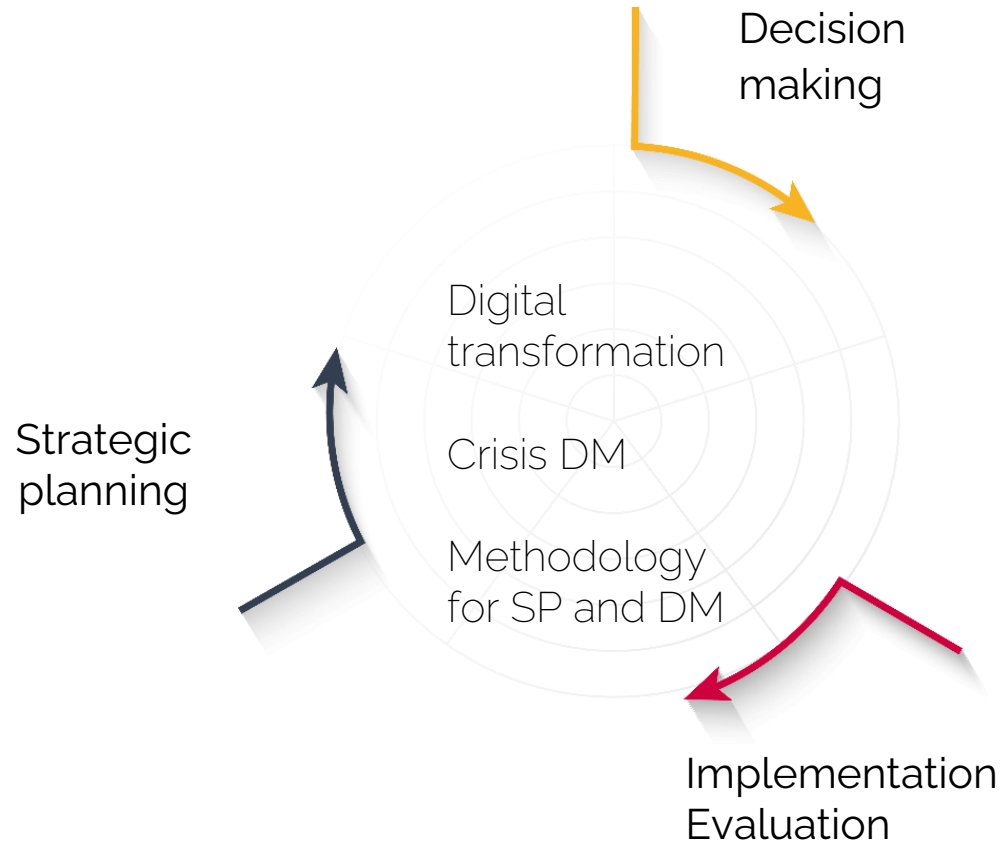


# Strategic planning and decision making challenges

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# AGENDA

CHALLENGES

STRATEGIC PLANNING

DECISION MAKING

RECOMMENDATIONS



## TRANSFORMATION CHALLENGES



HE has become a part of a global shift to a new way of creating and using knowledge – disruptive technologies (AI, digital twins, smart industry, quantum computing, biotechnology, etc.) – “DIGITAL” TRANSFORMATION

Organizations:

- must be focused on solving problems
- must be sensitive to customers needs
- must cope with the crisis- crisis leadership

**Main transformation challenges:**

- 1.) customized learning experiences,
- 2.) accessibility,
- 3.) disruptive technologies,
- 4.) wellbeing
- 5.) security.



## TRANSFORMATION CHALLENGES IN HEI



**Learning analytics, artificial intelligence and machine learning** are playing an important role in analyzing student learning and preparing recommendations on how to improve and customize learning approach.

