Limited-Perspective Bias in Technology Projects

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INTRODUCTION

Limited-perspective bias is a human tendency to overestimate the completeness of what we know and to act on our own (limited) perspective of what is important (Moore & Burke, 2004a). In organizations, each person possesses a view that evolves from what he or she experiences and observes on a daily basis. Given one's location or role in an organization, these views often differ and can affect one's perspective on a problem or situation (O'Reilly & Pondy, 1979). Each individual perspective, however, is by and large "valid" in that it represents a distinct cognitive reality within that firm.

But for truly effective decision making to occur, on both the day-to-day level and strategic level, the individual perspectives must integrate to create a fuller and more accurate view of situations and issues. In other words, limited-perspective bias often needs to be managed, and efforts to counter the bias are particularly crucial in dynamic organizations that depend on empowered employees to make decisions and figure out the right things to do. Left untended, limited-perspective bias (LPB) can lead an individual to formulate decisions and take actions that are ineffective, possibly even detrimental to the organization.

The purpose of this article is to summarize the present formulation of the limited-perspective bias construct, indicating why it is highly pertinent in information systems and technology (IS/IT). The occurrence of LPB in technology projects is then discussed and directions for future research are extended.

BACKGROUND: THE NATURE OF LPB AND ITS OCCURRENCE IN IS/IT

The existence of cognitive biases is established in the psychology and organizational behavior literature. For example, researchers have identified biases of consistency (Janis & Mann, 1977), escalating commitment (e.g., Staw & Fox, 1977), representativeness (e.g., Nisbett & Ross, 1980), and the fundamental attribution error (Ross, 1977). Limited-perspective bias (Moore & Burke, 2004a) is a newly conceptualized type of cognitive bias, presently positioned for further theoretical development and empirical investigation. Within the three-stage model of construct evolution (Reichers & Schneider, 1990), limited-perspective bias is in the "introduction and elaboration" stage, where a concept is discovered and efforts are made to present the new concept to fellow researchers and practitioners and to legitimize and refine it.

In providing a conceptual foundation for LPB, Moore and Burke (2004a) propose five situational factors that contribute to its occurrence: interdependence, uncertainty, ambiguity, deadline-driven work pace, and role incompatibility. All five of these characteristics are common in IS/IT organizational environments. Endeavors to apply technology dictate an interdependence among IS/IT and business personnel. For example, in technology implementations, a number of individual perspectives (e.g., the business user's perspective, technology infrastructure specialist's perspective, application developer's perspective, among others) are pertinent and necessary for the effort to culminate in an effective and useable solution. Such interdependence begs for management of LPB, as these single, specialized perspectives must be integrated and eventually merged in order to produce a proper end product for the organization within the time frame that it is needed.

Uncertainty and ambiguity are also proposed to contribute to occurrences of LPB in information systems and technology. Efforts that involve new technologies, new tools, or new methodologies, as well as projects that attempt to apply technology in novel ways, are inherently laced with uncertainty and ambiguity. LPB can aggravate and increase the difficulties encountered when working through such unknowns by restricting one's understanding of the situation, reducing one's resources for resolving the problem or issue, and ultimately causing one to head in a less than optimal direction.

A frenzied and deadline-driven work pace ("we need it yesterday") also contributes to LPB, as prior research

suggests that time pressure adversely impacts information search and processing. Time pressure can prevent a person from recognizing that limited-perspective bias is happening and, even if a person recognizes the possibility of this bias, looming deadlines can prevent one from taking time to gather and assimilate information from perspectives other than one's own. Furthermore, managing the aforementioned factors of interdependence, uncertainty, and ambiguity takes time, so the frenzied work pace in which IS/IT so often operates compounds the likelihood that those factors lead to negative effects of LPB.

Finally, role incompatibility is intuitively associated with LPB. Whetten and Cameron (1998) identify role incompatibility as a source of conflict that is greatly exacerbated by resource scarcities, which are seemingly pervasive in organizations today. For example, in technology application projects, the development team is nearly always focused on producing a fully featured and quality product, believing that time and budget constraints should change to accommodate functionality (Dobson, 2001), but, upper management is likely focused on budgetary issues and getting the product in place as soon as possible because of the business process improvements associated with it. Although these two parties undoubtedly experience role incompatibility (e.g., management focusing on the time constraint and saying we need it now, the development team focusing on the functionality of the system and saying they need more time), if both parties can overcome their limited-perspective bias, role incompatibility can dissolve and true organizational priorities can be determined to better direct efforts of both parties.

MAIN THRUST OF THE ARTICLE: EFFECTS OF LPB ON TECHNOLOGY PROJECTS

Because technology implementation projects tend to possess elements of interdependence, uncertainty, ambiguity, challenging deadlines, and role incompatibility, they provide fertile ground for limited-perspective bias and its harmful effects. An example of how LPB can operate in a technology project is found in the area of project status reporting:

Application development and technical teams were hard at work in a banking institution to develop and implement the firm's first web-based application. The initial target date to deploy the application was June 15th. According to plan, the technical team had the infrastructure in place by that date. This technical platform included a contract outsourcing the web-hosting function for a monthly fee of $30,000, and the contract was signed to begin the services (and corresponding payments) on June 1st.

As June neared, however, the development team delayed the deployment date to September 15th. To meet that date, the new application had to be migrated to the pre-production environment for final user testing on September 1st. In the last week of August (mere days prior to final user testing and less than three weeks from the go-live date), the development team reported they were not ready. The team later delivered new completion estimates, which dictated a major postponement to December 15th. (Moore & Burke, 2004b)

All five proposed antecedents to LPB seem to be present in this project. Interdependence between the development and technical teams is apparent, and ambiguities and uncertainties were likely encountered by the developers in constructing this first-of-its-kind application for the organization. Clearly, the developers were operating under time pressure, striving to meet deadlines that became impossible to meet. They likely faced role incompatibility as well, since management undoubtedly was eager to have this application deployed.

LPB is observable in the project status reporting behavior of the development team. Considering they were so far from product completion, they probably knew for some time that the delivery date was not going to be met, yet they chose not to communicate this to management and other stakeholders. Many ramifications of LPB ultimately resulted, but one is clearly quantifiable from this short description of the project – the company could have saved $180,000 on the Web hosting contract had the development team reported the true status of their project.

In choosing to avoid revealing the true project status, the perspective of the development team likely included concern about negative effects that an inability to bring the product in on time might have on their work reputations, the anticipated unpleasantness of delivering bad news, and perhaps a hope that they could get things back on schedule before anyone needed to know the project was in trouble. Unfortunately, though, the development team operated on a *limited* perspective of what was important and what could be done.

The development team failed to perceive how their decisions and actions (such as not accurately reporting their progress) could adversely affect other important organizational functioning. They also operated on a limited perspective of what could be done to correct the situation and bring the project back under control. Whitten (1995) recognizes that many severe problems that occur in projects are not solvable by the individuals or specific group encountering them. LPB prevented the develop-