



TOR VERGATA
UNIVERSITÀ DEGLI STUDI DI ROMA

BACHELOR DEGREE IN
BUSINESS
ADMINISTRATION AND
ECONOMICS



Managerial Decision Making *Introduction*

Prof. Matteo Cristofaro
matteo.cristofaro@uniroma2.it

A nudging anecdote

At the end of 1977, Richard Thaler jumped to the SC Johnson College of Business at Cornell University. He created an elective course called Behavioral Decisions Theory. It was “a little off the wall,” with much material possibly “borrowed” from a class he had taken from Tversky, he recalled. The class was not very well attended.

“I had to figure out how to increase enrollment in the class,” he said:

“I changed the name to **Managerial Decision Making** and enrollment doubled.” Thaler asked his students how many chose the course based on the name. “No one said yes,” he remembered. “I said, ‘Half of you are wrong.’”

Course goals

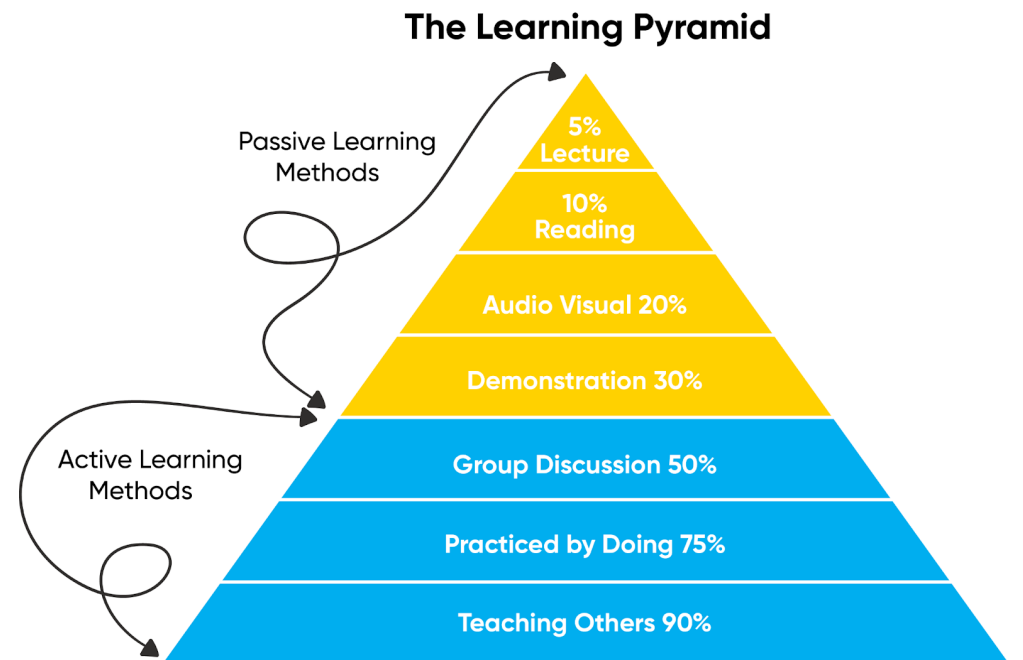
Learning-> The educational objective of the course is to provide students with advanced skills to analyze and solve problems and improve decision-making processes in business contexts.

Knowledge-> in-depth knowledge of managerial decision-making, problem solving through the transfer of advanced theoretical and empirical knowledge, integrated with analytical and operational tools

Applied knowledge-> At the end of the course, students will acquire an in-depth knowledge of the fundamental concepts of decision-making and their application in managerial contexts.

