



JURUSAN TEKNOLOGI INFORMASI

Critical Thinking & Problem Solving Course
07. Critical Reasoning (Part – 1)

CTPS Course Teaching Team

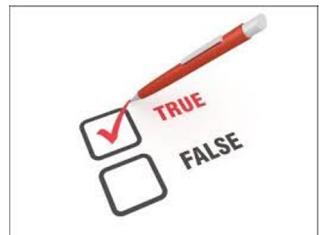
Discussion Topic



Terms and conditions



**Reasoning
Non
Deductive**



**Common
Sense &
Validity**



**Reasoning
with
Statistics**



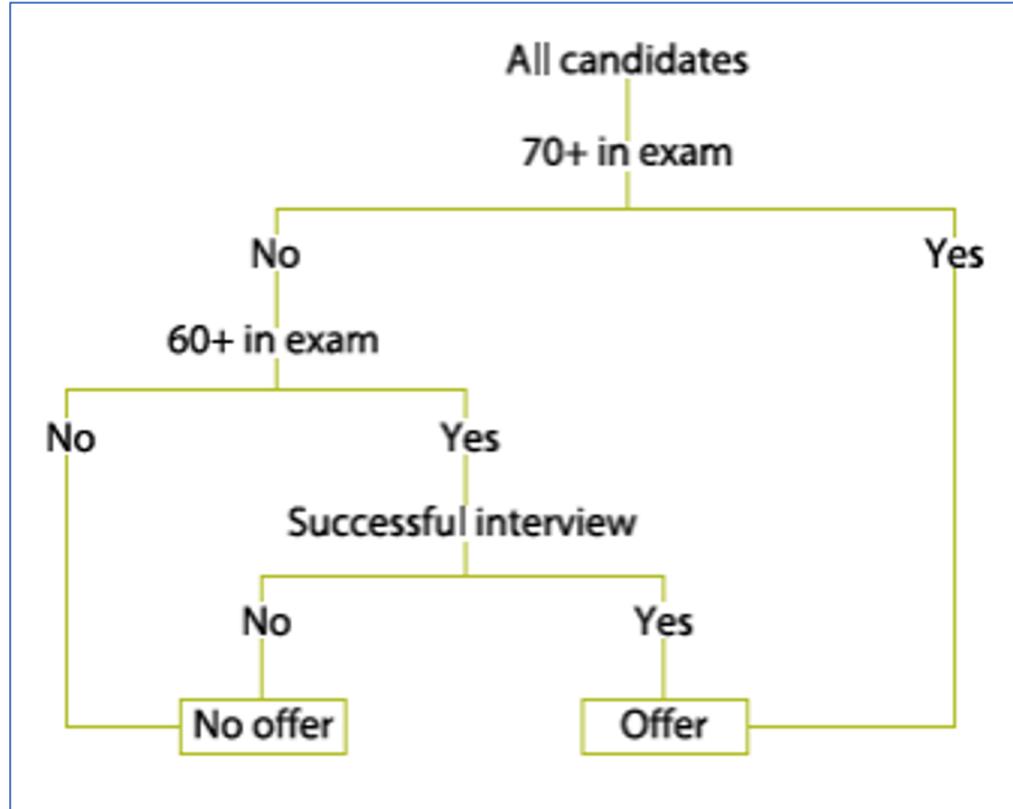
Terms and Conditions

- Terms (Conditions) can be divided into two kinds:
 - Necessary and Sufficient
- Conditional, or hypothetical, statements usually take the form 'If p then q'.
- Confusing whether a condition is said to be necessary or sufficient often results in errors in reasoning.

the sufficient condition
IF \Rightarrow
(If you assume this, you'll get what you want.)

the necessary condition
ONLY IF \Leftarrow
(You can't get what you want without assuming this.)

Flow diagram



In the Flowchart on the side it is shown,

- The sufficient condition to proceed to the offer is to have a test score of more than equal to 70
- The necessary condition to proceed to the offer is to have a test score of more than equal to 60 with the addition of another requirement, namely success in the interview process. Necessary conditions mean that a score below 60 has no chance to continue



Conditional Sentence

Conditional statements, i.e. statements that specify conditions, usually contain the word 'if', or 'if' followed by 'then'.

As an example:

[1] If Mia gets a score of 70 or more, then she gets a place.

Note that [1] is not an argument; it's just a statement. It would be an argument if expressed as follows:

[2] Mia scored more than 70 and because of that she got a place.



Case study

Here are six conditional statements for the college entrance examination conditions. Whether each states a score of 70 or more is a necessary or sufficient condition, or both:

- A. You will get a place only if you score 70 or more.
- B. If you don't get 70 or more, you won't get a place.
- C. You will get a place if and only if you score 70 or more.
- D. If you get 70, you are in.
- E. Unless you score 70, you will not get a place.
- F. If you get a score of 70, you enter, but if not, you can retake the exam.



- A and B pass marks are **necessary** conditions. Nor does it say whether there are other requirements, such as interview or medical or even some conditions of residence, such as living in the country or city where the college is located. All A's and B's confirm that 70 is the minimum requirement, which is another way of saying it's **necessary** to enter.
- C specifies necessary and sufficient conditions. It is an abbreviation (or 'contraction') of two statements: 'You'll be in if you score 70 or more' and 'You won't if you don't.' In logic such statements are called bi-conditional, 'bi-' which means 'two'. There are two conditions in one.
- D is sufficient condition: it is not stated whether it is necessary either.
- E clearly states a necessary condition, but unlike A and B, it emphasizes that a score of 70 is also not a sufficient condition.
- F does the opposite: states a score of 70 on the exam is a sufficient condition, but adds that if you don't, you can retake the exam, so it's not clear whether a 70 mark is necessary or sufficient.



