

Developing Knowledge Management Competencies Using Business Analytical Tools

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Over the past decade, businesses have seen exponential growth in the volume of data in their data storage. In the mid 1990s, few organizations had terabytes of data in their data warehouses; today, some data centers hold data measured in petabytes (Bransten, 1999; Lyons, 2004). While the lowering costs of data storage might have contributed to the tremendous growth in data volume, wide spread adoptions of online transaction processing systems and e-commerce are also reasons for the rapid growth in data volume. In addition to internal business operational and financial data, external data from business information brokers, marketing research firms and government reports also add to the volume and complexity of data a business must manage.

These data from internal and external sources have great potential for helping organizations make better decisions and be more competitive. It is commonly accepted that knowledge is a key resource, and it gives a business a competitive advantage over its competitors (Davenport & Prusak, 1998; Drucker, 1994). However, not until these data are analyzed in the context of the business's unique information needs and decision framework can the data be converted into useful insight for better decision making. Business graduates who are proficient in business analytical tools and have a strong business background will be valuable assets to their future employers.

Proposed in this paper is an IT curriculum component that focuses on helping students develop effective knowledge management skills using business analytical tools. The instructional design of this knowledge management component adopts a tiered, modular design approach. In the first level, students learn to use an analytical tool (i.e., SAP's Business Information Warehouse) to answer well-defined questions posed by the instructor. The focus at this level is to help students learn to define business queries and generate reports from an existing data cube. In level 2, students are given ill-structured problems, and they must frame the problem and then formulate and test their hypotheses or discover patterns and correlations using various data mining techniques. The focus at this stage is to help students sharpen their questioning skills and think more critically. In level 3, students focus on the technical aspects of business analytics. They will go through the planning and execution phases including data modeling, requirements definition, and data transformation to extrapolate data from different sources and build a data warehouse.

Contributions of this paper include the pedagogical framework for helping students develop effective knowledge management skills and lessons learned from the application of business analytical tools in the instructions.