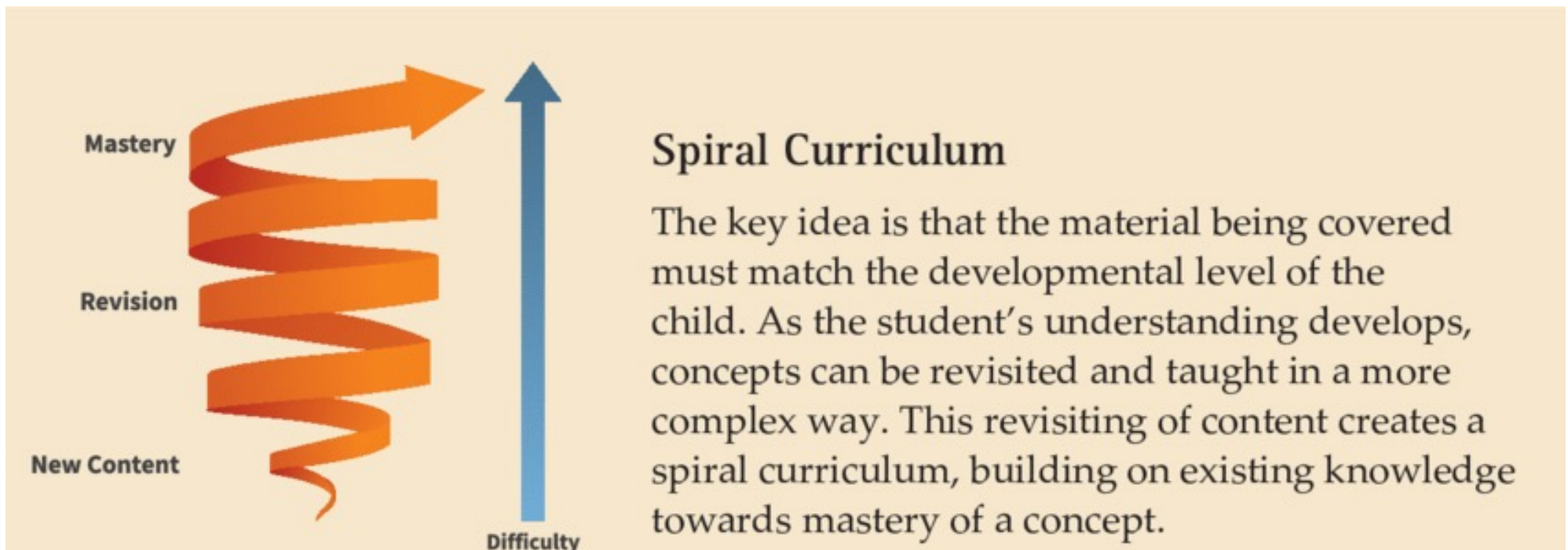
HOW? (I)

- Teaching
- Seminars held by professionals
 - Reading materials
 - Interactive participation: comment, ask, and *cold calls*!
- Classroom experiments
 - Projects
 - Presentations



Dale, E. (1969). *Audiovisual methods in teaching*. Holt, Rinehart and Winston, New York.

HOW? (II)



Program

- Typologies of decisions and approaches, risk, and uncertainty
- Psychological aspects of decision making I (bounded rationality, prospect theory, behavioral decision theory, upper echelons theory, and behavioral strategy)
- Psychological aspects of decision making II (cognitive biases, emotions, heuristics, and the affect-cognitive theory)
- Problem solving: cycle (classic), phases, and problem statement and tools of problem solving (I)
- Tools of problem solving (2)
- Dynamic decision making, Data-driven decision making, and growth hacking
- Executive personality, behavioral strategy, neurostrategy and decision making
- Controlling decision quality, AI, and nudge

Calendar

Day		Starting at	to	Room
Wednesday	Feb 19, 2025	16:00	18:00	Aula S10
Thursday	Feb 20, 2025	11:00	13:00	Aula S5
Friday	Feb 21, 2025	11:00	13:00	Aula S5
Wednesday	Feb 26, 2025	16:00	18:00	Aula S10
Thursday	Feb 27, 2025	11:00	13:00	Aula S5
Friday	Feb 28, 2025	11:00	13:00	Aula S5
Wednesday	Mar 05, 2025	16:00	18:00	Aula S10
Thursday	Mar 06, 2025	11:00	13:00	Aula S5
Friday	Mar 07, 2025	11:00	13:00	Aula S5
Wednesday	Mar 12, 2025	16:00	18:00	Aula S10
Thursday	Mar 13, 2025	11:00	13:00	Aula S5
Friday	Mar 14, 2025	15:00	17:00	Aula S7
Wednesday	Mar 19, 2025	16:00	18:00	Aula S10
Thursday	Mar 20, 2025	11:00	13:00	Aula S5
Friday	Mar 21, 2025	11:00	13:00	Aula S5
Wednesday	Mar 26, 2025	16:00	18:00	Aula S10
Thursday	Mar 27, 2025	11:00	13:00	Aula S5
Friday	Mar 28, 2025	11:00	13:00	Aula S5

