

eBCM Alignment: **CONTENT**

LEARNING OBJECT #09

THE VALUE AND MANAGEMENT OF GOOD DATA

Outline

- Content and data, the context and definition
- The quality of data
- The value of good data
- Preparation of quality product data
- Maintenance and utilisation of data
- Prevention of errors

Content and data, the context and definition

An effective business relationship depends on good documentation and efficient transfer of information. Here, “content” is defined as all relevant information needed for managing the business relationship between the business partners. “Data”, on the other hand, is here the information conveyed between the business partners and their service providers for the purpose of promoting, initiating and fulfilling business transactions. Data needs to be specified, initiated, and created, maintained, transferred, stored and processed.

The quality of data

The quality of data used in the business process is a key requisite to its efficiency. The creators of data are usually the suppliers of products or services, but the initiation of a business transaction comes from the buyers. The quality of original data is therefore to a large extent in the hands of suppliers. Usually the local supplier develops specifications for his products and services based on data received from the original manufacturer, adds information to meet local or customer requirements and presents the information in the format most convenient to him or the respective customer. The customer then receives the data in a more or less proprietary format and translates the data into a somewhat collective dataset. If the product or services are to be resold to buyer's customers, the quality of product specifications rests to a large extent on the buyer's staff to manage to the best of their ability, with in-house “standards” and peer advice. The most common data elements in a business transaction are:

- Product number.
- Product name.
- Product description.
- List price.
- Contract price.
- Unit of measure.
- Technical specification.
- Product classification.
- Warranty.
- Transport information.
- Payment information.
- Information on involved parties.

Ideally, the information received from suppliers would be provided in a standardised format, enabling the customers to import the data directly into their back-office systems together with other suppliers' data.

The value of good data

With good quality data, the business transaction and fulfilment becomes faster, accurate and more cost effective. There is evidence within the Fast Moving Consumer Goods market that 60% of all invoices are inaccurate¹ and 30% do not describe the products correctly. With better access to information and improved correctness of data, 75% fewer invoices need to be reprocessed, 30% more orders are approved when received by the buyer, 80% faster price changes, promotion and product placement in shops and 99,8% accuracy when scanning the products sold.

In general good quality data will give:

- Increase in sales and income since it would be easier to keep track of what products need to be ordered
- Increase in accuracy of delivery time and better service
- Reduce number of mistakes in ordering and delivery
- Time saved in correcting mistakes
- New business opportunities with electronic presentation of products (eCommerce)

Preparation of quality product data

When preparing product descriptions, several steps need to be taken to ensure that the data is both correct and accurate. The following is a recommended procedure to follow:

1. Transformation:
 - a. Collect product descriptions from available sources and different systems (internally and externally. (Text files, Excel-documents, ERP systems, CAD/CAM, paper documents).
 - b. Organise the structure of the product list, define fields, select languages, currencies, classification systems.
 - c. Coordinate, translate, interpret (synonyms defined, so "size" and "volume" is understood in the same way).
 - d. Remove abbreviations and short formats which are difficult to understand.
 - e. Make the description attractive.
 - f. Classify the products (using UNSPSC system or other).
 - g. Prepare the list for being delivered in an electronic format.
2. Management, maintenance and distribution:
 - a. Define the roles and responsibilities of all persons who are involved in maintaining the product descriptions.
 - b. Distribute the descriptions to users in the format requested (XML, EDI, Text, Excel).
 - c. Use secure document transfer layers.

Maintenance and utilisation of data

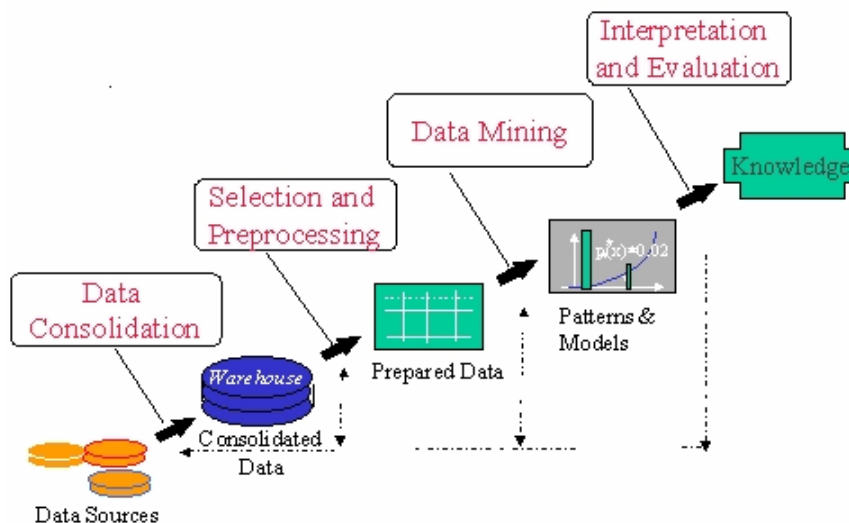
Companies are gradually seeing their stored data as a valuable asset in their business development, control and operations. In larger companies, various data mining tools are used to process the data into information and valuable business knowledge, such as accounting, resource planning, customer management and mobile resource management systems. All these systems are dependant on the data being stored in a systematic manner, using good, reliable and accessible data and responsive ICT infrastructure.

