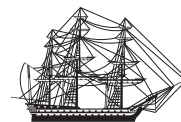


Group Decision-Making: Implications for Investment Committees

Vanguard Investment Counseling & Research



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Executive summary. The decisions investment committees make are often based on quantitative measures of portfolio performance. However, the precision conveyed by these measures can overshadow an important fact, which is that groups, by their nature, make decisions that are susceptible to behavioral and psychological biases. These biases can lead to unwise decisions by investment committees, which can affect portfolios' performance and increase exposure to fiduciary risk. What can committees do to avoid these biases?

This paper presents existing research on the psychology of group decision-making and discusses how the research may be applied to investment committees to help them improve the quality of their decisions. We first discuss research on the nature of investment committee decisions and their effectiveness. We then examine psychological research on group decision-making theories and biases, focusing on groupthink, group polarization, overconfidence, and group composition. We conclude with a look at implications for investment committees and actions they can take to mitigate bias.

Authors

Gary R. Mottola
Stephen P. Utkus

Most employers form investment committees to oversee the investment activities of their defined contribution (DC) and defined benefit (DB) plans. Charitable organizations also establish committees to oversee their endowment and foundation assets.

In discharging their duties, investment committees, like individuals, can be prone to a host of decision-making biases that can result in suboptimal or even poor decisions. Poor decisions can be both detrimental to the performance of investment portfolios and can increase exposure to fiduciary risk. As such, committees should be aware of the potential pitfalls of group decision-making and, perhaps more important, employ strategies to mitigate the harmful effects of these biases.

This paper reviews previous research on the psychology of group decision-making and discusses how this research may apply to committees. We begin by discussing the nature of investment committee decisions. We then examine several group decision-making theories and biases. We conclude with a discussion of the implications for investment committees.

Although the focus here is on investment committees, the same analysis can apply to other groups, such as administrative committees who

oversee retirement plans. Whether the agenda is investment strategy or plan design and administration, a committee can be sidelined by behavioral and psychological biases.

Nature of committee decisions

Most investment committees focus on five critical decision-making areas (see **Figure 1**):

- Establishing goals or objectives for the investment portfolio they are managing.
- Setting an investment policy—on everything from strategic asset allocation to rebalancing policy to performance metrics.
- Selecting managers to implement the portfolio’s investment policy.
- Evaluating short- and long-term investment performance—both for the portfolio and for individual managers.
- Selecting experts (e.g., a consultant) to guide the committee as necessary.

In undertaking these tasks, committees are, of course, organized as groups. Yet, are groups more effective decision-makers than individuals? Research suggests that groups have the potential to outperform individuals, but that groups may not always realize this potential (Forsyth, 2006).

To accomplish the tasks just listed, groups undeniably have advantages over individuals. A group can draw on the collective memory of all of its members, while an individual making a decision can only draw on his or her own memory. So, for example, solutions to problems or questions can often be solved when different group members recall how things were handled in the past. In addition, group discussions can trigger recall of important memories in group members that would not occur when individuals work alone.

Figure 1. Key investment committee decisions

Decisions

1. Establishing goals/objectives.
2. Setting investment policy.
3. Selecting managers.
4. Evaluating short- and long-term performance.
5. Selecting other advisors as necessary (e.g., consultants).

Source: Vanguard.

Some factors to consider in group decision-making

Group effectiveness. Groups have larger collective memories and a greater wealth of information available to them than do individuals. In addition, through group discussion, groups can better process information. Groups thus have the potential to outperform individuals charged with the same task. Research suggests that groups tend to outperform individuals on the types of responsibilities that investment committees face, but that groups can nevertheless be derailed by biases and behavioral hurdles.

Groupthink. Groupthink occurs when members of a cohesive group are more interested in avoiding conflict and maintaining unanimity than in realistically appraising the various courses of action (Janis, 1972). Groupthink can lead to a legion of negative consequences, including failure to analyze all alternatives, inadequate examination of risk, insufficient information search, and failure to set contingency plans. These consequences can ultimately lead to suboptimal or even disastrous decisions.

