SMART CHOICES

LECTURE NOTES

Chapter 6

PrOACT stands for **P**roblems, **O**bjectives, **A**lternatives, **C**onsequences and **T**rade-offs

TRADE-OFFS

Making wise trade-offs is one of the most difficult challenges in decision-making.

The more alternatives you are considering, and the more objectives you're pursuing the more trade-offs you're going to have to make.

What makes it difficult is that each objective has its own basis for comparison.

Comparisons

How do you compare a percentage to relational judgment like high, medium or low?

Steps in Comparison Process

1 Define and eliminate dominated alternatives pick a pair of alternatives and use this simple rule.

Example: if alternative A is better than alternative B on some objective or objectives and no worse than B on all other objectives, then B is dominated by A and can be eliminated. B has disadvantages without any advantages and don't be too rigid here if the differences are relatively small, it may be worth keeping alternative B in the mix. In this case that's what's called practical dominance.

2 Create a second table in which the descriptions of the consequences are replaced with simple rankings.

For example, this consequence table has some very complicated information so it's difficult to compare the

dollars of monthly salary with a ranking of work flexibility, vacation days, etc. across the alternatives. When the table is simplified to include rank across the alternatives the choices become much clearer.

Consequences Table for Vincent Sahid's Job Decision

Objectives	Alternatives				
	Job A	Job B	Job C	Job D	Job E
Monthly Salary	$2,000	$2,400	$1,800	$1,900	$2,200
Flexibility of Work Schedule	Moderate	Low	High	Moderate	None
Business skills development	Computer	Manage People, Computer	Operations, Computer	Organization	Time Management, Multiple Tasking
Vacation	14	12	10	15	12
Benefits	Health, Dental, Retirement	Health, Dental	Health	Health, Retirement	Health, Dental
Enjoyment	Great	Good	Good	Great	Boring

3 In this example when there is a choice between a number of alternatives like the ones here use the even swaps technique. First review your rank consequence table. When an objective is ranked equally for all alternatives ignore this objective when choosing among your alternatives. Then pick two alternatives.

Consequences Table for Vincent Sahid's Job Decision

Objectives	Alternatives				
	Job A	Job B	Job C	Job D	Job E
Monthly Salary	3	1	5	4	2
Flexibility of Work Schedule	2 (tie)	4	1	2 (tie)	5
Business skills development	4	1	3	5	2
Vacation	2	3 (tie)	5	1	3 (tie)
Benefits	1	2 (tie)	5	4	2 (tie)
Enjoyment	1 (tie)	3 (tie)	3 (tie)	1 (tie)	5

For example; determine the change necessary to cancel out an objective between these two alternatives. In the simple consequence table with only two objectives if you were to cancel out the differences and profit you would be left with a simple choice. So what change to the other objective would compensate for the needed change? If you look at profit we want to go from the twenty five million dollars to ten million dollars. Let's say you would be satisfied with possibly a three percent increase in the market share to change my profit from twenty five million to ten million. Make the even swap cancel out the now irrelevant objective, which is profit is now equal, so it's not part of this problem. Eliminate the dominated alternative and here you have an obvious choice. Choose franchising the profit is the same and the market share is higher.

Consequences Table for Cola Company's Possible Marketing Strategies

Objectives	Alternatives	
	Franchising	Not Franchising
Profit (in millions)	$10	$25
Market share	26%	21%

Consequences Table for Cola Company's Possible Marketing Strategies

Objectives	Alternatives	
	Franchising	Not Franchising
Profit (in millions)	$10	~~25~~ $10
Market share	26%	~~21%~~ 24%

Another more complex example: choosing an office space. In this table, there are five objectives, and five alternatives. Create a more simplified ranking table like the one in this next table. Now, look for dominated alternatives. From the table, you can easily see that the Lumbar office clearly dominates Pierpoint, so Pierpoint is eliminated. Also Montana dominates Parkway, except for on one objective – cost, so go back to the full consequence table and see how far apart the costs really are. Since there is only a small relative difference of fifty dollars, you can use practical dominance and eliminate Parkway.