Common Sense & Validity

- The strength of an argument depends on two factors:
- (1) the truth of the reason; and
- (2) whether they sufficiently support the conclusion or not.
- There are different standards for judging (2), depending on the type of conclusion made.
- The highest standard for judging (2) is deductive validity. The standards of validity required for deductive arguments are very strict and not rigid. Deductive arguments are meant to draw conclusions with absolute certainty. The kind of proof that logicians and mathematicians use relies on rigid deductive arguments. But some fairly mundane reasoning can also be interpreted as deduction

Validity Logic

$R_1, R_2, \dots, R_n / C$

R_1
 R_2
 $\dots R_n$
 C

'R' means reason or premise, and 'C' for conclusion. The '/' separator, or horizontal line, stands for the logical relationship of 'follows from', and is the equivalent of the words 'so' or 'therefore'.

Validity Logic

R1 Many insects have wings and those that do can fly.

R2 Birds have wings.

R3 Parrots are birds.

C Parrots can fly (too).

[2] Many insects have wings and those that do can fly. Birds also have wings, and parrots are birds, so they can fly too.

[3] Many insects have wings and those that do can fly. Birds also have wings, and penguins are birds, so penguins can fly too.

We can see that all the premises are true. We can also see that his conclusion is correct: parrots can fly. These facts may have led you to think that the argument is valid, and therefore makes sense too. NO. Although the conclusion is correct it is not made true by reason. The fact (R2) that birds have wings does not mean they can all fly, and therefore the fact (R3) that parrots are birds does not prove that they can fly too. R1 really doesn't support the conclusion, because what's true for insects has nothing to do with what's true for birds. This is irrelevant.

We can see how invalid [2] is if we substitute 'penguin' for 'parrot', because in [3] the premise is as true as in [2], but in [3] the conclusion is wrong. Therefore [3] is not valid. However, [2] and [3] have exactly the same form, so they are both invalid (and therefore unhealthy).

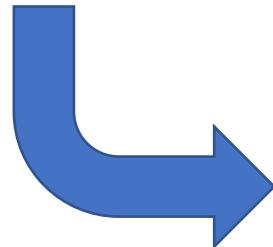
Here is a different argument.

[4] All birds can fly. Penguins are birds, so penguins can fly.

Formal Logic

R1 All fish have gills.
R2 Sharks are fish.

C Sharks have gills.



If f then g
 f

 g



If sharks are fish, they have gills. Sharks are fish, so they do have gills.

If f then g
Not- g

Not- f



If whales were fish they'd have gills; but they don't, so they're not.



Case study

Attention and Discuss Are the following Arguments Valid and/or reasonable?:

Someone – we will call her Andrea – inherited a ring with a large stone in it which she considered a diamond. What's more, he was right in his belief, but not an expert, he had no way of knowing for sure. A friend offered to find out the price. He returns with the shocking and disappointing news that the ring is practically worthless, and therefore the stone is not a diamond:

If the rock of that size was a real diamond, this ring of yours would be worth thousands of dollars. Unfortunately, it's not worth \$20. It's beautiful, but that doesn't make it worth it. So I'm afraid the rock isn't a diamond, and I'm sorry to be the one to tell you.

She voluntarily bought it from him for her daughter for \$50, which seemed like a generous offer. After accepting his argument, and his conclusion, Andrea accepted the offer too, and sold the ring to him.



Discussion

The argument is nonsensical, but valid. Make no mistake about this. What makes it valid is, if the premises are true, it can be ascertained as to the truth of the conclusions drawn. Because a real large diamond will not have a very low value, and this ring, according to the friend, has practically no value. If the second claim is as true as the first, then the stone cannot be a diamond. Of course we know, from the story, that the conclusion is wrong. But that doesn't invalidate the argument.

If (d) the stone is a diamond,
then (v) the ring will be valuable.

The ring is worthless (Not-v). The stone is not a diamond (Not-d).

No argument can be considered plausible if it is based on a lie, such as this one. But if we give a critical evaluation of an argument, we must be able to say why it doesn't make sense; and it would be wrong to say that this is invalid. This example shows that valid reasoning can be abused and exploited for persuasive purposes. Andrea is persuaded, dishonestly, to part with a valuable possession for a fraction of its value. The validity or otherwise of an argument is also important if we do not know the truth or falsity of the premises



Non-Deductive Reasoning

Three forms of non-deductive argument are often used:

- Induction – based on experience or repeated experiments with the same results
- Arguments for the Best Explanation (ABE).

ABE is a powerful and familiar method of reasoning. It carries a high risk of jumping to conclusions. ABE supports the hypothesis; but does not establish facts. So, we have to look for additional supporting evidence. ABE alone is not enough to make inference secure

- Argument from analogy (AFA).

Analogy is a comparison, an observed similarity.

It is an important analytical skill to be able to recognize these shapes and evaluate them appropriately.



Case study

Clive is an experienced hill climber. For 25 years he spent most of his free time backpacking in the wild, living off the ground, sleeping in the open and finding his way, sometimes in uncharted territory. He refuses to use sat nav (navigation). His most prized possession was a compass, which he said had saved his life on many occasions, especially in bad weather and poor visibility. Only once, on a hill in Scotland in thick clouds, did he get dangerously lost, not knowing that rocks in certain places contained minerals that could attract compass needles and interfere with readings. As the clouds lifted, he realized he had strayed far from his path.

What does the above anecdote imply about inductive reasoning?



Discussion

Clive relied on a compass to steer him in poor visibility, because in his long experience, it hasn't let him down. However, he was unaware of the fact that in some places the compass did not function in the usual way. Therefore, past experience is not sufficient reason to conclude that compasses will always behave predictably – as Clive discovered.