The polarizing effect of groups. Groups tend to make more extreme decisions than do individuals acting on their own. The direction that a group's thinking takes depends on the group's initial views. For instance, groups with initially cautious views will sometimes make a more cautious decision than members would have made individually.

Similarly, groups with initially risky views may make a riskier decision than the individuals would have made acting alone.

Overconfidence. Like individuals, groups tend to be overconfident, which can cause two problems for groups: confirmation bias and shared-information bias. Confirmation bias is a group's tendency to seek out information that confirms its initial views. Shared-information bias occurs when groups only discuss information that is available to all group members prior to the discussion—so they do not leverage the group's full investigative resources. Both tendencies can lead to ineffective decision-making.

Group composition. Numerous structural and compositional factors can affect the functioning of groups and committees. Groups that are too large can have coordination and motivational problems, which can result in degraded performance. When group members are not fully aware of the skills and abilities of other group members, they may fail to utilize the expertise available in the group. Groups that lack diversity may underperform diverse groups because they draw from a narrower range of experiences and, consequently, may engage in less debate. Social loafing can lead to reduced effort by group members. At the same time, an autocratic leadership style tends to result in groups with fewer satisfied members than groups with democratic leaders.

Groups simultaneously also have a greater wealth of knowledge available to them than do individuals. For example, a corporate investment committee may contain individuals with business, investment, legal, or accounting experience. Clearly, it is difficult for individuals to compete with the informational resources of groups. Moreover, through discussion, groups can do a better job of processing the available information—for instance, they may more readily identify bad decisions or faulty logic (Forsyth, 2006).

Most decisions made by investment committees are what are known as “disjunctive” tasks, which require a single specific answer to a problem. For example, an investment committee may need to decide how much equity exposure a portfolio should contain. In this instance, the group will probably discuss the issues involved and, ultimately, come up with a recommended equity exposure. Groups may also engage in “compensatory” tasks, in which individual inputs are averaged to obtain an answer.¹ For example, an investment committee may want to develop a view of future stock market returns—in which case, the group could average (formally or informally) the investment committee members’ responses to obtain an answer.

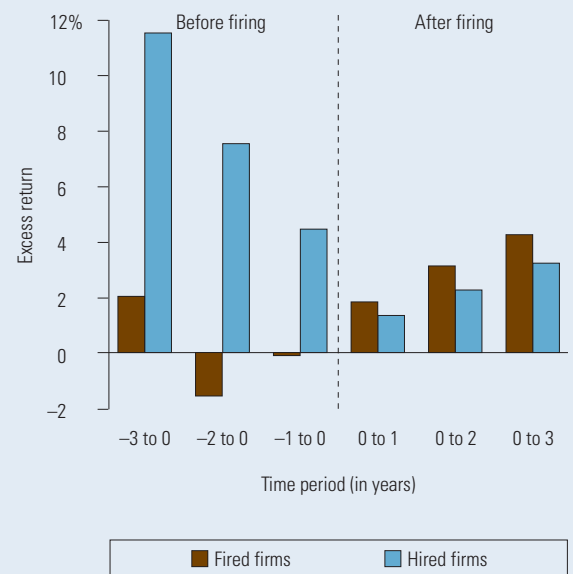
Research suggests that groups tend to make better decisions than most individuals when facing disjunctive or compensatory tasks (Shaw, 1981; Forsyth, 2006). The research, in turn, complements the observation that group decision-making by investment committees is likely to be more effective than individual decision-making.

Little formal research has been undertaken on either the overall success of investment committees or their success in carrying out individual tasks. Perhaps the best-known research is a recent study that

examined the selection and termination of investment management firms by 3,400 plan sponsors (Goyal and Wahal, 2008). Goyal and Wahal found that sponsors tended to hire managers who had realized large positive excess returns, but that once hired, the new managers’ returns did not differ statistically from the fired managers’ returns. In fact, the fired managers’ returns were greater than the hired managers’ returns in the postfiring period, but not significantly so (see Figure 2).

Another study looked solely at a single endowment investment committee and its evaluation of investment performance (Shefrin, 2002). The committee had

Figure 2. Pre and post excess returns for fired and hired investment managers



Source: Goyal and Wahal (2008).

