Effects of Horizon Preferences on Project Funding Decisions

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This study examines the effects of employees' and their superiors' individual horizon preferences on their project funding decisions. This study finds that short-term oriented employees will be more likely to adapt their decisions to their superiors' horizon preferences than will long-term oriented employees. The findings contribute to the literature both by documenting the manner in which employees' horizon preferences and their superiors' horizon preferences interact to affect their project funding decisions and by shedding light on the moderating effects of individuals' horizon preferences on the effects of organizational information that suggests to the subordinates the horizon preferences of their superior.

INTRODUCTION

The aim of this study is to examine the interactive effects of employees' and their superiors' individual horizon preferences on employees' project funding decisions. This study defines horizon preference as an individual's general preference for long-term versus short-term results, while project horizon is the period it takes to realize substantially all the benefits from a project. The definition of horizon preference is consistent with definitions of planning horizon in Das (1987) and time horizon in Thaler (1999), while differentiated from the definition of employment horizon (Dechow & Sloan, 1991; Farrell, Kadous, & Towry, 2008). An employee is considered to have a short-term horizon preference when he prefers benefits in the near future and a long-term horizon preference when he prefers benefits in the distant future. A project is considered short-term if it offers the possibility of significant immediate benefits but with limited future benefits and long-term if it offers the possibility of limited immediate benefits but with significant future benefits.

The interaction effects between employees' and their superiors' individual horizon preferences can have important implications for the firm's short-term and long-term performance. Scapens (1982) suggests that middle-level managers often hold substantial influence over the capital invested in their divisions. Other researchers suggest that managers may favor the short-term at the expense of the long-term and take actions accordingly (Hayes & Abernathy, 1980). Farrell, Kadous, & Towry (2008) find that employees' employment horizon affects their effort level toward actions that can increase future firm

performance. Wang & Hunton (2011) find that employees' cultural time orientation and budget planning horizon exert interactive effects on their overall satisfaction with participative budgeting.

What is yet unclear is how employees jointly consider their own horizon preferences together with their superiors' horizon preferences when determining project horizons. While some literature suggests that employees consider their own preferences when making decisions, other studies suggest that they compromise independence and criticality in favor of yielding to their superiors' preferences (Quinn & Schlenker, 2002). In the case where employees' and their superiors' preferences align, the judgment and decision-making literature suggests that employees will follow the aligned preferences, which is the salient solution (Tetlock, 1985). However, in such a case, it is still unclear whether superiors' preferences add effects beyond those caused by employees' preferences in pursuing the salient solution. In the case where employees' and their superiors' preferences diverge, it is unclear how employees will resolve the conflicting preferences and to what extent they will allocate their resources in following their resolutions.

This study proposes that the superior's horizon preferences exert less influence on the project funding decisions of a long-term oriented employee than on those of a short-term oriented employee. Consistent with this proposal, Wang & Hunton (2011) find that employees who hold a long-term cultural time orientation will react less extremely to congruence and incongruence with the budgetary planning horizon than employees who hold a short-term cultural time orientation.[1] However, prior studies have not investigated interactions of employees' horizon preferences and superiors' horizon preferences on employees' project funding decisions.

We conducted an experiment to examine the interaction effects between employees' horizon preferences and their superior's horizon preferences on their project funding decisions. Specifically, after reading background information about a firm in which participants assumed the role of project managers, they received cues about their superior's time horizon preferences and provided their perceptions of the superior's preferences. Next, they made project-funding decisions by allocating an unexpected budget surplus between two projects that differed in terms of the time horizon with which expected benefits accrued. Finally, they reported their individual horizon preferences and provided demographic data.

The experimental results support the prediction. The analyses show that the superior's preferences exert a significant effect on project-funding decisions of participants who prefer near-future results and exert no effect on those decisions of participants who prefer distant-future results. Further, the results show that the effects of aligned preferences are not additive.

The results of the study have theoretical contributions and implications. First, the study contributes to the control literature by shedding light on the moderating effects of individuals' horizon preferences on the effects of organizational information that suggests to the subordinates the preferences of their superior. Existing findings suggest that a superior's view and attitude influence subordinates' judgments and decisions (Harrell, 1977; Wilks, 2002). Results of this study support the existence of a boundary condition such that long-term oriented subordinates are less likely to be influenced by a superior's preference than short-term oriented subordinates are. Second, this study contributes to the literature of individual time horizon preference by showing the manner in which employees' horizon preferences and their superiors' horizon preferences interact to affect their project funding decisions.

