

# M1L9. How We Make Decisions

## Slide #1



The slide cover is divided into two main sections. The left section is a dark grey rectangle containing the Texas A&M University Engineering logo at the top, followed by the title 'How We Make Decisions' in white, the name 'Dr. Xiaomin Yang' in white, and the course information 'TCMT 612 | Technical Management Decision Making' in yellow and white. At the bottom of this section is a red banner with the text 'MASTERS OF ENGINEERING TECHNICAL MANAGEMENT' in white. The right section is a light grey image showing a person from behind, looking at a large screen. The screen displays a complex network diagram with a central node and many connecting lines, and several hexagonal icons containing various symbols like a bar chart, a line graph, and a network diagram.

ATM  
TEXAS A&M UNIVERSITY  
Engineering

How We Make Decisions

Dr. Xiaomin Yang

TCMT 612 | Technical Management  
Decision Making

MASTERS OF ENGINEERING TECHNICAL MANAGEMENT

In this topic, we will discuss how we make decisions.

## Slide #2



### Systematic decision-making process

use in your organization

combine managers' judgment and data

to make sound decisions.

I am going to teach you a systematic decision-making process that you can use in your organization to combine managers judgment and data to make sound decisions.

### **Slide #3**

## Ability to make intuitive decisions

Valuable and important

Unconscious decision-making processes enable leaders

quick and effective decisions

with limited information

under stressful environments.

Subjective judgement decision-making process

distorted by our emotional attachments or self-interest.

Human beings have biases while making judgement calls.

Leaders' ability to make intuitive decisions is valuable and important because the unconscious decision-making processes enable leaders to make quick and effective decisions with limited information under stressful environments.

However, that subjective judgment decision-making process can be distorted by our emotional attachment or self-interest, given the way our brains work.

Human beings have biases while making judgment calls.

## Slide #4

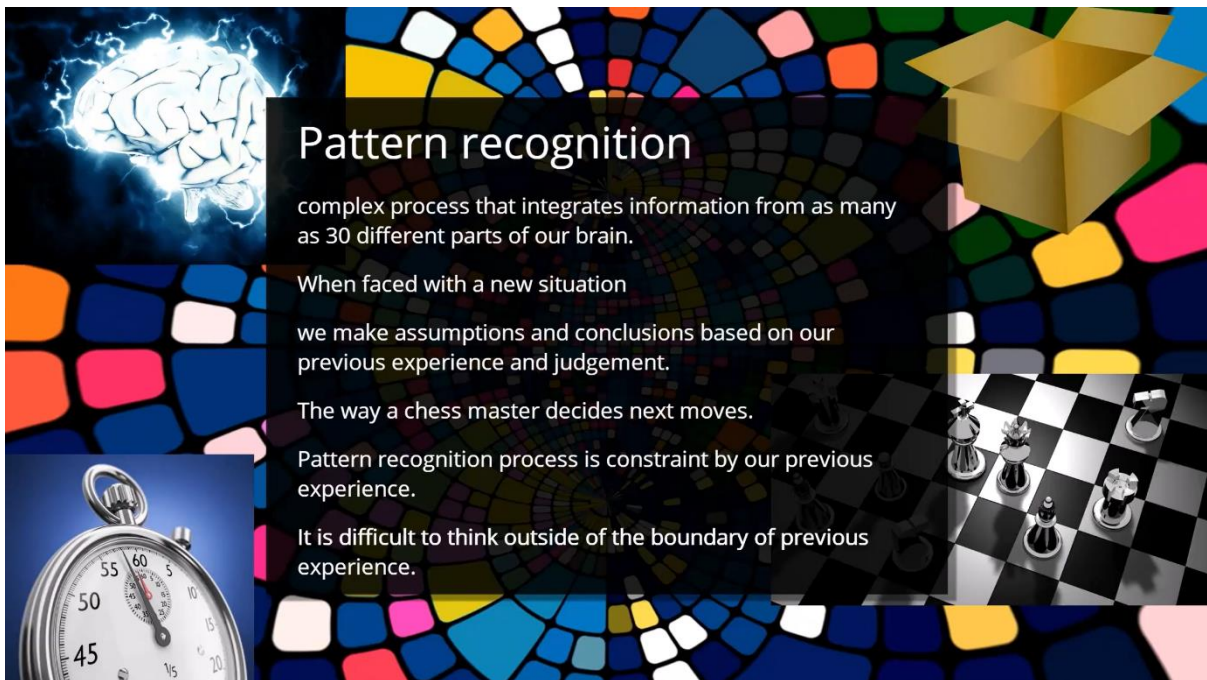
Our brains depend primarily on 2 hardwired processes for making decisions:

- (1) Pattern recognition
- (2) Emotional tagging



Our brains depend primarily on two hardwired processes for making decisions, pattern recognition and emotional tagging.

## Slide #5



### Pattern recognition

complex process that integrates information from as many as 30 different parts of our brain.

When faced with a new situation we make assumptions and conclusions based on our previous experience and judgement.

The way a chess master decides next moves.

