Prezentace předmětu:
**INFORMATION MANAGEMENT**

Vyučující:
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# INFORMATION MANAGEMENT

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## 11. ICT AND INNOVATION AS A SUPPORT FOR ENHANCING THE PERFORMANCE OF THE ENTERPRISE

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# Introduction

The chapter on ICT and innovation as a boost to business performance is firstly focused on getting to know the basic concepts of business performance such as performance, metrics, performance management, efficiency, and effectiveness.

In addition, attention is paid to Corporate Performance Management (CPM) and Business Intelligence (BI).

# Goals of the chapter

- ✓ **Understand the basic concepts of business performance**
- ✓ **Get acquainted with Corporate Performance Management (CPM)**
- ✓ **Get acquainted with Business Intelligence (BI)**

# Performance management

Performance management is a traditional discipline of information management, as mentioned by Doucek (2010).

Extensive developments in IS / ICT have changed the speed and scope of solved tasks over the past. With Corporate Performance Management (CPM) and Business Intelligence (BI) tools and tools, it is possible to manage enterprise performance as a comprehensive entity and flexibly respond to changes in the business and its surroundings.

A number of activities at different levels of management have been automated and thus, more attention can be devoted, for example, only to strategic decisions. These decisions can be based on advanced visualization of complex data both directly from the enterprise and its surroundings. It is also possible to compare different scenarios and to retrospectively evaluate and monitor the success of the proposed strategy.

# Performance management

A highly competitive environment puts businesses at a disadvantage, with which they must be able to cope. Essential, according to Kaplan and Norton (2007), are the following:

- ❑ managing activities in a global context,
- ❑ flexible organizational structures,
- ❑ optimization of production and efficient supply-chain management,
- ❑ production of quality services,
- ❑ continuous innovation and improvement of the quality of products and services,
- ❑ the changing nature of work, knowledge management in the enterprise, continual improvement of internal processes,
- ❑ implementation of information systems that effectively support all essential processes (both internal and external).

# Performance management

The basic terms of business performance include the following: performance, metrics, performance management, efficiency, and effectiveness.

According to Šulák and Vacík (2004), performance is defined as "the ability of an enterprise to best value the investments embedded in its business activities".

The metric is, according to Novotný (2008), a precisely defined measure that is used to evaluate the specified attributes. An exact definition is a defined procedure that is used to obtain a measured value, including the design and application of measurement dimensions and a definition of how the acquired values will be compared and interpreted.

# Performance management

Effectiveness is, according to Luthra (2007), a comparison of what was actually created with what could be created with the same range of use of routine resources as money, time and labor.

Efficiency is defined as the measure that characterizes the fulfillment of planned goals without cost.

According to Luthra (2007), then effectiveness determines whether things are done correctly and effectiveness again determines whether the right things are done.

# Corporate Performance Management (CPM)

Corporate Performance Management (CPM) is the most powerful performance management system. The term Corporate Performance Management itself appeared at the end of the 1990s but was not clearly defined and defined. It is only after 2000 that Gartner has created a uniform definition recognized by the academic and commercial environments.

Corporate Performance Management (CPM) is a comprehensive term describing all processes, methods, metrics, and systems needed to measure and manage organization performance (Geischecker and Rayner, 2001). Outputs are based on aggregated data and serve as the basis for strategic decisions of senior management (Bruckner, 2012)

# Corporate Performance Management (CPM)

CPM is a holistic approach to implementing and monitoring a corporate strategy, combining Coveney (2003):

- ❏ **Methodologies** - including methodologies that support efficient and effective business management (for example Balanced Scorecard). At the same time, the implantable methodology of CPM system suppliers (for example Cognos),

- ❏ **Metrics** - which are defined in the implementation of these methodologies in an enterprise,

- ❏ **Processes** - used by an enterprise to implement and monitor performance management,

- ❏ **Applications and technology** - Information systems to support performance management at all enterprise levels that support the methodology, metrics, and processes.

# Corporate Performance Management (CPM)

Performance management is enterprise-focused and typically includes the following components (Felkner, 2010):

- ❑ Strategic planning - creating, communicating, deploying, monitoring, and managing corporate strategic plans for tasks, budgets, actions, people, and performance goals.

- ❑ Planning, budgeting, and forecasting - for example, testing various scenarios, developing realistic budgets, identifying trends and performance imbalances, and updating plans and budgets.

