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SPRING SEMESTER 2025

Business Seminar – Theoretical Classes Problem Solving and Issue Trees

Problem Solving, February 13th, 2025 Filipa Breia da Fonseca – filipabreiafonseca@novasbe.pt

Business Seminar Classes Dynamic – Spring

Theoretical Classes

1	Presentation	February 6
2	Problem Solving and Issue Trees	February 13
3	Strategy – AstraZéneca	February 20
4	Marketing - PLACARD.PT	February 27
5	Organization - SONAE	March 6
6	Transformation – Siemens	March 13
7	NO CLASS	March 20
8	Digital and IA - MICROSOFT	March 27
9	Sustainability - MCKINSEY	April 3
10	Operations Management - KAIZEN	April 10
1	Entrepreneurship – 2 entrepreneurs	April 24
12	Career Management – Champalimaud – André Valente	May 5

Corresponding Practical Classes

Presentation and Groups Constitution	February , 10,11		
St. Anford College (Case Study)	February 17,18		
Apple (Strategy)	February 24, 25		
Netflix (Marketing and Pricing)	March 3, 4		
P&G – Gillette Acquisition (Organization)	March 10, 11		
Kodak (Transformation)	March 17, 18		
NO CLASS	March 24,25		
The Washington Post (Digital and IT)	March 31, April 1		
IKEA (Sustainability)	April 7, 8		
Heineken (Operations Management)	April 14, 15		
HealthCo (Entrepreneurship)	April 28, 29		
EXAM: 4 June 2025 – 11h30m RESIT EXAM: 26 June			





Problem Solving

Objectives for this session:

.Real world in the Class Room .Develop Critical Thinking .Experience





Business Seminar

Problem Solving Tools in Business

FILIPA BREIA DA FONSECA



IDEAS... Problem Solving Tools?

Learning Objectives: You should...



1.Understand the steps of the Problem Solving Loop (guidance for the case studies)

2.Be able to create a Problem Statement

3.Use Logic Trees to disaggregate any problem



Agenda

Problem Tree and Problem Solving Loop

Problem statement sheet

Logic trees

1

2

3

Problem Tree - Refine the Problem





Problem Tree - Refine the Problem





Design a First Problem Tree

1.Put the problem in the middle

2.Branch out **effects/symptoms** of that problem

3.Root possible **causes** to the problem

4.Place the causes/ effects in that tree

Problem Tree Example - Healthcare

- A problem tree is used to analyze and structure problems, highlighting its causes and consequences
- This framework facilitates the analysis of the problem and it is a simple and clear way to present it
- In the case of complex problems, it is important to add a perspective on actors/ stakeholders involved



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Stakeholder Map Example



An actor mapping framework is a map which shows the actors/ stakeholders involved in a system including those that affect the system and the ones who are influenced by it

 This map is important to comprehend exhaustively who are the main actors of a system



Problem Solving Loop







PROBLEM SOLVING CYCLE METHODOLOGIE





AN IMPLEMENTATION GUIDE.....

Why was the project commissioned?

What is the client's desired **outcome**?

How does the project relate to the organization's **strategic goals**?

PROBLEM SOLVING CYCLE

CONTEXTUAL FACTORS



Defining the Problem: Problem Statement Sheet



Problem statement - Basic question to be resolved

 Defines what must be resolved to deliver client impact. The question should be: Specific, Measurable, Action-oriented, Relevant, and Time-bound (SMART)

Stakeholders

Context

Key sources of insight

Success Criteria

Constraints

Scope



What Makes a Good Problem Statement?

SMART - problem statements are:

- Specific to the issue the client has
- Measurable in discussing the facts of the situation or the desired outcome (data analysis)
- Actionable: Touching the heart of the challenge and on what to do and how to act
- Relevant: Providing a truly debatable view on the situation, not a statement of fact
- Time Bound: Focuses on what decisions needed and timeframe available



Problem statement - Basic question to be resolved

 Defines what must be resolved to deliver client impact. The question should be: Specific, Measurable, Action-oriented, Relevant, and Time-bound (SMART)

Context

 Sets out the situation and complication facing the client – e.g., industry trends, relative position in the industry

Success criteria

Stakeholders

 Identifies who makes the decisions and who else could support the study – e.g., CEO, division manager, key outside influencers

Key sources of insight

 Identifies where best-practice expertise, knowledge, and engagement approaches exist (internal and client) – e.g., practice experts, EM guides, data

Constraints

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Context

 Sets out the situation and complication facing the client – e.g., industry trends, relative position in the industry

Success criteria

 Defines success for the project. Must be shared by client and team. Must include relevant qualitative and quantitative measures – e.g., impact and timing, visibility of improvement, client mindset shifts

Stakeholders

 Identifies who makes the decisions and who else could support the study – e.g., CEO, division manager, key outside influencers

Key sources of insight

 Identifies where best-practice expertise, knowledge, and engagement approaches exist (internal and client) – e.g., practice experts, EM guides, data

Constraints

 Defines the limits of the set of solutions to consider – e.g., must involve organic, rather than inorganic, growth

Scope

What the study will and will not include – e.g., international markets, research and development activities, uncontrolled corporate costs



Example:

Pingo Doce supermarket consumers value <u>price</u> and <u>location</u> the most butPingo Doce wants to increase its operating margin

Q1: What do you value the most when choosing a supermarket?