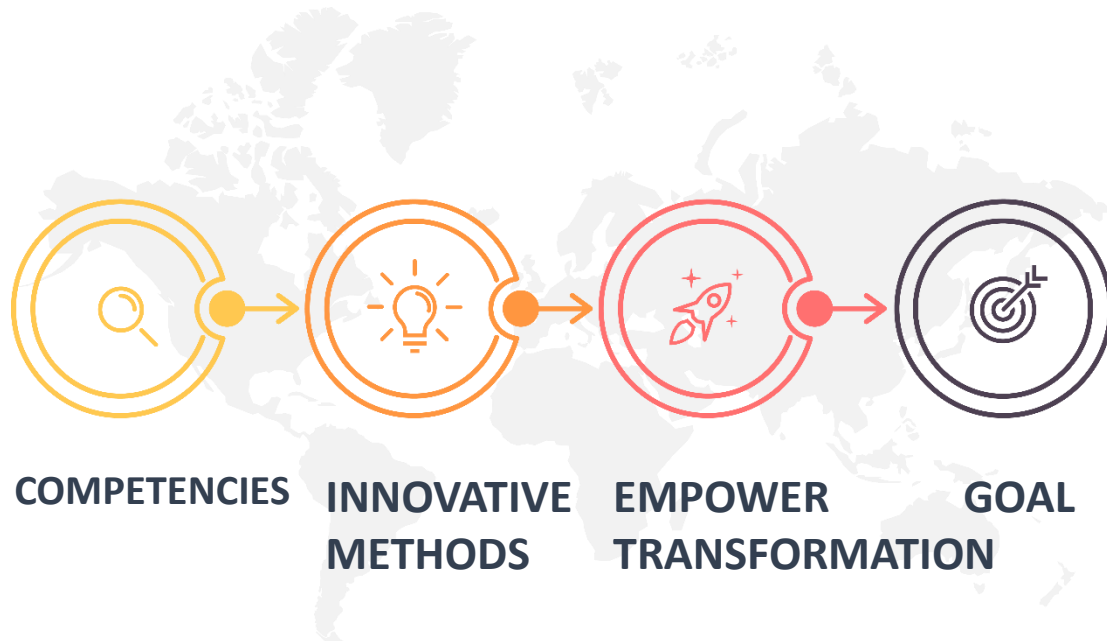
Digital technologies can make it **easier for students of different learning types to learn** in the way most appropriate to them, for example by using **learning management system, gamification, modelling tools**

HEI must strive for **interdisciplinarity**

HEI must implement **innovative concepts of teaching** as **project based learning and problem based learning (PBL), work based learning (WBL), critical thinking, creative thinking and problem solving** as dominant skills



## DISRUPTIVE TECHNOLOGIES – HOW TO COPE WITH?



Digital/disruptive technologies in educational institutions promise:

- to enhance competencies and skills of students and teachers
- to boost readiness for facing challenges in the labour market and
- to empower transformation by using innovative methods of teaching and learning as group learning, project-based learning, hybrid learning, Massive Open Online Course (MOOC), the global delivery of materials, student interactions
- to transform learning communities with digital pedagogy

These changes demand **action and decisions in educational institutions** – the results are more **complex and demanding missions, visions, and strategic planning and decision making.**

# ASPECTS OF SUCCESSFUL TRANSFORMATION



Supportive organizational culture

Improving decision-making  
process; data and time driven  
DM

Decisive DM

Becoming a data-informed or  
data-centric organization



Adoption of new  
methods and  
techniques for strategic  
planning and decision  
making



**Strong leadership**

**Strategic planning and  
decision making based  
on the methodology**

**Agility in strategic  
planning and decision  
making**

**Crisis leadership**

# Managers



Transition to virtual learning overnight with limited and rapidly changing guidance (Harris & Jones, 2020)

- **Political challenges**
- **Crisis Decisions**
- **Market needs.**

Need for implementing **decisive decision making** – the ability to make quick, clear and well thought-out decisions under constraints (Grissom & Condon, 2021)

- **Speed and Agility:** Making choices in a timely manner to capture opportunities.
- **Clarity:** Providing a clear direction for the team, which eliminates confusion and hesitation.
- **Accountability:** Taking ownership of the choice made, even in the face of uncertainty.

what

how

why

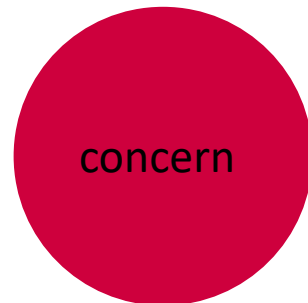
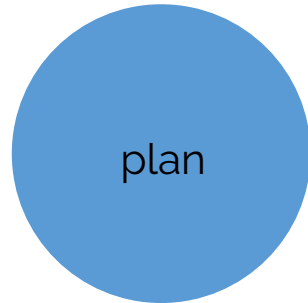
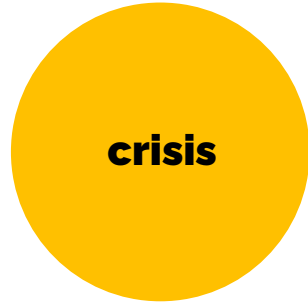
# Framework for managers - crisis leadership



Smith and Riley's **crisis leadership response framework** can be used to interpret and analyze decision making of managers

The framework identifies **five processes for responding to a crisis:**

- a) Gathering information about the crisis
- b) Creating and implementing a well defined plan, revise if it is needed
- c) Decisive decision making
- d) Showing concern for the wellbeing of others
- e) Demonstrating open and honest communication.



