

Decision Analysis Example

Decision Background

We are in the business of providing healthcare providers with medical equipment, including sophisticated imaging systems, and have done so for more than 20 years. These various devices sometimes breakdown and require replacement parts in a hurry in order for the healthcare providers to meet their commitments to their patients. Healthcare professionals rely on us not only for the quality of our products, but also on the dependability of our maintenance service.

We are seeking a very reliable courier service to deliver urgently required parts to our field engineers nationwide at the moment of need. While some of the parts can be fragile, we would be willing to house them in the courier's stocking locations for faster delivery provided it is cost effective and the facilities are state-of-the-art. When our team was assembled, we were instructed to select a courier service that would help us continue to maintain our reputation for service excellence. Our leadership team made it clear that we will not acquire a courier company or develop this capability internally.

The courier service we select must be able to deliver any day of the year, including weekends and holidays. We favor doing business with companies that are environmentally conscious. Not only do we need to make this decision quickly, the courier service we select must offer quality services at affordable prices.

Our team includes the heads of Inventory Management, Procurement, Logistics, Field Service, and Quality Control.



Clarify Purpose

State the decision

What is the fundamental purpose of this choice? *Include*
What specific choice or recommendation needs to be made? • Choice word (decide, select...) • Result • 1-2 modifiers

Select a courier company to deliver urgently required service parts.

Develop objectives

What short- and long-term benefits or results do we want?
What resources should we use or save?
What restrictions influence this choice?
What minimums or maximums must we meet?
Which objectives need to be clarified?
Consider how time, cost, customers, management, etc., influence this choice
Be clear and specific Use short statements

Classify objectives

If the objective is Mandatory, Measurable, and Realistic, label it a MUST (Select 'MUST' from drop-down)

Weigh the WANTS

For the other objectives, what is the relative importance of each WANT? (Most important WANT = 10; Others = 1-10, relative to the '10')

Screen alternatives through the MUSTs

Does this alternative meet each MUST objective?
Gather and record factual data
Determine if Go or No Go
Eliminate any No Go alternatives

☒ = Indicate final choice

Total = **390**

Alternative 1

Rush-it	Score	Weighted score
Can meet the 24-hour delivery requirement	60	
Delivers 365 days a year	60	
Delivers to all postal codes; meets a 100%	60	
0.1%; provides packing supplies and packing services	5	50
Newly installed automated system; includes automatic e-mail of pickup-to-delivery information upon request	8	72
\$3/kg (2.2 lbs)	10	80
Via the web or through an operator	10	70
Approximately 6-7 hours in major cities and suburbs; between 12-18 hours in rural areas	8	40
ISO 9001:2008 certified—quality ISO14001:2004 certified—environment	10	50
11 years in operation	7	28

Assess Risks

Identify adverse consequences

Start with the highest scoring alternative *Imagine you have implemented this alternative*

What risks are associated with this alternative?
What could go wrong, short and long term, with this alternative?

What are the implications of being close to a MUST limit or threshold?
What information about this alternative might be invalid? What are the implications?

Use "If..., then..." format; e.g., If X happens, then Y is the adverse consequence

Identify adverse consequences for all alternatives that are close to the best performer

Assess the threat

How likely is each adverse consequence? (probability—record the rationale; mark each H, M, or L)

What level of impact will this adverse consequence have? (seriousness—record the rationale; mark each H, M, or L)

Make Decision

Make the choice

Are we willing to accept the risk(s) to gain the benefit of this choice?
Can we manage the risk(s) to an acceptable level?

If yes, pick it
If no, repeat for the next best alternative
Record and communicate the final choice
Plan and take action to implement the chosen alternative
Plan how you will manage its risk(s)

Assess Risks

	Probability	Seriousness
If... fuel prices keep rising	M	
then... they may increase the cost of service or add a fuel surcharge or both		M+
If... they decide to stop providing packing supplies or packing services	L-	
then... we will have to stock supplies and pack the parts ourselves, increasing cost and complexity		M
If... []	[]	
then... []		[]

Evaluate Alternatives

Generate alternatives

What different alternatives are available?

Review Decision Statement and objectives
Consult experts and research many sources
Ask stakeholders who will approve or implement

List alternatives without debate
Use creative thinking techniques
If necessary, combine or design alternatives or consider the status quo

Use knowledge and experience

OR

Compare alternatives against the WANTS

Which alternative best satisfies each WANT objective?
Examine how each alternative performs against each WANT objective
Mark the best performers with an asterisk (*)
Each WANT objective should have at least one *
The alternative with the most * is the best performer

How well does each alternative perform against each WANT objective?
Record supporting data, then for each objective:
Find the best performing alternative and give it a score of 10
Score other alternatives (0-10) relative to the best performer
Multiply objective weights x scores
Add for total weighted scores

☐ = Indicate final choice

Total = **412**

Alternative 2

Lightning Speed	Score	Weighted score
Can meet the 24-hour delivery requirement	60	
Delivers 365 days a year	60	
Delivers to all postal codes; meets a 100%	60	
0.06%; will custom design packing	10	100
Advanced technology; includes real time proof of delivery, data extraction for reports; instant invoicing	10	90
\$5/kg (2.2 lbs) plus fuel surcharge	6	48
Via the web	7	49
2-6 hours in areas close to a strategic stocking location; has over 400 such locations; charges for stocking vary by location	10	50
ISO 9001:2008 certified—quality	7	35
50+ years in operation	10	40

Assess Risks

	Probability	Seriousness
If... they are bought out by another company	M	
then... they may decide to concentrate on pallets instead of single box deliveries		H+
If... we use their strategic stocking locations to warehouse our parts	L+	
then... our costs could increase significantly depending on location		M
If...		
then...		

☐ = Indicate final choice

Total =

Alternative 3

Hare & Son	Score	Weighted score
Can meet the 24-hour delivery requirement	60	
Does not deliver on major holidays	NO 60	
Delivers to all postal codes; meets a 100%	60	

Assess Risks

	Probability	Seriousness
If...		
then...		
If...		
then...		
If...		
then...		

☐ = Indicate final choice

Total = **258**

Alternative 4

PostHaste	Score	Weighted score
Can meet the 24-hour delivery requirement	60	
Delivers 365 days a year	60	
Delivers to all postal codes; meets a 100%	60	
0.16%; provides packing supplies	2	20
Technology allows for manual tracking from pickup to delivery	5	45
\$4.2/kg (2.2 lbs) plus fuel surcharge	8	64
Via the web	7	49
Approximately 7 hours in major cities and suburbs; between 16-18 hours in rural areas	8	40
Has a newly installed quality management system; in the process of being audited	4	20
5 years in operation	5	20

Assess Risks

	Probability	Seriousness
If...		
then...		
If...		
then...		
If...		
then...		