

Do not change any of the text formatting in this file (margins, line spaces, font size, etc.).

First and last name of every team member:

This is a team assignment. Every team member should contribute to this assignment, and only the team members should work on this assignment.

You are allowed to use generative AI, as long as you report on your use below.

Your Problem Case

Instructions

In this step, you will investigate the problem based on the following problem description:

Undergraduate students at MIT choose their major during the second semester of the first year of their studies. While this choice is very important for students' future life and career, it is often done in a way that is rushed, unsystematic, and uninformed, leading to potentially negative effects down the road.

You will investigate this problem by answering the 'five Ws' of the problem: Who? What? Where? When? Why? You will also choose which particular group of stakeholders you will focus on for the rest of the problem structuring process.

You should also add at least five valid and relevant sources to enrich your understanding of the problem. A valid source is either peer-reviewed or originating from an established, authoritative source (like a government website or a university website). At least three of your sources must be peer-reviewed papers from journals or conference proceedings.

Assessment criteria

The assessment criteria for this step are as follows:

- Adherence: How well your team followed the instructions for this step
- Correctness: How correct your team's output for this step is

Criterion	Sub-criterion	'Excellent' value description
Adherence	Conciseness	Every section adheres to page length and word count limits.
	Essentiality	Every section includes the required number of components.
	Appropriateness	Every section pertains to exactly their specific W.
Correctness	Justifications	Every statement in the problem case is supported with valid and relevant citation/s.

1. Who are the stakeholders of the problem?

1-1.5 pages. List 3-5 major stakeholders. Give each group a name that is 3+ words long and describe it. Indicate one group as the primary stakeholder group, selected based on a balance between the group most affected by the problem and which you believe you are best positioned to help. Each group should have some relationship with the primary stakeholder group. Cite at least one source for this section.

2. What are the effects of the problem on the primary stakeholders?

Maximum ½ page. List 3-5 clear and direct detrimental major effects of the problem on the primary stakeholders, such as negative effects on the stakeholders' health, wealth, reputation, feelings, and so on. Give each effect a name that is 3+ words long and describe it. Cite at least one source for this section.

3. Where does the problem occur?

½-1 page. List 3-5 physical or virtual major locations. Give each location a name that is 3+ words long and describe it. Cite at least one source for this section.

The locational scope of this problem is a bit more vague than something like biking in Cambridge:

4. When does the problem occur?

½-1 page. List 3-5 major times of day, seasons, events, etc. Give each period/time a name that is 3+ words long and describe it. Cite at least one source for this section.

5. Why does the problem occur?

1-2 pages. Fill out a table with 3-5 clear and direct major causes. A cause should tell a story of how it leads directly to one or more effects. Give each cause a name and describe it as a narrative of cause/s and effect/s leading up to the direct effects described under '2. What'. Mark with 'X' cells where a specific cause can lead to a specific effect. One cause may lead to multiple effects, and one effect may be brought on by multiple causes. Cite at least one source for this section.

Cause ('5. Why')		Effect ('2. What')		
Name (1-3 words)	Narrative description (9-25 words)	#1: Stress	#2: Self-doubt	#3: Lack of motivation

"X" denotes presence of cause-and-effect relationships between cause and effect; a blank cell denotes absence of such relationships.

References

You can just add the URL to each source, you do not need to add the full reference.

Use of GenAI

If you made use of generative AI (like chatGPT) while working on this section, please provide details here about what tool/s you used, how you used them, how you found it useful, and what potential shortcomings you found. Add any other information you deem relevant.

Your Problem Statement

Instructions

This is a team step. In this step, You will summarize your problem case and (optionally) your selected problem efficiency points. The problem statement should be 100-200 words long and easy to understand. The first half of your problem statement should summarize the five Ws from your problem case.

Assessment criteria

The assessment criteria for this step are as follows:

- Adherence: How well your team followed the instructions for this step

Criterion	Sub-criterion	'Excellent' value description
Adherence	Conciseness	The problem statement adheres to the word limit.
	Comprehensiveness - five Ws	The problem statement covers every W.

Problem statement

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Your Usefulness Criteria

Instructions

This is a team step. In this step, you will list criteria for comparing solutions to your problem, as it appears in the problem statement you created. You must include at least one criterion related to effectiveness (how well the solution will address the problem). Other examples might include cost (to develop, for the customer, etc.), time for the solution to take effect, scope (how many stakeholders will be helped), and expertise required to benefit from the solution. You will also assign a weight to each of your criteria, indicating its relative importance.

Assessment criteria

The assessment criteria for this step are as follows:

- Adherence: How well your team followed the instructions for this step
- Correctness: How correct your team's output for this step is

Criterion	Sub-criterion	'Excellent' value description
Adherence	Essentiality	There are 3 to 5 usefulness criteria.
	Effectiveness	One or more usefulness criteria pertain to effectiveness (the degree to which the problem will be solved).
	Weightings	Every weighting is in multiples of 0.1 and they sum to exactly 1.0.
Correctness	Justifications - criteria	Every criterion is backed by justifications with valid and relevant citation/s.
	Justifications - weightings	Every criterion weighting is backed by justifications with valid and relevant citation/s.

1. Describe your criteria

List 3-5 criteria by which you will compare the ideas you come up with and justify the selection of each criterion you list. One criterion must be related to effectiveness (i.e., directly affecting the problem).

#	Name <i>1-3 words</i>	Description <i>3-9 words</i>	Justification for selection <i>As many words as needed</i>
1			
2			
3			
4 (optional)			
5 (optional)			

2. Weigh your criteria

Assign a weighting to each usefulness criterion and justify that weighting. The total weighting for all your criteria together must be exactly 1.

#	Name <i>1-3 words</i>	Weighting <i>In increments of 0.1</i>	Justification for weighting <i>As many words as needed</i>
1			
2			
3			
4 (optional)			
5 (optional)			

Use of GenAI

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