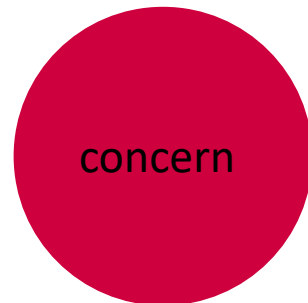
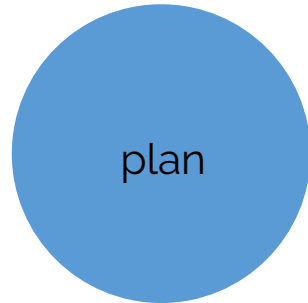
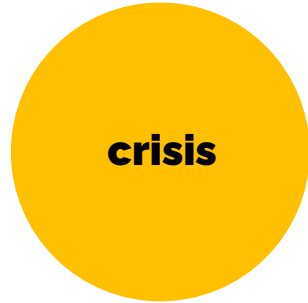
# Framework for managers - crisis leadership



## How to Lead in a Crisis: 4 Ways to Stay Present

Effective leaders often do the following when leading through a crisis:

1. Face your emotions.
2. Show respect.
3. Make connections.
4. Be positive.





Leader intentions  
Values  
Ethics

Crisis management  
Stages:  
Prevention  
Preparedness  
Response  
Recovery

Actions: Goal development, environment analysis, strategy development, implementation and control, evaluation

Crisis leadership

Communication: two way, lateral, transparent, accessible

Key attributes: communication skills, decisive decision making, creative thinking, empathy, intuition, flexibility

Community trust and collaborations, resilience  
Community supports

Synthesis of intentions, characteristics and purpose of **crisis management/leadership** across disciplines as a **framework for leaders**

Urlick, Karpenter, Eckert: Confronting COVID: Crisis Leadership, Turbulence, and Self-Care; 2021.



# APPROACHES

## CRISIS

Different approach in crisis:

### **Approach**

„I focus more on the people but streaming to defined goals!”

### **Best interest of people**

„I’m always going to try to make the decision that has the best impact on people first!”

### **Safety**

My decisions are made with safety. Well being takes center stage.

### **Data driven**

I was analyzing the data trying to make a decision based on the available data!



# APPROACHES

## CRISIS

Different approach in crisis:

### **Autocratically**

I made decision without consulting in few situations – time driven decisions about safety

### **Shared-consultative**

Before making decisions , gather feedback on the solution from the staff and leadership team

### **Transparent communication**

When a decision is made, I communicate with the stakeholders that will be affected and respond to questions and concerns they may have.

### **Evaluation**

Metrics behind the choices...adjust based on feedback and results





# RECOMMENDATIONS 01



- Be aware of the characteristics of **different decision making approaches and styles – situational style of DM**
- Make **time driven decisions** by using autocratic approach
- Make a decision based on the available data – **data driven organization**
- A manager's job in shared decision making is not to make decisions but to **empower the group to make wise decisions**
- **Communicate decisions with staff**



# METHODOLOGY FOR STRATEGIC PLANNING



**Methodology for the strategic planning of digital technologies integration** - consists of several techniques recommended for developing important strategic documents.

The intention was to have a manual, or a set of **easy-to-use guidelines** - applicable for all organization.

Strategic planning of digital transformation - **one of the main focuses in every institution.**

Higher education institutions around the world are taking on more responsibility for their own future planning.

# METHODOLOGY FOR DECISION MAKING

Phase of the cycle	Approaches	Specifics of HE and e-learning	Methods
<b>Identification and research of the problem</b>	Needs and situation analysis Readiness assessment DOI	Stakeholders' involvement E-readiness Consciousness raising	Situation analysis (SWOT, TOWS, CREDA, PEST) Case study research & qualitative analysis Structural Equation Modelling (SEM) Social Network Analysis (SNA) Upgraded methodology for e-readiness assess.
<b>Development of methodology for decision making (DM) and DM</b>	Analysis of potential solutions MCDM Cost-benefit and risk analysis	Benchmarking of HEIs Modelling dependencies and group DM	<b><u>Analytic Hierarchy Process (AHP), ANP; SNAP</u></b> BOCR <b>AHP and ANP</b> , PROMETHEE, ELECTRE Ideal point-based MCDM Multi-criteria variant of cost-benefit analysis Hybrid methodology of risk management – Monte Carlo simulation and Sensitivity analysis Qualitative analysis; Factor analysis, Clustering
<b>Implementation and strategic decision monitoring</b>	BSC, KPI, BPM CMMI PPM	Interpretations of econometrics and use of KPIs and PPM	BSC Balanced Scorecard Enterprise Architecture for BPM CMMI (Capability Maturity Model Integration) Econometric methods (ROI, productivity, efficiency, profitability)
<b>Evaluation of effects of the strategic decisions</b>	Qualitative, quantitative and mixed methods Structural causal models	Stakeholder perspective In-depth case study to find out causes & effects	Qualitative methods - stakeholder perspective, document analysis, internal consistency..., in-depth case study, Delphi Quantitative methods - econometric analysis, cost-benefit analysis, multi-criteria & regression analysis Pearl's structural causal models



