

ASSALAMU'ALAIKUM

INTRO – BUSINESS INTELLIGENCE

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- ❖ **Definition of Business Intelligence**
- ❖ **Features of BI**
- ❖ **Overview on Modeling Activities**
- ❖ **Algorithms along the BI Perspectives**

Definition of Business Intelligence

- ❖ **Business Intelligence (BI) one will find the first reference already in 1958 in a paper of H.P. Luhn**
 - Intelligence
 - The ability to apprehend the interrelationships of presented facts in such a way as to guide action towards a desired goal
 - Business
 - A collection of activities carried on for whatever purpose, be it science, technology, commerce, industry, law, government, defense, etc.

- ❖ **This definition did not come into effect for 30 years, and in 1989 Howard Dresner coined the term Business Intelligence (BI) again.**
 - BI systems provide actionable information delivered at the right time, at the right location, and in the right form to assist decision makers.
- ❖ **Wikipedia → A set of theories, methodologies, processes, architectures, and technologies that transform raw data into meaningful and useful information for business purposes.**

❖ Task

- The main task of BI is providing decision support for specific goals defined in the context of business activities in different domain areas taking into account the organizational and institutional framework.

❖ Foundation

- BI decision support mainly relies on empirical information based on data.
- Besides this empirical background, BI also uses different types of knowledge and theories for information generation.

❖ Realization

- The decision support has to be realized as a system using the actual capabilities in information and communication technologies (ICT).

❖ Delivery

- A BI system has to deliver information at the right time to the right people in an appropriate form.



Goals of Business Intelligence

❖ Descriptive

- Reporting: Summarize the instances in such a way that one can use the information for decisions.
- Segmentation: Group the instances according to a similarity measure and find representative instances for these groups.
- Detect interesting behavior: Identify events during business process execution that allow the identification of important aspects of the process.

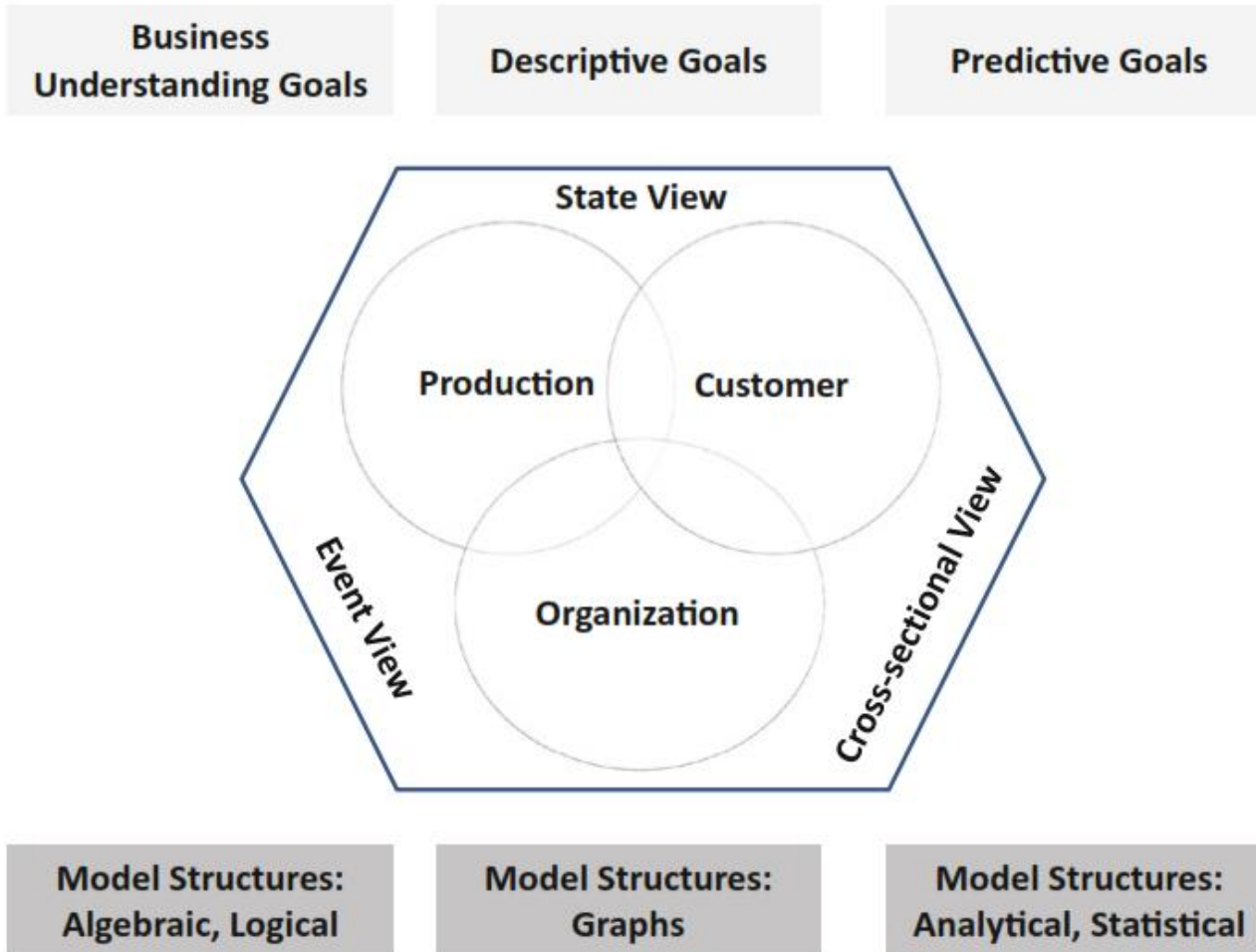
❖ Predictive

- Regression: Find a function that allows the prediction of the output (usually a KPI) from a number of input variables (influential factors).
- Classification: Given a partition for observed instances into disjoint classes, assign a new instance to one of the classes.

❖ Understanding

- Process identification: Identify the rules that determine the relationships between the events of the process.
- Process analysis: Investigate the performance of the instances with respect to their conformance with a defined business process.

Overview on Modeling Activities



Algorithms along the BI Perspectives





❖ **Thank you**