Is decision making somewhat important for organizations?

A [Bain & Company survey of almost 800 companies](#) from markets around the world demonstrates that high-quality decision making and strong performance go hand in hand. The data indicates a **95% correlation between companies that excel at making and executing key decisions and those with top-tier financial results**, whether measured in terms of revenue growth, return on capital or total shareholder return.

What the survey also showed, however, is that **most companies don't consider themselves very effective at making and executing decisions**. Implementation gets bogged down in process. The wrong people are making decisions with the wrong information in the wrong part of the organization.

In a [McKinsey Global Survey](#) on the topic, only 20 percent of respondents say their organizations excel at decision making. On average, respondents spend **37 percent** of their time making decisions, and **more than half of this time was thought to be spent ineffectively**. For managers at an average Fortune 500 company, this could translate into more than 530,000 days of lost working time and roughly \$250 million of wasted labor costs per year

Scenario

Imagine you are a tech company senior manager facing declining sales for one of your key products. Your team suggests three options:

1. Invest heavily in new features to attract more customers.
2. Cut costs by reducing the workforce to maintain profitability.
3. Shift focuses entirely on a new product with early promise but risks.

What factors would you consider before making a decision? How would you determine which option is the best for the company's future?



So, what is MDM?

Managerial decision-making is the *process* by which managers identify, evaluate, and choose alternatives to effectively and efficiently achieve organizational goals. It involves collecting and analyzing data, assessing risks and uncertainties, and selecting the most appropriate course of action to solve problems. Decisions invariably involve organizational (incremental or dramatic) change and the commitment of scarce resources.

Judgment refers to *how* individuals assess, estimate, or make sense of various phenomena. In other words, it refers to the cognitive aspects of our decision-making process that drive *evaluation* or *categorization* applied to a decision-making situation.

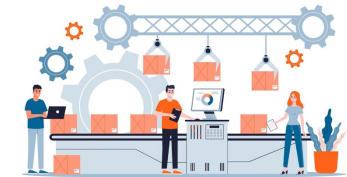
All in all

Decision making is the one activity that most nearly characterizes the behavior of managers, and the one that clearly differentiates management from other occupations in the total society.

The significance of management decision derives from the fact that such decisions affect all of the functions of management in any formal organization. The current and lasting impact of management's performance is inextricably centered in the efficacy of management decision. Most managerial behavior can be explained in a context of management decision. The true essence of management is reflected in the success of its decisions over time.