The results of the study also have practical implications. Its findings support the notion that communications about superiors' long-term horizon preference will motivate more resources allocated toward long-term projects. Its findings further suggest that information about a superior's preferences will have greater effects on decisions made by short-term oriented employees than on those made by long-term oriented employees.

The next section develops a theoretical basis for the formal hypothesis. It begins with discussions about the effects of employees' horizon preferences and superiors' horizon preferences regarding employees' project funding decisions. It then discusses and predicts the interaction effects of employees' horizon preferences and superiors' horizon preferences, which are followed by a description of the experimental study, the planned analysis and the experimental results. Conclusions, limitations, and implications are presented last.

BACKGROUND AND HYPOTHESIS

Employees' Horizon Preferences

Consistent with definitions in existing literature, this study refers to employees' individual horizon preferences as their general preferences for long-term versus short-term outcomes. For example, Das (1987) refers to a planning horizon as the length of the future time period that decision-makers consider when planning and executing the firm's strategies. Thaler (1999) refers to time horizon as a decision frame through which decision-makers choose to aggregate future outcomes. Both Das (1987) and Thaler (1999) refer to the subjective time-framing nature of horizon preference through which decision-makers weigh immediate or distant future outcomes. Hence, this study considers an employee to have a short-term horizon preference when he prefers benefits in the near term and to have a long-term horizon preference when he prefers benefits in the distant term.

The construct of horizon preference relates to but differs from the construct of employment horizon. The existing literature defines employment horizon as the length of an employee's remaining employment with a firm. For example, Farrell, Kadous, & Towry (2008) operationalize a long employment horizon by informing a sandwich maker that s/he will remain with the same shop throughout all work periods. They then operationalize a short employment horizon by informing a sandwich maker that s/he will work for a different sandwich shop in each work period. Other studies, such as Dechow & Sloan (1991), use an employee's proximity to retirement as a proxy for his employment horizon. Existing literature suggests that when an employee's employment horizon is short, he may behave like an employee with a short-term horizon preference (Dechow & Sloan, 1991). Conversely, when an employee's employment horizon is long, he may behave like an employee with either a long-term or short-term horizon preference (Farrell, Kadous, & Towry, 2008). Hence, the effect of employment horizon may only correspond to the effect of horizon preference when both are short.

Existing studies, however, suggest that employment horizon is only one of many incentives or pressures that are associated with an individual's horizon preference. Equating employment horizon with horizon preference disregards the effects of other incentives and pressures. Murphy & Zimmerman (1993) find an inconclusive association between short employment horizon and expected behavioral effects of short-term horizon preference, such as decreases in R&D expenditure. This may be because an employee with a short employment horizon, such as when he is close to retirement, can have a long-term horizon preference if he anticipates post-retirement board service (Brickley, Linck, & Coles, 1999).

Existing evidence suggests that employees consider their own horizon preferences when making budget allocation decisions. For example, Farrell, Kadous, & Towry (2008) find that employees with short-term employment horizon allocate less effort than employees with long-term employment horizon to actions that can increase future firm performance. Dechow & Sloan (1991) find that firms with top executives close to retirement are associated with less expenditures on R&D projects. In contrast, Miller & Le Breton-Miller (2006) find that long-term focused management outspends short-term focused management in R&D and in capital investments in plant, equipment, and information technology.

In summary, an employee's horizon preference will influence his project funding decision. That is, an employee with a long-term horizon preference will likely allocate more (fewer) resources to a long-term (short-term) project because he prefers significant future benefits. In contrast, an employee with a short-term horizon preference will likely allocate fewer (more) resources to a long-term (short-term) project because he prefers significant immediate benefits.

