowledge, p. 319
Using Your Knowledge, p. 368
Case Study 8, Sedona Social, pp. 320-322
Case Study 9, Hadoop the Cookie Cutter, pp. 369-371

Non-graded Learning Activities are provided to aid students in their course of study. You do not have to submit them. If you have questions, contact your instructor for further guidance and information.