

Jihočeská univerzita
v Českých Budějovicích
University of South Bohemia
in České Budějovice

Information Systems Strategy and Management

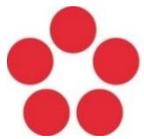
INNOVATIVE ICT TRENDS AND THEIR INFLUENCE ON
IT MANAGEMENT



EVROPSKÁ UNIE
Evropské strukturální a investiční fondy
Operační program Výzkum, vývoj a vzdělávání



MINISTERSTVO ŠKOLSTVÍ,
MLÁDEŽE A TĚLOVÝCHOVY



General ICT innovative influence on the business informatics management

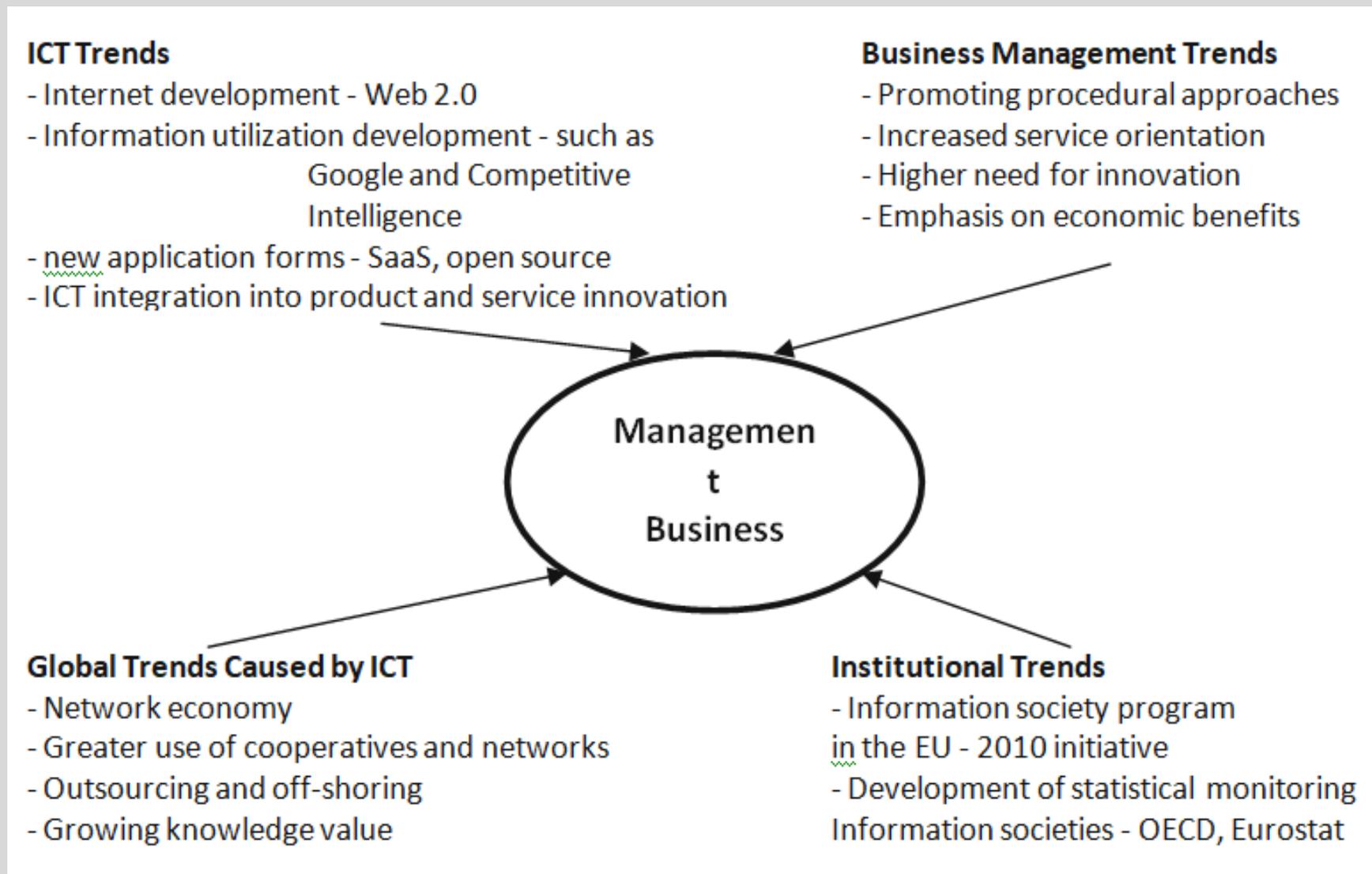
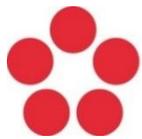


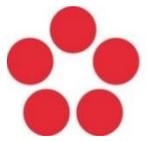
Figure 3-1 Innovative ICT trends influencing the business informatics management - (Voříšek k. , 2015)



ICT Support for Product, Service, and Process Improvements

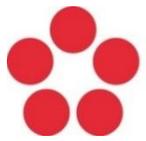
The innovation spectrum of ICT-based products and services covers both existing and brand new products. In the case of products that have previously been offered to customers, ICT increases and extends their value.