Superiors' Horizon Preferences

Organizational decision-makers do not work in social vacuums. Findings of management and accounting literature suggest that decision-makers in an organizational setting will consider their superior's preferences when making decisions. Frequently, their superior evaluates their decisions and their performance, thus providing an incentive for employees to ascertain their superior's preferences and to conform their decisions accordingly. In addition, their superior often has organizational, industry, and domain knowledge that they do not have access to except through their superior. Subject to such

influences, decision-makers in an organization care about their superior's preferences in order to pitch projects that have a greater chance of acceptance by the superior (Bendor, Taylor, & Van Gaalen, 1987). Consistent with this notion, Harrell (1977) finds that Air Force officers are strongly influenced by goals emphasized by their superior when making decisions, so much so that they even ignore a formal policy statement when their superior appears to do so. Buchman, Tetlock, & Reed (1989) find that auditors consider their superior's views when making decisions in ambiguous situations. Wilks (2002) finds that auditors who know their audit partner's view evaluate individual evidence items and make going-concern judgment consistently with the partner's view. These findings suggest that employees, as organizational decision-makers, will care about their superior's preferences and try to conform to the superior's preferences when making budget allocation decisions.

Arguably, employees will consider their superior's horizon preference and adopt a preference-consistent strategy, in the same way as they consider their superior's other preferences in order to adopt a preference-consistent strategy. When the superior appears to be long-term oriented, a subordinate will likely allocate more (fewer) resources to a long-term (short-term) project, to be consistent with the superior's horizon preference. In contrast, when the superior appears to be short-term oriented, a subordinate will likely allocate fewer (more) resources to a long-term (short-term) project.

Interaction Hypothesis

When an employee's horizon preference aligns with his superior's horizon preference, he will likely follow the aligned preference because it is the salient solution (Tetlock, 1985). For instance, when both the employee and his superior prefer short-term results, the employee will allocate resources to the short-term project. When preferences conflict, however, the employee will likely engage in some form of trade-offs.

In discussing the kinds of trade-offs that employees may undertake, it is helpful to consider that a short-term employee is sensitive to immediate gains and losses, including those implied in the misaligned preferences. A short-term employee values the immediate results from a potentially good performance rating by following the superior's preference. Hence, he is likely to invest more (fewer) resources in the short-term project when his superior is short-term (long-term) oriented.

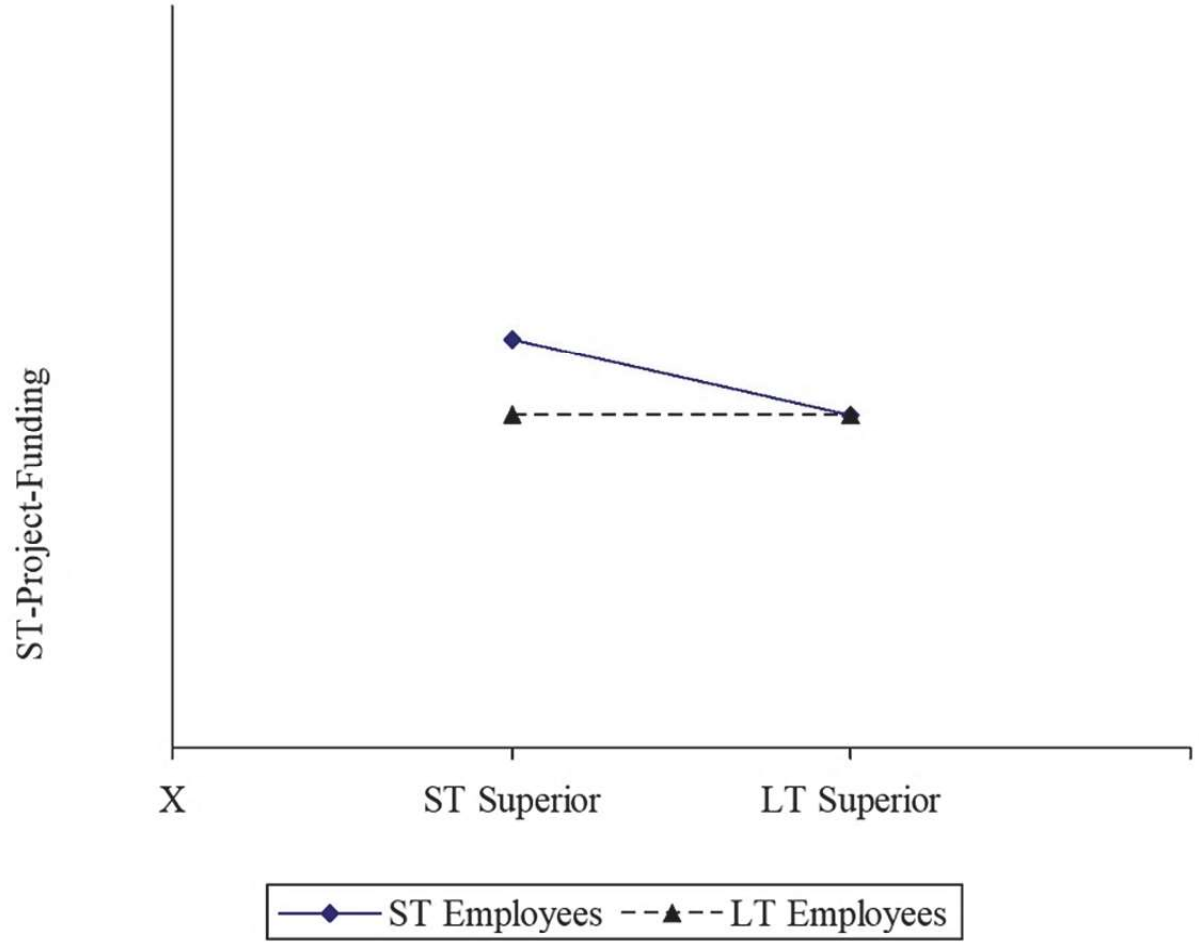
In contrast, a long-term employee is less sensitive to immediate gains and losses than is a short-term employee, including those implied by a misalignment of preferences. By definition, an employee with a long-term horizon preference cannot react to conflicting short-term influences and continue to behave consistently with his long-term preference. That is, if a long-term employee does react to short-term influences, his behavior becomes short-term, in conflict with his preference.