Note: All of the differences between fired and hired managers *before* the firing are significant. None of the differences between fired and hired managers *after* the firing are significant.

¹ Other types of tasks include “conjunctive” tasks, in which group members perform different jobs and the individual inputs are combined to create a final product (e.g., an assembly line), and “additive” tasks, in which group members perform the same job and individual inputs are summed (e.g., shoveling snow or entering data). See Steiner (1972) for more information.

established a long-term annual return goal for a fund of 10% to 15%. Over a ten-year evaluation period, during which the fund grew by 13.2%, the committee concluded that the portfolio had met its goal—despite the fact that its risk-adjusted performance was below that of the Standard & Poor's 500 Index over the same period.

Both of these studies underscore that investment committees can make questionable decisions, and that such errors often result from biases that can impede effective decision-making. At the same time, it is important to keep in mind that evaluating the effectiveness of investment committee decisions is a subjective undertaking. Also, while it is tempting to view portfolio performance as the sole measure of investment committee decision-making, portfolio performance does not necessarily indicate a good or bad decision, or effective or ineffective committee processes. Rational, unbiased investment committee decisions may fail to produce superior portfolio performance, and even a dysfunctional committee can sometimes pick a winner.

As such, muting the harmful effects of decision-making biases for an investment committee is not fundamentally about improving portfolio performance (although that is a hoped-for outcome). Rather, the aim is simply to encourage committees to make more rational, well-thought-out decisions. We now turn to some noteworthy psychological research on this topic.

Group bias: What the research says

To avoid falling prey to damaging processes and biases, investment committees can benefit by being aware of specific research on aspects of group psychology. These areas include: groupthink, group polarization, overconfidence, and group composition.

Groupthink

Groupthink is a style of thinking that people can engage in when they are deeply involved in a cohesive group. When groupthink occurs, the desire for group unanimity overrides the motivation to realistically discuss and appraise different alternatives (Janis, 1972).

Thus, groupthink occurs when members of a cohesive group are so interested in avoiding conflict that they find it difficult to make effective decisions. Groupthink often occurs in isolated groups that are making stressful decisions. Furthermore, directive leaders can unwittingly encourage groupthink by creating an environment that encourages conformity and discourages healthy dissent. This can occur, for instance, when leaders state their opinions before opening up discussion to the group, or when they limit discussion or solicit opinions from only selected committee members.

At a high level, symptoms of groupthink include overestimation of the group's abilities, close-mindedness, and pressures toward uniformity.

- *Overestimation of the group* is characterized by illusions of invulnerability or, stated another way, the sense that the group can do no wrong.
- *Close-mindedness* is characterized by the tendency to rationalize decisions and an unwillingness to consider alternative solutions or courses of action.
- *Pressures toward uniformity* create an environment that rarely tolerates dissent. This can lead to self-censorship, in which group members fail to voice concerns (for example, about hiring an investment manager) for fear of group censure.

In short, committees experiencing groupthink may *fail to*: (1) discuss information that members are uncomfortable bringing before the group, (2) consider all alternatives available to the group, (3) properly appraise the risks of the chosen solution, and (4) search for information that could improve their decisions. These outcomes can, obviously, lead to ineffective decision-making in a group setting (see **Figure 3**).

Groupthink can be limited or avoided by using several techniques (Janis, 1982).

- Committee chairs should not express an opinion when first bringing an issue before the group.
- Committee chairs should create a positive decision-making environment by explicitly stating that healthy debate is welcome and expected.
- Committees should actively encourage healthy debate by using a devil’s advocate at each meeting and by inviting outside experts such as consultants, other investors, or academics to attend the meetings to share their perspective.

Figure 3. Causes and consequences of groupthink

Groupthink tends to occur in:

1. Highly cohesive groups.
2. Homogeneous groups.
3. Insulated groups.
4. Stressful situations.



Symptoms include:

1. Overestimation of the group.
2. Close-mindedness.
3. Pressures toward uniformity.



Outcomes:

1. Failure to analyze alternatives.
2. Failure to examine risk of preferred choices.
3. Poor information search.
4. Failure to work out contingency plans.

