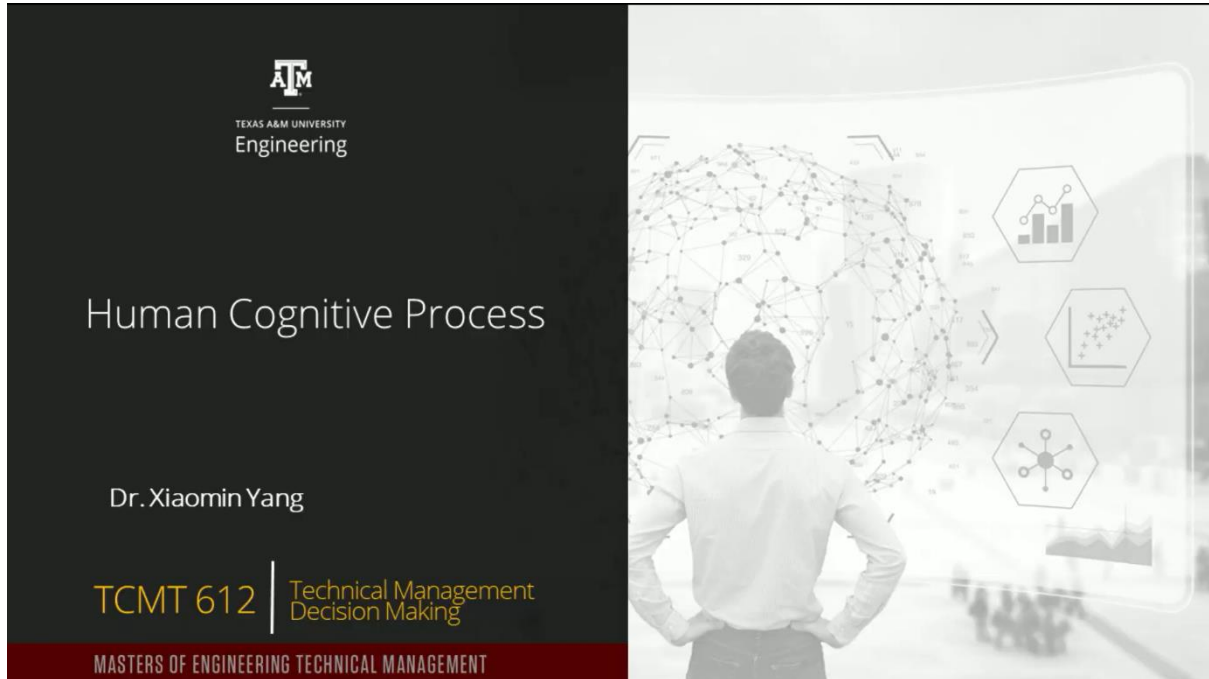


# M1L5. Human Cognitive Process

## Slide #1



The slide cover is divided into two main sections. The left section is a dark grey/black rectangle containing the Texas A&M University Engineering logo at the top, followed by the title 'Human Cognitive Process' in white, the name 'Dr. Xiaomin Yang', and the course information 'TCMT 612 | Technical Management Decision Making' in yellow and white. A red banner at the bottom of this section reads 'MASTERS OF ENGINEERING TECHNICAL MANAGEMENT'. The right section is a light grey image showing a person from behind, looking at a large digital display. The display features a complex network diagram and several hexagonal icons containing bar charts, line graphs, and network symbols.

ATM  
TEXAS A&M UNIVERSITY  
Engineering

Human Cognitive Process

Dr. Xiaomin Yang

TCMT 612 | Technical Management  
Decision Making

MASTERS OF ENGINEERING TECHNICAL MANAGEMENT

## Slide #2

### Human cognition process

Excels at:

- Managing context
- Communication
- Uncertainty
- Ethical considerations

Integrating with data-driven insights can significantly enhance decision-making processes.

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Human cognition excels at managing context, communication, uncertainty, and ethical considerations.

Integrating this with data-driven insights can significantly enhance decision-making processes.

### Slide #3

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**Scenario:** A manager at a company is trying to figure out how much of each product to produce and keep in inventory.



#### **Data analytics:**

Looks at past sales and predicts what customers might want.



#### **Human cognition:**

Brings in market knowledge and understanding of the business

The teamwork between human thinking and data insights makes for smarter decisions, especially in a fast-paced business setting.

