

ASSIGNMENT 2 CHEAT SHEETS

Two Ways to View an HRIS: Data Versus Process

For any HRIS, the organization must look at the total HR system from two different perspectives: the data perspective and the process perspective.

① The data perspective focuses on an analysis of what data the organization captures and uses, and on the definitions and relationships of the data, while ignoring how or where the data are used by the organization. For example, a system whose aim is employee recruiting would need data about the applicants and their knowledge, skills, and abilities (e.g., name, address, degrees received, work experience). The data perspective would focus on the important data to be captured but would not be concerned with how the data are to be used within the organization. In addition, the data perspective focuses on the most efficient and effective way to capture the data to ensure accuracy.

① The process perspective, conversely, focuses on the business processes and activities in which the organization engages and on how data flow through the HRIS. For example, a recruiting module from this perspective would consider business activities, such as receiving applications, sorting and scanning resumes to determine the interview pool, scheduling interviews, reporting candidate information for legal purposes, and so on, but not the data definitions and relationships. The designer would focus on the specific business processes, including the input of the data into the system, the flow of data through the system, and the storage of the data, but not on precisely what data are captured and how they are best organized or stored. Essentially, process modeling uses tools to describe the processes that are carried out by a system.

A key question that the reader might be asking is, “Why should I care about these distinctions?” The reason the distinction between the process and data perspectives is important is that each represents a portion of the total HRIS, but neither provides the complete picture. By modeling each separately, the organization is better able to understand and communicate its needs to the technical staff (e.g., the project management team responsible for designing and implementing the HRIS and any external consultants, vendors, or software developers). In addition, while processes may change in the future, data generally represent the most permanent and stable part of a system. For example, employee data from prior systems are often converted into the new HRIS data format and transferred into the new system. This data conversion and migration process is a critical step in the implementation phase, and it provides a bridge and continuity between the legacy system and the new HRIS. This permanency of data and the more dynamic aspect of processes suggest the importance of dealing with each separately.

You can assume some stuff

*Assume you are the person in charge of the project
make your assumption but, make them realistic
static*

Logical Process Modeling With Data Flow Diagrams

* A **process model** describes and represents the key business processes or activities conducted by the organization, such as applicant tracking. The specific type of process model typically used by organizations is a **data flow diagram (DFD)**. A DFD is a graphical representation of the key business activities and processes in the HR system, the boundaries of this system, the data that flow through the system, and any external individuals or departments that interact with the system.

A DFD consists of four symbols (see [Figure 5.1](#)): the entity, the data flow, the process, and the data store. The **entity** represents any external agent (e.g., an individual, department, business, system) that either receives or supplies data to the HR system. For example, in an **applicant-tracking system (ATS)**, a manager could request that a job opening be posted, or an applicant could submit her resume online. In this scenario, both the manager and applicant are entities. Other examples of an entity are a manager inputting merit pay raise information on an employee into the payroll system or the production/manufacturing system inputting piece-rate production data about the number of products produced by an employee into the payroll system. Similarly, the time-and-labor module, which provides time-card information on employees and their start and end times on workdays, represents an entity for payroll systems. Because entities represent a specific person, place, system, or department, they are labeled with a noun in the DFD.

The **data flow** represents the movement of a single piece of data from point to point through the system (e.g., from process to process, entity to process, or process to data store). As a data flow represents data about a person, place, or thing, it should also be labeled with a noun. The label of a data flow should describe exactly what data are contained in the flow. For example, a data flow labeled “Time Sheet” would represent an employee’s time sheet, and the exact data contained in the flow would be precisely defined as part of the diagramming process. Because DFDs describe the key business processes and the flow of data between them, *an important rule to remember is that all data flows must begin or end at a process.*





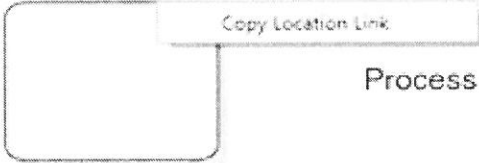
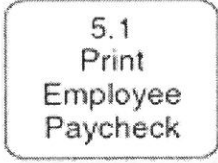


