

Chapter 3

Information Systems

ABSTRACT

An information system translates data into information to support business decision making. Data, raw unorganized facts, are gathered relative to a business event. The resulting information, which has meaning in the hands of a user, must be complete and accurate in order to support timely decision making. The acquisition of an information system by a small business will be a relatively costly endeavour. The small business manager will tend to rely upon an internal individual or external organization for advice when acquiring an information system. Further, the information system will be employed to improve the efficiency of daily operations of a small business. This chapter describes information systems. In general, an information system turns data into information to support decision making. The information must be timely, complete, and accurate relative to the decisions which must be made.

INTRODUCTION

There are many types of systems, such as the solar system or the nervous system. An information system is one type of system which supports various decision making activities within a business. Information systems may be manual or automated. With a low volume of transactions and few data items a manual information system may suffice. However, as transaction volume increases along with the requirement for more data items an automated information system will become a necessity. This chapter focuses on aspects related to automated information systems.

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Information Systems

This chapter is organized as follows. To begin, systems in general are described. Then, the terms “information technology” and “information system” are differentiated. The remainder of the chapter is focused on information systems. Next a general information systems diagram serves to explain the components of any information system and its relationship to the business environment. This diagram shows how data becomes information which, in turn, supports decision making. There are different types of information systems depending upon the management level in a business. Each type of information system is designed to address the requirements of decisions necessary at various management levels. The chapter includes a list of commonly used terms which might be encountered by the small business manager. Then an overview of research related to small business and information systems presents a description of small business readiness for the technology. A small business may use information systems to lower costs, increase profits, improve service, or achieve a competitive advantage. More specific research is presented in subsequent chapters. To conclude this chapter a sample investigation is included which outlines further considerations regarding the acquisition of information systems by small business. Project recommendations are made relative to a number of stakeholders as they relate to small business.

BASIC INFORMATION SYSTEMS

This section provides an overview introduction to the terms and concepts of information systems. There are many material sources on this subject which provide very extensive coverage. However, the goal of the material presented here is to provide an appreciation for information systems and to supply a context for the subsequent discussion of the relationship between small business and information systems.

To begin, a system is a set of components that interact to accomplish a goal. For example:

- The human nervous system contains a network of specialized cells which transmit signals to co-ordinate actions
- The economic system involves producing, distributing, and consuming goods and services along with the compensation for the exchanges
- The transportation system consists of entities (ie. planes, trains, and automobiles) involved in the movement of people
- The monetary system employs government policies and institutions to monitor and control the supply of money in order to affect economic activity.

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