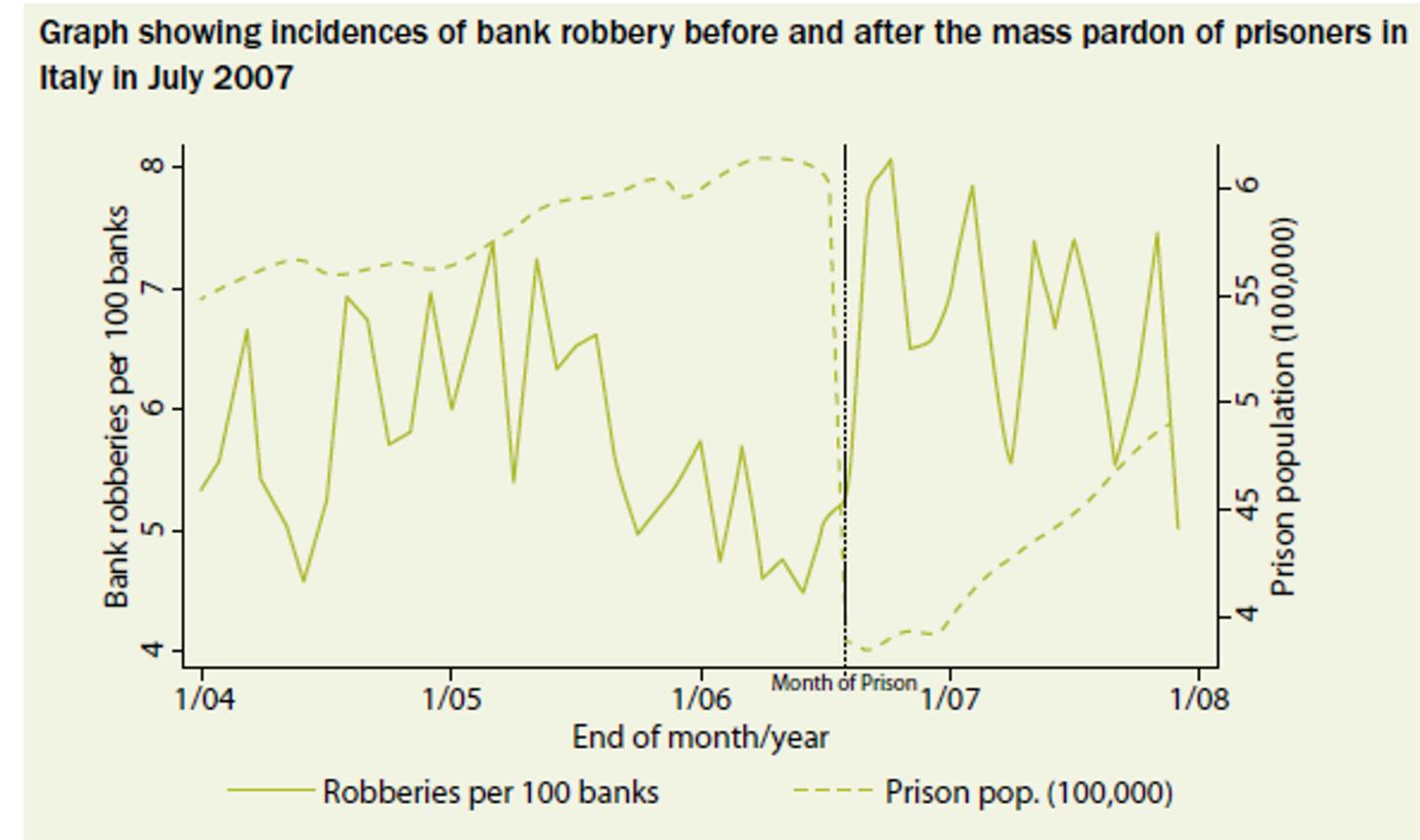
Reasoning With Statistics

- Statistical data is a form of evidence that can be used to support claims and support arguments.
- There is a difference between raw data, which is neutral, and data that has been processed for a specific purpose.
- Selecting statistical data may reflect bias.
- Statistical critical appraisal involves looking for ways in which the presentation could be misleading, by exaggerating, oversimplifying, selectively sampling, etc. We must be careful not to be 'trapped' by impressive evidence.
- It also involves fair interpretation of statistics, and judging the conclusions made on their strength. We should be especially wary of conclusions that are too strong and/or too general, or that assume a causal explanation of mere correlations or trends.

Case study

Pay attention to the following graph. Peak crime rates tend to be associated with significant declines in the prison population. While this trend can be observed in some countries, such as Denmark and Portugal, an example of a paradigm is Italy. In 2007, the total number of violations recorded by police soared to more than 160,000, following mass pardons of detainees the previous year. Crime rates only started to fall after the prison population crept up to 2006 levels. Carolina Bracken (The British Daily Telegraph)

- A. Give a critical assessment of the evidence provided in the Graph. How much evidence supports the claims in newspaper quotes? (Look carefully at the scale on the graph: robbery on the left axis and prison population on the right.)
- B. Based on statistical data from both sources, draw a valid and credible conclusion about the relationship between prison and crime.





Discussion

Various responses are welcome. For example: the quote makes the claim that peak crime rates are likely to be associated with a significant reduction in the prison population, and cites an incident in Italy as a paradigm example. ('Paradigm example' here means prime, or perfect example.) The graph takes bank robberies as an indicator of the effect of a sudden decline in the prison population. Those numbers appear to be surging almost as much as the prison population is falling. Previously, when the number of prisons increased before pardons, and again after, the rate of bank robberies decreased. But pay close attention to the scale on the chart. 200,000 prisoners were released, and there was a peak of 8% of bank robberies in the month following the pardon, compared with some between 6% and 7% before the pardon. Does the graphic scale create an accurate or exaggerated impression of the difference that released prisoners make? You may also question why bank robbery was specifically chosen. Do other serious crimes offer corroborating data? As for extracts, another 160,000 police-reported violations sound impressive. But there are questions to be asked, for example about the nature and severity of the offence.



Question ?



exercise

1. Look for a rule as a term and condition, identify the conditional conditions that exist, determine whether it is a necessary or sufficient condition. Draw with flow chart
2. Find articles that use statistical data to support claims or claims. Make one or more critical comments about the way the data is interpreted and presented, and provide a thorough assessment of the claims made on the strength of the evidence.

Discussion Topic



Decision Making



Principle



Argument
Analysis



Critical Writing

Decision-making

- Can be:
 - Irrational: done without doing a critical assessment. It could be due to time constraints (sudden, need to make a quick decision, emergency) or because the decision has no far-reaching impact.
 - Rational: Conduct critical judgments for decision making, taking into account reasons, information, choices and consequences.



