COMPETING WITH BUSINESS INTELLIGENCE

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Agenda

1. Introduction
2. Business Intelligence (BI)
3. Competitive Business Intelligence
4. Business Intelligence Maturity Models
5. The Examples of Organization Competing with BI
6. Discussion and Recommendations

Business Intelligence

- **Business Intelligence (BI) – the subject of extensive discussion in the literature (Davenport, Harris & Morison, 2010), (Wixom & Watson, 2010), (Negash & Gray, 2008)**

- **The role of BI systems and their influence over organizations have been a subject to change (from simple static analytical applications into strategic planning, CRM, monitoring operations)**

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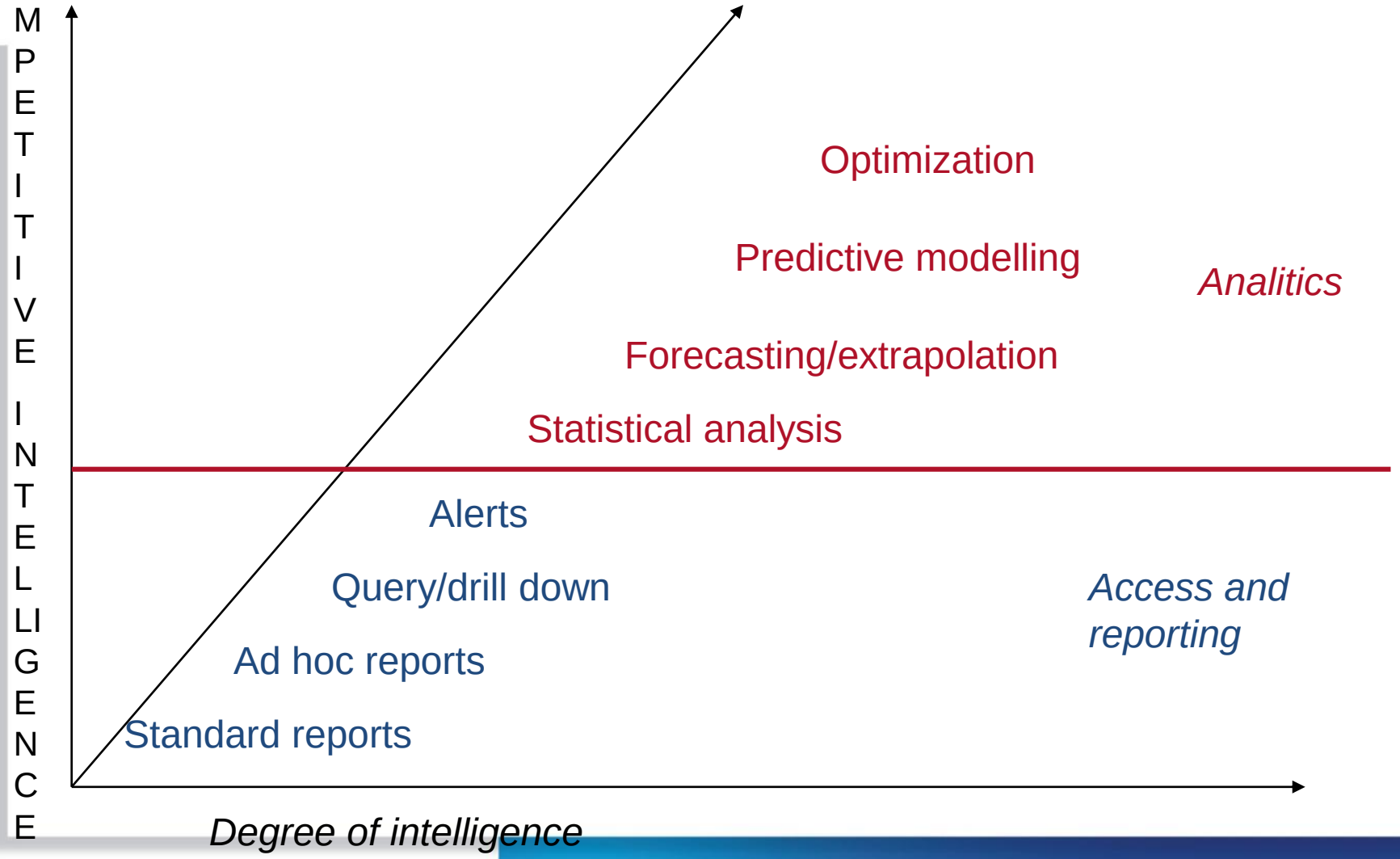
Business Intelligence



Business Intelligence

Tools for data analysis (Luhn, 1958)

