Through lack of understanding, the Toyota production system is sometimes considered far removed from modern computerized information systems. Moreover, it is felt that Just-in-time (JIT) production can be realized only by the Kanban pull system. However, before applying Kanban, detailed schedules must be prepared in advance for each production process using monthly planning data. This scheduling is accomplished by a computerized information system.

Toyota production is supported by an electronic data processing (EDP) system. The example in this chapter is based primarily on the supply systems of Kyoho-Seisakusho Company, Ltd. and Aisin-Seiki Company, Ltd. However, since companies of the Toyota group are closely aligned with the Toyota Motor Corporation, similar systems are being developed among various companies.

The computerized information system reported herein consists of seven subsystems that may be classified roughly into three categories (Figure 19.1):

1. **Technology data base** subsystem, which maintains the data base for the planning and actual performance subsystems.
2. **Planning** subsystem, which provides plant managers with information for preparing production arrangements for the next month, such as determining the number of Kanban and the distribution of workers on the assembly line.
3. **Actual performance** subsystem, which supplies attention directing information to improve processes by comparing actual performance with planned data.

The subsystems will be examined in detail in the following sections. However, it should be recognized that another computerized planning system (i.e., the heuristic sequencing program) exists for mixed assembly lines at Toyota and its suppliers and is discussed in Chapter 16.

**Technology Data Base Subsystem**

The technology data base subsystem maintains the basic data for production controls. It includes a parts data base (bill of materials) to compute the various
parts quantities required for each finished product and a collection of data to reflect the steps in producing a company's products from beginning to end.

Kyoho-Seisakusho Company, Ltd. uses a UNIS data base (UNIVAC Industrial System) with software developed by Japan UNIVAC Company, Ltd. for this subsystem. This UNIS was originally developed for MRP. In this meaning, the Kanban system is compatible with MRP.

**Material Requirement Planning Subsystem**
This subsystem receives a predetermined three-month production information tape as input data provided monthly by Toyota to its cooperative parts suppliers. The subsystem then computes the quantity of material required by each process. The outputs of this system are summarized as follows:

- Daily required quantities of each material to be used within the company or by its suppliers.
- Number of pallets to contain each material.
- Production schedule of each finished product to be supplied to each customer company.