

Citation:

Turner, M. J., & Coote, L. V. (2018). Incentives and monitoring: Impact on the financial and non-financial orientation of capital budgeting. *Meditari Accountancy Research*.

INCENTIVES AND MONITORING: IMPACT ON THE FINANCIAL AND NON-FINANCIAL ORIENTATION OF CAPITAL BUDGETING

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Purpose – While investment decisions may be financial decisions, there is a growing recognition that they are also often non-financially based decisions. This study reports findings focused on the project selection stage of capital budgeting, which has the objectives of exploring for: (1) the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting; and (2) the role, if any, that two agency theory variables have on the relative degree of emphasis: a personal incentive for project go-ahead; and monitoring of project outcomes through a post-audit.

Design/methodology/approach – Discrete choice experiments (DCEs) are used and framed in a between-subjects 2 (personal incentive) x 2 (monitoring) design. DCEs are well-suited to research questions which examine some tension between competing alternatives. For example, trade-offs involving the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting.

Findings – In the absence of a personal incentive and monitoring, decision-makers attach a significant degree of emphasis to cash inflows and cash outflows, both financial factors, and one strategic non-financial factor being improvement in the position of the firm vis-à-vis competitors in capital budgeting. However, when decision-makers receive a personal incentive from project go-ahead, they attach a lower degree of emphasis to cash outflows. Alternatively, when there is monitoring through a post-audit and a personal incentive, decision-makers attach a higher degree of emphasis to cash outflows.

Practical implications – Decision-makers attach a significant degree of emphasis to only a relatively narrow band of attributes in making a capital budgeting decision, which is true in both the absence of and in the presence of the agency conditions. There is also little support for the view that there is any higher degree of emphasis attached to a financial orientation vis-à-vis a non-financial orientation. A particularly important finding relates to the overarching goal of monitoring through a post-audit. One view is that it should foster more accurate forecasting by making forecasters aware that their efforts will be reviewed. However, the findings of this study appear to be more supportive of a view that post-audits might lead agents to become more conservative or even shy away from projects.

Originality/value – The study makes contributions to the growing field of research which has the objective of exploring for the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting. In particular it extends the prior research through its investigation of the role that two agency theory variables play in the relative degree of emphasis decision-makers attach to a financial and non-financial orientation: a personal incentive for project go-ahead; and monitoring of project outcomes through a post-audit.

Keywords - capital budgeting decision-making; capital budgeting project recommendation; project selection; financial orientation; non-financial orientation; personal incentives; monitoring; post-audit; discrete choice experiment.

Paper type – Research paper

1. Introduction

The corporate finance literature sees capital budgeting as comprising of four stages: project identification, project development, project selection, and project control (see reviews by Burns & Walker, 2009; Gordon & Pinches, 1984; Mukherjee, 1987). This study reports findings focused on the project selection stage, which has the objectives of exploring for: (1) the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting; and (2) the role, if any, that two agency theory variables might have on the relative degree of emphasis: a personal incentive for project go-ahead; and monitoring of project outcomes through a post-audit.¹ As Frezatti, de Souza Bido, Da Cruz, Barroso, and Camargo Machado (2013, p. 300) explain, “Long-term investment decisions affect and are affected by agency conflicts due to the agent’s and the principal’s distinct perceptions of risk, the agent’s relationship with the principal (particularly regarding the agent’s performance assessment by the principal), and the appraisal methods and mechanisms that support each party’s decision processes.”²

While the selection stage has been the most investigated by survey researchers (see Burns & Walker, 2009), it has focused largely on the application of financially oriented selection techniques (Haka, 2007). However, while investment decisions may be financial decisions, there is a growing recognition that they are also often non-financially based decisions. Nevertheless, studies have mainly considered on only the impact of national context (e.g., Carr & Harris, 2004; Carr & Tomkins, 1996, 1998; Shields, Chow, Kato, & Nakagawa, 1991), with little evidence provided regarding which contextual variables, other than country

¹ For the purposes of this study the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting can be interpreted as either purposeful emphasis or decision-makers may unconsciously attach emphasis.

² A substantial literature exists on the agency problem and the associated goal incongruence between principals and agents (see e.g., Baiman, 1990; Berle & Means, 1932; Fama, 1980; Jensen & Meckling, 1976). The pioneers of agency theory were Jensen and Meckling (1976) who describe an agency relationship as arising when there is a contract whereby one party (the principal) appoints another party (the agent) to perform some service on behalf of the principal.

context, might be associated with the relative degree of emphasis decision-makers attach to a non-financial orientation in capital budgeting (Chen, 2008; Verbeeten, 2006). This current study aims to address these shortcomings especially because application of financially oriented capital budgeting appraisal techniques does not always translate into better firm performance (Carr, Tomkins, & Bayliss, 1994).

The method used in this current study are discrete choice experiments (DCEs), which are framed in a between-subjects 2 (personal incentive) x 2 (monitoring) design. Findings indicate that in the absence of a personal incentive and monitoring decision-makers place a significant degree of emphasis on cash inflows and cash outflows, both financial factors, and only one strategic non-financial factor being improvement in the position of the firm vis-à-vis competitors. Decision-makers, however, place no statistically significant degree of emphasis on any of the other attributes. However, when decision-makers receive a personal incentive from project go-ahead they attach a lower degree of emphasis to cash outflows. Alternatively, when there is a presence of monitoring through a post-audit and a personal incentive, decision-makers place a higher degree of emphasis on cash outflows. Under both agency conditions there are no significant differences in the relative degree of emphasis decision-makers attach to the other attributes.