## RECOMMENDATIONS 02



- **Strategic planning must be a step by step** development to achieve absorption capacity
- **Enhancement of capacity** (both on ministry and university side) **for strategic planning and DM**
- Top-down and bottom-up **leadership**
- **Define goals on different levels –Roadmap**
- **Indicators: simple and measurable, Action plan**
- **Ensure resources – information, time, people, funding...**
- **Define deadlines and responsibilities**
- **Ensure of additional funding** for focused strategic development
  - **Digital transformation** of education and science
- **Special challenge – monitoring and evaluation of results**



# AGILITY MANAGEMENT

Develop a strategic agility framework based on the following components:

## Anticipating

- Shift your focus and begin looking beyond the immediate state of the business.
- Consistently monitor or review the needs of your internal and external customers, what they might need in the future.

## Sensing

- Keep a pulse on market conditions and industry changes

## Responding

- Respond to customer needs (internal or external) faster than your competitors.
- Make decisions quickly and efficiently.

## Adapting

- Be flexible and open to reworking business processes and procedures as new market demands arise or as business changes.
- Improve your organizational agility.
- Be in a position to adjust your organizational structure





# Personal Strategic Agility Competencies



## Personal Strategic Agility Competencies

### Competency 1: Navigating change

- Be willing to adopt and support change.
- Be a change agent.
- See the end goal or desired outcome that change facilitates.

### Competency 2: Thinking Strategically

- Planning a course of action and executing on it.
- Aligning your own plans and strategies with the broader organizational strategy.

### Competency 3: Getting Comfortable with Risk

- Take the emotion out of the risk to see things more clearly.
- Understand the risk for what it is.
- Look at risk as another calculated, go or no-go decision point.
- Understand your own view of risk and how that plays into your decisions.



## Principles Examples



### Principle 1: Prioritize speed over perfection

*“During the multi-day celebration of Chinese New Year, movie theaters are typically full of families. However, in January 2020, due to the spread of Covid-19, most theaters were empty, and many had closed their doors. The Huanxi Media Group (Huanxi) [stood to lose millions](#) on its New Year-themed movie *Lost in Russia*.*

*While most of its peers decided to postpone their releases, Huanxi **approached Bytedance, the Chinese company behind the blockbuster app TikTok**. Bytedance was not an obvious distribution partner, as its properties mostly stream short-form, user-generated content. TikTok, for instance, caps videos at 15 seconds — and *Lost in Russia* clocked in at over 2 hours.*

*In just two days, *Lost in Russia* racked up **600 million views** on Bytedance platforms. Not only did the movie gain a huge following, it also led to a **flood of goodwill from Chinese citizens** who were frustrated about not being able to leave their homes during the outbreak.”*

Source: <https://hbr.org/2021/09/6-principles-to-build-your-companys-strategic-agility>



## Principles Examples



### Principle 5: Prioritize learning over blaming

*“Evalueserve is a mid-sized global IT services firm with offices in India. When the country declared a strict lockdown with six hours notice, it had no choice but to shift almost all of its 3,000 employees to work-from-home. This move created an increased risk to employee wellbeing and morale, as home environments were often stressful and not conducive for working. In response, the company instituted several changes to promote a “no blame” culture. It added mental health and wellbeing initiatives such as “no agenda check-in calls” to maintain motivation, as chairperson Timo Vättö and co-founder Marc Vollenweider explained to us in an interview. The company also adjusted its incentives to reward employees for learning and adaptability. As a result, Evalueserve faced negligible attrition of both employees and clients during the period of the lockdown.”*



# STYLES OF DECISION MAKING



- **Instructional** – Support from professional services and leadership.
- **Participative** – Participation in decision-making through collaborative bodies and reasoned proposals.
- **Transactional** – Rewarding diligent and creative employees and their encouragement by management and executives...
- **Situational** – **The leader adapts their style to the situation, which means they must think quickly and be flexible.**
- **Moral** – The leader must be a role model and adhere to ethical and moral principles.
- **Visionary** – The leader must be a visionary, which means thinking ahead, like in chess.
- **Transformational** – Leadership should rely on loyal and expert people because no one can lead an organization alone without good organization and the application of everything mentioned above.



