# IS - Information System

An information system is a system used by enterprises which has a main purpose of working with the data of an enterprise. The information system is responsible for collecting, filtering, processing, creating, and distributing the data within an enterprise. An information system will take in the data as an input, then output valuable information based off the data which will be deemed as valuable for the enterprise.

There are five main components every information system has which are:

## Hardware

The hardware component of an information system is anything physical such as a keyboard and printer

## Software

The software component can be anything which helps a system function such as functions which are involved in transferring data

## People

The people component can be anyone involved in the system ranging from the end customers, to the developers, to the retailers, etc.

## Process

The process component is a series of steps involved in reaching the end target or goals set out by the enterprise

## Data

The data is the collection of information collected by the information system

# IS – Information System

## Value Chain

The value chain is the process used by an enterprise which takes a product and adds some value to the product. Then, the end product is sold to the end customer. The overall goal of a value chain is to reach a profitable end product which achieves the maximum value for the least possible costing.

For many enterprises, the creation of this end product can lead to a competitive advantage. There are many different ways of using the value chain such as the following:

1. Track individual preferences
2. Keep up to date with market trends
3. Tailor customer services to suit the individual

Information Systems and Information Technology are great ways of adding value to an enterprise’s assets in order to gain a competitive advantage.

In order to reach a competitive advantage on competitors, it is necessary that the enterprise follows a set of strategies such as:

## Cost Leadership Strategy

The product must be lost in cost for the cost. This is done by sourcing materials and services which are affordable

## Differentiation Strategy

The enterprise should have a product which is easily distinguishable from the competitors

## Alliance Strategy

The enterprise should have a network of allies which could be competitors, sourcing companies etc.

# ERP – Enterprise Resource Planning

ERP which is short for enterprise resource planning is a process for managing all resources and their usage in an enterprise. ERP systems are known for achieving BPR goals by looking at the current operations of an enterprise and then determining how best to proceed when designing or choosing a new ERP.

There are many different approaches to designing or implementing an ERP system in an enterprise such as the following:

## Complete System

An enterprise may consider to install a complete ERP system into their enterprise. This will include all modules of functionality to be used across the whole enterprise.

## ERP by Process

An enterprise may decide to only implement partially an ERP system. As some of the ERP may not be considered useful or specific for the enterprise.

## ERP by Business Unit

An enterprise may decide to deploy a whole unit of ERP across the whole enterprise. However, this rollout may result in functionality of the business being limited.

## Fully-Integrated ERP

An enterprise may decide to implement a full-scale ERP system into their enterprise. However, full rollout comes with very high costs associated.

# SCM – Supply Chain Management

A supply chain management system is the sequence of processes involved in the production and distribution of supplies within an enterprise. A supply chain is composed of three components which are in the following flow:

Raw Materials 🡪 Parts Manufacture 🡪 Final Product

The supply chain focuses on five main areas which are the following:

## Plan

This step involves planning the necessary steps to improving the efficiency of a supply chain.

## Source

This step involves sourcing frameworks and raw materials.

## Make

This step is involved in the manufacturing and production for the product or service.

## Deliver

This step works around the delivery management of the product which includes warehousing and transportation of goods.

## Return

The return step is put in place in case a product is return due to being faulty.

There are three different types of flows in a supply chain management system which are:

1. Material Flow
2. Data Flow
3. Money Flow

# CRM – Customer Relationship Management

The customer relationship management system has a very basic architecture which is based off four factors:

## Identify

The enterprise must identify the potential customers

## Differentiate

The enterprise must then differentiate the customers according to their wants and needs

## Customize

The enterprise then must customize products or services to best suit the potential customer

## Interact

The enterprise should keep in frequent contact with the customer in relation to current or future products or services

There are many different modules you would expect to have in a CRM system such as the following:

## Account Management

The goals of the account management module is to ensure all of the sales and marketing teams are running smoothly and are not in need of help.

## Sales Force Automation

The sales force automation is put in place to provide the sales reps with the software necessary in order to best generate sales in the current market.

## Direct Marketing

This module helps marketing professionals accomplish direct marketing campaigns by task such as retrieving marketing emails.

The main drawback of implementing a customer relationship management system is cost. A fully integrated customer relation management system comes with high costs associated for subscription or full payments. There’s also a high upgrade charge for CRM systems which require extra functionality to be added to suit the enterprise.

There are many benefits associated with a CRM system such as:

## Discover New Customers

## Simplify Marketing and Sales Processes

## Reduction in Loss of Customers

# ESB – Enterprise Service Bus

An enterprise service bus follows four principles; Orchestration, Transformation, Transportation, and Mediation.

## Orchestration

This principle combines several components into one composite service.

## Transformation

This principle is involved in transforming the data into the data type necessary for the ESP system.

## Transportation

This principle is involved with the transportation of data from one service to another.

## Mediation

This principle provides multiple platforms available to suit all services to ensure smooth compatibility.