The third symbol in the DFD represents the **process**. A process represents a business activity or process. The goal of each process is to change or transform inputted data into a useful output (e.g., creating an applicant record, updating an employee record, creating a recruiting yield ratio report, reporting Equal Employment Opportunity Commission data on applicants). Since data are transformed as part of these processes, they should be labeled with action verbs, for example, *calculate, send, print, or verify.*

The final symbol represents the **data store**, in other words, the data at rest in the system or a repository of data. This repository could be a filing cabinet, a file on a desk, a computer file, or a database table. A data store contains data about a person, place, or department and should be labeled with a noun. Examples of data stores include employee files, applicant files, employee records, and customer or current benefits records. Data stores are typically identified with a

“Dn,” where D identifies that what is labeled is a data store and *n* is a number reflecting the data store’s unique identifier (D1, D2, etc.). The symbols and their use are illustrated in [Figure 5.1](#).

Figure 5.1 Symbols of the Data Flow Diagram (DFD)

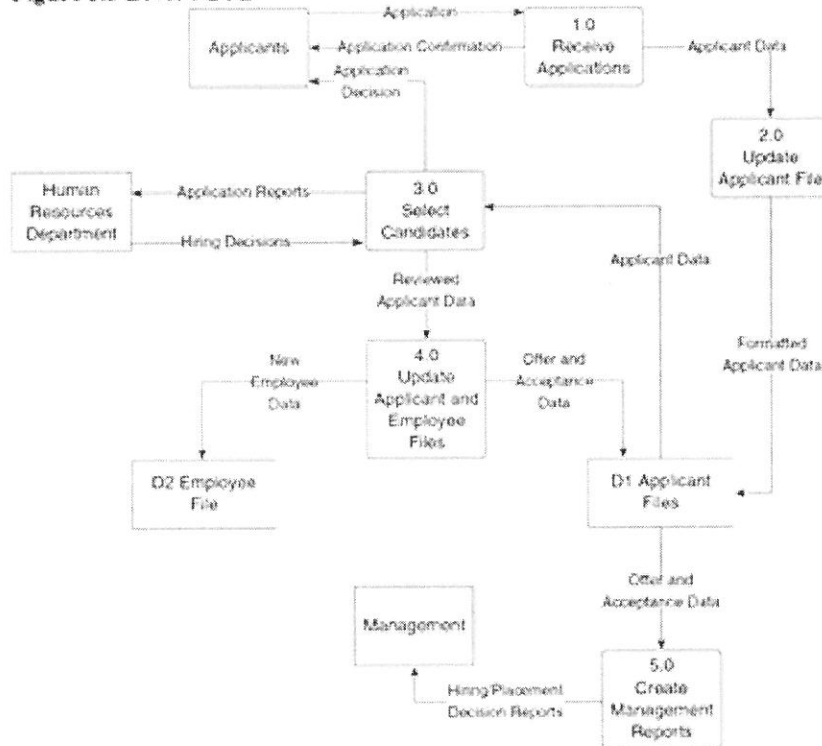
Figure 5.1 Symbols of the Data Flow Diagram (DFD)

Symbol	Meaning	Example
	Entity	
	Data flow	
	Process	
	Data store	

Physical Design

As was discussed in earlier chapters of this book, the acquisition of a system is the culmination of a series of important steps. By this point, the organization should have a strong understanding of its current operations, a set of requirements for the new system, and a new logical model for how it wishes the system to operate. Once the new system has been designed and logical models of the new system have been tested against the business requirements, the organization will move to the physical design phase. The major goal of this phase of the SDLC is to translate the logical model and requirements into a physical system, including all hardware, software, and networking.

Figure 5.3 Level 0 DFD



Three Choices in Physical Design

- The first step in this design phase is to determine how to proceed with physical design. First, the organization has the option of doing nothing.
- The second option is to *make changes to only the HR business processes without implementing new or upgraded technology*. Before any time or money is spent on new technology, it is important that the organization address all proposed business process changes and determine if these processes can be handled using the current HRIS technology.
- The final option that an organization can choose is to *implement the business process changes along with new or upgraded technology*. There are three basic ways that this can be done: build it, buy it, or outsource the development.

Choose one
Pick either
two or three

Working with Vendors

Although building a new HRIS from scratch with internal resources may be a viable option for some organizations, by far the most common decision is to work with an external vendor to develop or acquire the system. To do this, the HR staff will need to work closely with both the internal IT department and external vendors to ensure that the business process requirements and all technical requirements are presented to the vendor. The first step in this process is to develop a **request for proposal (RFP)**.

