

Management (for students starting in 2024 or later)

1. The essence of mathematical statistics, the errors of sampling and inference, the steps of statistical processing

- Interpretation of descriptive statistical indicators, properties of statistical indicators, main representation methods
- Estimation theory, properties of estimation, interval estimation
- The general course of hypothesis tests, statistical tests and their hypotheses, conditions for their application
- Basics of correlation and regression calculations, basic assumptions of the model, interpretation and testing of indicators and regression coefficients

2. Management theories and methods, their application and criticism

- What managerial skills and good and bad examples of their application do you know?
- Describe the organizational culture types according to Handy and Quinn. How do organizational structures and culture types fit together?
- Present the learned motivational theories and introduce application examples (theories of Maslow, Herzberg, McClelland, Vroom, Adams, Locke, and Skinner)
- Describe the learned leadership styles and give examples of when it is recommended to use a given leadership style (theories of Lewin, Tannenbaum-Schmidt, Ohio State University, Blake-Mouton, and Hersey-Blanchard)

3. Segmentation, targeting and positioning and STP strategy

- Describe the process and main characteristics of segmentation and list the segmentation criteria.
- Describe the STP strategy, its process and present the dimensions of positioning in detail through examples
- Using examples, explain the five positioning strategies.
- Define the perceptual map and explain its application using an example of your choice

4. Ensuring quality in organizational operations

- The main features of the current ISO 9000 family of standards
- Characteristics of Six Sigma and Lean Six Sigma approaches
- Organizational self-evaluation

5. Process management

- Methods and tools for recording and monitoring processes (advantages, disadvantages)
- Failure analysis methods (advantages, disadvantages)
- Process improvement models: similarities, differences, criticisms

6. Management of customer demand and their satisfaction

- Methods of forecasting customer demand and their application issues
- Evaluation of demand forecast errors and their consequences for operation
- Examination of the capacity to satisfy customer needs and its modification possibilities

7. Inventory and supply management

- Types of inventory problems and the costs of the processes associated with them
- Management dilemmas and models of inventory control
- Tasks and solutions of material requirements planning

Management 4.0

1. Basic concepts of strategic management
 - Show the connection between the values and the mission
 - Present the essence of the vision and its connection to the mission
 - What is the essence of the strategy and its relationship with the mission, vision and business environment?
2. Environmental analysis techniques and strategy creation
 - The emergence of technology in environmental analysis techniques
 - The contribution of SWOT and PESTEL analysis to strategy creation
 - Stakeholder analysis and conclusions in the strategy
 - Resource analysis and its relationship with strategy
3. Strategic aspects of national and organizational culture
 - Culture models and their relationship with strategy
 - Connections and strategic messages of national culture models
 - Correlations and strategic messages of organizational culture models
 - The relationship between technology and organizational culture
4. The relationship between the framework of competing values and the strategic position
 - Presentation of the framework of competing values
 - Cultural typology of competing values
 - Application of the OCAI survey tool and strategic aspects of the survey
5. Integration of new technologies into quality management systems
 - The challenges of integrating the latest technologies
 - Organizational integration of the latest technologies and quality management
 - The advantages and disadvantages related to the integration in terms of quality management
6. Quality and regulatory compliance
 - The latest challenges in compliance
 - The impact of compliance on quality management
 - Complex models and processes of compliance and quality management
7. Changing customer expectations and their management
 - Methods of understanding customer expectations
 - The impact of customer trends on the quality strategy
 - The impact of changing customer expectations on current quality management practices
8. The role and challenges of sustainability in quality management
 - The role of sustainability in quality management standards and systems
 - The impact of sustainability principles on organizational processes
 - Sustainability in organizational self-evaluation