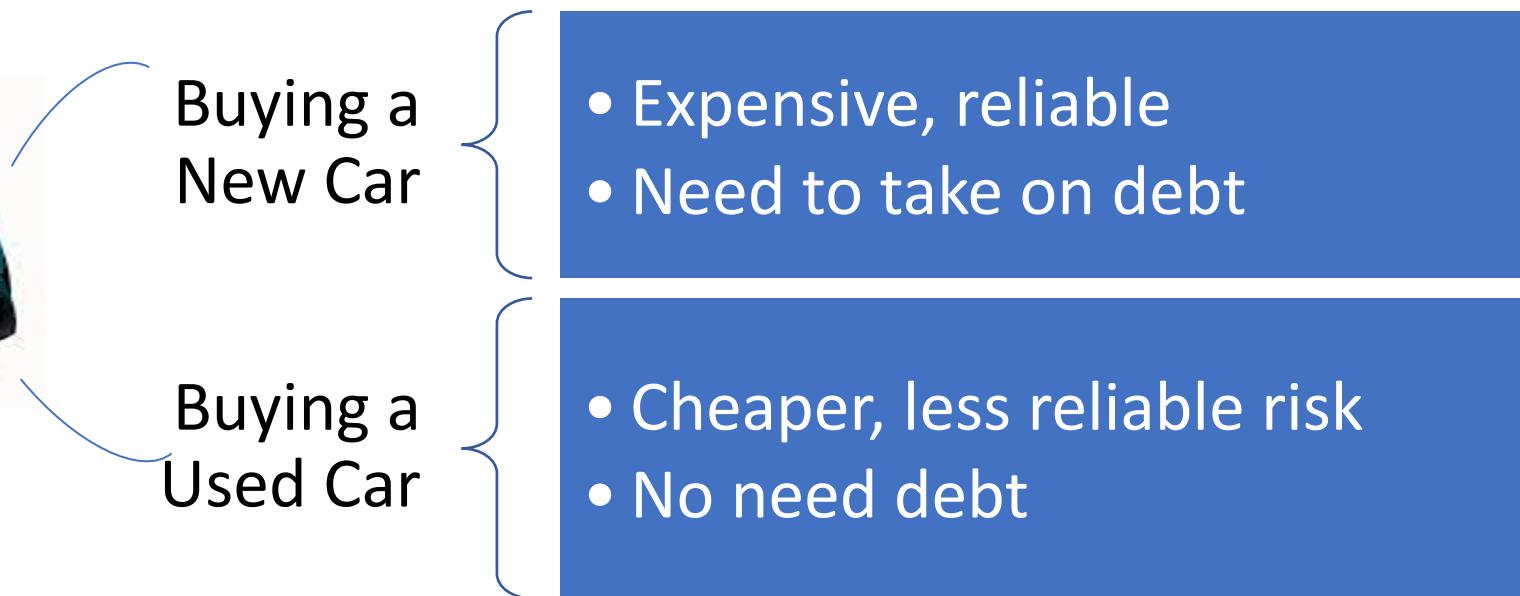
Decision-making

- Things to note:
- Choice: being aware of the available options, assessing what is important and not important perform critical judgments to make the right choice
- Consequence: is what follows from the decision (result of Action)

KEPUTUSAN



Example of Decision Making in Buying a Car



Assessing Consequences

- Consequences can be critically assessed by two criteria:
 - Probability (likelihood, chance)
 - Value (importance, seriousness, cost, usefulness)



Assessing Consequences

- To assess the consequences of buying a used car (car reliability), which will be considered:
 - car age
 - Mileage
 - Number of owners it owns
 - Service records, etc.
 - Seller reputation
 - Information on how reliable the make and model is over a certain age and mileage.
 - Each criterion is assigned a value and formulated so that the probability of the reliability of used cars can be obtained
 - For the value of both options is the price of new and used cars



Buying a
New Car

Buying a
Used Car



Assessing the Consequences of a Car Purchase

We can assess the consequences of a car purchase case by conducting a problem assessment after three years of use

For example, the price of a used car is \$1200 and the price of a new car is \$4500.

Statistical evidence suggests that there is a 0.4 probability that the older car will fail within three years, with the worst-case scenario losing all \$1200. The evidence also shows that there is a 0.1 chance that the newer car will fail, with a worst-case loss of \$4500.

If you use a mathematical calculation, you get:

$$\text{Older: } \$1200 \times 0.4 = \$480$$

$$\text{Newer: } \$4500 \times 0.1 = \$450$$

$$\text{Difference: } \$30$$

In other words, if you multiply the value (i.e. the cost) of an unfavorable outcome by the likelihood of it occurring, it shows that there is a slightly better (statistically) reason to buy a new, more expensive car. However, the difference is so small that it does not provide a solid reason to decide one way or another.



Decision Tree

- Decision trees show a formal methodology for decision making.
- Decision trees are used in various real-life situations where decisions are influenced by data or factual evidence. Decision trees work best when values and probabilities can be measured.
- The decision tree contains:
- decision vertices, which by convention are rectangles
- with choices branching from it



discussion

A small energy company, Zenenggas, has discovered a deep shale gas deposit, with unknown commercial potential. The board must decide whether to continue gas extraction, at a cost of \$3 million, or to abandon the project because it may not be profitable.

The key factors are known costs and possible returns. The return, and therefore the possible profit, depends on the size of the gas deposit. Although this is not known, geologists and market analysts have estimated that at the lowest estimate the gas will have a value of \$2 million. They call it a 'Level C' result. This, of course, would mean a net loss for the company when exploration costs are reduced, but analysts also calculated that the likelihood of a Level C outcome was very low. They set it at 0.1 (or 10%). They also claim that there is a similar probability (10%) of a large gas deposit – a 'Level A' yield – with a value as high as \$12 million. The most likely prediction, however, lies somewhere in between: 'Level B', worth around \$7 million.

If the company abandons the project in favor of a safer venture, there is a second option to apply for auction extraction rights, in the hope that a wealthier company, able to take the greater risk, will be willing to buy it. Zenenggas accountants have estimated that there is a 40% chance of selling the rights for \$5 million, and a 50% chance of selling about \$3 million. (That leaves a slim, 10% chance, that there won't be a sale, or an offer so small that selling isn't a viable option.)