Consequently, to the extent that an employee prefers long-term results, he will likely discount short-term influences. That is, an employee with a long-term preference values the future project benefits more than the short-term gains implied in a potentially good rating from his short-term superior and is thus likely to allocate fewer resources to the short-term project, no matter what his superior's horizon preference is.

Hence, we propose that an employee who prefers distant-future results will invest fewer resources in a short-term project, regardless of his superior's horizon preference. In contrast, an employee who prefers near-future outcomes will invest more (fewer) resources in the short-term project when his superior is short-term (long-term) oriented. That is, we predict that among four conditions, an employee will invest more in the short-term project only when he is short-term oriented and his superior is short-term oriented. In all the other three conditions, we expect that he will invest fewer resources in the short-term project. Accordingly, we propose the following hypothesis and depict the interaction pattern in Figure 1:

> *Hypothesis: The superior's horizon preference is likely to exert more influence on the project funding decisions of an employee who prefers short-term results than on those of an employee who prefers long-term results, such that an employee will invest more in the short-term project only when he prefers short-term results and his superior prefers short-term results.*

FIGURE 1
HYPOTHESIZED ORDINAL INTERACTION



RESEARCH METHOD

Design Overview

This study employs a quasi-experimental design such that cues about the horizon preferences of the employee's superior are manipulated and the participants' own horizon preference are measured. This study manipulates the superior's horizon preferences by presenting a panel of cues between-subjects that suggest their superior's horizon preference is either long- or short-term. Specifically, participants in the long-term (short-term) condition learn that their superior invests more (less) than industry peers in research and development projects, in continued professional education for employees and in socially and environmentally friendly projects. Further, the superior regularly exercises all stock options that are part of her compensation as they became available and retains (sells) the stocks; as a result, the superior owns a substantial (negligible) amount of firm stocks. The cues are selected to be readily observable by the employees and to reflect the superior's behaviors rather than her verbal assertions.[2]

