Chapter 1

1. Automated Decision Systems (ADS) is a business \_\_\_\_\_\_\_\_ system that uses intelligence to recommend solution to repetitive decisions (such as pricing).
2. \_\_\_\_\_\_\_\_ is the application of scientific approach and mathematical models to the analysis and solution of managerial decision situations.
3. Decision support systems are computer-based support systems for management decision makers who deal with \_\_\_\_\_\_\_\_ problems.
4. The process of business intelligence is based on the \_\_\_\_\_\_\_\_ of data to information, then to decisions, and finally to actions.
5. Business intelligence's major objective is to enable \_\_\_\_\_\_\_\_ access to data, enable manipulation of these data, and to provide business managers and analysts the ability to conduct appropriate analysis.
6. \_\_\_\_\_\_\_\_ is a process of searching for unknown relationships or information in large databases or data warehouses, using intelligent tools such as neural computing, predictive analytics techniques, or advanced statistical methods.
7. \_\_\_\_\_\_\_\_ are a type of user interface that provides a comprehensive visual view of corporate performance measures, trends, and exceptions.
8. \_\_\_\_\_\_\_\_ which is also referred to as corporate performance management (CPM), is an emerging portfolio of applications and methodology that contains evolving BI architecture and tools in its core.
9. A \_\_\_\_\_\_\_\_ is a system in which human participants and/or machines perform a business process, using information, technology, and other resources, to produce products and/or services for internal or external customers.
10. \_\_\_\_\_\_\_\_ is the first component of the DSS architecture.
11. Decision support systems are computer-based support systems for management decision makers who deal with \_\_\_\_\_\_\_\_ problems.

**The Business Pressures–Responses–Support Model**

The Business Pressures–Responses–Support Model, as its name indicates, has three components: business pressures that result from today’s business climate, responses (actions taken) by companies to counter the pressures (or to take advantage of the opportunities available in the environment), and computerized support that facilitates the monitoring of the environment and enhances the response actions taken by organizations

Figure:T**he Business Pressures–Responses–Support Model.**(follow the slide )

**The Business Environment:** The environment in which organizations operate today is becoming more and more complex. This complexity creates opportunities on the one hand and problems on the other. Take globalization as an example. Today, you can easily find suppliers and customers in many countries, which means you can buy cheaper materials and sell more of your products and services; great opportunities exist. However, globalization also means more and stronger competitors. Business environment factors can be divided into four major categories: *markets, consumer demands, technology*, and *societal*.

The ***intensity*** of most of these factors increases with time, leading to more pressures, more competition, and so on. In addition, organizations and departments within organizations face decreased budgets and amplified pressures from top managers to increase performance and profit. In this kind of environment, managers must respond quickly, innovate, and be agile.

**Organizational Responses: Be Reactive, Anticipative, Adaptive, and Proactive**

Both private and public organizations are aware of today’s business environment and pressures. They use different actions to counter the pressures. Vodafone New Zealand Ltd (Krivda, 2008), for example, turned to BI to improve communication and to support executives in its effort to retain existing customers and increase revenue from these customers. Managers may take other actions, including the following:

* Employ strategic planning.
* Use new and innovative business models.
* Restructure business processes.
* Participate in business alliances.
* Improve corporate information systems.
* Improve partnership relationships.
* Encourage innovation and creativity.
* Improve customer service and relationships.
* Employ social media and mobile platforms for e-commerce and beyond.
* Move to make-to-order production and on-demand manufacturing and services.
* Use new IT to improve communication, data access (discovery of information), and
* collaboration.
* Respond quickly to competitors’ actions (e.g., in pricing, promotions, new products
* and services).
* Automate many tasks of white-collar employees.
* Automate certain decision processes, especially those dealing with customers.
* Improve decision making by employing analytics.