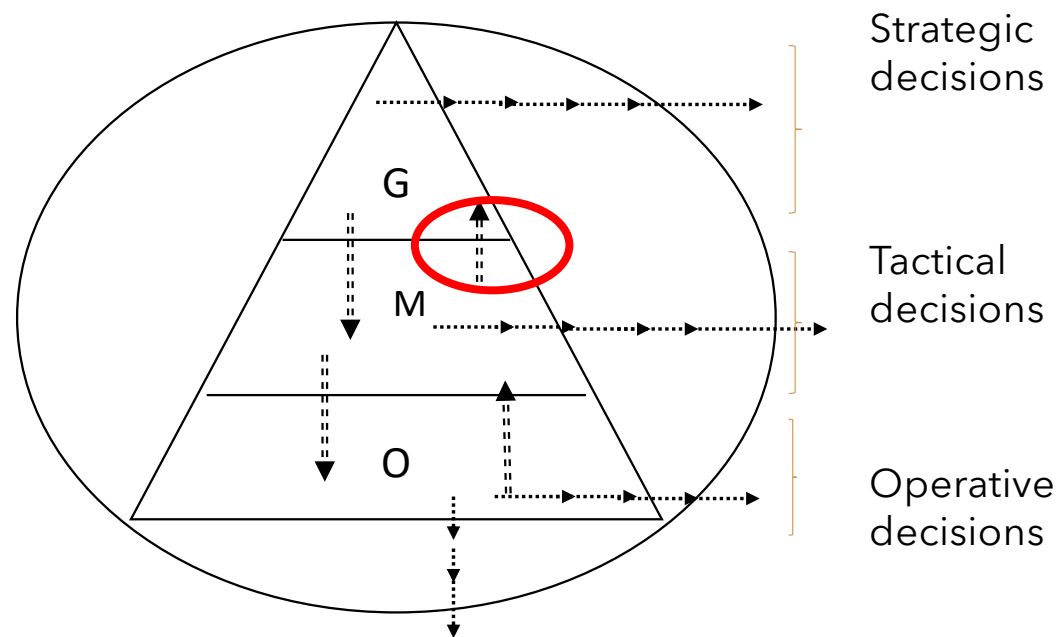
Harrison (2000; p. 461-463)

Are there other decisions in organizations?



Aspect	Strategic Decisions	Managerial (Tactical) Decisions	Operational Decisions
<i>Purpose</i>	Define long-term goals and overall direction	Implement strategies through medium-term plans	Execute day-to-day activities efficiently
<i>Type</i>	Non-structured, judgmental	Semi-structured, analytical with some judgment	Routine, procedural based on rules (if-then)
<i>Time Horizon</i>	Long-term (3-5 years or more)	Medium-term (1-3 years)	Short-term (daily, weekly, monthly)
<i>Scope</i>	Organization-wide	Departmental or business unit level	Specific tasks, processes, or activities
<i>Decision-Makers</i>	Top executives (Shareholders, CEO, Board of Directors)	Middle managers (Department heads, Division managers)	Frontline managers, supervisors
<i>Examples</i>	Entering a new market, mergers & acquisitions	Developing a marketing campaign, resource allocation	Scheduling shifts, managing inventory
<i>Impact</i>	High impact, affects the entire organization	Moderate impact, supports strategic objectives	Limited impact, focused on efficiency and accuracy
<i>Flexibility</i>	Difficult to change once implemented	Some flexibility based on changing conditions	High flexibility , can be adjusted frequently
<i>Level of Risk</i>	High (due to uncertainty and resource commitment)	Moderate (depends on strategic alignment)	Low (routine and repetitive decisions)

Decisions



Approaches to decision making

Approach	Focus	Key Characteristics	Example
Normative	How decisions <i>should be made</i> to achieve optimal outcomes.	Assumes fully rational actors with complete information; establishes standards for evaluating decisions.	Utilizing expected utility theory to choose between investment options.
Descriptive	How decisions <i>are actually made</i> by individuals.	Observes and analyzes real-world behaviors; identifies cognitive biases and heuristics influencing decisions.	Studying consumer purchasing habits to understand deviations from rational choice models.
Prescriptive	Practical guidance on <i>improving decision-making</i> .	Combines insights from both normative and descriptive approaches; offers strategies to enhance decision quality.	Implementing decision aids or training programs to mitigate biases in managerial decisions.



A relevant question

Why did you choose to enroll in a
Business Administration degree?
What can be predicted?



Risk or uncertainty?

**The science of weather forecasting: what it
takes and why it's so hard to get right**

Scenario

Imagine you're an executive at a mid-sized consumer electronics company based in Italy. Your company has established a strong presence in European markets and is now considering expanding into the Southeast Asian market, specifically Vietnam. *Key considerations:*

- **Market Potential:** Vietnam's economy has been growing rapidly, with a rising middle class showing increased demand for consumer electronics.
- **Regulatory Environment:** The Vietnamese government has been known to change import regulations with little notice, and there's limited transparency in the regulatory framework.
- **Supply Chain Logistics:** Establishing a reliable supply chain in Vietnam may require partnerships with local distributors whose reliability and business practices are not well-known to your company.
- **Cultural Differences:** Consumer preferences in Vietnam may differ significantly from those in Europe, and there's limited market research available to inform product adaptation strategies.