Discuss what the company should do, and why

Discussion – Step 1

Statistically there are huge gains to be made, but also significant risks involved. The question is which one is most likely, and by how much.

It is unlikely, though not impossible, that the payoff will be as low as \$2 million, with the resulting loss of \$1 million. That is the worst case scenario. Probably about \$7 million, with a profit of \$4 million; and perhaps as much as \$12 million, at a profit of \$9 million. Compared to this, there is a less risky option to sell the rights to extract gas.

To represent this mathematically, we can create a tree diagram. We can write down the known costs of each of these options next to their respective branches.

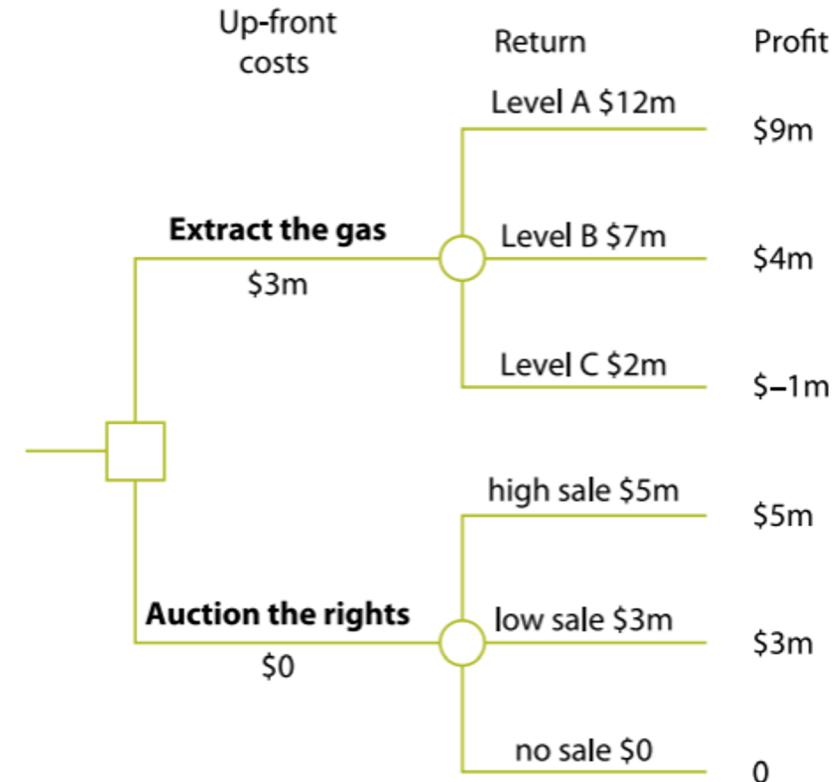
Step 1



Discussion – Step 2

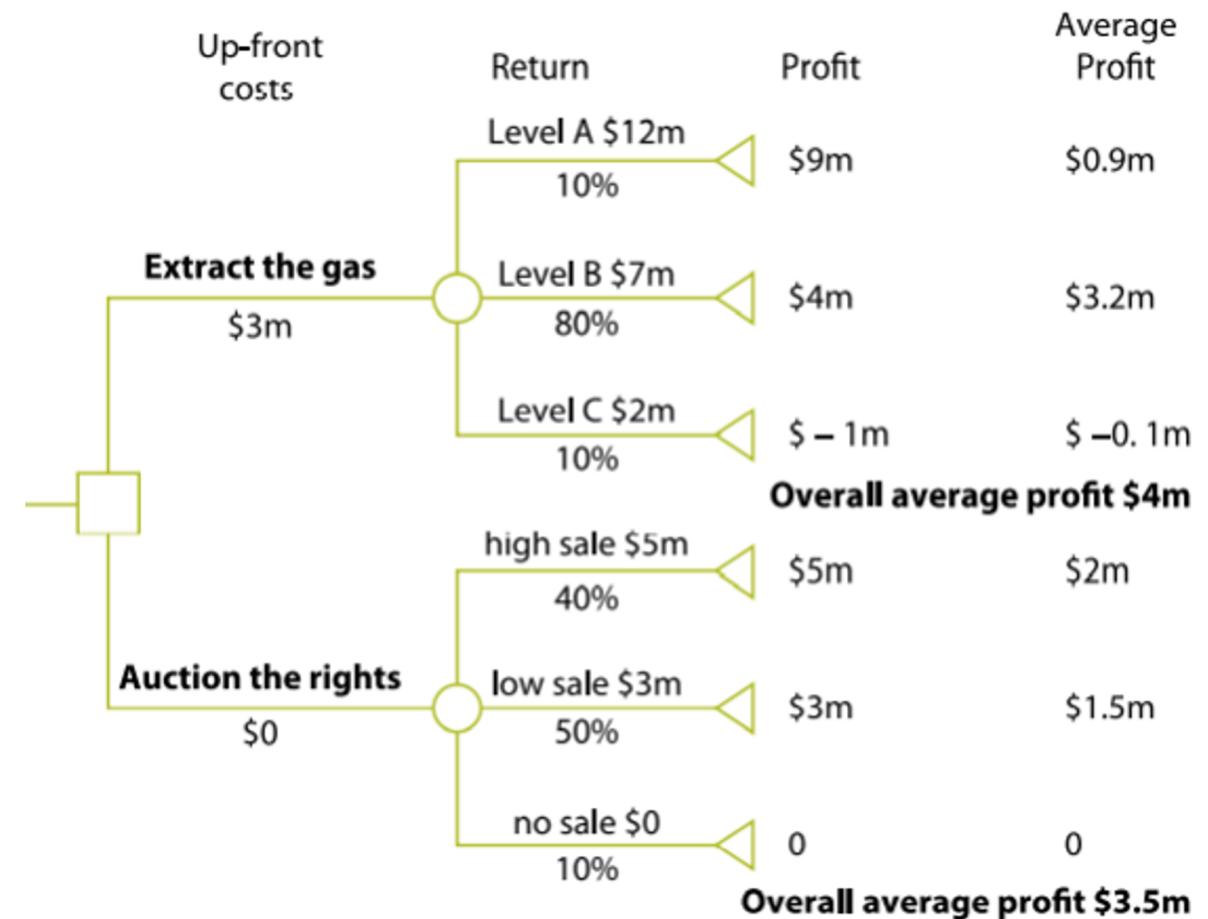
- The next step is to add a branch for every possible result. It branches off from a second type of knot, conventionally a circle, which is called a coincidence knot. We have data for three rates of return, depending on the size of the gas deposit, giving us three possible rates of return, C, B, and A. We can then do the same for the three possible rates of return that could come from an extraction rights auction.