Concept and methodologies for improvement of business decisions using facts and information from supporting systems (Dresner, 1989)

BI systems refer to decision making, information analysis and knowledge management, and human-computer interaction (often associated with such systems as: MIS, DSS, EIS (O'Brien & Marakas, 2007)

BI systems may be analyzed from two perspectives: technical and business (Olszak, 2007)

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The overview of BI definitions

Author	Definition
Adelman, Moss (2000)	An umbrella term to describe the set of software products for collecting, aggregating, analyzing and accessing information to help organization make more effective decisions
Alter (2004)	An umbrella term for decision support
Azvine, Cui, Nauck (2005)	BI is all about capturing, accessing, understanding, analyzing and converting one of the fundamental and most precious assets of the company, represented by the raw data, into active information in order to improve business
Business Objects (2007)	A system that provides different information and analysis for employers, customers, suppliers in order to make more effective decisions
Chung, Chen, Nunamaker (2005)	Results obtained from collecting, analyzing, evaluating and utilizing information in the business domain
Power (2007)	An umbrella term to describe the set of concepts and methods used to improve business decision-making by using fact-based support systems
Eckerson (2003)	A system that takes data and transforms into various information products
Glancy, Yadav (2011)	BI focuses on supporting a variety of business functions, using the process approach, and advanced analytical techniques
Hannula, Pirttimaki (2003)	Organized and systematic processes which are used to acquire, analyze and disseminate information to support the operative and strategic decision making
Jordan, Ellen (2009)	BI is seen as a critical solution that will help organizations leverage information to make informed, intelligent business decisions to survive in the business world
Jourdan et al. (2008)	BI is both a process and a product, that is used to develop useful information to help organizations survive in the global economy and predict the behavior of the general business environment

Lonnqvist, Pirttimaki (2006)	A managerial philosophy and tool that helps organizations manager and refine information with the objective of making more effective decisions
Moss, Atre (2003)	An architecture and a collection of integrated operational as well as decision support applications and databases that provide the business community easy access to business data
Negash (2004)	A system that combines data collection, data storage and knowledge management with analytical tools so that decisions makers can convert complex information into competitive advantage
Olszak, Ziemba (2003)	A set of concepts, methods and processes that aim at not only improving business decisions but also at supporting realization of an enterprise' strategy
Reinschmidt, Francoise (2000)	BI is an integrated set of tools, technologies and programmed products that are used to collect, integrate, analyze and make data available
Watson, Wixom (2007)	BI describes the concepts and methods used to improve decision making using fact based systems
Wixom, Watson (2010)	BI is a broad category of technologies, applications, and processes for gathering, storing, accessing, and analyzing data to help its users make better decisions
White (2004)	An umbrella term that encompances data warehousing, reporting, analytical processing, performance management and predictive analytics
Williams, Williams (2007)	A combination of products, technology and methods to organize key information that management needs to improve profit and performance

Business Intelligence

For the purposes of this study:

BI is a broad category covering technologies, applications and processes responsible for the collection, storage, data access, analysis that can help users in making more effective decisions (Wixom & Watson 2010)

Relations of BI with other domains

- **Tools, technologies, and software products**. BI is used to collect, integrate, analyze and make data available (Reinschmidt and Francoise, 2000). It includes: data warehouse, data mining and OLAP (On-line Analytical Processing) (Inmon, Strauss and Neushloss, 2008).
- **Knowledge management.** BI is the capability of the organization to explain, plan, predict, solve problems and learn in order to increase organizational knowledge (Wells, 2008; (Negash and Grey, 2008).
- **Decision support systems.** BI is considered as a new generation of decision supports systems. (O'Brien, Marakas, 2007; Wells, 2008; Negash, 2004; Baaras, Kemper, 2008).
- **Dashboards.** Dashboards are the becoming the preferred method for delivering and displaying BI to users (Ballarat et al, 2006).
- **New working culture with information** - BI constitutes an important upturn in techniques of working with information (Liautaud and Hammond 2001).
- **Process.** The process constitutes of activities to gather, select, aggregate, analyze, and distribute information (Jourdan, Rainer and Marschall, 2007).
- **Analytics and advanced analyses** (Davenport and Harris, 2007).
- **Competitive Business Intelligence** (Sauter, 2010).

Competitive Business Intelligence (CI)

The goal of CI is to provide a balanced picture of the environment to the decision makers (Sauter, 2010).

CI is the analytical process that transforms scattered information about competitors and customers into relevant, accurate and usable strategic knowledge on market evolution, business opportunities and threats (Sauter, 2010).