An experimental setting allows us not only to manipulate cues of the superior's horizon preferences but ultimately to elicit employees' perceptions of the superior's horizon preferences based on their assessments of the cues. This study measures participants' perceptions of the superior's horizon preferences on three 8-point scales, anchored by one representing "Disagree" and eight representing "Agree", that are selected from Marginson, McAulay, Roush, & Van Zijl (2010). In their study, subjects

assume the role of a division manager for an international firm who indicates whether he will focus on achieving short-term performance or long-term performance. Using pretests, this study adapts these three scale items by changing the foci of the questions from a self-assessment to an assessment of the superior. Specifically, the study asks every participant whether he believes that (1) the superior is likely to prefer short-term performance to long-term benefits, (2) the superior is likely to strive to achieve short-term results more than long-term pay-offs, (3) the superior is likely to focus more on actions that will produce good short-term performance than on actions that will improve long-term financial effectiveness. Higher raw scores represent that participants perceive their superior to have a short-term horizon preference**.** Following the insight that social practices presume reflexivity (Giddens, 1984), this study measures employees' horizon preferences on three 8-point scales (1 = disagree; 8 = agree) by adapting scales used in Marginson, McAulay, Roush, & Van Zijl (2010). The scale items ask each participant to assess his belief about himself that in general, he (1) prefers short-term pay-offs to long-term benefits, (2) strives to achieve short-term results more than long-term pay-offs, and (3) is likely to focus more on actions that will produce good short-term results than on actions that will improve long-term results.

Dependent Variable

The dependent variable is the employees' project funding decisions, captured by their choices to allocate unexpected budget surplus to a project mix that contains two projects with different horizon implications. One project invests in internal process improvements that offer significant immediate benefits but with limited future benefits, i.e., the short-term project. The other project invests in internal process improvements that offer limited immediate benefits but with significant future benefits, i.e., the long-term project. Every participant provides his response by picking one of eleven project mix ranging from 0% to the short-term project (and 100% to the long-term project) to 100% to the short-term project (and 0% to the long-term project) in increments of 10%.

Controlled Variables

To equalize the benefits derived by investing between the two projects, every participant reads that both the short-term project and the long-term project equally benefit from each dollar of the budget surplus they receive. Both projects are of the same nature consisting of "internal process improvements." The primary difference between the two projects lies in the timing of the benefits. Additionally, to control for the implication of employment horizon and to ensure a better measurement of employees' horizon preferences, the instrument states in each case that both the employee and his superior expect to stay employed in the firm for a long while. Finally, to control for the effects of management control system, each participant assumes the role of a project manager who directly reports to his superior and who participates in setting a budget. The setting of participative budgeting is employed because the existing literature suggests that participative budgeting is positively associated with budget goal commitment, organizational commitment, job satisfaction, and job performance (Luft & Shields, 2003).

Participants

A pool of 13 MBA students and 50 senior undergraduate accounting students from an AACSB-accredited business school in the United States acted as surrogates for low-level employees and completed a standard, paper-and-pencil decision case during regularly scheduled classes. Participants were randomly assigned to experimental conditions and the case took them approximately seven minutes to complete. To keep their responses strictly anonymous, participants were instructed not to write their names anywhere in the case.

Given the task and the research question in this study, existing literature suggests that undergraduate and graduate business students are appropriate surrogates for practitioners. The task in the study requires participants resolving the conflicts between their individual preferences and their superior's horizon preferences in a participative budgeting setting. Prior experimental studies on participative budgeting and on time horizon preference have routinely employed undergraduate business students, e.g., Williamson (2008) and Farrell, Kadous, & Towry (2008), as surrogates of practitioners. Locke (1986) shows that both

students and employees responded similarly to the goals, incentives and feedback present in the organizational environment. Liyanarachchi (2007) suggests that students could be useful subjects for learning about individual judgment behavior, for learning about the paradoxical effect of making people accountable for their decisions and for examining the causal relationships among goals, incentives and feedback in a context with social accountability.

Procedures

After reading background information about a firm in which they assumed the role of project managers, participants learned that they needed to report to a superior who determined their assignments and compensation. They then learned that together with their superior, they expected to stay in the firm for at least five to ten years. Their current task was to look at how to allocate a significant and unexpected budget surplus between a short-term project and a long-term project, assuming that both projects will equally benefit from any amount of additional money. The case then provided them cues about their superior's time horizon preferences (independent variable one) and asked for their assessments of the superior's horizon preferences. Next, they were asked to make budget allocation decisions (dependent variable). Finally, the case asked them to report their own horizon preferences (independent variable two) and their demographic information.