Step 2



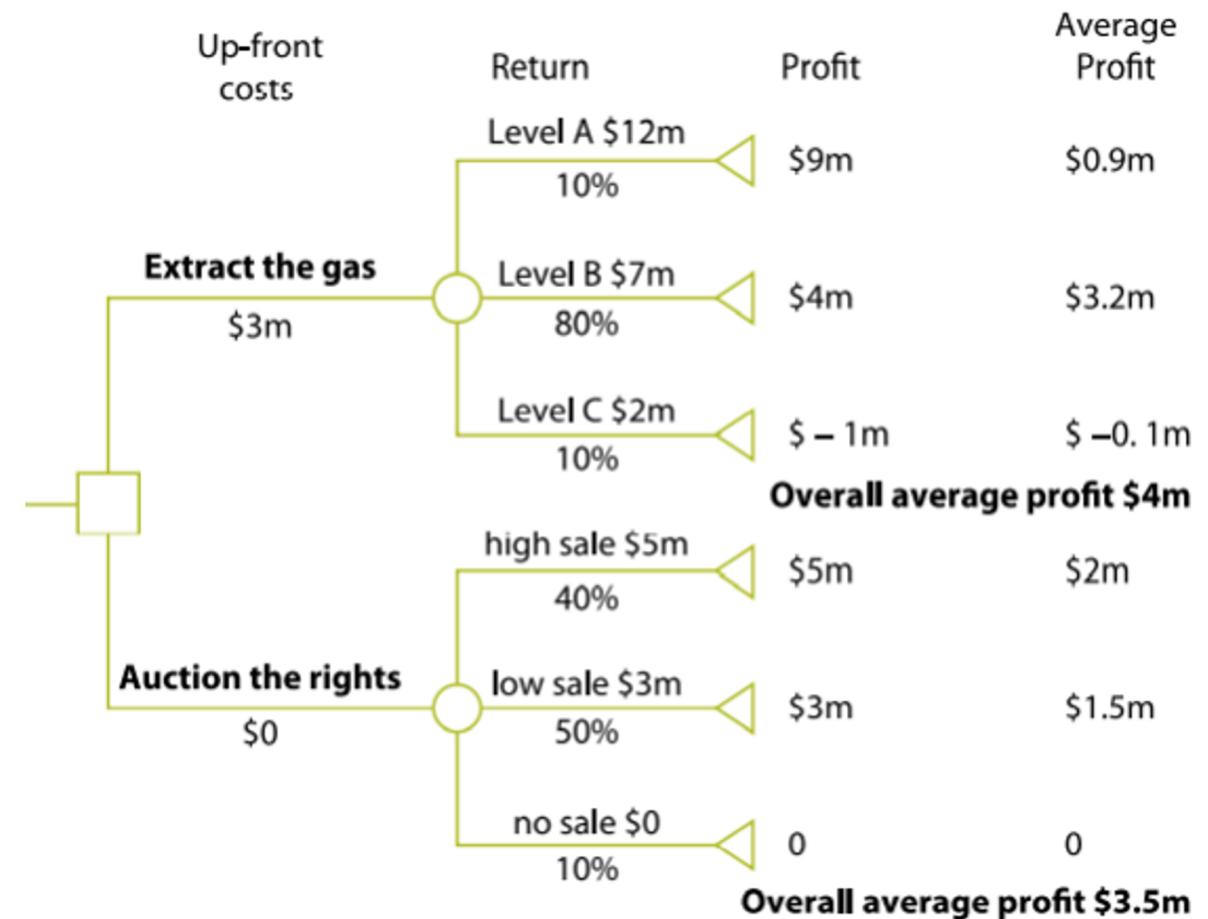
Discussion –Step 3

- Now all we have to do is enter the probability of each of these outcomes as a percentage, and multiply the estimated value by the probability. (Probability can be written as a number from 0 to 1, if desired.) A triangle, or end node, is placed at the end of each branch with the product of the calculations next to it. These are then added together to give the most likely overall outcome of each decision.



Discussion – Reading the Decision Tree

This suggests that continuing the project may be more profitable than selling about \$500,000. It's not very much, in modern business terms; of course not enough to make Zenenggas's decision easy. The board may say that with such a small margin it would be better to take a safer route of sale, which at least cannot end in losses. The other side might argue that since the odds look pretty much the same, the risk is worth taking. Calculations like this aid decision making, but do not guarantee success.



In Decision Making



Consider the available options

For each option consider the consequences – pluses and minuses

For each consequence think 'probability versus seriousness'.



Principle

Principles are general claims that, if true, are true in all circumstances usually related to ethics, morals, norms, law, and religion

The point to remember, however, is that the argument from principle is not flexible. If something is really a principle, then there are no exceptions.

For example: cheating is wrong

Either cheating a little or a lot is still wrong.



discussion

In Carla and Dieter's dialogue below, read and answer the following questions:

Compare Carla's argument with Dieter's argument.

How would you describe their differing viewpoints, and the kinds of reasons they offer to support their position? Do you think there is a winner in this argument, and if so, who?



Dialogue of Carla and Dieter

Carla : Can I borrow your new CD?

Dieter: What do you want it for?

Carla : To make a copy. I will return it right away.

Dieter: But it's illegal.

Karla: So what? No one will find out.

Dieter: They might. And if they do, not only

You're the one in trouble, so am I.

Carla : Dieter, do you think the police will break into your room in the middle night because they suspect you of lending CDs to
I? Be aware.

