A DIFFERENT WAY TO CATEGORIZE COMPUTERS—
CHAPTER SIX

The model for categorizing computers discussed in Chapter 6 of the text is valid and used by many IS professionals and MIS programs. However, there are also other ways to categorize computers. The following is simply a different way to categorize computers based on their size, function, speed, and cost. The discussion here is minimal since the text covers most of this material using a slightly different typology. The typology starts below with the smallest, slowest, and least expensive of the categories of computers.

Microcomputers
Minicomputers
Mainframes
Supercomputers

Microcomputers
The first microcomputers were personal computers, also known as desktops. Soon, other varieties appeared within this category. Each variety of microcomputer is listed below with a brief description of its place within this category.

- Personal computers (desktops): Range in size from fairly small to a full tower case; personal computers typically come with separate monitors and keyboards. They usually cost less than $3000 CDN.

- Laptop computers: Easily portable (under 4 kilograms), with monitor and keyboard integrated in the laptop case. Typically, they cost less than $3000 CDN.

- Workstations: Powerful personal computers with additional speed, memory, and storage capacity used as servers or for engineering or graphics purposes. They usually cost between $5000 and $25000 CDN.

- Palmtop or handheld computers: Using a specialized operating system, handheld computers are slower and have much less memory and storage capacity than other microcomputers. Typically, they cost between $150 and $800 CDN.

Minicomputers
Minicomputers have more memory, speed, and storage capacity than microcomputers. They are usually the size of a two-drawer filing cabinet or slightly larger with various telecommunication hubs and switches connected to them (see Chapter 9). They also have fast printers and other peripherals. Most frequently, minicomputers are used by large departments with very large organizations. Minicomputers are also used by small–medium size organizations for such functions as being a host server for a network, a gateway to the Internet, or the repository for a
medium-sized database accessed by users within the organization. The typical cost for a minicomputer is between $100,000 and $500,000 CDN.

**Mainframes**
Mainframes are faster and have more memory and storage capacity than either of the less-powerful computer categories. The typical size of a mainframe is the size of a refrigerator or a four-drawer filing cabinet. Mainframes are used by larger organizations as data warehouses (see Chapter 8) or as network servers and Internet gateways. The typical cost for a mainframe is between $500,000 and $1.5 million CDN.

**Supercomputers**
The largest, fastest, and most powerful type of computer to date, the supercomputer is used primarily for research applications in which "number crunching" of massive amounts of data is critical. A supercomputer is the size of several refrigerators or four-drawer filing cabinets and may require special air-cooling facilities due to the heat generated by its multiple processors. The typical cost of a supercomputer is over $2 million CDN.