<b>Characteristic</b>	<b>Description</b>	<b>Average</b>
Critical Thinking	Critical evaluation of problems, analyzing, and forming opinions.	4.63
Problem Solving	Addressing specific problems identified and started to be resolved in a timely manner.	4.63
Adaptability	The ability to quickly and effectively adapt to changing circumstances; changing plans and decisions in response to emergencies; switching to an agile approach when necessary instead of strictly adhering to a strategic plan.	4.5
Responsiveness	Quick reaction from decision-makers and educators to identified issues and student feedback, aiming to create a suitable environment.	4.5
Risk Acceptance	Willingness to take and manage risks, avoiding the status quo trap as well as confirmation bias.	4.5
Self-awareness	Ability to understand one's own strengths and weaknesses.	4.38
Prioritization	Ability to identify priority goals.	4.38
Resource Management	Effective management and allocation of resources according to priorities.	4.25
Usability	Finding solutions with functional value that serves the end-user – the student, genuine and practical acquisition of knowledge; applying knowledge in practice and problem solving.	4.25
Flexibility	Willingness to consider different perspectives and approaches.	4.13
Acceptance of failure	Embracing challenges and viewing failure as an opportunity; learning from poor decisions and exploiting new opportunities.	4
Collaboration and Teamwork	Ability to work successfully in a team, collaborate, communicate effectively, respect diverse opinions, interact, and employ active methods.	4
Continuous Development and Improvement	Commitment to continuous learning and improvement aimed at enhancement and development.	4
Goal Orientation	Ability to set and achieve goals.	4
Creativity	Ability to generate new ideas and seek innovative solutions.	3.88
Situation Analysis	Analysis of strengths, weaknesses, opportunities, and threats.	3.88
Stakeholder Activity	All stakeholders actively contribute to planning and decision-making, continuous participation, communication, and information exchange.	3.88







# Future in-demand skills

## 10. Emotional intelligence

Emotional intelligence is a skill that helps you regulate your own emotions and understand and sympathize with others. These abilities are valuable in a workplace because they help you understand others, resolve conflict, reduce stress and improve the [work environment](#)

## 11. Initiative

Initiative is the ability to recognize where and how to make improvements and create a plan to perform improvement.

## 12. Innovation

Innovation skills are the critical skills leaders and their employees need to contribute to an organization's innovation performance—skills needed to produce new and improved strategies, capabilities, processes and services.

## 13. Interpersonal skills

Interpersonal skills are abilities such as active listening, dependability, empathy, verbal and [nonverbal communication](#) and flexibility.

## 14. Leadership and social influence

Employers often prefer candidates who have leadership qualities such as responsibility, initiative and integrity. These skills aid in collaboration, goal-setting and [time management](#). Having leadership skills is helpful for any job role.



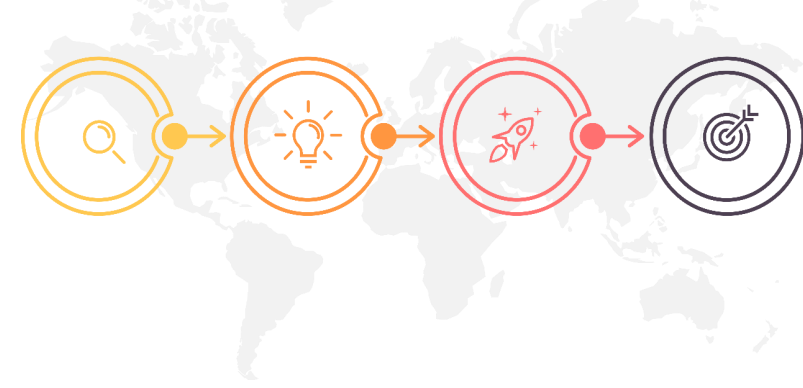
Source: <https://www.indeed.com/career-advice/career-development/future-skills>



