Chapter 8
Data Mining Techniques in Knowledge Management

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ABSTRACT

The ability to manage knowledge is becoming increasingly more crucial in today’s knowledge economy. The creation and diffusion of knowledge have become ever more important factors in competitiveness. More and more, knowledge is being regarded as a valuable commodity that is embedded in products (especially high-technology products) and in the tacit knowledge of highly mobile employees. Data mining is an essential tool, which is used to predict and classify the data collected from the customers. Data mining can be applied for classifying and clustering student characteristics based on demographic, psychographic and behavioural variables. Data mining can also be applied by using if-then rule. In addition, it can describe the profile of successful and unsuccessful students based on GPA achieved during the semesters. This chapter aims to study the role of data mining in the education sector and emphasizes on the role of knowledge management in educational institutions.

INTRODUCTION

Knowledge management (KM) as an organizational innovation has been with us for more than a decade. As a discipline, it has reached a state of maturity where we can now discern the principles, practices, and tools that make it unique. As a discourse, it has engendered new concepts and categories for us to make sense of the many important ways that organizations use knowledge to create value. Given the richness of ideas and innovations that have emerged under the rubric of knowledge
management, and given the tremendous interest in schools and organizations to
learn about the subject, it is something of a mystery that there are so few textbooks
available. Perhaps it is because the field draws upon a wide range of subject areas,
or perhaps it is because many different perspectives complicate the discussion of
issues that engage knowledge management.

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today’s knowledge economy. The creation and diffusion of knowledge have become
ever more important factors in competitiveness. More and more, knowledge is
being regarded as a valuable commodity that is embedded in products (especially
high-technology products) and in the tacit knowledge of highly mobile employees.
Although knowledge is increasingly being viewed as a commodity or an intellectual
asset, it possesses some paradoxical characteristics that are radically different from
those of other valuable commodities.

These knowledge characteristics include the following:

- Use of knowledge does not consume it.
- Transferral of knowledge does not result in losing it.
- Knowledge is abundant, but the ability to use it is scarce.
- Much of an organization’s valuable knowledge walks out the door at the end
  of the day.

Knowledge management (KM) was initially defined as the process of applying
a systematic approach to the capture, structure, management, and dissemination of
knowledge throughout an organization in order to work faster, reuse best practices, and
reduce costly rework from project to project. Knowledge management solutions have
proven to be most successful in the capture, storage, and subsequent dissemination
of knowledge that has been rendered explicit—particularly lessons learned and
best practices.

Many knowledge management (KM) efforts have been largely concerned with
capturing, codifying, and sharing the knowledge held by people in organizations.
Although there is still a lack of consensus over what constitutes a good definition
of KM

A good definition of knowledge management incorporates both the capturing
and storing of the knowledge perspective, together with the valuing of intellectual
assets. For example:

Knowledge management is the deliberate and systematic coordination of an
organization’s people, technology, processes, and organizational structure in order
to add value through reuse and innovation. This coordination is achieved through
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