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Bahari supermarket consumers value price and location the most



What do you value the most when choosing a supermarket?





"Bad" Problem statement

What strategy should "PINGO DOCE" pursue to increase its operating margin?



"Bad" Problem statement

What strategy should "Pingo Doce" pursue to increase its operating margin?

"Better" Problem statement

What strategy should Pingo Doce pursue to increase operating margins to 3,5%?



"Bad" Problem statement

What strategy should Pingo Doce pursue to increase its operating margin?

"Better" Problem statement

What strategy should Pingo Doce pursue to increase operating margins to 3,5%?

Example: "Best" Problem statement

What set of actions (operational and beyond) should Pingo Doce pursue over the next 5 years to ignite growth and increase operating margins to 3.5%?



Problem statement - Basic question to be resolved

• What set of actions (operational and beyond) should Pingo Doce pursue over the next 5 years to ignite growth and increase operating margins to 3.5%?

Context	Stakeholders	
	Key sources of insight	
Success criteria	Constraints	
Scope	• • • • • • • • • • • • • • • • • • •	



1. Problem statement - Basic question to be resolved

 What set of actions (operational and beyond) should Pingo Doce pursue over the next 5 years to ignite growth and increase operating margins to 3.5%?

2.Context

- Consolidating industry with other players growing presence in Pingo Doce
- Price-based competitors rapidly gaining share
- Consumer demands changing towards service and convenience while price remains a key factor

5.Success criteria

3.Stakeholders

4.Key sources of insight

6.Constraints

7.Scope



Problem statement - Basic question to be resolved

What set of actions (operational and beyond) should Super pursue over the next 5 years to ignite growth and increase operating margins to 3.5%?

Context

- Consolidating industry with other players growing presence in Bahari
- Price-based competitors rapidly gaining share
- Consumer demands changing towards service and convenience while price remains a key factor

3.Stakeholders (examples)

- CEO
- CFO
- HR managers
- Grocery director
- Store manager pilot project
- VP of Operations

Key sources of insight

Success criteria

Constraints

Scope



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Stakeholders (example)

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4.Key sources of insight (example)

- Key Best Choice executives
- Nielsen or other retail & marketing information company
- Analyst reports

Constraints

Success criteria

Scope



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5.Success criteria

- Operating margins of 3.5%
- Clearly articulated value proposition

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6.Constraints

- Regulated market prevents expansion in size of stores
- Pricing below cost not permitted by law

7.Scope: Indicates what the study will and will not include







ISSUE TREES

» How to approach business problems in a : logical, systematic, and evidence-based way.

... » Ensures that mangers can define and **decompose business problems** and enhances the credibility of their **proposed solutions**

» The issue tree, is a tool used to disaggregate the problem into core sub-issues that need to be addressed to **answer the "big" question.**

Issue or Logic Trees

What is a logic tree or issue tree?

A problem-solving tool that breaks a problem into discrete chunks that are "MECE" (mutually exclusive, collectively exhaustive)



Why use a logic tree?

To break a problem into component parts so that



1.Work can be divided into manageable pieces

2. Priorities can be set

3.Responsibilities can be allocated

WHAT MEANS MECE?

Mutually Exclusive (ME): Each branch of the issue tree should be distinct, with no overlaps. This avoids redundancy and confusion.

Collectively Exhaustive (CE): All possible aspects of the problem should be covered so nothing important is left out.

Quality logic trees are consistent, relevant, and "MECE"





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Issue Trees or Logic Trees



What is a logic tree?

A problem-solving tool that breaks a problem into discrete chunks that are <u>"MECE"</u>

Mutually, exclusive, collectively, exhaustive



Why use a logic tree?

To ensure integrity of the problem solving is maintained

- Solving the parts will really solve the problem
- The parts do not overlap and there are no gaps (MECE)

Issue Trees or Logic Trees



What is a Logic Tree?

A problem-solving tool that breaks a problem into discrete chunks that are "MECE" (mutually exclusive, collectively exhaustive)



Why use a Logic Tree?