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Consequences Table for Alan's Office Selection

Objectives	Alternatives				
	Parkway	Lombard	Baranov	Montana	Pierpoint
Alan's Commute (min.)	45	25	20	25	30
Client Access (%)	50	80	70	85	75
Office Services (constructed scale)	Alternatives	B	C	A	C
Office Size (sq. ft.)	800	700	500	950	700
Monthly Cost (Dollars)	$1,850	$1,700	$1,500	$1,900	$1,750

Consequences Table for Alan's Office Selection

Objectives	Alternatives				
	Parkway	Lombard	Baranov	Montana	Pierpoint
Alan's Commute (min.)	5	2 (tie)	1	2 (tie)	4
Client Access (%)	5	2	4	1	3
Office Services (constructed scale)	1 (tie)	3	4 (tie)	1 (tie)	4 (tie)
Office Size (sq. ft.)	2	3 (tie)	5	1	3 (tie)
Monthly Cost (Dollars)	4	2	1	5	3

Now three alternatives remain to evaluate. Make a series of even swaps and in doing this always seek to create some sort of dominance that didn't exist, that then allows you to eliminate alternatives.

Consequences Table for Alan's Office Selection

Objectives	Alternatives				
	Parkway	Lombard	Baranov	Montana	Pierpoint
Alan's Commute (min.)	5	2 (tie)	1	2 (tie)	4
Client Access (%)	5	2	4	1	3
Office Services (constructed scale)	1 (tie)	3	4 (tie)	1 (tie)	4 (tie)
Office Size (sq. ft.)	2	3 (tie)	5	1	3 (tie)
Monthly Cost (Dollars)	4	2	1	5	3

So let's say we want to eliminate commute. A five-minute increase in commute time can be compensated for, say, an eight percent increase in client access. Now you can eliminate this objective because the choices are equal.

Consequences Table for Alan's Office Selection

Objectives	Alternatives		
	Lombard	Baranov	Montana
Alan's Commute (min.)	25	~~20~~ 25	25
Client Access (%)	80	~~70~~ 78	85
Office Services (constructed scale)	B	C	A
Office Size (sq. ft.)	700	500	950
Monthly Cost (Dollars)	$1,700	$1,500	$1,900

Next eliminate office services using the Lombard offices as the average choice. Make swaps with monthly cost as shown in this table. This allows you to eliminate office services and also the alternative, Baranov.

Consequences Table for Alan's Office Selection

Objectives	Alternatives		
	Lombard	Baranov	Montana
Alan's Commute (min.)	25	~~20~~ 25	25
Client Access (%)	80	~~70~~ 78	85
Office Services (constructed scale)	B	~~C~~ B	~~A~~ B
Office Size (sq. ft.)	700	500	950
Monthly Cost (Dollars)	$1,700	~~$1,500~~ $1,750	~~$1,900~~ $1,800

And finally, let's eliminate office size. We can do this by adding two hundred and fifty dollars to the monthly cost as an even swap. Now you can make the decision Montana clearly dominates Lombard.

Consequences Table for Alan's Office Selection

Objectives	Alternatives		
	Lombard	Baranov	Montana
Alan's Commute (min.)	25	~~20~~ 25	25
Client Access (%)	80	~~70~~ 78	85
Office Services (constructed scale)	B	~~C~~ B	~~A~~ B
Office Size (sq. ft.)	700	500	950
Monthly Cost (Dollars)	$1,700	~~$1,500~~ $1,750	~~$1,900~~ $1,800

SUMMARY

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So, how do you come up with these figures? How do I know it's an equivalent swap? These things come with understanding of the domain.

Practical advice for making even swaps:

- Make easier swaps first, things that are easy to see in equivalency on.
- Concentrate on the amount of the swap, not on the perceived importance of the objective.
- Value and incremental change relative to what you start with.
- Seek out information to make informed swaps from experts.
- Practice makes perfect with this technique.

It's not enough just to look at the size of the slice. You also need to look at the size of the original pie to see how big the relative difference is. Make consistent swaps. If you swap A for B and B for A then you should be willing to swap A for C and get help.