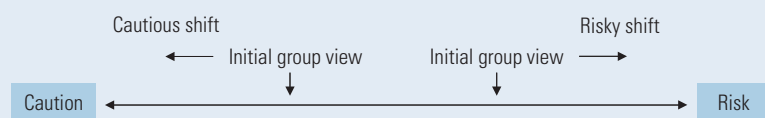
Source: Janis (1972).

Groupthink: A scenario

A committee experiencing symptoms of groupthink needs to hire a manager for a new investment strategy. The committee has had past success in selecting managers and, even though this is a new and different strategy, the members embark on the project believing they can easily choose the right manager. The committee conducts a perfunctory search based on a narrow list of managers known

to committee members. The members ignore information in the press highlighting the risks of the new investment strategy, and no one questions the strategy or the hiring process. Despite the committee members’ lack of experience with the new strategy, experts are not consulted, and group discussion is limited by a self-imposed sense of urgency.

Figure 4. Paths of group polarization



Source: Adapted from Forsyth (2006).

The polarizing effects of groups

In the early 1960s, researchers studying group decision-making discovered that groups tended to produce riskier decisions than individuals, a finding they termed the *risky-shift phenomenon*. However, several other studies conducted at that time found just the opposite—that is, a *cautious shift*, with group behavior erring on the side of undue conservatism (Stoner, 1968).

After several years, researchers realized that the risky shift was part of a more general process. That is, groups tended to make more extreme decisions than

Group polarization: A scenario

An investment committee is charged with setting the asset allocation policy for a portfolio. Most of the committee members initially prefer a portfolio of moderate risk. After the committee discusses the issue, the committee members settle on an allocation policy that is riskier than would have been expected, given their prediscussion views. In fact, the risk level finally approved is higher than one most members would have chosen had they not discussed the issue as a group.

individuals, and the direction of this shift depended on the initial view of the group. This general phenomenon was termed *group polarization* (Myers and Lamm, 1976).

According to the group-polarization hypothesis, groups will render more extreme decisions than individuals—both in cautious and risky directions.

Groups comprising members with initially cautious views will tend toward a more cautious group decision than the individual members' views. Similarly, groups whose members have initially riskier views will tend toward riskier decisions (see **Figure 4**).

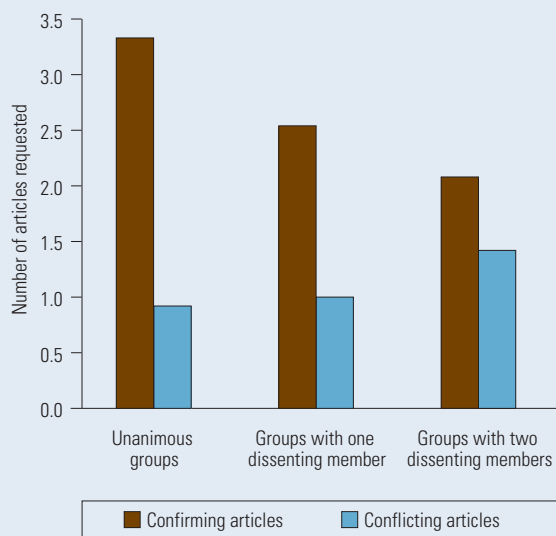
Group polarization has been demonstrated repeatedly in psychological laboratories, but it has also been linked to decisions made in economic, political, and legal arenas (Sunstein, 1999). This research has obvious implications for investment committees that are routinely charged with determining the risk characteristics for a given investment portfolio.

To reduce the polarizing effects of groups, research suggests that even the presence of a single dissenting member can blunt the tendency of groups toward more extreme decisions than individuals (Williams and Taormina, 1993), which is why diverse groups are so important—a point we return to later in this paper.

Overconfidence

Beyond groupthink and group polarization, another potentially debilitating problem for groups and individuals is that of overconfidence. Overconfidence is a widespread human phenomenon that has been

Figure 5. Confirmation bias and member dissent



Source: Schulz-Hardt et al. (2000).

demonstrated in a variety of settings. As examples: People systematically overrate their driving skills; most students believe they have above-average intelligence; executives tend to overpay for mergers and acquisitions because they overrate both their managerial skills and the business case for the merger; and in the investment arena, investor overconfidence manifests itself in high levels of portfolio trading, even though the result is typically below-average performance.