CI must provide (Sauter, 2010):

- A mechanism to provide an early warning of threats and opportunities;
- Support for the strategy development process;
- Assistance with instilling a sense of urgency and motivation toward action;
- Support for strategic and operational decision making

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For the purpose of this study:

Competitive Intelligence is a set of practices or formalized processes in organizations aiming to gather relevant information about the various market's actors

Business Maturity Models

The term of maturity describes a state of being complete, perfect or ready

To reach this a desired state of maturity, an evolutionary transformation path from an initial to a target stage needs to be progressed

Maturity models are used to guide this transformation process

Overview of BI maturity models

Name of the model	Description
TDWI's Business Intelligence Model –Eckerson's Model Eckerson (2004)	This model focuses mainly on the technical aspect for maturity assessment. It constitutes of 6 maturity levels and uses a metaphor of human evolution: prenatal, infant, child, teenager, adult and sage
Gartner's Maturity Model for BI and PM Burton (2009), Rayner (2008)	The model is a mean to assess the maturity of an organization's efforts in BI and PM and how mature these need to become to reach the business goals. The model recognizes 5 maturity levels: unaware, tactical, focused, strategic, pervasive. The assessment includes: people, processes, and metrics and technology
AMR Research's Business Intelligence/ Performance Management Hagerty (2011)	The model is described by 4 maturity levels: reacting (where have we been?), anticipating (where are we now?), collaborating (where are we going?), and orchestrating (are we all on the same page?). It is used to assess the organization in the area BI and PM
Business Information Maturity Model Williams (2003)	The model is characterized by 3 maturity levels. The first level answers the question „ what business users want to access", the second "why the information is needed", the third "how information put into business use"
Model of Analytical Competition Davenport, Harris (2007)	The model describes the path that an organization can follow from having virtually no analytical capabilities to being a serious analytical competitor. It includes 5 stages of analytical competition: analytically impaired, localized analytics, analytical aspirations, analytical companies, and analytical competitors
Information Evolution Model, SAS SAS (2011)	The model supports organization in assessing how they use information to drive business, e.g., to outline how information is managed and utilizes as a corporate asset. It is characterized by 5 maturity levels: operate, consolidate, integrate, optimize, innovate

Model Business Intelligence Maturity Hierarchy Deng (2011)	The model was developed in knowledge management and constitutes of 4 maturity levels: data, information, knowledge and wisdom
Infrastructure Optimization Maturity Model Hribar Rajteric (2010)	The model enables a move from reactive to proactive service management. It aids in assessing different areas comprising the company infrastructure. The model is described by 4 maturity levels: basic, standardized, rationalized (advanced), and dynamic
Lauder of Business Intelligence (LOBI) Cates, Gill, Zeituny, (2005)	The model describes levels of maturity in effectiveness and efficiency of decision making. IT, processes and people are assessed from the perspective of 6 levels: facts, data, information, knowledge, understanding, enabled intuition
Hawlett Package Business Maturity Model The HP (2011)	The model aims at describing the path forward as companies work toward closer alignment of business an IT organizations. It includes 5 maturity levels: operation, improvement, alignment, empowerment, and transformation
Watson's Model Watson, Ariyachandra, Matyska (2011)	The model is based on the stages of growth concept, a theory describing the observation that many things change over time in sequential, predictable ways. The maturity levels include: initiation, growth, and maturity
Teradata's BI and DW MM Miller, Schiller, Rhone (2011)	Maturity concept is process-centric, stressing the impact of BI on the business processes The model has 5 maturity levels: reporting (what happened?), analyzing (why did it happen?), predicting (what will happen?), operationalizing (what is happing?), and activating (make it happen).

Levels of Maturities in Gartner's Maturity Model

UNWARE

- An information „anarchy";
- A lack of awareness and need to collect, process and analyze information;
- Data not complete, incorrect;
- Metrics are not defined;
- The use of reporting is limited.

TACTICAL

- The organization starts to invest into BI;
- Metrics are usually used on the department level only;
- Most of the data, tools, and applications are in "silos";
- Users are often not skilled enough in order to take advantage of the BI system.

FOCUSED

- The organization achieves its first success and obtains some business benefits from BI, but it is still concentrated on a limited part of the organization.
- Management dashboards are often requested at this level.

STRATEGIC

- A clear business strategy for BI development;
- BI are used in critical business processes and for strategic and tactical decisions;
- Sponsors come from the highest management.

PERVASIVE

- BI plays pervasive role for all areas of the business
- The users have access to information and analysis needed for creating a business value and influence business performance.
- The usage of BI is available to customers, suppliers, and other business partners.