Demographic details regarding age, gender, accounting and finance knowledge, and work experience are presented in Table 1. Age, years of full-time work, gender and courses in accounting and finance do not vary significantly by experimental conditions, suggesting that our random assignment of participants to experimental conditions is successful.

TABLE 1
DEMOGRAPHIC DETAILS OF PARTICIPANTS

	N	Mean	Median	S.D.	Min	Max
Age	63	25.94	24.00	5.83	20.00	42.00
Accounting and Finance courses taken	61	5.85	5.00	3.39	1.00	17.00
Work experience (years)	58	4.35	2.00	5.69	0.00	23.00

Note: Approximately 48 percent of the participants were female. Some participants did not report the number of Accounting and Finance courses taken or years of work experience.

RESULTS

Examinations of Scales and Manipulation Check

Before testing the hypothesis, we verify the reliability of the measured variables and checks the strength of the manipulation. Results of the principal component analysis show that three measures of employees' horizon preferences all load on a single factor. The reliability is high, with a Cronbach's alpha of 0.85. To facilitate easy understanding of the results, we reverse-code these three raw scores and sum them into one interval variable, i.e., EHP, such that a high score indicates that participants perceive themselves as having a long-term preference.

Principal component analysis on three measures of perceptions of the superior's horizon preferences indicates that all three measures load on a single factor and that the reliability is very high, with a Cronbach's alpha of 0.94. Three raw measures of perceptions of the superior's horizon preferences are reverse-coded and summed into one interval variable, i.e., Perception, such that a high value indicates that participants perceive their superior to prefer long-term results.

A t-test shows that the manipulation of a superior's horizon preferences is successful. A comparison of means across manipulation conditions reveals that the average score of Perception for participants in the long-term cues condition (mean = 17.00, standard deviation = 5.70) is significantly greater than that for participants in the short-term cues condition (mean = 8.75, standard deviation = 4.61; $t = 6.33$, $p < 0.001$, two-tailed). This result suggests that participants in the long-term cues condition are more likely to believe that their superior prefers long-term results than those in the short-term cues condition, and vice versa.

Test of Hypothesis

Since we predict an ordinal interaction, it is more appropriate to employ a planned contrast to examine the hypothesis (Buckless & Raverscroft, 1990). First, we dichotomize EHP into two levels, with the summary score one through 16 classified as short-term and scores 17 through 24 classified as long-term.[3] Based on the dichotomized EHP (DEHP) and the manipulated superior's horizon preference, a 2 × 2 table is constructed, showing estimated marginal means of ST-Project-Funding decisions in Panel A of Table 2. Panel B of Table 2 shows the results of conventional ANOVA for completeness.

TABLE 2
ST-PROJECT-FUNDING

Panel A: Descriptive statistics – mean (standard deviation) [sample size]

	Superior's horizon preference		
DEHP	Short-term	Long-term	Overall Row
Short-term	Cell 1 0.58 (0.13) [11]	Cell 2 0.47 (0.13) [15]	0.51 (0.14) [26]
Long-term	Cell 3 0.42 (0.19) [21]	Cell 4 0.41 (0.26) [16]	0.42 (0.22) [37]
Overall Column	0.48 (0.19) [32]	0.44 (0.21) [31]	0.46 (0.20) [63]

Panel B: ANOVA model of between-subjects effects

Source	S.S.	d.f.	M.S.	F-value	p-value (two-tailed)
Intercept	13.197	1	13.197	355.341	<0.001
DEHP	0.161	1	0.161	4.327	0.042
Superior's horizon preference	0.055	1	0.055	1.478	0.229
Two-way Interaction	0.037	1	0.037	0.987	0.325
Error	2.191	59	0.037		

Panel C: Planned contrast
The contrast weights are 3/-1/-1/-1 for means in cell 1 through 4, respectively.