# RESEARCH – AI in CLASS

## BDM

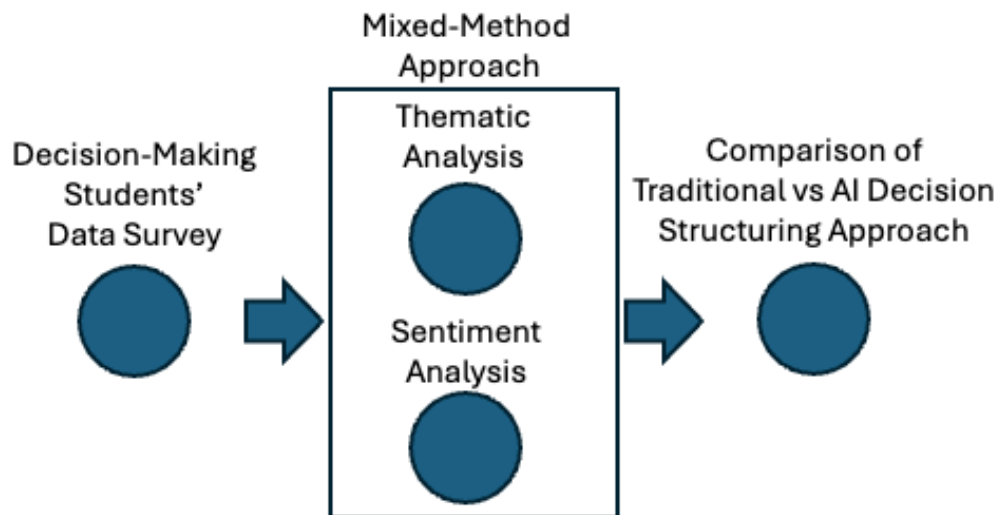
## METHODOLOGY



Data were collected from surveying 71 first-year students from the undergraduate study program Information and Business Systems at an European university, who were taking a class in decision-making.

Students were required to structure a business decision for a real organization using a two-step approach: first, they would use traditional methods (literature review and interviews) to structure the problem and next they would use generative AI (ChatGPT) to do the same.

Following this assignment work, students were requested to participate in a voluntary and anonymous survey where they would answer questions related to their overall experience.





## METHODOLOGY



The study used **descriptive statistics, thematic analysis, and sentiment analysis** to examine student responses.

Elements of **thematic analysis were applied to categorize key patterns** related to the perceived advantages and disadvantages of ChatGPT .

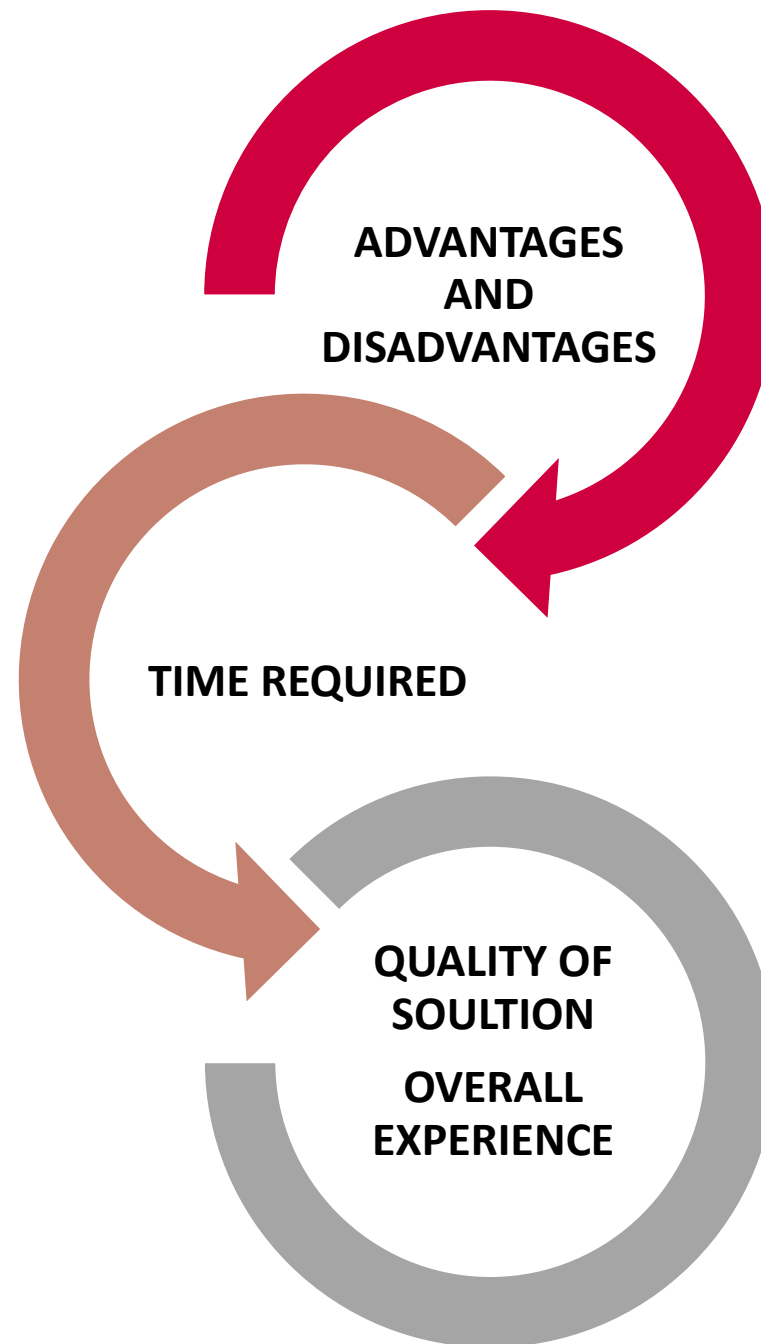
**Descriptive statistics summarized the time students spent and the quality ratings** they assigned to their solutions using both ChatGPT and traditional methods.

