**DR. SRINIBASH DASH**

**ASSOCIATE PROFESSOR & HEAD**

**SCHOOL OF MANAGEMENT**

**Decision making is broadly random, intuitive or analytical. In business, an analytical approach can lead to informed decisions which are more likely to provide real business value. Which of these decision-making techniques will enhance your own effectiveness as a manager or leader?**

**1. Affinity diagrams**

**Key use: brainstorming/mind mapping**

When engaged in brainstorming ideas, how can you avoid information overload? Affinity diagrams help leaders and teams visually organise numerous ideas and data points in a simplified visual form.

**2. Analytic hierarchy process (AHP)**

**Key use: complex decisions**

This decision-making technique helps to mitigate any subjectivity or intuition that goes into a decision. Going with the gut or being blinkered by a subjective perspective is perfectly natural – it’s human nature, and in some ways is a remarkable survival technique as it can lead to fast decisions based on personal lived experience. However, it’s uncommon for a business issue to involve outrunning a non-allegorical sabre-toothed tiger. Leadership often requires decision making to be analytical and as objective as possible.

AHP, first developed in the 1970s by Dr. Thomas Saaty, combines the Multiple Criteria decision-making technique with Paired Comparison and a splash of maths to explore multiple criteria and options which might result in a single overall goal. The AHP decision making technique is normally reserved for group solutions to complex challenges.

**3. Conjoint analysis**

**Key use: market research**

Market researchers will be familiar with this stats-oriented technique. Conjoint analysis is often used to help forecast how accepting consumers will be of proposed changes. It’s also used to help determine a brand’s positioning in the market. Conjoint analysis is a survey-based technique that helps reveal how consumers might value the attributes (such as the function, features or benefits) of a product or service.

**4. Cost/benefit analysis**

**Key use: financial decision making**

This technique is solely for making decisions of a financial nature. It can also be used to acquire any financial data you might wish to use as part of another decision-making technique.

**5. Decision making trees**

**Key use: assessing multiple outcomes prior to tough decision making**

The outcomes aren’t always clear when business decisions need to be made. A business might, for example, be required to choose between conflicting strategies while hampered by limited resources or other impediments to success. A decision-making tree can provide a visual aid when considering the various phases of proposed solutions with unclear outcomes.

**6. Game theory**

**Key use: negotiating with third parties or making strategic decisions that involve third parties**

Game theory can help business leaders make decisions by putting themselves in the shoes of a third party – e.g. a client, competitor or consumer – and anticipating what their actions, reactions and motives might be. Playing out these scenarios in a safe hypothetical space can help a leader make decisions based on the outcomes of the game.

Game theory can be a useful decision-making technique if you need to take into account exterior third parties like competitors, clients or legislative authorities. It was invented in 1944 by John von Neumann and Oskar Morgenstern. Since then, around 20 leading scientists and economists have been awarded the Nobel Prize in Economic Sciences for their evolution of game theory, so it’s clearly an important aspect of modern decision-making and analysis.

Game theory models the strategic interaction between two or more players in a situation that involves set rules. Games are typically co-operative or non co-operative. There are various Players, Actions, Payoffs and Information (known as PAPI). Players formulate strategies and try to gain as much benefit as they can.

Key opportunities to use game theory in decision making:

* Bargaining and negotiating
* Product/service launch decisions
* Supply chain decisions (e.g. outsourcing)

**7. Heuristic methods**

**Key use: save time on making decisions where a perfect result isn’t required first time round**

Heuristic methods are used to refine a product or service over time, using trial and error. They’re not accurate, but they can get the job done. Heuristic methods often have the benefit of saving time and resource and reducing initial expenditure.

For example, decisions relating to a website launch could be resolved using heuristic methods, if it’s determined the website doesn’t need to be perfect on launch. It can meet 80% of desired requirements, and be improved in terms of content and function over time.

**8. Influence diagrams approach (IDA)**

**Key use: reducing the risk of human error in decision making**

IDA is a technique used in the field of human reliability assessment. It can be used in all kinds of sectors, from business and HR to the healthcare and nuclear industries.

Decision making sometimes depends greatly on the people involved and their level of reliability. In some projects, the reliability of the team can make or break a situation. An influence diagram can provide a visual aid to determine how human error might influence a decision or project, and how much that might affect outcomes.

**9. Linear programming (LP)**

**Key use: making the most of limited resources**

Linear programming uses maths to represent requirements as linear equations. It is, for example, useful when making decisions relating to problems cropping up in operations research.