Results from the analysis of different organizations using BI

Organizations that successfully competed on BI capabilities were:

- Hard to duplicate. It is one thing to copy IT applications, quite another to replicate processes and culture;
- Unique. Their is no single correct path to follow to become a BI competitor;
- Adaptable. They should be adapted to new situations and needs;
- Better than the competition;
- Renewable.

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The key elements in a BI capability

Capabilities	Key elements
Organization	• Insight into performance drivers • Choosing a distinctive capability • Performance management and strategy execution • Process redesign and integration
Haman	• Leadership and senior executive commitment • Establishing a fact-based culture • Securing and building skills • Managing analytical people
Technology	• Quality data • BI technologies

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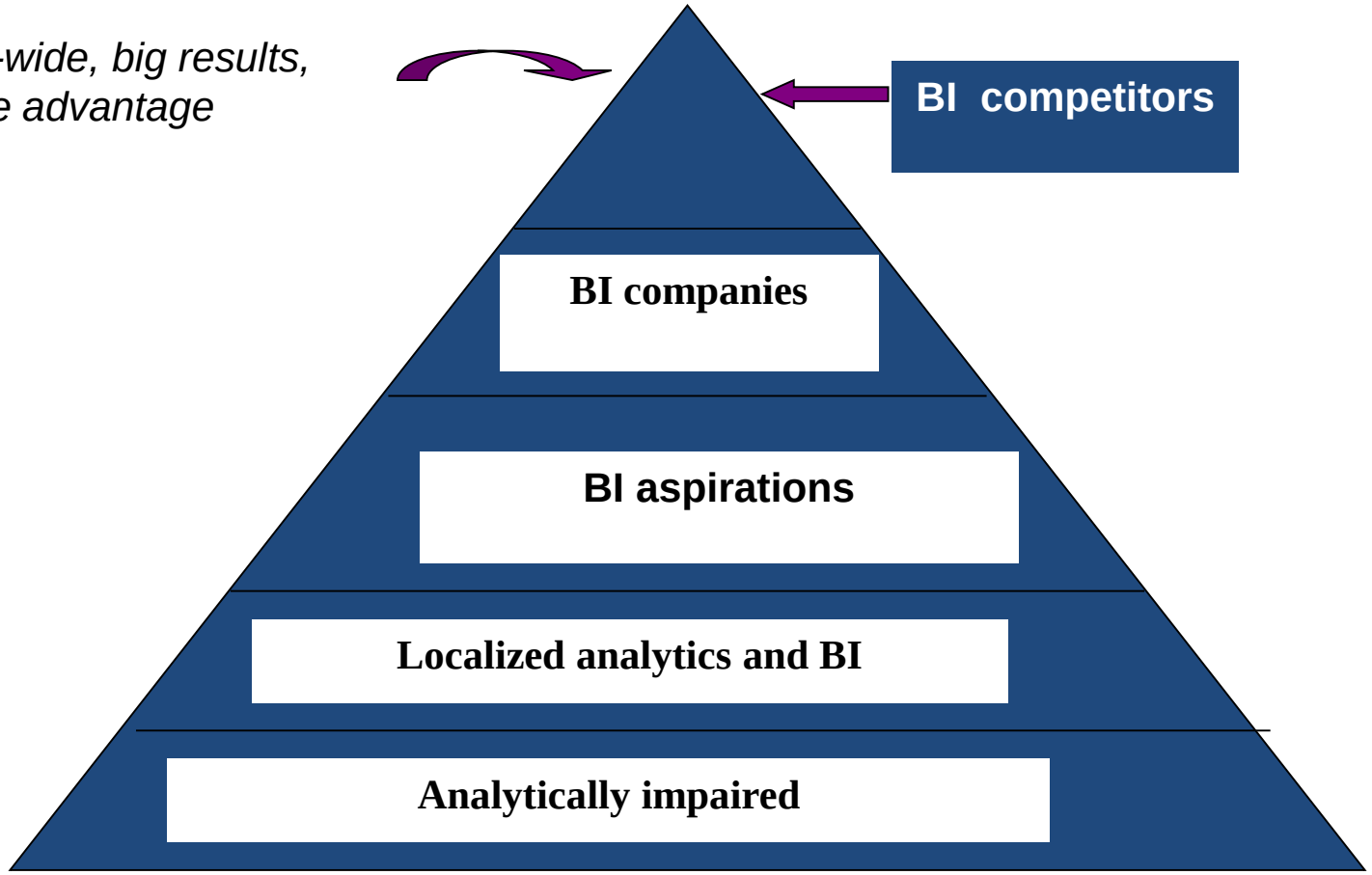
Stages of BI Competition

Enterprise-wide, big results, sustainable advantage



CONCLUSIONS

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Thank you for your attention

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