**Cognitive Biases Within Project Management**

There are many cognitive biases[1] that can influence the way we approach and manage projects. These biases may lead us to take on more project work than we can handle, to believe that the present project is the only one that matters or become so focused on a single aspect of a project that we lose sight of the big picture. As a result, project managers are more likely to make incorrect judgements that may hurt a project. By being aware of our cognitive biases, we can improve the quality of decision-making and further project outcomes. The following are some cognitive biases that influence how project managers make decisions.

Anchoring Bias
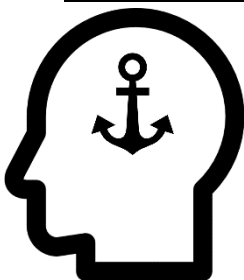
The anchoring bias refers to our tendency to focus on the first piece of information that is presented to us, rather than continuing to search for other relevant information. Examples of anchoring bias include the law of instrument and conservatism bias.

Law of Instrument

The law of instrument describes how we make decisions with the method or system that we are most familiar with, rather than other considerations. According to Abraham Maslow: "To a man with a hammer, everything looks like a nail." Assume costs have been underestimated and the project now requires more funding. Often, project managers will throw money at the problem to remedy it, instead of reviewing previously estimated times, costs and associated risks, to understand why this occurred in the first place.

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[1] https://en.wikipedia.org/wiki/List_of_cognitive_biases

Conservatism Bias

Conservatism bias, another form of an anchoring bias, is the tendency to maintain one's beliefs while dismissing new evidence to the contrary. These beliefs can become strong convictions, which can lead to behaviours that reinforce those beliefs and prevent good decisions from being made.

Let's suppose a supply chain issue delayed the arrival of materials. Instead of revising beliefs to consider substitutes, conservatism bias causes the Project Manager to stick with the original order, which may lead to delays and increased costs. To counter this, project managers should be willing to go against their beliefs and act quickly and efficiently when confronted with new information.

Cognitive Dissonance

Cognitive dissonance is the discomfort that arises when an individual's actions contradict their beliefs or when they hold conflicting beliefs.

Normalcy Bias

Normalcy bias, a form of cognitive dissonance, affects our ability to respond to major events or changes. It causes people to overlook warning signs and underestimate the magnitude of a situation. Project managers are more likely to experience normalcy bias when trying to determine the best response to an unexpected situation, such as a natural disaster or cyber threat. In these situations, a project manager should be mindful of normalcy bias when developing a business continuity plan to ensure a strategy is in place in the event of a disaster.

Confirmation Bias

Confirmation bias causes project managers to seek, focus on, and retain information that supports their existing beliefs whilst discounting information that does not. This applies to:

- *Previous projects:* A tendency to remember successes over failures
- *Current projects:* On-going feedback and development may be perceived selectively and unevenly
- *Future projects:* During planning, information on alternatives will be twisted to confirm pre-existing opinions

This may unintentionally lead to improper decision-making with the best interests of the client and organisation not realised. To combat this, project managers should actively seek out information that disproves their beliefs and get second opinions from peers.

Egocentric Bias

Egocentric bias causes people to place too much emphasis on their own point of view. As a result, project managers may underestimate or completely ignore how different other people's viewpoints are from their own. When making decisions, egocentric bias can lead us to neglect the needs and concerns of others, sometimes with unfortunate consequences. The following are forms of egocentric bias:

False Consensus Effect

The false consensus effect is a tendency in which people falsely assume that others agree or think the same way that they do. This can create an unfounded confidence in our views, which can cause us to make decisions we would otherwise not make. Within project management, you may feel that the project is operating smoothly and workers are happy, whilst actual attitudes and sentiment towards the project may be quite different.

Although the False Consensus Effect is difficult to prevent, it can be reduced via preparation, awareness, and effort. Paying attention to other people's perspectives and experiences rather than depending solely on our own will help avoid poor decision-making.

Illusion of Control

The illusion of control occurs when a person overestimates their capacity to control something over which they have no complete control. Consider the case of a construction site that has been flooded. Natural disasters and site accidents can strike at any time, giving project managers the false impression that they have greater control over the project than they do.