Source	F-value	p-value
Contrast	4.951	0.015 (one-tailed)
Residual	0.419	0.660 (two-tailed)

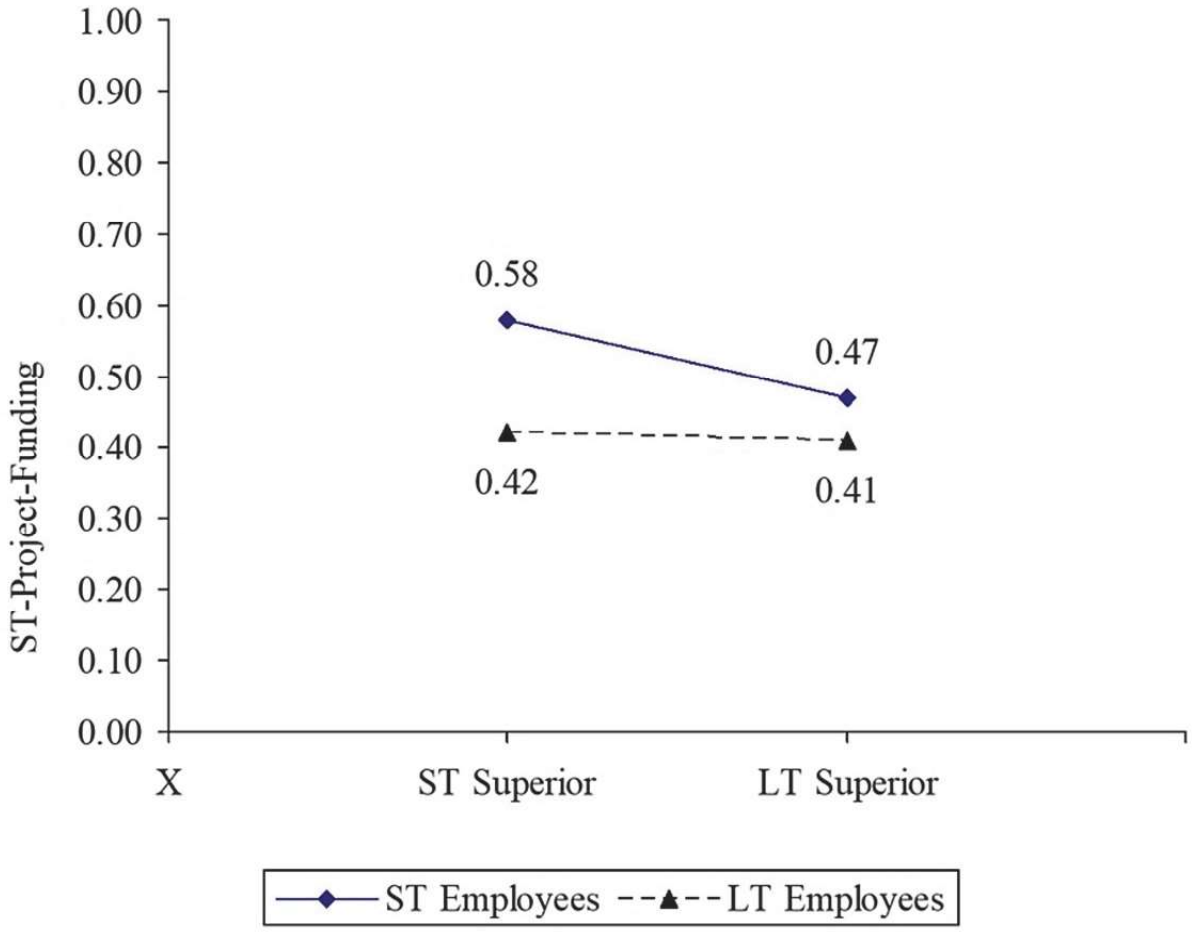
Note: DEHP = the employee's horizon preferences (Dichotomized); ST-Project-Funding = the percentage of the budget allocated to the short-term project.

The hypothesis suggests that an employee who prefers distant-future results will invest fewer resources in a short-term project, regardless of his superior's horizon preferences. In contrast, an employee who prefers near-future outcomes will invest more (fewer) resources in the short-term project

when his superior is short-term (long-term) oriented. That is, the hypothesis predicts that among four conditions, only in the short-term DEHP/short-term superior horizon preference condition will he invest more in the short-term project. In all the other three conditions, the hypothesis predicts that the employee will invest fewer resources in the short-term project. Therefore, we assign contrast weight of 3 for the short-term DEHP/short-term superior horizon preference condition (Cell 1 in Table 2) and -1 for the other three conditions (Cell 2 through 4 in Table 2).