To build a common understanding within the team of the problem-solving framework

To help focus use of frameworks and theories

To build a common understanding within the team of the problem-solving framework

To help focus use of frameworks and theories

ISSUE TREE STRUCTURE





ISSUE TREE STRUCTURE





Quality logic trees are consistent, relevant, and "MECE"









Two main types of logic trees





ISSUE TREE STRUCTURE





Two Main Approaches to Logic Trees



Quantitative

Decompose issue in mathematical terms

Example: Revenues

• Revenue = # clients * revenue per client

Conceptual

Decompose issue logical blocks

Ex: Work Satisfaction

 Work satisfaction = Content + Boss + Salary + Workload + Learning

Two main approaches to logic trees



Quantitative

Decompose issue in mathematical terms

Ex:

Revenue = # clients * revenue per client •

tative		Conceptual			
ose issue in mathematica		cal terms		[*] • • •	
nue = # clie	ents * reven	ue per client		· · · · · · · · · · · · · · · · · · ·	
Revenue	Clients	Segment A	Awareness	Advertising	
				Endorsement	
				Targeting	
			Coverage	# stores	
			Conversion	New services	
			Churn	Pain points	
		Segment B	Coverage		
			Conversion		
			Churn		
	Revenue per client	 # of products	Offer	Extend offering	
			% of offer subscribed	Sales methods	
				Cross selling	
		Price per product	Price above average	Keep for existing	
				New variant for new	
			Price below average	Increase price	
				Retention offer for existing users	

Two main approaches to logic trees



Conceptual



Decompose issue logical blocks

Ex:

 Work satisfaction = Content + Boss + Salary + Workload + Learning

Work	Content	Scope per function		
satistfaction		Supporting tools		
		Improve internal process		
	Boss	Feedback mechanisms		
		Coaching		
		Continuity		
	Salary B	Benchmark vs competition	Above or equal	Salary curves and progression
				Fix vs variable
			Below	
	Workload	Hours worked		
		Stress ratings		
		Peak season		
	Learning	Traning offer	Enrollment rate	
			Training feedback	

Exercise in pairs: Apply logic trees to everyday life shopping

Reducing Monthly Expenses

"Your brother/sister is in his final semester of his tertiary studies, and he(she) is planning to celebrate the completion of his degree at the end of the year by going on an overseas trip.

However, to afford the trip, he realizes that he needs to <u>reduce his monthly</u> <u>expenditures</u> and has turned to you for some advice."

How can your brother/sister reduce his expenditures each month? Use an issue tree to break the problem down systematically."

- Draw a logic tree to help solve this problem together with the person sitting next to you
- Feel free to use any of the types of trees presented
- You have 15/20 minutes
- Be prepared to discuss and present your tree with the class!!!



Exercise in pairs: Apply logic trees to everyday life shopping

Reducing monthly expenses



- Draw a logic tree to help solve this problem together with the person sitting next to you
- Feel free to use any of the types of trees presented
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Individual or pairs exercise apply logic trees



A. What set of actions should "Pingo Doce" pursue over the next 5 years to ignite growth and increase operating margins to 3.5% annually?

B. Imagine you are the owner of a restaurant in downtown Lisbon. Your business has scale and profitability issues. What set of actions could you take to increase revenue and profitability?







A. Best Choice issue tree – Revenue Side

		H:	# stores
		# VISITS	t visits per store
	Costumer revenue	\$ per visit	# items
			\$ per item
	ue Supplier revenue	Commercial activities	
Increase revenue		Marketing activities	
		sqm rented	increase available space
	Poal ostato rovonuo		identify tenants
		\$ per sqm renegotiate contracts improve conditions	renegotiate contracts
			improve conditions
	Other revenue		



A. Best Choice issue tree – Cost Side

		Renegotiate contracts	racts Fresh
	COGS	Lookago	
		сеакаде	Non-fresh
			Head office
	Porconal costs	# fte's	Stores
	Personer costs		Logistics
		HR policies	
Peduce costs	Logistics	Storage	
		Transportation	
		Maintenance	
	Real estate costs	Rents	Store
			Offices
	IT		
	Marketing costs		
	Financial costs		
	Other costs		

How to develop issue analysis and workplan





Cut off branches





- Keep focusing in:
- Prioritize your effort on what is most important
- Helps to ask "so what"... but also to ask what you've forgotten
- Is the key to working efficiently

Issue Trees - Summary



Keys to success

- Focus on key issues
- Be MECE
- Don't "boil the ocean"
- Do back-of-the-envelope calculations
- Use judgment/intuition
- Involve your client (and team)
- Take risks

... and with the prioritization matrix





Tips for drawing logic trees



Tip

- Use your whole team, no "lone wolf" approach
- If stuck, try building the tree backward (from the "twigs") in addition to forward (from the "trunk")
- Try multiple trees and constantly update and revise
- Don't invest a week to make "the" logic tree

Why?

- Rough-and-tumble hypothesis sessions tap everyone's creativity, tend to get better answers, and are fun
- It is sometimes easier to think up subissues and analyses and then to group them, rather than working linearly
- Different trees provide new perspectives on the problem
- Trees change as more facts come to light – keep adjusting



In Sum:

Stage 1: Define the problem

Stage 2: Structure before data

Stage 3: Prioritize identified issues (i.e., 2 branches) to determine focal drivers of the problem

Stage 4: Analyze to Derive Findings Analysis aims to reveal relationships and patterns in the data

Stage 5: Synthesize Findings Into Insight (relate insights with the big question)

Stage 6: Propose solutions





Examples:

How can a bank (examples: Millenium BCP, Santander...) increase market share in a market where it already operates?