

# Business Processes

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## INTRODUCTION

The concept of a business process is central to many areas of business systems, specifically to business systems based on modern information technology. In the new era of computer-based business management the design of business process has eclipsed the previous functional design. Lindsay, Downs, and Lunn (2003) suggest that business process may be divided into material, information and business parts. Further search for efficiency and cost reduction will be predominantly through office automation. The information part, including data warehousing, data mining and increasing informatisation of the office processes will play a key role. Data warehousing and data mining, in and of themselves, are business processes that are aimed at increasing the intelligent density (Dhar & Stein, 1997) of the data. But more important is the significant roles they play within the context of larger business and decision processes. Apart from these the creation and maintenance of a data warehouse itself comprises a set of business processes (see Scheer, 2000). Hence a proper understanding of business processes is essential to better understand data warehousing as well as data mining.

## BACKGROUND

Companies that make products or provide services have several *functional areas* of operations. Each functional area comprises a variety of *business functions* or business activities. For example, functional area of financial accounting includes the business functions of financials, controlling, asset management, and so on. Human resources functional area includes the business functions of payroll, benefit administration, workforce planning, and application data administration. Historically, *organizational structures* have separated functional areas, and business education has been similarly organized, so each functional area was taught as a separate course. In materials requirement planning (MRP) systems, predecessors of enterprise resource planning (ERP) systems,

all functional areas were presented as subsystems supported by a separate *functional area's information system*. However, in a real business environment functional areas are interdependent, each requiring data from the others. This fostered the development of the concept of a *business process* as a multi-functional set of activities designed to produce a specified output.

This concept has a customer focus. Suppose, a defective product was delivered to a customer, it is the business function of customer service to accept the defective item. The actual repair and redelivery of the item, however, is a business process that involves several functional areas and functions within those areas. The customer is not concerned about how the product was made, or how its components were purchased, or how it was repaired, or the route the delivery truck took to get to her house. The customer wants the satisfaction of having a working product at a reasonable price. Thus, the customer is looking across the company's functional areas in her process. Business managers are now trying to view their business operations from the perspective of a satisfied customer. Thinking in terms of business processes helps managers to look at their organization from the customer's perspective. ERP programs help to manage company wide business processes, using a common database and shared management reporting tools. ERP software supports the efficient operation of business processes by integrating business activities, including sales, marketing, manufacturing, accounting, and staffing.

## MAIN THRUST

In the following sections we first look at some definitions of business processes and follow this by some representative classifications of business process. After laying this foundation we look at business processes that are specific to data warehousing and data mining. The section culminates by looking at a business process modelling methodology (namely ARIS) and briefly discussing the dark side of business process (namely mal-processes).

## Definitions of Business Processes

Many definitions have been put forward to define business processes: some broad and some narrow. The broad ones help us understand the range and scope of business processes but the narrow ones are also valuable in that they are actionable/pragmatic definitions that help us in defining, modelling, and reengineering business processes.

Ould (1995) lists a few key features of Business Processes; it contains purposeful activity, it is carried out collaboratively by a group, it often crosses functional boundaries, it is invariably driven by outside agents or customers. Jacobson (1995) on the other hand succinctly describes a business process as: 'The set of internal activities performed to serve a customer'. Bider (2000) suggests that the business process re-engineering (BPR) community feel there is no great mystery about what a process is - they follow the most general definition of business processes proposed by Hammer and Champy (1993) that a process is a 'set of partially ordered activities intended to reach a goal'.

Davenport (1993) defines process broadly as "a structured, measured set of activities designed to produce a specified output for a particular customer or market" and more specifically as "a specific order of work activities across time and place, with a beginning, an end, and clearly identified inputs and outputs: a structure for action."

While these definitions are useful they are not adequate. Sharp and McDermott (2001) provide an excellent working definition of a business process:

*A business process is a collection of interrelated work tasks, initiated in response to an event that achieves a specific result for the customer of the process.*

It is worth exploring each of the phrases within this definition.

*"achieves a particular result"*

- The result might be Goods and/or Services.
- It should be possible to identify and count the result eg. Fulfilment of Orders, Resolution of Complaints, Raising of Purchase Orders, etc.

*"for the customer of the process"*

- Every process has a customer. The customer may be internal (employee) or external (organisation).
- A key requirement is that customer should be able to give feedback on the process

*"initiated in response to a specific event"*

- Every process is initiated by an event.
- The event is a request for the result produced by the process.

*"work tasks"*

- The business process is a collection of clearly identifiable tasks executed by one or more actors (person or organisation or machine or department).
- A task could potentially be divided up into more and finer steps.

*"a collection of interrelated"*

- Such steps and tasks are not necessarily sequential but could have parallel flows connected with complex logic.
- The steps are interconnected through their dealing with or processing one (or more) common work item(s) or business object(s)

Due to the importance of the "business process" concept to the developing of the computerized enterprise management the work on refining the definition is going on. Lindsay, Downs, and Lunn (2003) argue that the definitions of business process given in much of the literature on Business Process Management (BPM) are limited in depth and their related models of business processes are too constrained. Because they are too limited to express the true nature of business processes, they need to be further developed and adapted to today's challenging environment.

## Business Process Classification

Over the years many classifications of processes have been suggested. The American Productivity & Quality Center (Process Classification Framework, 1996) distinguishes two types of processes 1) operating processes and 2) management and support processes.

Operating processes include processes such as:

- Understanding Markets and Customers
- Development of Vision and Strategy
- Design of Product and Services
- Marketing and Selling of Products and Services
- Production and Delivery of Products and Services
- Invoicing and Servicing of Customers

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