Can we quantify the risk of not succeeding with this initiative?

Quantifying risk (I)

The general **formula for risk quantification** is:

$$\text{Risk} = \text{Probability of Event} \times \text{Impact of Event}$$

Steps to Quantify Risk

1. Identify the Risks: What could go wrong? What are the sources of risk (internal/external)? Are there any historical data on similar risks?

2. Assess Probability (Likelihood)

1. Use historical data, expert judgment, or statistical models.
2. Assign a probability score (e.g., low, medium, high or a numerical value like 0.1, 0.5).
3. Use methods like:
 1. **Qualitative:** Expert opinions, Delphi method, brainstorming.
 2. **Quantitative:** Probability distributions, Monte Carlo simulations.

3. Assess Impact (Severity)

1. What are the potential consequences?
2. Use financial, operational, reputational, or safety metrics.
3. Assign a numerical or categorical value (e.g., minor, moderate, severe, or financial losses in dollars).

4. Calculate Risk Score

1. **Simple Method:** Risk Score = Likelihood \times Impact

Quantifying risk (II)

Total Expected Contingency: \$427,500

This represents the total amount your company should consider setting aside as a contingency to mitigate these risks when expanding into Vietnam.

Risk Event	Probability	Impact (USD)	Expected Value (EV) (USD)
Regulatory changes disrupting imports	0.4	500,000	200,000
Unreliable supply chain partners	0.3	300,000	90,000
Consumer preference misalignment	0.5	200,000	100,000
Logistical delays in distribution	0.25	150,000	37,500
TOTAL			\$427,500

So, how can you deal with risks?

Risk Avoidance: This strategy involves eliminating activities that expose the organization to potential loss.

Example: A company decides not to enter a market known for political instability to avoid potential financial losses.

Risk Mitigation: Implementing measures to reduce the likelihood or impact of identified risks.

Example: A firm installs advanced cybersecurity systems to protect against data breaches.

Risk Acceptance: Acknowledging and accepting the risk when the cost of mitigation exceeds the potential loss.

Example: A startup proceeds with a new product launch, accepting the risk of low initial sales due to a limited marketing budget.

Risk Transference: Shifting the risk to a third party, such as through insurance or outsourcing.

Example: A business outsources its delivery services to a logistics company, transferring the risk associated with transportation delays.



Moving

- **Unpredictable Outcomes:** You don't know how easy it will be to find a job, whether you'll adapt to the culture, or how fulfilling your new life will be.
- **Lack of Reliable Data:** Unlike someone moving to a city where they've lived before or know people, you have no personal experience or strong data to predict how things will unfold.
- **Impossible to Assign Probabilities:** You can't confidently say there's a 70% chance you'll love it or a 30% chance you'll want to move back because too many unknowns are at play.

How can you deal with uncertainty?

Information Gathering: Collecting relevant data to reduce uncertainty.

For example, conducting market research to understand consumer preferences before launching a new product.

Proactive Collaboration and Networking: Engaging with stakeholders to gain diverse perspectives and insights.

For example, partnering with industry experts to stay informed about emerging trends and technologies.

Flexibility Through Diversification: Diversifying products, markets, or investments to spread potential risks.

For example, an investment firm diversifies its portfolio across various industries to mitigate sector-specific risks.

Imitation: Adopting successful practices from industry leaders to navigate uncertain environments.

For example, a new restaurant implements a popular online reservation system used by leading competitors to enhance customer experience.

Vertical or Horizontal Integration: Merging with or acquiring other organizations to control more of the supply chain or market.

For example, a clothing brand acquires a fabric manufacturer to ensure a steady supply of materials.