Overconfidence is thought to derive from individuals' inability to take a dispassionate, statistical view of themselves and their behavior (that is, "I really am below-average") and a tendency to develop unduly optimistic forecasts of the future. However, overconfidence does have some economic, psychological, and even evolutionary benefits. For example, it may

be the wellspring of risk-taking and entrepreneurial activity, or it may allow fast recovery from life's disappointments.

As collections of individuals, groups must guard against overconfidence. Overconfident groups can engage in perfunctory and superficial discussions that lead to two debilitating biases: *confirmation bias* and *shared-information bias*.

Confirmation bias. As the name implies, confirmation bias is a tendency for a group to acquire information that confirms the group's views and to disregard information that conflicts with the group's views (Schulz-Hardt et al., 2000). Confirmation bias has been demonstrated in a number of studies and settings. In one study that examined financial decision-making, groups of five members were asked to solve a corporate investment problem. Specifically, they had to decide whether to invest a significant sum of money in a developing country and to relocate some

Confirmation bias in action: A scenario

A committee is evaluating the overall performance of one of its investments. Before meeting, most members feel the investment has performed well. At the meeting, members discuss the fact that the investment has outperformed 55% of its peers, has closely tracked its benchmark, and has had average annual investment expenses of 50 basis points, in line with the cost of its peer-group average. With this information, the committee concludes that the investment is performing as expected. Although some committee members are aware that the investment manager has lost several key employees over the past year and that the portfolio has drifted from its mandate, they do not raise this information at the meeting.

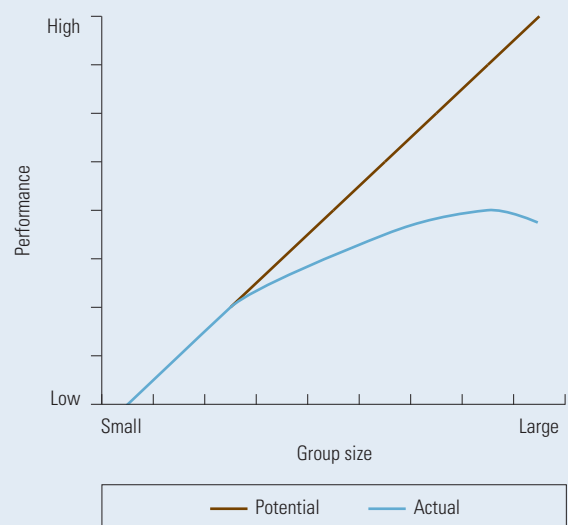
of the company's manufacturing production to that country. The groups were then told that additional articles were available for them to read in making their decision. Half of the articles supported the investment, while the other half undermined the case for the investment (Schulz-Hardt et al., 2000).

As they sought to make decisions, the groups in this study solicited significantly more confirming articles than conflicting articles. However, it is worth noting that the groups with one or more members with dissenting opinions about the best course of action engaged in significantly less confirmation bias than groups with no dissenting members (see Figure 5). Similar to the manner in which healthy dissent can help prevent groupthink and lessen group polarization, dissent also reduces the occurrence of confirmation bias.

Shared-information bias. Groups tend to discuss and exchange only the information that is available to all of the group's members *before* the discussion—a phenomenon called *shared-information bias*. As such, groups may fail to exchange important information that is available to only one individual or a handful of the groups' members; thus they do not take advantage of the full, collective knowledge of the group (Stasser, 1992).

Research has found that groups fail to use unshared information, even when this information would have altered the group's opinion. More troubling is that the failure to use unshared information is more likely to occur when the information conflicts with the group's prevailing views. However, shared-information bias can be avoided if groups and committees have in their ranks seasoned or experienced members, who are more likely to encourage discussion of unshared information (Wittenbaum, 1998; Larson et al., 1996).

Figure 6. Group size and performance



Source: Adapted from Forsyth (2006).