TABLE 5.1 ■ Software Acquisition Strategies

	Development Strategy		
	In-House	COTS	Outsource
Business Need	Unique	Standard	Noncore Function
In-house skills	Functional and technical expertise exists	Functional expertise exists	Functional and technical expertise not in-house
Project management skills	Project has skilled and experienced project manager	Project has a manager with experience to coordinate and manage vendor relationship	Project has manager with experience to manage an outsourcing relationship
Time frame	Flexible	Short	Flexible or short

Source: Adapted from Dennis, Wixom, and Roth (2006).

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Vendor Selection

After the RFPs are sent, the vendors will then evaluate them to determine if they can provide a solution that will fit the specified RFP parameters. If the HR and IT staff have put together a

strong RFP, then they should get a set of vendors who have a better understanding of the company's specific needs and who can provide a better-tailored response and proposal for the HRIS. After receiving the vendor responses, you will have the opportunity to evaluate the relative strengths and weaknesses of each vendor. To do this, you should consider several things and assess software options according to a number of criteria. These are described below.

Functionality

As you assess the different vendor responses, it is important to evaluate how fully the functionality of the HRIS meets the HR needs. For example, a software product that meets 70% of the organization's needs will be less desirable than one that meets 98% of its requirements. On the other hand, software that meets 98% of the organization's needs but has no additional functionality may not provide the organization with the opportunity to grow and expand its options in the future, so it may be less attractive than a product that meets 90% of your HR needs but allows for growth over time. It is important that the HRIS implemented today is able to change as the organization grows. Otherwise, within a few years, the organization will have to go through the entire systems development process and purchase or develop an entirely new solution. Finally, an HRIS that will meet your organization's needs with minimal customization for actual use would be more attractive than one requiring significant customization.

IT Architecture and IT Integration

The next issue focuses on the IT architecture for the HRIS. The organization will need to know whether the HRIS will be a stand-alone system, a networked system, a Web-enabled one, an externally hosted or cloud based system, and so on. In addition, the organization will want to know with what technology or platform the HRIS has been developed (e.g., UNIX, Linux, Windows) and what separate database(s), if any, the HRIS requires. Finally, it is critical to ascertain the extent to which any HRIS will integrate within the broader corporate IT architecture. An HRIS that can more readily interact and communicate with operations, manufacturing, and sales can provide a much stronger return for the company than one that stands as an isolated entity. The easier the integration with the broader IT architecture, the easier it will be to implement and use the system. In today's environment of employee self-service and Web portals, the ability to provide remote access to employees can also be a plus as different systems are considered. Today's cloud-based systems are growing in popularity due to their lower up-front costs, decreased capital hardware expenditures, lower overall costs, rapid implementation and updates, and seamless integration between ERP modules (more information on cloud-based systems are found in [Chapter 3](#)). Finally, if functional HR systems are being considered from multiple vendors, the extent to which they can be integrated, rather than requiring middleware, and communicate with each other also becomes important.

Price

Although price will ultimately play a very large role in the selection of an HRIS, price should be secondary to the goal of finding a system that meets your process needs. At the same time, price will ultimately determine which system is selected. The ultimate cost of the system will include the visible costs, such as the cost of hardware and software, as well as the less visible costs, such

as customization costs, employee training costs, licensing fees (e.g., site licenses, per seat licenses), upgrade costs, and the cost of system operation and maintenance over time. HRIS costs and cost-benefit analyses are covered in more detail in Chapter 7.

Vendor Longevity and Viability

As with any purchase decision, it is important to evaluate the quality of the vendor itself. The good news is that a number of vendors have been in business for over 20 years, so vendor longevity is usually not an issue. In today's environment, the viability of vendors can often be assessed through their responsiveness to existing clients and their history of providing timely upgrades and increasingly flexible systems. Furthermore, the HRIS vendor marketplace has been undergoing some consolidation as companies seek to better position themselves to provide value-added services across the HR functional spectrum, so the vendor you sign with today may end up merging with another company. A listing of several sample vendors can be found in Table 5.3. In addition, the **International Association for Human Resource Information Management (IHRIM)** provides an online buyers' guide for those interested in adopting HR software (www.ihrimpublications.com/Buyers_Guide/BG.php).