8.0.0 – Business Processes

Introduction

To create an effective, dynamic, business web application one needs to understand the basic business processes. This resource may be an over simplification but it may be valuable for those who do not understand how businesses function. To get more detail one would be encouraged to study Systems Analysis and Design in more depth. Although the business processes outlined in this section relate to the business system used in these notes they do serve as an example that can be used for other business systems.

Business Processes

This course is about creating a web application that automates several business processes. It is important to understand how each of the processes work and the business rules affect each of them.

Sales

When a sale is made several things happen or are triggered as a result of the sale. Firstly, in most business transactions there is a record created of the transaction. In a store you often get a receipt itemizing all the items purchased and a total price of the sale. In businesses this *receipt* is called an **Invoice**. There is important information that generally appears on the invoice:

- Company name and address
- Buyer's name and address
- Shipping address
- Billing address
- A list of each item on the invoice:
    - Product number
    - Description
    - Quantity sold
    - Line total
- Total sale

The next event that happens is a change in the **Inventory** levels of each product; for each item on the invoice, or receipt, the quantity on hand for each is reduced by the amount of the product sold. After the inventory levels have been adjusted for the sale each product's quantity on hand is compared against its reordering level. If the quantity on hand for any product, after the sale, is reduced below the minimum required inventory level a **Purchase Order** is created or the item is flagged for a Purchase Order.

One event that may happen is that a new customer is created; many businesses maintain a list of customers for various purposes such as product promotions and discounts. If the sale is for a customer that is not currently in the customer database a new customer record is normally created.

Ordering

As a result of a **Sale** the inventory levels are checked against the minimum level required to maintain proper inventory. Any product whose quantity on hand is below the minimum level, also called **Reorder Level**, is flagged for reorder. When products are ordered they are done with a **Purchase Order**. The quantity being ordered can be manually entered or more realistically the quantity to be ordered is the **Reorder Quantity** for each individual product.

The Purchase Order is very similar to the Invoice except that each product to be ordered is generally ordered from a specific supplier. Therefore, all products that need to be ordered may result in multiple Purchase Orders.

Receiving

This process involves the receipt of products to the business inventory. The form used for this is an Invoice. The products being received, are compared to the original Purchase Order. Normally, the items, and quantities, ordered are those requested on the Purchase Order. At this time the original Purchase Order is marked as complete and the Invoice is sent to another department for payment and the received items are added to the inventory.

There are some situations where the quantity of one or more of the products being ordered are below the original ordered quantity. This lower level of quantity can be caused by many reasons but normally the Supplier's inventory was not at a level to fill the Purchase Order. When this happens the original Purchase Order is not marked as complete, yet the received items will be added to the inventory and there will be a process to make a partial payment to the Supplier, and to document an incomplete Purchase Order.

Inventory

As already mentioned, Inventory is managed through Invoices and Purchase Orders. It is important to have solid business rules to maintain inventory. It is important to have the following key fields for each product:

- QuantityOnHand
- ReorderLevel
- ReorderQuantity