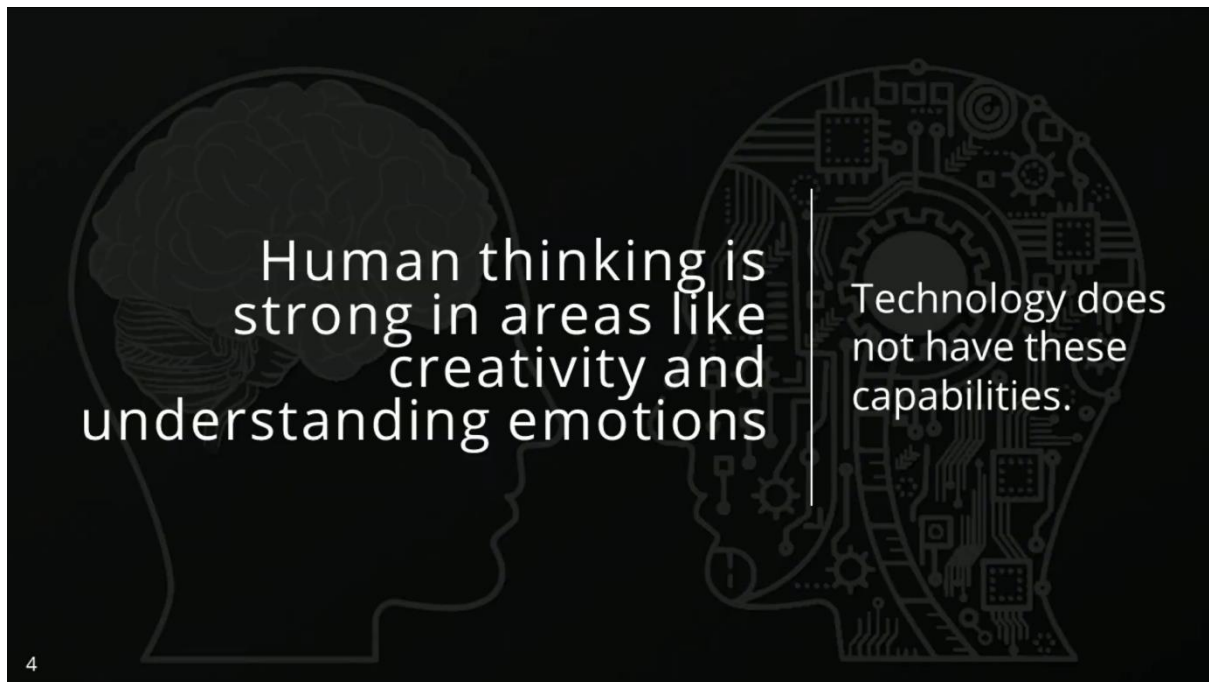
3

Picture a manager at a company trying to figure out how much of each product to produce and keep in the inventory.

Data analytics can assist by looking at past sales and predicting what customers might want. While helpful, the manager brings their market knowledge and understanding of the business, making the decision more well-rounded.

This teamwork between human thinking and data insights makes for smarter decisions, especially in a fast-paced business setting.

**Slide #4**



Human thinking is strong in areas like creativity and understanding emotions, things that technology finds tricky.

## Examples

In **business**, human intuition and long-term vision matter.

In **education**, a teacher's ability to connect with students is something computers cannot do.

In **healthcare**, doctors rely on technology to check medical images, but their knowledge is still important.

5

In business, like deciding to enter a new market, human intuition and long-term vision matter a lot.

For instance, an executive thinking about strategic regional and international expansion needs to consider more than just data. They need to bring in their experience and understanding of the industry to make smart decisions for the company's future.

Even in the education field, where technology can suggest personalized learning, a teacher's ability to connect with students and adapt to their needs is something computers can't fully do. A teacher's passion for tailoring lessons and offering emotional support is crucial.

While data analytics and smart computer programs can be great for processing information, it's important not to push aside human thinking intentionally.

Think about healthcare, where doctors use technology to check medical images. Technology helps, but the doctor's knowledge, empathy, and understanding of the patient's situation are still super important.

In a nutshell, teaming up human thinking with data insights gives a well-rounded approach to decision-making. Combining the strengths of both human judgment

and smart technology helps make decisions that not only look at the numbers but also consider the more human strategic aspects. It's about finding the right balance to make decisions that are well-informed and make sense in dynamic situations.

## **Slide #6**

### Summary

The essence of decision-making fundamentally involves assessing the costs, benefits, and risks associated with various alternatives.

#### **Next:**

- Examples of human judgment
- Emotional and intuitive responses to risk
- Leadership styles



The essence of decision-making fundamentally involves assessing the costs, benefits, and risks associated with various alternatives.

In the following section, we will explore examples of human judgment, along with the emotional and intuitive reactions humans have towards risk.

Additionally, we'll examine how individuals with varying intrinsic leadership styles tend to weigh the value and risk differently.