As shown in Panel A of Table 2 and Figure 2, cell means fall approximately into the predicted interaction pattern (Cell 1 = 0.58, Cell 2 = 0.47, Cell 3 = 0.42, Cell 4 = 0.41). The result of the planned contrast (Panel C of Table 3) supports the hypothesis (F1, 59 = 4.951, p = 0.015, one-tailed). Moreover, the between-cells variance not captured by the planned contrast (i.e., the residual) is insignificant (p = 0.660, two-tailed), which indicates that the planned contrast model is a good fit for participants' ST-project-funding decisions (Hirst, Koonce, & Venkataraman, 2007). The result of the contrast analysis shows that the superior's horizon preference is more likely to affect the ST-Project-Funding decisions of an employee who prefers short-term results than those of an employee who prefers long-term results.

FIGURE 2
PLOT OF ESTIMATED MARGINAL MEANS



Note: Dependent variable values greater (less) than 0.5 mean that participants allocate more (less) than 50% of the budget surplus to the short-term project; the value of 0.5 means that participants allocate equal percentage to both the short-term and the long-term project.

LIMITATIONS, CONCLUSIONS AND IMPLICATIONS

The limitations of this study should be kept in mind when evaluating the results. First, similar to Wang & Hunton (2011), this study determines memberships in employees' horizon preferences through a measured variable. Though this construct is intended to reflect an individual dispositional characteristic, it may create difficulty in inferring causality. Second, the task employs a hypothetical setting in which both the superior and the employee have long-term employment horizons. Future research may wish to extend the context to other employment horizon combinations. Third, participants conduct their decision tasks in a participative budgeting setting. Future research may examine the effects of individual horizon preferences and their reactions to their superior's horizon preferences in settings that do not allow employees to participate in the budgeting process.

This study finds that employees have differential reactions to organizational information regarding their superior's preferences such that employees with long-term preference are more committed to their existing preference than are employees with short-term preference. Further, this study finds that when employees' preferences conflict with those of their superiors, employees with short-term preference adjust their project funding choices to their superiors' preferences. This study also observes that the effect of aligned preferences is not additive.

The above results have important theoretical contributions and implications. First, the study contributes to the control literature by supporting the existence of a boundary condition such that long-term oriented subordinates are less likely to be influenced by a superior's preference than short-term oriented subordinates are. Second, this study contributes to the literature of individual time horizon preference by showing the manner in which employees' horizon preferences and their superiors' horizon preferences interact to affect their project funding decisions. Prior studies have not investigated the effect of this interaction.

The results of the study also have practical implications. Its findings suggest that communication about superiors' long-term horizon preference will likely motivate more resources allocated toward long-term projects, ceteris paribus. However, communicating short-term preference may have no such effect—at least within the context of this study. Further, its findings suggest that information about a superior's preferences will have greater effects on decisions made by short-term oriented employees than on those made by long-term oriented employees. The effects of individual horizon preferences on employees' project funding decisions may have important implications for the firm's short-term and long-term performance. Knowledge about employees' differential horizon preferences and reactions to their superiors' preferences can be helpful to superiors who need to understand how their actions and preferences influence the behaviors of others throughout the organization.

ENDNOTES

1. Long-term time orientation is one dimension of Hofstede's culture framework. According to Hofstede (1994), nations that score high on long-term orientation hold values that are oriented toward the future, whereas nations that score low on long-term orientation possess values that are oriented toward the present.
2. The cues used in the case were selected based on both suggestions from the existing literature and the results of pre-tests. The existing literature suggests that relevant horizon implications are provided by a firm's investment in research and development (Miller & Le Breton-Miller, 2006), investment in human capital (Tsui, Pearce, Porter, & Tripoli, 1997), investment in social and environmental performance (Le Breton-Miller & Miller, 2006), executive turnover (Weisbach, 1995), management's forthcomingness (Hussainey & Walker, 2009), and management's performance evaluation system (Ullrich & Tuttle, 2004).
3. Performing a median split on independent variables is a traditional method for the analysis of variance in the existing literature, e.g., Seybert (2010) and Wang & Hunton (2011). It allows for a graphical representation and testing of contrasts.

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