- For example, in the automotive industry, ICT brings into new cars GPS navigation, ABS and airbag control, fuel economy management, safety enhancement and collision avoidance, parking support, or car securing against theft.
- More interesting examples with greater ICT benefits can be found in those sectors where the product can be fully digitized. An example includes banks that use ICT to expand and improve



The possibilities of the current ICT and especially the Internet generate new forms of emerging forms of business cooperation. At the same time, the importance of shared data in the supply chain increases. The basis for this may be as follows:

- Volume of products sold at the individual retail outlets,
- History of customer purchases and the resulting changes in customer preferences,
- Mobile operators' information on the location and, if applicable, content of calls and SMS messages,
- Bank information on revenue history and account drawing,

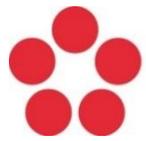


External sources of information are also important for the business. It shows:

- What the business looks like, including the development of the market on which the business operates,
- where it is heading, and what business competition deals with,
- how the business is evaluated, etc.

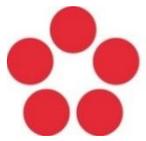
There is a growing impact of Google-type search engines, including Competitive Intelligence (CI) tools.

- CI collects and analyses publicly



The impact of ICT on business management

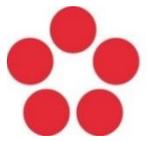
- Changes in the behaviour of businesses
- Business Strategy in the Information Society
- Management Methods in the Information Society Environment



Changes in the behaviour of businesses

| | Global company focused on "long-term existence" | Global company focused on "adaptation" |
|------------------------------|---|--|
| Competitive advantage | Effectiveness, stability, and attainability | Difference, adaptability, and speed |
| Control focus | Command and control | Communication and cooperation |
| Sources of innovation | Internal research and development | Cooperation-based innovation |
| Cooperation-based innovation | Supply | Demand |
| Organization paradigm | Value chain | Alliances |

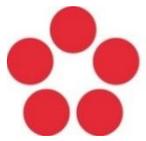
Table 3-1 Main difference of adaptable global society (Kagermann, Lay, & Moore, 2007)



Changes in the behaviour of businesses

Investments into ICT and the creation of new models of networked businesses pose greater demands for securing:

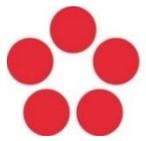
- Proper coordination of the entire partner network, which must be able to deliver promised products and services, as if it were a single business, in addition to the corresponding volume, quality, and time.
- Ownership of the customer relationship and identifying emerging value added in the supply chain.
- Risk management throughout the whole network.



Changes in the behaviour of businesses

ICT expansion is linked to the four key effects that affect the operating rules of the economy: (Carayannis, 2008):

- Internal efficiency
- Transaction costs
- Restructuring
- Knowledge management



Thanks to globalization and creation of large supply chains, business planning has become more difficult. Therefore, it is all the more necessary to use ICT tools for the planning. The period of increased uncertainty and rapid changes can be summarized in the following list of trends (Demirdjian, 2008):

- Trends in the digital economy
- Trends in strategic planning
- Trends in strategic planning
- Trends in competition
- Trends in the value orientation

Management Methods in the Information Society Environment

| Higher profits supported based on | The way to achieve higher sales | Applied methods, principles, and tools |
|---|--|--|
| Higher production | Quality improvement | TQM (Total Quality Management) Six Sigma TPM (Total Productive Maintenance) |
| | Higher production and flexibility of the production system | CIM (Computer Integrated Manufacturing) NC (Numeric Control) controlled production facilities |
| Lower costs Shorter time periods Higher flexibility | Greater cost overview | Management Accounting. Business Process Management |
| | Lower inventories | Lean production JIT, MRP |
| | Reduced lead time | Concurrent Engineering |
| | More flexible processes | Business Process Reengineering (BPR), Balanced Scorecard (BSC) |
| Product innovations | Increase in return on investment | ROI (Return on Investment) |
| Process innovations | Increase in return on investment | TOC (Theory of Constraint) NPV (Net Present Value) |

Table 3-2 Basic methods used in businesses to achieve major business goals (revised based on(Matějka, 2005)) - (Voříšek k. , 2015)