Pattern recognition process is constraint by our previous experience.

It is difficult to think outside of the boundary of previous experience.

Pattern recognition is a complex process that integrates information from as many as 30 different parts of our brain.

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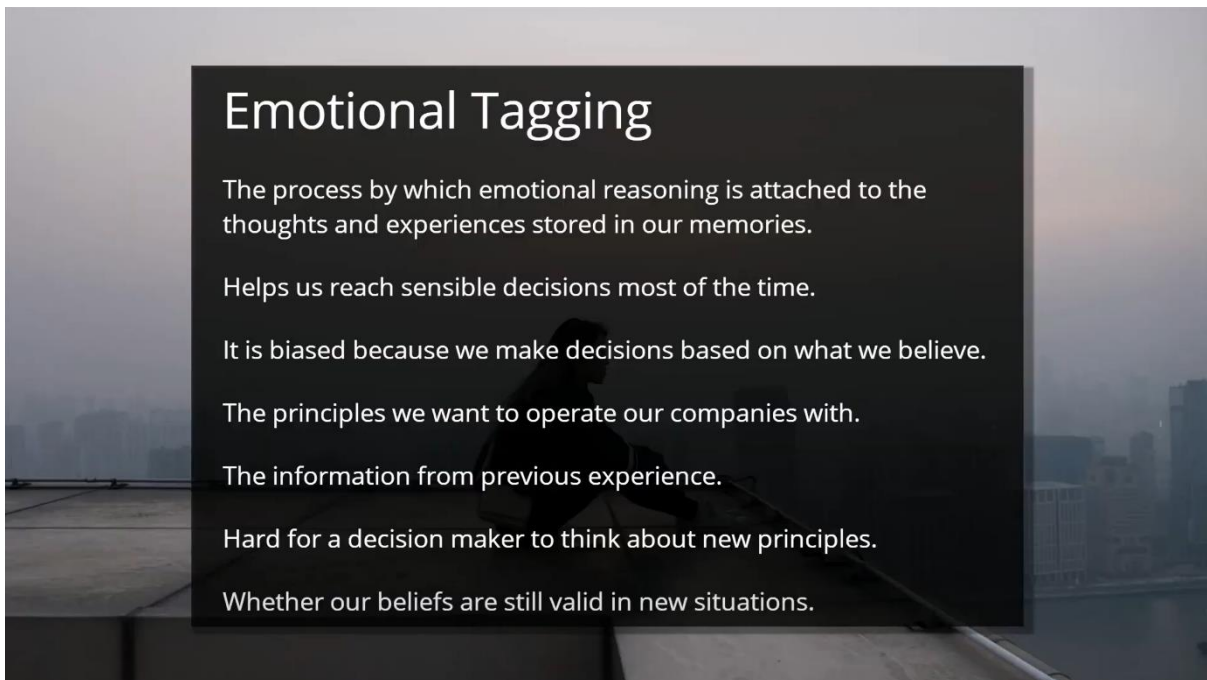
This is the way a chess master decides the next moves when playing a chess game. A chess master can choose a high-quality move in as little as six seconds by drawing on the patterns he or she has seen before.

While we are dealing with seemingly familiar situations, our brains can cause us to think we understand the situation and draw conclusions based on the decisions we have made before.

However, you can see the pattern recognition process is constrained by our previous experience.

It is difficult for decision-makers to think outside of the boundary of their previous experience.

## Slide #6



### Emotional Tagging

The process by which emotional reasoning is attached to the thoughts and experiences stored in our memories.

Helps us reach sensible decisions most of the time.

It is biased because we make decisions based on what we believe.

The principles we want to operate our companies with.

The information from previous experience.

Hard for a decision maker to think about new principles.

Whether our beliefs are still valid in new situations.

The second decision-making process is called emotional tagging. Emotional tagging is the process by which emotional reasoning is attached to the thoughts and experiences stored in our memories.

Like pattern recognition, emotional tagging helps us reach sensible decisions most of the time, but it is biased because we make decisions based on what we believe.

These are the principles based on which we want to operate our companies and the information we have from previous experiences.

It will be very hard for a decision maker to think about new principles, to think about whether our beliefs are still valid in new situations.

## Slide #7

Pattern recognition and emotional tagging are normally reliable.

They are part of our evolutionary advantage.

In certain environments both lead to biased judgment calls.

We will discuss in detail how our brains rely on those two psychological processes to make excellent decisions,

and sometimes bad decisions.

We cannot rely on leaders to spot and safeguard against their own errors in judgment.

Systematic process to support judgment calls with logic, data, and analysis before a decision is made.

Pattern recognition and emotional tagging processes are normally reliable.

They are part of our evolutionary advantage, but in certain environments, both lead to biased judgment calls.

In the next weeks, we will discuss in detail how our brains rely on those two psychological processes to make excellent decisions and sometimes bad decisions.

Given the way human brain works, they cannot rely on leaders to spot and safeguard against their own errors in judgment.

The simple answer is to involve a systematic process to support judgment calls with logic, data, and analysis before a decision is made.