Group composition

Group size. The size of a group or committee can measurably affect its performance. Although the relationship between group size and performance varies with the nature of the task, on the types of tasks faced by investment committees (such as disjunctive tasks), performance tends to improve with group size—but only to a point (see Figure 6). Subsequent increases in group size result in performance degradations due to loss of group coordination. In other words, at some point the difficulty of organizing and coordinating a large group offsets the value of added insights and experiences. However, loss of coordination may not begin until groups reach a certain size, perhaps more than ten members (Littlepage, 1991). In addition, as group size increases, members can become less motivated owing to the diminishing importance of their input.

In short, group size is a double-edged sword. Larger groups are more likely to include experts who know the answer, but coordination and motivation problems may hinder the decision-making process. This raises another question: How effective are groups at identifying and utilizing experts in the group?

Member expertise. The knowledge, skills, and abilities of group members are invaluable resources for groups. The group's success may, in fact, depend on how the group leverages the expertise of its members. But how effective are groups at identifying and using expertise?

Research on this topic is mixed. Some studies have found groups to be effective at identifying expertise (Bonner, Baumann, and Dalal, 2002), while others have found the opposite (Henry et al., 1996). However, under certain conditions, groups have been found to give more weight to expert members. Specifically, if the task is moderately difficult and clear information about member expertise is provided, then groups tend to tap the experts (Bonner et al., 2002).

Based on this research, investment committees can facilitate the use of expertise by providing the group with information about the backgrounds of its members. Groups are more likely to use input from expert members when their abilities are known and formally acknowledged by the group.

Social loafing. Groups, by their nature, often contain members who do not make meaningful contributions. This phenomenon of reduced effort by individuals participating in groups has been called *social loafing* (Williams, Harkins, and Latane, 1981). Social loafing is generally found in groups doing physical labor; however, it is also found in groups working on cerebral tasks like creativity problems and brainstorming exercises.

Research suggests that several strategies can lessen social loafing. For instance, when each member's contribution to the group can be identified, social

loafing is less likely to occur. Not surprisingly, evidence suggests that interesting and challenging tasks decrease social loafing, as do demonstrating trust in comembers and enhancing their feelings of personal responsibility.

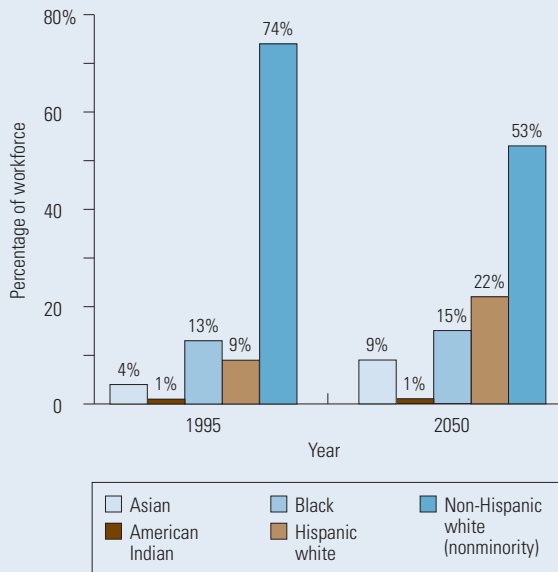
Diversity. As discussed previously, healthy conflict and dissenting opinions can improve group decision-making by hindering the emergence of groupthink, lessening group polarization, and preventing overconfidence. A possible avenue to engendering healthy dissent is to assemble a group or committee with diverse members in terms of knowledge, skills, abilities, personalities, attitudes, and backgrounds.

In general, the literature on group performance and diversity in relation to ability, personality, and gender suggests that diversity tends to improve group performance, although, again, the positive effects of diversity depend on the nature of the task. For high-difficulty tasks, heterogeneous groups tend to outperform homogeneous groups, and the opposite is true for low-difficulty tasks (Bowers, Pharmer, and Salas, 2000). Investment committees generally face tasks that can be described as high-difficulty, so diversity would likely improve their performance.

Other aspects of diversity, such as ethnicity, race, and age, have also been found to relate to group performance, but the results vary. Diverse groups can draw on a wider range of knowledge and skills, which improves flexibility and innovativeness in groups and may encourage productive debate. However, diversity can also lead to unhealthy conflict when members perceive themselves as different from one another (Williams and O'Reilly, 1998).