¹ <http://www.eds.com>

Aspects of data mining include:

- Associating – finding patterns where one event is related to another event.
- Sequencing – finding patterns where one event recalls another event.
- Classifying – finding new patterns (this may result in a change in data structure but that is accepted).
- Predicting – finding patterns in data that can give reasonable estimations about the future.

The life cycle of data mining is described in the following figure.



Data mining and information retrieval

Prevention of errors

For the purpose of reaping the benefit of good quality data it is important to recognise the main reasons for errors and systematically prevent them from occurring.

The main types of errors are following:

- Human errors.
- Communication errors.
- System errors.
- Connection errors.

Human error

People make mistakes for various reasons, where the most common are:

- Lack of information (includes time to gather or assimilate information).
- Emotions overriding logic.
- Omissions.
- Lack of skill/intelligence².

Lack of information is by far the most common reason for errors, which means that good care should be given to training of people, teaching them the right methods of work and improves their ability to assess and act in the right way. Also, there are various ways to make the

² David Howard LLB (Hons) LNCP, AN ANALYSIS OF WHY PEOPLE MAKE MISTAKES, 2001

information available when needed, such as with preparing manuals, 1st level website help, help-desks, training of a personal assistant (train-the-trainer) and others, all depending on the nature of the information needed.

In some cases we experience emotions overriding logic, making an individual respond irrationally in a given situation. This stresses the importance of a balanced workplace, good personal relationships between colleagues and managers' attention to an employee's welfare and well being.

Omissions are most often a combination of various factors that stop people from doing the right thing or simply where people are not aware of the need to react to a situation. Omissions can also be due to lack of skill, memory, intelligence (none of which are the fault of the doer, rather their essential nature).

Lack of skills or intelligence as a reason for error directs the attention to the importance of assessing peoples' ability to perform as required in a specific job or task and then the necessity to train people for meeting these challenges.

Human errors when dealing with data can occur at various stages of the process of data handling, such as during data input, data output and validation of data. The higher degree achieved of automation in data handling, the less likely are the human errors. People need to be motivated to do things right. This can be achieved in many ways, such as:

- Explain to employees the necessity of having the system implementation project well prepared.
- Emphasise that problems and frequent errors wear credibility out.
- Routines increase trustworthiness.
- Managers need to "show by example", knowing how to respond to a situation and give constructive advice. Worst answer from manager is "we have a nerd – ask him/her".

Communication error

Communication errors are errors between people or between people and the system. The latter is here of special concern. Usually some errors will happen, when a system gets too many inputs and data queries simultaneously. In such case the server (or some other device) may crash and some data may get lost. In such situation the transaction should be finished, or the data as before the collapse should be restored. It is very important to recheck periodically the data and its description in the system. This is a part, where consistence for error checking, motivation and communication skills is very valuable for avoiding errors and preserving correct data.

System error

System errors are caused by faulty implementation of a system installation or maintenance. Traditionally, a modelling method is used for creating an information system where information managers and data processing specialists use data analysis and design processes to define the requirements of the system. The goal of the analytical process is to determine functional and non-functional requirements, as well as the expected overall performance of the system. When implementing the system, due care should be taken in following the outcome and conclusions of the analysis as a poorly implemented system will otherwise lead to costly error detections in programming or installations. According to research, most of serious errors (90%) in systems works are made during the analysis process. It means that saved time in project planning will produce weak and buggy software. Every system needs a testing period before it is taken into use. Usually the testing needs to be performed repeatedly, additional requirements may come up during testing. In addition to user manual it is recommended to create an exhaustive instruction for developers containing a list of most probable errors, their descriptions and possible solutions.

Connection errors

Connection errors include all internet interruptions and other network interruptions or errors. It is good operational practice to store data on multiple servers and in different locations (service providers) as that will prevent the data to be harmed or access disconnected in severe network interruptions.