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The Psychological Basis of Quality Decision Making

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Abstract:
Effective strategic management requires analysis, decisions and actions by an organization to create and sustain competitive advantage. Gooddecisions are obviously desirable but whether the decision is good is a judgment call, often after the fact, and is itself subject to bias. What is less subject to debate is the process that leads to accuracy or quality decision making. This requires not just access to available information but proper processing, interpretation and integration of that data. Critical is the consideration of multiple options and perspectives at all stages and there are a myriad of reasons why people do not do that. Defective decisions come from poor information search, selective bias in processing the information, a lack of considering alternatives, a failure to examine the risks of the preferred choice and a rush to judgment (Janis and Mann 1977). In short, the selection, interpretation and integration of information is “biased”.

In this brief overview, we consider “bias” both at the individual and the group level. The overarching perspective is that there are psychological reasons that constrain and bias thought and there are also psychological antidotes that can improve it. The former are more numerous and well documented than the latter but in both individual and group decision making, the influences are predictable, pervasive and profound, leading at times to defective decision making and at other times to better and even creative decision making.

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The Psychological Basis of Quality Decision Making

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Definition: Decision making involves choosing among alternatives based on the goals and values of the person or group making the decision. Good or quality decision making involves a thorough analysis of available information and a consideration of alternatives in an unbiased manner.

Classifications: Knowledge, aspects of strategy; Innovation and strategy; Resources, competencies and capabilities; Organizational theory; Leadership and strategy; Competitive advantage

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Effective strategic management requires analysis, decisions and actions by an organization to create and sustain competitive advantage. G*ood* decisions are obviously desirable but whether the decision is good is a judgment call, often after the fact, and is itself subject to bias. What is less subject to debate is the process that leads to accuracy or quality decision making. This requires not just access to available information but proper processing, interpretation and integration of that data. Critical is the consideration of multiple options and perspectives at all stages and there are a myriad of reasons why people do not do that. Defective decisions come from poor information search, selective bias in processing the information, a lack of considering alternatives, a failure to examine the risks of the preferred choice and a rush to judgment (Janis and Mann 1977). In short, the selection, interpretation and integration of information is “biased”.

In this brief overview, we consider “bias” both at the individual and the group level. The overarching perspective is that there are psychological reasons that constrain and bias thought and there are also psychological antidotes that can improve it. The former are more numerous and well documented than the latter but in both individual and group decision making, the

influences are predictable, pervasive and profound, leading at times to defective decision making and at other times to better and even creative decision making.

Bias in Individual judgment and decision making:

The discipline of Psychology has long recognized that the "rational man" model of Economics has limits. People do not attend to, nor do they interpret, information, in a rational manner, at least not in the logical or statistical sense. Rather than being a matter of intelligence or sophistication, people show "bias" and utilize shortcuts in their reasoning. Some of the biases are motivational. Some are more cognitive, a way of thinking given the enormity and complexity of the information.

The motivational biases:

The classic work on dissonance (Festinger, 1957) pointed to important motivational reasons for bias in the selection and interpretation of information, even (and perhaps especially) after decisions are made. The very simple idea is that people want their cognitions to be consistent and, if they are not, the mind works to make them consistent. Thus, the fact that I lied is inconsistent with my being an honest person and if I lie for a very small reward or reason, the cognitions are even more inconsistent. A way of making them more consistent is to believe the lie –it becomes a truth. Thus, you get the counter intuitive finding that lying leads to attitude change in the direction that the lie was true and the smaller the reward the more the attitude change. Going through "hell week" (or a version of it in the laboratory) doesn't make you hate the organization; rather it leads to more liking and bonding with the group.

Pertinent to decision making, substantial research shows that we selectively search for information that confirms our initial belief. If the information is ambiguous, we interpret it in a way that is supports that belief. Consider the commission of a "foul" in a game or "who won" a political debate. Things get worse once a decision is made. After having made a decision, people are even more convinced it was the right one and derogate the path not chosen (Cooper, 2005).

The cognitive biases:

In recent years, emphasis has been placed on "bias" that is cognitive in nature. The assumption here is that the bias has to do with the way we think and the ways in which we process complex information.

Some "biases" are due to the fact that most people are not good statisticians. One such example is the ***gambler's fallacy.*** If you throw heads 6 times in a row, most assume that tails is more likely on the next throw without realizing that the die has no memory so it remains 50/50 . Another is the "***representativeness" heuristic"*** (Tversky & Kahnemann 1974). People judge the likelihood of something by matching it to a prototype. Such snap judgments often ignore other pertinent information such as base rates.

This tendency to ask "what goes with what" results in confidence when the information matches expectations. While confidence is generally considered an asset, it can be problematic. Termed the "***overconfidence effect***", people's subjective confidence in their judgments is often greater than the objective accuracy. In some quizzes, for example, people rate their answers as 99% certain but are wrong 40% of the time. Investors are often overconfident of their strategies, ignoring evidence to the contrary. While such confidence can lead to action, it often impedes the consideration of alternatives (Nemeth, 1997;Nisbett and Ross, 1980).