Scenario Planning:

Developing multiple plausible scenarios to anticipate potential future states and prepare strategic responses. This approach enhances organizational agility and resilience.

For example, a logistics company creates various scenarios, such as natural disasters or political unrest, to prepare strategic responses and ensure supply chain resilience.

Risk and uncertainty

Aspect	Risk	Uncertainty
Definition	Situations where the outcomes are unknown , but the probability distribution governing those outcomes is known .	Situations where both the outcomes and the probability distributions are unknown .
Characteristics	<ul style="list-style-type: none">- Quantifiable probabilities- Allows for predictive modeling	<ul style="list-style-type: none">- Non-quantifiable- Requires adaptive strategies
Example	A company deciding to invest in a new product line where market research indicates a 70% chance of success based on historical data.	A startup launching an innovative technology with no prior market data, making it difficult to predict consumer acceptance or potential challenges.



MDM teaching material

Slides + notes + optional readings

It is pivotal to attend the course!

Group works

<https://docs.google.com/spreadsheets/d/1omosdmA4pKB9me0G1JNl6r7sMPSDZ63tp9SytM6y76g/edit?usp=sharing>

To be filled by Friday 21st

Group works

- To be delivered before the start of the planned lecture, more info will be delivered day by day;
- Send it to me by email: matteo.cristofaro@uniroma2.it
- On the front page of your project, you must write:
 1. The selected firm
 2. The name, surname, and enrolled number of each component
- Grading: from 2 to 4 extra points by summing all assignment
- Extra points are assigned only if 3 group assignments (summing up in-lecture and extra-lecture ones) are delivered, and you attended **13 out of 17 lectures**.

Example of an assignment (no more than 4 students)

- Study the assigned company/problem by providing:
 1. One slide for the overview of the selected company;
 2. Three/four slides for identifying and dissecting the problem
 3. Propose solutions to solve the problem

MDM Experts

netStudio

An Indra company

McKinsey
& Company



BUSINESS
UNIVERSE

KPMG

ARTHUR  LITTLE

Deloitte.

I know, despite being *highly rewarding*, this course requires a *lot of effort*... but I have a solution!



Exams (a)

A.Y. 2025-2026 Summer Session I Call

Apr 1, 2025, written test at 10:00

A.Y. 2025-2026 Summer Session II Call

Jun 10, 2025, written test at 10:00

A.Y. 2025-2026 Summer Session III Call

Jun 26, 2025, written test at 10:00

A.Y. 2025-2026 Autumn Session I Call

Sep 8, 2025 Written test at 10:00

Here, you have all the info:

<https://economia.uniroma2.it/ba/business-administration-economics/corso/programma/2716/>

Exams (b)

You are allowed to sit for the exam only with a regular DELPHI exam registration.

The written test is articulated in:

15 multiple-choice questions. Each has 3-4 choices, and only 1 is correct.

- ❖ 1 point for a correct answer
- ❖ 0 points for none or wrong answer

2 open questions, focused on the slides

- ❖ Each open question is evaluated from 0 to 7.5 points

Company visit – assignment to be done



You can choose:

for March 28th, we can have a standard closing lecture, OR...

THE CLOSING!

With a task and extra points...

I'll ask for your confirmation within the Excel file for composing groups, to be given by February 28nd

approximative cost 40€



Office hours

Office hours (during the course):
on Fridays, after the lecture

References

Bazerman, M. H., & Moore, D. A. (2012). *Judgment in managerial decision making*. John Wiley & Sons.

Bell, D. E., Raiffa, H., & Tversky, A. (1988). *Descriptive, normative, and prescriptive interactions in decision making*. *Decision making: Descriptive, normative, and prescriptive interactions*, pp. 9-32.

[De Groot, K., & Thurik, R. \(2018\). Disentangling risk and uncertainty: When risk-taking measures are not about risk. *Frontiers in Psychology*, 9, 2194.](#)

Knight, F. H. (1921). *Risk, Uncertainty and Profit*. New York, NY: Sentry Press.