Dieter: I work in a store that sells CDs, or have you forgotten? If I caught making pirate copies, I will lose my job.

Carla : But I told you, you won't get caught. No one will know.

Dieter: I'll know.

Carla : You mean you will tell yourself!

Dieter: Don't be silly, Carla. I mean I will know that I have made a mistake. I will be guilty of cheating.

Karla: Cheating! Fool who?

Dieter: Record company, songwriter, band, retailer . . .

Carla: Oh, them! Do you know how much profit they make from people like you and me? If they didn't charge a lot of money, we wouldn't have to copy the CD. They are greedy. And if piracy reduces their profits, great for piracy! Anyway, it's not like I walked into the store and grabbed something off the shelf.

Dieter: It's still theft. You help yourself to something without paying for it. And you are defrauding copyright owners of what is theirs. If it's okay for you to take from them, you can't complain if someone takes something from you. Remember how you felt when your phone was stolen. Are you now saying it's fine?

Carla: That's different. you know that. It took a lot of money to replace. If I rip your CD some fat cat bosses will lose a fraction of a penny they won't even miss.

Dieter: If it's okay to take a little, it's okay to take a little more. Then a little more, and a little more . . . Eventually you'll say it's okay to walk into the store and fill your pockets with whatever you like – as long as no one notices.

Carla: That's shoplifting. And if you really think it's the same as copying one small CD, you have some very mixed ideas.

Dieter: I have mixed ideas?! You are the only one -

Carla: Oh, I'm not listening to your self-righteous bullshit anymore. Save your CD. I'll borrow one from someone else.

Discussion

- Dieter claims that CD piracy is fraudulent, and it's just like any other theft: it doesn't matter how much. Stealing is stealing, whether taking a fraction of a penny from the profits of a big company, or taking things from a store, or stealing someone's cell phone when they're not looking.
- Carla's argument does not use such a principle. He clearly believed that there was a significant difference between copying a CD and committing a serious theft. He even implies that because of the very small losses involved, and the enormous income of those who suffer losses, there is some justice served by CD piracy. It's not that he thinks stealing is good: he doesn't think copying CDs is the same as stealing.
- Who is selected as the winner depends on whether we agree with Dieter that this issue is entirely a matter of principle. If so, then Carla's argument doesn't hold up: obviously, CD piracy is a form of theft, and Carla is wrong, no matter how small the amount. So if you agree with Dieter that this is a matter of principle, you should really say that he won the argument.
- However, if you think that the principle does not cover 'harmless' actions such as copying a CD, then you might say that Carla's argument is more proportional, and that Dieter is too extreme and inflexible.



Principle Vs Pragmatic

Pragmatism is more flexible than principle, does not impose practical or reasonable reasons, or leads to the desired result

For example, Dieter's argument can use:

Copyright infringement is against the law for good reasons, though not taken seriously by most people, such as outright stealing. If copyright is not respected, the best singers and songwriters may not find it valuable to produce a record, causing the general quality of the music output to drop. Alternatively, record companies could respond by charging even more for their products to cover costs of fighting lawsuits or researching ways to beat pirates. Then, the argument will go away, everyone suffers because of those who cheated; or, conversely, if people respect the law, everyone benefits in the long run. This is similar to arguments against fare avoiders on public transport, or people making false insurance claims. It's passengers and law-abiding policyholders who end up paying, through higher fares and premiums, not the big transportation or insurance companies that scammers say they've beaten.



Argument Analysis

The process of assessing and evaluating arguments



This is done by asking questions such as the following:

- What is the main conclusion?
- Is there a missing premise (assumption)?
- Are there any contradictions?
- Are the reasons strong enough to support the conclusion?
- What is the use of writers using persuasive language, emotion, or popular appeal?



discussion

Based on DOC 1 on the next slide, answer the following questions:

What is the overall conclusion of the argument?

Reread the first paragraph. How would you describe the style, or tone, and how did the author achieve it? What effect does the first paragraph have, and how does it affect the reader?

The author offers various reasons for choosing a permanent site in Greece. Recognize:

- a. pragmatic reasons
- b. principle.

In paragraph 2 the author makes the explicit assumption that money and national pride should have nothing to do with the debate. What implicit (i.e. unstated) assumptions did he also make – and are they justified?

What is the function of paragraph 3?

DOC 1 - WHO ARE THE OLYMPIES?

It's time again when everyone starts running and jumping for joy during the Olympics. I don't mean running and jumping on an athletics track either. This is not sports fever, this is politics. Nor is it excitement about the next Olympics, but one after the next. Yes, that's when the International Olympic Committee (IOC) decides which city will host the world's biggest sports extravaganza eight years from now.

So why all the fuss? One simple answer – money. National pride might have something to do with that too; but money is the real driving force. However, the reality is that neither money nor national pride should play a part in the debate. The Olympics are supposed to be in one country, Greece, for the very good reason that Greece is where the Olympics were found and where the name came from. This is not a political or economic issue. There is only one reasonable and justifiable place to hold the Olympics, and that is Athens, the capital of Greece – this time, another time and always.

Of course, some competing nations will wonder why all the benefits of hosting the Olympics, especially the huge revenue they are supposed to generate, must always go to one country. Alternatively, it is often said that hosting the Olympics is a risky business, requiring massive investment to make it a success. A country as large as Greece cannot be expected to incur these costs every four years. Sharing the burden, as well as the benefits of the Olympics, is a fair and appropriate way to do it, with rich countries being the safest option.

But these self-serving and contradictory arguments are exactly what you'd expect from big business. Of course those who benefit the most from the development program required to provide facilities and infrastructure will say that the current system is the most workable. It's a view that has plenty of support from North America and Western Europe, which have more than fair enough to host the Olympics. The economic reason for maintaining the existing arrangement was because it was flawed from the start.

The Olympics, correctly understood, is an international movement dedicated to friendship and peace around the world. The game does not belong to the state. Countries that take part must pay for the Olympics according to their wealth, with the poorest countries contributing the least and benefiting the most. The approach itself will reflect the true Olympic ideals. But that is only possible if the Game has a permanent site.