- ❑ Consolidation - for example, the implementation of fiscal consolidation makes it possible to streamline and manage the whole process of verifying, consolidating, reporting and submitting financial data.

# Corporate Performance Management (CPM)

❑ **Reporting - an attempt to automate the generation, formatting, and distribution of financial statements and management reports from accounting books.**

❑ **Expenditure management - the goal is to ensure that the impact of effective spending management over the employees can have an impact on overall profitability.**

❑ **Analyzes - to monitor key performance indicators in real time and to test trends in order to prepare for change and respond quickly.**

# Business Intelligence (BI)

Business Intelligence tools are also being used to boost business performance.

Business Intelligence (BI) can be defined as a set of skills, knowledge, and technology that can be used in business to gain a better understanding of market behavior and business contexts.

Within BI, for this purpose, the collection, analysis, interpretation, and presentation of important business information that may contain the collected information itself or the explicit knowledge gained from the information is carried out.

# Business Intelligence (BI)

**What are the main benefits of using Business Intelligence?**

❑ more detailed and clear outline of the actual state of each area,

❑ discovering hidden links and contexts,

❑ comprehensive access to all data,

❑ quality analyzes and outputs in the form of reports, dashboards, and forecasts,

❑ effective implementation of the company information system,

❑ flexibility and flexibility to provide reporting/analysis capability.

# Business Intelligence (BI)

According to Laberge (2012), BI technology can be used for many purposes including:

- ❑ performance measurement or base level determination,
- ❑ trend and prediction analysis,
- ❑ associated grouping, market basket analysis or segmentation,
- ❑ power management,
- ❑ associative analysis or data mining,
- ❑ analysis of the subject areas.

# Business Intelligence (BI)

What data does Business Intelligence work with? These are predominantly structured data from relational databases.

These data are processed within the first stage within the ETL, which is an abbreviation for extracting, transforming and uploading data to a data warehouse. Data can be extracted from various data sources, such as relational databases, spreadsheets, and other structured data sources. Subsequently, the data format is transformed.

This data is then uploaded to the data warehouse, which serves as the primary data source for BI applications. What's important is that the data is stored in a historical warehouse in a historical form, allowing you to report the development of that metric over time.

# Business Intelligence (BI)

In terms of basic concepts in BI, multidimensionality and granularity of data are emerging.

Multidimensionality consists of several dimensions that can be explained by not looking at in-house data and relationships with just one glance, but from multiple views of angles of view. Working with dimensions is mainly appreciated by analysts because this feature allows us to get a better insight into the issue. A multidimensional cube and OLAP are key to this process.

According to Pour, Maryška, and Novotný (2012), the granularity of the data determines the level of detail of the datafacts, stored in the facts table.

The granularity of the data in the fact table is directly dependent on the number and level of detail details corresponding to the relevant factsheet.

# Business Intelligence (BI)

**Common Business Intelligence applications typically include the following areas:**

- ❑ **reporting,**
- ❑ **support for analyzes,**
- ❑ **data cubes (OLAP),**
- ❑ **dashboard, balanced scorecard,**
- ❑ **data mining,**
- ❑ **business Performance Management (CPM),**
- ❑ **support planning and predictive analysis.**

# Business Intelligence (BI)

According to Novotný, Pour and Slánský (2005), tools and applications for implementing Business Intelligence include:

- ❑ production, source systems,
- ❑ Data Staging Area (DSA);
- ❑ Operational Data Store (ODS),
- ❑ Transformation Tools (ETL),
- ❑ Integration tools (EAI - Enterprise Application Integration),
- ❑ Data Warehouses (DWH)
- ❑ Data Markets (DMA - Data Marts),
- ❑ OLAP,
- ❑ reporting,

# Business Intelligence (BI)

- ❑ **Managed Applications (EIS) - Executive Information System,**
- ❑ **Data Mining,**
- ❑ **data quality tools,**
- ❑ **metadata management tools.**

# Business Intelligence (BI)

From the point of view of using BI tools in business practice, it can be said that nowadays, BI is not the size of the business, because there are BI solutions from small businesses to large multinational companies.

BI is therefore primarily intended for any business that demands a correct and rapid analysis of its own data, needs, and resources. Small businesses can use BI tools in cooperation with, for example, Microsoft Office (Excel, Access) with built-in applications to output and update data.

On the other hand, global companies will use highly sophisticated and financially demand. But there are also opensource BI tools on the market such as Pentaho, Jaspersoft or BIRT.

# THANK YOU FOR YOUR ATTENTION