The diversity of the American workforce continues to increase, and it is projected that by 2050 nearly half the workforce will consist of minorities (see **Figure 7**). Organizational groups and investment committees have an opportunity to harness this diversity in a productive manner. However, group leaders should

Figure 7. Past and projected demographic changes in U.S. workforce: 1995–2050



Source: U.S. Department of Commerce (1999).

Note: Numbers may not add up because of rounding.

be aware of the increased potential for unhealthy conflict in diverse groups, and should be prepared to address any conflict early on.

Leadership. Although leadership and group behavior has been extensively researched (e.g., Forsyth, 2006), a full discussion of this topic is beyond the scope of this paper. However, one area is particularly relevant to investment committees: the degree to which committee members participate in the group’s final decisions.

Group participation in the decision-making process can be categorized into three levels. With an authoritarian or autocratic leader, the committee provides input into the decision, but the leader makes the final decision

on his or her own. At the other extreme are laissez-faire leaders who, as the name implies, seldom interfere in group activities, so that group decisions are made with little guidance or supervision. Democratic leaders, on the other hand, allow group members to vote and to make many of their own decisions, and they foster an egalitarian atmosphere.

Research findings on participatory decision-making are mixed, but satisfaction has been found to be highest in groups with democratic leaders. Therefore, to the extent that group-member satisfaction is important to the group’s continuing success, democratic leadership may be the most effective form.²

Individual biases

In addition to the group behavioral biases described here, many other well-documented behavioral biases operate at the individual level and may also apply in group settings. Groups, after all, are made up of individuals, so biases that affect individual decision-making can affect groups.

A full description of individual biases is, again, outside the scope of this paper.³ But among the more important biases are:

- Representativeness and availability biases—using nonrepresentative or incomplete data for decisions.
- Framing and default effects—having one’s decisions influenced by the way they are presented and by the default (no-action) choice.
- Procrastination and inertia—dealing with indecision and uncertainty by postponing or deferring action.
- Herding—tending to act as a group (such as in investment committee) and to pursue the same thinking and behavior simultaneously.

² See Myers (2006) for more information.

³ See Utkus and Young (2004) and Molitor (2008) for more information on behavioral biases; and Zeckhauser, Patel, and Hendricks (1991) for a discussion of herd behavior in the investment markets.

Implications: Realizing a group's full potential

Investment committees often face important and challenging decisions, but committees can be negatively influenced by certain psychological or behavioral biases. What can committees do to avoid these biases? The research hints at several basic and easy-to-implement tactics that committees should consider.

Heterogeneous groups appear to be highly important because they can broaden the experience of the group and engender healthy debate. As such, investment committees should strive for member diversity in knowledge, skills, abilities, personality, attitudes, and demographics. Committee members who express different opinions can remedy the negative effects of groupthink, can reduce confirmation bias, and can ameliorate the polarizing effects of groups. Heterogeneity can be accomplished by hiring diverse members, by using a devil's advocate, or by inviting outside members to attend and participate in meetings.

There is no ideal size for investment committees, but groups with between five and ten members can reap the benefits of a diverse membership without suffering the loss of coordination and decrease in motivation associated with larger groups.

Committees can facilitate the use of expertise by providing the group with background information on committee members. This can be accomplished by distributing resumes, bios, or curricula vitae every time a new member joins the committee, or at the very least once a year.

Social loafing can hinder the performance of investment committees. This behavior can be minimized when each member's contribution to the group can be clearly identified, when group members trust one another, when involvement in group activities is high, and when members are made to feel personally responsible for their inputs and the group's overall performance.

Finally, committee members should simply be made aware of the decision-making biases that can undermine their decisions. With this knowledge, they can begin to remedy these biases when they emerge.

Taking these steps cannot guarantee successful group decision-making. As noted earlier, research on the efficacy of investment committee decision-making is limited, and sometimes the results conflict. It is clear, however, that investment committees can improve their performance. By following basic guidelines when forming and operating their committees—guidelines based on fundamental research on group decision-making—committees can reduce the problems associated with group decisions while leveraging the full power of their members.

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P.O. Box 2600
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