**10. Multiple criteria decision analysis**

**Key use: making business decisions that reach a compromise between logical analysis and intuition**

This decision-making technique allows a business to assess and evaluate various options against a set of defined business criteria. Typical examples of criteria might be cost/price, level of quality, customer/client satisfaction, or high returns.

This analysis technique is somewhat like a cost/benefit analysis, except it’s not limited to cost. We make thousands of decisions every day - often intuitively, but some part of us is weighing up the various criteria. When we buy a car, we weigh up cost, comfort, safety, fuel economy, function, form and aesthetics. When we buy a latte, we consider everything from cost and quality to the environmental friendliness of the packaging.

Multiple criteria decision analysis enables leaders to weigh up different criteria. How does one measure apples against cheese, or cost against comfort? The following MCDA steps can help.

Multiple criteria decision analysis in 5 steps

* Specify the context
* Identify available options
* Confirm the objectives and select criteria that represent key values
* Measure each of the criteria in order to figure out their relative importance
* Calculate the different values by averaging out scores and weighting

**11. Multi-voting**

**Key use: making fair and balanced group decisions**

When making decisions as a group, use multi-voting to weed out lower priority options. You can then use other, more exacting techniques to make key decisions on a smaller (and therefore more manageable) group of options.

Multi-voting can be as simple as giving each member of the group a list of ideas and telling them they can only vote for the three ideas they consider most important or beneficial. Tally up the votes to determine which options are deemed most important by the group.

**12. Net present value (NPV) and present value (PV)**

**Key use: making decisions relating to investment and capital budget**

The value of money flexes with time. A house bought twenty years ago might be worth far more now, leading to questions of whether (and when) to sell or buy. Pension payments might rise substantially the longer a person remains in employment, leading to questions of when to retire.

Calculation of NPV or PVC can help a business compare financial options representing future cash flows. It’s key to use [**critical thinking**](https://www.changeboard.com/article-details/16956/how-to-improve-your-critical-thinking-with-3-golden-tips/) to question all assumptions when making these calculations in order to make a genuinely informed decision.

**13. Paired comparison analysis**

**Key use: making decisions relating to comparing two options**

* The less experienced, cheaper hire or the more expensive, more experienced hire?
* Creating a product/service in-house or buying/outsourcing it?
* The quick, cost-effective option or the expensive, delayed, future-proofed option?

We often have to compare two options in order of importance. Paired comparison analysis can help with that – and we do it intuitively all the time, but it’s advantageous in business to bring structured analysis into the mix.

If paired comparison analysis has a catch, it’s that this technique doesn’t really surface any information identifying the criteria supporting each option. You have to do the legwork yourself – but it’s a good starting point.

**14. Pro/con technique**

**Key use: making decisions relating to comparing two options**

The pro/con technique can be used in tandem with paired comparison analysis, and weighing up the pros and cons of a decision is a tale as old as time.

Similar techniques include the plus/minus/interesting (PMI) technique and force field analysis.

**15. Scientific method**

**Key use: taking a scientific approach to business decisions**

The scientific method of decision making can also be called a heuristic method, since it’s best used in circumstances where you don’t need 100% perfection first time round.

We all learned the drill in school – hypothesis, method, results, conclusion. There are a few more steps to the scientific method, but in essence the format is the same as that of science experiments in school.

Using the scientific method in 7 steps:

* **Question** – formulate a question
* **Researc**h – do background research to gather as much clarity as possible
* **Hypothesis** - Based on your research, form a hypothesis, or statement you want to test the validity of
* **Experiment** – test, test, test!
* **Observations** – collect data from the experiment
* **Results** – formulate results based on the data you’ve collected
* **Conclusion** – determine the validity of your hypothesis

**16. Trial and error**

**Key use: a general and popular approach to making low-risk decisions**

Decision making based on trial and error sounds chaotic but it has an established place in business strategy.

Several of the decision-making techniques outlined above have their basis in a structured approach to trial and error. Heuristic methods and the scientific method feature trial and error as the backbone of their process. [**Agile project management**](https://www.changeboard.com/article-details/16953/what-is-agile-project-management-/) is a very flexible management style that incorporates trial and error into its process with minimum risk.

When using the trial and error method to make decisions, it’s important to acknowledge that any failure as a result of decisions made is low risk. It’s also vital to reflect deeply on the results in order to understand the causes of the failure and further remove the risks and challenges on the next iteration of the trial and error process. Going in circles is not progression. Heading upwards in a spiral is.