**Sentiment analysis** was conducted on **student reflections regarding their overall experience of using ChatGPT** as a support tool for structuring decision problems, following an approach based on prior studies.

This mixed-method approach provided a well- rounded understanding of student attitudes and experiences.



# RESULTS





## RESULTS AND DISCUSSION



### A. Advantages of using Generative AI for decision-making problem structuring

- 83.1% of participants considered that *speed* is the main advantage of using generative AI for structuring decision-making problems
- second most important advantage reported by the participants was *ease of use* (18.3%).
- the *variety of information sources* (7%) used as well as the *variety of responses* obtained (9.9%) were also considered important advantages.

Rank	Advantage	Number of Respondents	% Resp.
1	Speed	59	83.1
2	Ease of Use	13	18.3
3	Variety of Responses	7	9.9
4	Variety of information sources	5	7.0
4	Efficiency	5	7.0
Other	Objectivity, Accuracy, Explanation, Interactivity, Automation, Creativity, Adaptability, None	< 5	< 7



## RESULTS AND DISCUSSION



### A. Disadvantages of using Generative AI for decision-making problem structuring

- The large majority of students reported that the presence of *inaccurate responses* (69%) was the greatest disadvantage of using the AI tool.
- The *lack of context understanding* (9.9%) which may be reason that the systems would provide superficial answers (9.9%) in many case were also cited as serious disadvantages.
- Many students also cited as disadvantages the *difficulty to prompt the system* (8.4%) as well as *the uncertainty of the sources* (7.0%) used in the responses.

Rank	Disadvantage	Number of Respondents	% Resp.
1	Inaccurate Responses	49	69.0
2	Lack of context understanding	7	9.9
2	Superficial answers	7	9.9
4	Difficult to prompt	6	8.5
5	Source uncertainty	5	7.0
Other	Human ThinkingDegradation, Math Limitations, Inability to provide an answer, None	< 5	< 7



## RESULTS AND DISCUSSION



### *B. Quality of solution using Traditional Methods vs Generative AI.*

- Students were asked to rate their satisfaction with the quality of the decision structuring solutions obtained using traditional methods as well as when using generative AI, using a scale 1-5 (1- not satisfied at all, 5- extremely satisfied)
- **Results were very similar (3.8 for traditional and 3.7 for generative AI)** - their level of satisfaction with the quality of the produced solutions are similar either using traditional approaches or AI.

Satisfaction Comparison	Number of Respondents	% Resp.
Generative AI is better	20	28.2
Traditional methods are better	28	39.4
Both approaches are equally satisfactory	23	32.4



## RESULTS AND DISCUSSION

### *C. Time required for decision problem structuring: Traditional Methods vs Generative AI.*

- Students were requested to estimate the time it had taken to structure their decision problem using traditional methods as well as generative AI.
- Time range, using the traditional approach, varied from 15 mins to 8 hours; using the generative AI approach took from 1 minute to 2.3 hours.
- **Medians for the two approaches were 60 minutes (traditional method) and 10 minutes (generative AI);**



Approach for Structuring the Problem	Minimum (minutes)	Maximum (minutes)	Median (minutes)
Traditional Methods	15	480	60
Generative AI	1	137	10

- Generative AI allows a great amount of time saving in structuring decisions

# RESULTS AND DISCUSSION

*Overall experience of using Generative AI for decision problem structuring.*



Students were asked to give their opinion about their overall experience using generative AI to structure decision-making problems.

Sentiment analysis - responses were analyzed for sentiment, categorized by an AI model (using OpenAI's ChatGPT, specifically gpt-3.5-turbo) into positive, negative, and neutral classes, as well as into positive and negative.