The false impression gained by this bias can encourage us to make irrational decisions, leading to negative outcomes that could have been avoided. By being aware of the illusion of control, project managers can put continuity plans in place to aid in the event of an uncontrollable event.
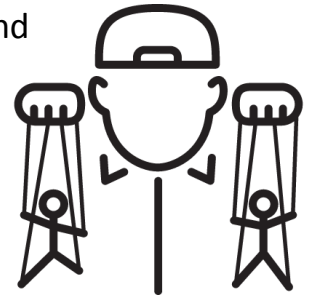
Planning Fallacy

Planning fallacy is the tendency to base decisions on other people's actions or words when those actions or words are not representative of the full picture. For example, a manager may notice that others in the project are late with their tasks and begin to worry that the project may not be completed on time. However, if other team members say they are not worried, the project manager may make decisions based on group consensus. Using data from previous projects and cross checking industry standards should help counter this effect.

Logical Fallacy

Logical fallacies are reasoning errors that can lead to incorrect conclusions and frequently result in arguments failing. They can occur when we reach conclusions based on faulty or flawed reasoning, or when we fail to consider all relevant factors and make logical errors.

Escalation of Commitment: Sunk Cost Fallacy

Escalation of commitment is a cognitive bias that causes people to increase their investment in a decision, strategy, or course of action when they are faced with evidence that it is failing. Also known as Sunk Cost Fallacy, this leads to improper decision-making based on project costs that have already been incurred, are not recoupable and have no impact on future outcomes.

Within a project-based organisation, this may lead to project cost over-runs and missed opportunities that could have been better served by reallocating resources. Project managers should instead attempt to separate emotions from the equation when making decisions. Studies[2] suggest the impact of the Sunk Cost Fallacy reduces when we are discouraged from making decisions based on our emotions.

Plan Continuation Bias

This refers to a tendency to continue plans started in the past, even when it is clear that they are no longer viable. This bias is most likely to occur when we fail to consider changing circumstances. Assume a piece of machinery was used successfully in the past, but lacks the performance needed now, instead of swapping it out, it remains in use. Project managers should review current strategies and adapt them to current circumstances.

Zero Sum Bias

Zero sum bias is the tendency to think of a situation as a zero-sum game when it is not. It is the mistaken belief that one person's gain is another person's loss, or that one person's loss is another person's gain. This often leads to conflict.

To avoid this, project managers should consider potential positive sum scenarios where win-win solutions are chosen.

Other

Optimism Bias

Optimism bias is a natural, but often irrational, human tendency to be more optimistic of a scenario whilst the reality may be different. This might lead to a failure to predict hazards and an underestimation of negative scenarios. As it was never incorporated into project plans, you may find yourself unprepared for the worst. To avoid the effect optimism bias can have on decision-making, loss aversion should be utilised to highlight scenarios that may disrupt a project. This will improve the reaction to risks and negative situations.

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[2] https://journals.sagepub.com/doi/10.1177/87569728211049046

Can We Cure Our Bias in Project Management?

Daniel Kahneman and Amos Tversky[3] not only developed a solution for system fallacy, but Kahneman also discovered a new method to view projects that is free from our cognitive biases. The 'outside view' theory states that we should rely on the experience and expertise of others when making decisions about our projects, rather than trying to rely solely on our own introspection and intuition. This provides a less psychologically invested perspective and allows project managers to grasp a situation fully before deciding on the right course of action.

Tversky likewise believes that an inside perspective leads to hurried conclusions and poor decision-making. Kahneman and Tversky argue that having an inside view limits our ability to foresee risks, and most likely leads to inaccurate results.

Authored by Enes Keskin, April 2022

Adaptive

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[3] Kahneman, D., & Tversky, A. (1979a). Intuitive prediction: Biases and corrective procedures. In S. Makridakis & S. C. Wheelwright (Eds.), Studies in the management sciences: Forecasting (Vol. 12, pp. 313–327). North Holland.