**Business Environment Factors That Create Pressures on Organizations**

**Factor Description**

Markets : strong competition,Expanding global markets,Booming electronic markets on the Internet,Innovative marketing methods,Opportunities for outsourcing with IT support Need for real-time, on-demand transactions

Consumer demands: Desire for customization,Desire for quality, diversity of products, and speed of delivery Customers getting powerful and less loyal

Technology More innovations, new products, and new services Increasing obsolescence rate Increasing information overload Social networking, Web 2.0 and beyond

Societal Growing government regulations and deregulation Workforce more diversified, older, and composed of more women Prime concerns of homeland security and terrorist attacks Necessity of Sarbanes- Oxley Act and other reporting-related legislation Increasing social responsibility of companies Greater emphasis on sustainability

Many, if not all, of these actions require some computerized support. These and other response actions are frequently facilitated by computerized decision support (DSS).

**Closing the Strategy Gap** One of the major objectives of computerized decision support is to facilitate closing the gap between the current performance of an organization and its desired performance, as expressed in its mission, objectives, and goals,and the strategy to achieve them. In order to understand why computerized support is needed and how it is provided, especially for decision-making support.

Managers usually make decisions by following a four-step process.

**1.** Define the problem (i.e., a decision situation that may deal with some difficulty or

with an opportunity).

**2.** Construct a model that describes the real-world problem.

**3.** Identify possible solutions to the modeled problem and evaluate the solutions.

**4.** Compare, choose, and recommend a potential solution to the problem.

To follow this process, one must make sure that sufficient alternative solutions are being considered, that the consequences of using these alternatives can be reasonably predicted, and that comparisons are done properly. However, the environmental factors in evaluation process difficult for the following reasons:

* Technology, information systems, advanced search engines, and globalization result in more and more alternatives from which to choose.
* Government regulations and the need for compliance, political instability and terrorism, competition, and changing consumer demands produce more uncertainty,making it more difficult to predict consequences and the future.
* Other factors are the need to make rapid decisions, the frequent and unpredictable
* changes that make trial-and-error learning difficult, and the potential costs of making mistakes.

These environments are growing more complex every day. Therefore, making decisions today is indeed a complex task. Because of these trends and changes, it is nearly impossible to rely on a trial-and error approach to management, especially for decisions for which the factors are strong influences. Managers must be more sophisticated; they must use the new tools and techniques of their fields. Most of those tools and techniques are discussed in this book. Using them to support decision making can be extremely rewarding in making effective decisions. In the following section, we look at why we need computer support and how it is provided.

**Similarities and differences between DSS and BI.**

First, their architectures are very similar because BI evolved from DSS. However, BI implies the use of a data warehouse, whereas DSS may or may not have such a feature.

BI is, therefore, more appropriate for large organizations (because data warehouses are expensive to build and maintain), but DSS can be appropriate to any type of organization.

Second, most DSS are constructed to *directly* support specific decision making. BI systems, in general, are geared to provide accurate and timely information, and they support decision support *indirectly*. This situation is changing, however, as more and more decision support tools are being added to BI software packages.

Third, BI has an executive and strategy orientation, especially in its BPM and dashboard components. DSS, in contrast, is oriented toward analysts.

Fourth, most BI systems are constructed with commercially available tools and components that are fitted to the needs of organizations. In building DSS, the interest may be in constructing solutions to very unstructured problems. In such situations, more programming (e.g., using tools such as Excel) may be needed to customize the solutions.

Fifth, DSS methodologies and even some tools were developed mostly in the academic world. BI methodologies and tools were developed mostly by software companies.

Sixth, many of the tools that BI uses are also considered DSS tools. For example, data mining and predictive analysis are core tools in both areas.

Q1. Define BI. Explain briefly the **Architecture and Styles of BI. Discuss the the DSS and BI Connection.**

**Q2.** What are structured, unstructured, and semistructured decisions? Provide two examples of each. Describe briefly how can computers provide support to semistructured and unstructured decisions?

Q3What is strategy gap?.Describe briefly the Managerial decision making process.

Q.4 Explain the Business Pressures–Responses–Support Model. “Intuition and trial-and-error approaches to managerial decision making may not be effective in today’s business environment”. Justify the statement