Last but not least, there is a practical yet compelling reason to return the Olympics to their ancient roots, and that is the ever-present threat of terrorism. Everyone old enough remembers the tragic events that marred the 20th Olympics (Munich) in 1972. Today the Olympics are a clear target for the atrocities that will put 1972 under its wing, especially if the game is seen, rightly or wrongly, as a symbol of dominance. US world. By holding the Olympics in a historic location, rather than in a different nation's capital every four years, the matter is depoliticised, and the danger of a terrorist attack is greatly reduced.



Discussion No. 1

If we choose to paraphrase our answer, rather than extract it verbatim from the text, remember that we still have to give a full conclusion. This is not a simple one-part claim: there are several elements to it. It is not enough to say that the Olympics must be in Athens. The real conclusion is that there is only one 'reasonable' and 'justifiable' location for the Olympics, and that Athens should become a permanent location.

The conclusion is at the end of the second paragraph. This is the whole sentence: 'There is only one reasonable and justifiable place to hold the Olympics, and that is Athens, the capital of Greece - this time, another time and always.'



Discussion No. 2

- The first paragraph is the introduction. It sets the context of the argument as a whole without providing conclusions or supporting reasons.
- The author's writing style in the first paragraph in several ways: for example, humorous, sarcastic, scornful, belittling, condescending. This is achieved through phrases such as:
- 'run and jump... (not) on the track', which makes the furore he talks about childish; and the word 'extravaganza', which suggests that the current Olympics are too glamorous. The author may be trying to make the reader feel that the 'commotion' over the holding of the Olympics is a bit unnecessary, and a bit ridiculous. If successful, this can have a 'softening the reader' effect for future reasoned arguments. In other words it is a rhetorical device, not direct reasoning.
- When evaluating an argument, it is important to look at the characteristics of persuasive writing and distinguish between them and the reason itself (the underlying claims). By 'style', we mean specifically expressed claims of a piece of text, complete with emotional appeal, sarcastic touches, colorful phrases and so on. In paragraph 1 there are many; So it's more than just an introduction.



Discussion No. 3

One of the pragmatic reasons the authors offer is that a permanent site would, arguably, reduce the threat of terrorism by depoliticizing the Olympics. This would obviously be of practical benefit to athletes and spectators, and even to organizers whose profits would be affected if the threat of a terrorist attack prevented people from attending the Olympics. The inclusion of the word 'practical' in the text marks this as a pragmatic reason.

On the other hand, there is no clear practical merit behind the argument that Greece is where the Games were created and where the name comes from. The Olympics are a Greek 'right' for this historical reason, and for that reason alone they should be held there. The general principle underlying this strand of reasoning is that the inventor or originator of something has moral and/or legal ownership over it. This applies not only to this particular context, but also to writers, artists, explorers, and others – even any person or group who can claim to have invented, created, or invented something.



Discussion No. 4 and 5

There is clearly an assumption in paragraph 2 that historical reasons should play a role in the debate. Without this assumption the conclusion does not follow. Another way of saying this is that there is a missing premise. If the author wanted to spell out this premise, it would have to be something like: 'The problem is a historical one.' Just saying that it is not political or economic does not prove that it is history.

Paragraph 3 is a counter-argument. The strategy of anticipating counter-arguments – that is, preparing them and then dropping them – is a common argument strategy. That's clearly what the author is doing here.

Critical Writing

Critical writing is built using the synthesis method.

Synthesis method: is the skill of bringing together information, evidence and opinions from various different sources to support arguments or conclusions

In the higher order thinking skills test, it is assessed through a long piece of writing that you have to plan and build yourself.





discussion

Suppose we are asked to speak in a debate about the future of the Olympic Games to an audience consisting of athletes, businessmen, sports fans, and others who are worried that the Olympics will be ugly and deviate from their original ideals. The previous speaker in the debate was the author of DOC 1 (Slide 17)

Our task: support or oppose what the author of DOC 1

Method :

Go through all the items in the article (DOC1), and note, or highlight, any points that you feel are relevant to the argument you are making. There's no need to sort or organize them at this stage: just make a rough list of the bullet points you can make, and any other points you might need to address.



Discussion

Before we can start selecting and organizing relevant material from sources like these, we need to be very clear on what you're doing it for – the task or tasks that lead you to the document.

There are some parts of the texts that are very important in meaning, and some are equally irrelevant. For example, if you were to take the argument of the authors of DOC 1 that the interests of Western Europe and the United States have been served far better than those of other countries, especially in developing countries, the table of host cities would obviously be useful evidence. Even if you decide to go against the previous speaker, you need to anticipate accusations that the West owns the lion's share of the Olympics. Therefore the data in the table is relevant whether it will strengthen your conclusion or challenge it.

The bullet list you choose is usually a mix of fact and opinion, and it's important not to confuse it. The points generated from DOC 1 can be:

conclusion: should be a permanent place in Greece

Reason: historical rights / current system is driven by money / will depoliticize the game / reduce the terrorist threat

evaluation: contradictory in some parts

The notes above are relevant and can be used in debate.





Thank You!

A vibrant, abstract graphic consisting of several thick, diagonal brushstrokes in various colors, including blue, purple, pink, red, orange, and yellow, creating a dynamic and artistic base for the text.



Task

Suppose a new team of analysts has reassessed a shale gas deposit based on new evidence and technological improvements. Extraction costs remain the same, but the team now estimates that there are:

- no harm from Level C results (returns \$2 million)
- only 30% chance of a Level B result (\$7 million return)
- 40% chance of Level A returns (\$12 million return)
- 25% chance of getting Level AA results (\$24 million return)
- 5% chance of AAA Level results (\$40 million return).

A rival company called YGN has bid \$10 million for the extraction rights. Calculate possible new returns, using a decision tree if that helps you. Then decide which of the following can most reliably be inferred from the data.

- A On economic grounds alone, the Zenergies should accept YGN's offer.
- B On economic grounds alone, the Zenergies should decline Yangen's offer and continue extraction.
- C It makes no difference economically which decision the Zenergies make.