The "***availability heuristic"*** refers to the fact that the ease with which information comes to mind makes it seem more likely or more frequent. When asked "Which is more common—words that start with the letter k or words that have k as the third letter ", most assume the former when in fact, there are more than twice as many words where ***k*** is the third letter. This is related to the "***vividness effect".*** A single vivid case study trumps extensive information on the topic, Think of the appeals for contributions to alleviate hunger. The story of one appealing little girl who lives off the sale of salvage is far more effective than extensive statistics on food supply and child mortality. Surveys have less effect than a single colorful testimonial.

The ***confirmation bias*** exacerbates selective bias because people test their hypotheses by confirmation rather than disconfirmation (Wason 1960), Given a sequence of 2,4,6, most assume the rule is ascending even numbers and then "test" that by giving sequences such as 10, 12,14 which confirm the assumption rather than a sequence such as 1,2,3 which could disconfirm it. Thus, they tend not to find the correct rule which is any sequence in ascending order.

Framing of alternatives (Tversky and Kahemann 1974) is particularly revealing. When framed positively, we are risk averse. We prefer saving 500 lives to a 1/3 probability that 1500 will be saved. When framed negatively, we take the risk. We prefer a 1/3 probability that 1500 will die to a certainty that 500 will die. Similar findings are found for investment strategies.

Attempts to reduce such biases in the service of decision making have included mechanisms of getting people to reassess the "shortcut" or to consider alternatives. This includes education about how biases operate, training, the technique of "considering the alternative" and inviting dissenting viewpoints (Bazerman and Moore, 2008; Nemeth, 2012).

Bias in Group Decision Making

Most research on group decision making has documented incidents of failure (Janis, 1972). The Challenger accident is one dramatic example and has become a case study of what **not** to do. On January 28, 1986, this shuttle exploded shortly after liftoff and all 7 crew members were killed, including Christa McAuliffe, a civilian teacher-in-space. NASA experienced years of setback for its scientific research and operations. What makes this of particular concern is that NASA was forewarned of a problem.

Thiokol, the subcontractor responsible for the "O" rings on the shuttle was concerned that the O rings might not seal properly in cold temperatures. They recommended not to launch until the

outside temperature reached 53^{o} F, a temperature not forecast for several days. This recommendation was not followed and is illustrative of the symptoms of bad decision making, including pressure on the dissenter. The chief engineer of Thiokol was famously asked to "take off his engineering hat and put on his management cap" which essentially argued for organizational goals to take precedence over safety considerations. People assumed the majority was in agreement and when asked if there were any objections, there was silence.

Illustrative of what has become known as groupthink, this is characterized by a highly cohesive and insulated group whose leader has a distinct preference and where there is pressure such as time or external mandates. Under such circumstances, groups often evidence overconfidence, illusion of invulnerability and conformity. There is a lack of consideration of alternatives and a resistance to reconsidering the initial preference. Repeatedly and over many cultures, research has confirmed the power of the leader and of majority opinion to gain compliance. However, it is often at the price of accuracy and good decision making. Attempts to counter this have included breaking into subgroups, devil's advocate, inviting outsiders and having the leader refrain from stating his preferences. Subsequent empirical work suggests that the directed leadership is more of al problem than cohesiveness and some techniques e.g. devil's advocate do not work (Nemeth and Goncalo 2005).

Work over the past 2 decades has demonstrated a perhaps a more powerful phenomenon of majority viewpoints, namely than that people ***think*** from the perspective of the majority to the exclusion of other considerations. People choose to read information that supports the majority view and avoid reading the full array of information; they adopt strategies utilized by the majority to the exclusion of other useful strategies that would normally use; and they evidence less originality of thought (Nemeth,2011).

By contrast, there is evidence that dissent liberates people; they are more independent and resistant to conformity. Perhaps more importantly, dissent, even when wrong, dissent stimulates thought that is divergent in form. People attend to information on all sides of the issue, consider multiple alternatives and evidence creativity. Decisions are better and more creative (Van Dyne and Saavedra 1996); Nemeth 2011).

Reflections:

Both the research literatures in individual and group judgment and decision making point to the "biases" in information processing and the interpretation of that information. While some form of "shortcut" may be needed given complexity of the issues and time pressures, there is evidence that thought is constrained by either individual "biases" or by majority views in groups. People restrict the information they read and the alternatives they consider and often end up

making inaccurate or poor decisions. In the group setting, these biases are exacerbated given the tendency to assume that the majority is correct and the fear of disapproval should one persist in a minority viewpoint. Yet, it is dissent that appears to be the antidote. At an individual level, we can be our own dissenter. At the group level, it means inviting dissent. This does not mean a easy role playing technique such as devil's advocate but rather inviting a contrast of authentic viewpoints.

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