Item #	Student Opinion	Two-Class Classification	Three-Class Classification
1	The whole experience was positive, and I had no major complaints.	Positive	Positive
2	Satisfactory, could be better.	Positive	Neutral
3	I believe that I cannot trust his information, and we have to check every part of the theory in the literature. Although it may be correct, it needs to be verified.	Negative	Neutral
3	The experience was short, but not too useful because we had already determined all the solutions...	Negative	Negative
4	I'd say I'm satisfied, but it lacks something in the decision-making process..	Negative	Neutral
5	He helped me but not enough.	Positive	Negative

Classification	Classes		
	Positive	Negative	Neutral
Three-Class	46 (64.8%)	6 (8.5%)	19 (26.8%)
Two-Class	58 (81.7%)	13 (18.3%)	

sentiment about the generative AI experience is overwhelming positive (81.7%) when using only two classes but decreases drastically (64.8%) when adding a neutral category.



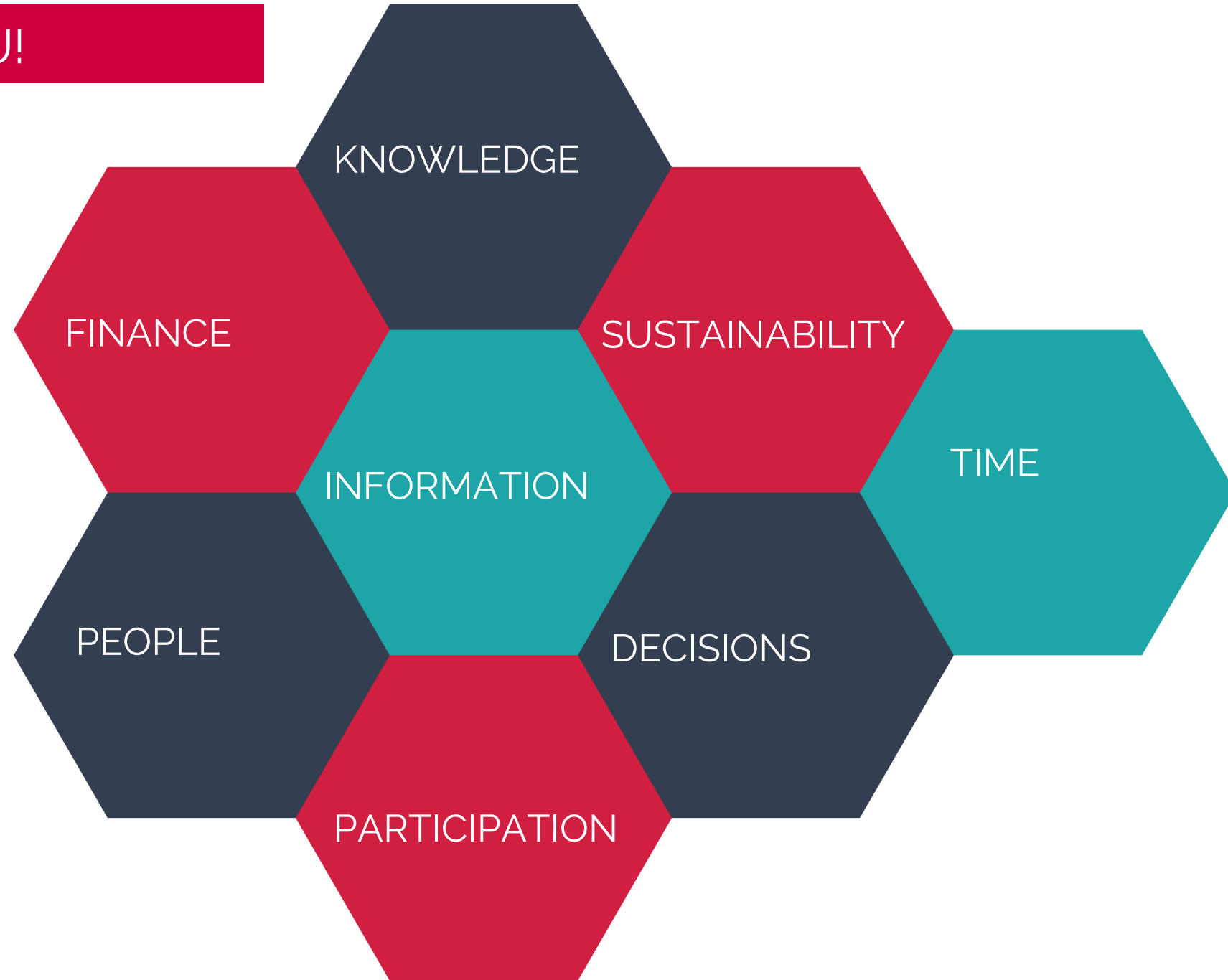
## CONCLUSION



**Generative AI can enhance human decision-making by providing recommendations and information valuable for decision making.**

However, realizing this potential requires understanding the conditions for **optimal human-AI collaboration** and **developing AI systems that complement/support human decision-makers.**

THANK YOU!



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# THANK YOU

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