We offer reasoning as to why decision-makers exhibit changes in only the relative degree of emphasis they attach to cash outflows and not any other attribute, which may stem from the principle of controllability (Merchant & Otley, 2006). Our research also carries practical implications, especially in relation to the benefits or not of post-audits (Farragher, Kleiman, & Sahu, 1999; Koch, Mayper, & Wilner, 2009; Soares, Coutinho, & Martins, 2007). The remainder of this study is organised as follows. The next section provides a review of the literature and given the exploratory nature of this study, propositions are also developed. Subsequent sections address, in turn, the method employed and the study's findings. The final

section contains the discussion and conclusion, which highlights the main contributions, implications, limitations, and avenues for future research.

2. Literature review and proposition development

2.1. The relative degree of emphasis attached to a financial and non-financial orientation

While a large volume of survey-based research signifies that one can be confident that the application of discounted cash flow capital budgeting techniques relative to other financially oriented techniques such as payback and accounting rate of return has increased substantially (Haka, 2007), there is only a relatively limited understanding as to whether this has changed over the same time period vis-à-vis non-financially oriented capital budgeting appraisal methods. For the purposes of this current study, a non-financial orientation can include strategic factors (e.g., the degree of fit of the capital budgeting project with business strategy), political/risk factors (e.g., the investment track record of the sponsor), and intuitive/performance factors (e.g., effects on the morale of personnel within an organisation) (see Butler, Davis, Pike, & Sharp, 1993; Guilding, 2003).

Some of the earliest survey-based works concerning a non-financial orientation were carried out by Kamath and Elmer (1989) as well as Kamath and Oberst (1992) who assessed the impact of these on hospital capital budgeting by asking general managers to rank several non-financial factors specific to hospital capital budgeting. In these studies almost all respondents stated that non-financial factors entered into the capital budgeting decision-making process. Porwal and Singhvi (1978) examined employee relations, community relations, shareholder relations and competitive position as non-financial factors in a survey of large manufacturing firms in India, finding differences in the relative degree of emphasis attached to these factors based on organisational profitability and size.

Motivated by the paucity of research surrounding the circumstances in which the use of discounted cash flow (DCF) methods may or may not be beneficial, Chen (2008) conducted a cross-sectional survey-based study using the responses of 115 CFOs of publicly traded manufacturing firms in the U.S. Respondents were asked to rate the relative importance of a DCF analysis (i.e., financial orientation) vis-à-vis a strategic analysis (i.e., non-financial orientation) in capital budgeting decision-making. Chen (2008) also sought to examine the extent to which the use of DCF techniques and non-financial factors might be associated with both product standardisation and firm strategy. While both methods played a significant role in capital budgeting, on a five-point scale from 1=not important to 5=extremely important, DCF techniques were found to be more important (mean 4.017, std. dev. 1.067) than non-financial factors (mean 3.616, std. dev. 1.156). Non-financial factors, however, were considered to be only a partial substitute when a DCF analysis were considered to be less effective. In this case, DCF analyses were found to be less effective within those environments presenting less product standardisation due to the greater uncertainty surrounding inputs to DCF techniques.

Another key study is the survey-based research of Turner and Guilding (2012), which among other objectives, gathered responses from 101 hotel general managers concerning the relative degree to which financial and non-financial factors influenced whether an investment proposal were given the go-ahead. Using the typology developed by Butler et al. (1993), their survey featured items for financial, strategic (non-financial), political (non-financial), and intuitive (non-financial) factors. On a seven-point Likert scale from 1=not at all to 7=to a large extent, financial factors (mean 6.04, std. dev. 0.78) were found to have more influence than non-financial factors (mean 3.85, std. dev. 1.23) in influencing whether an investment proposal were given the go-ahead.

Drawing on Chen (2008), an analysis based on a DCF analysis is considered more important than one based on non-financial factors. Furthermore, financial factors tend to have a greater influence than non-financial factors in whether an investment proposal is given the go-ahead (see Turner & Guilding, 2012). A further factor worth noting is Porter's (1996) observation that users generally prioritise quantitative information over qualitative information. From these perspectives, decision-makers are therefore expected to attach a higher degree of emphasis to a financial orientation relative to a non-financial orientation in capital budgeting. Proposition 1 has been worded in a manner consistent with this expectation:³

PI: Decision-makers attach a higher degree of emphasis to a financial orientation than a non-financial orientation in capital budgeting.

2.2. The impact of a personal incentive for project go-ahead

Capital budgeting can be viewed as transpiring within a context where the agency model is central (Haka, 2007). This means that while firm maximisation plays an important role in a manager's investment decisions (Fatemi, Ang, & Chua, 1983) it is not the sole criterion. Self-interest, for example, can often be a major factor (Kida, Moreno, & Smith, 2001). From this perspective attribution theory (see Kelley, 1973) and legitimacy theory (see Cialdini & Goldstein, 2004) suggest that the appraiser of a capital budgeting project will make

³ Proposition 1 relates to the first objective of this current study: to explore for the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting. While our pursuit of this objective builds on Chen (2008), it is different because with regard to the financial-orientation of this current study it includes cash inflows and cash outflows, rather than Chen's focus on a DCF analysis. Furthermore, Chen examined only strategic factors, whereas we include strategic factors, risk factors, and performance factors as pertaining to a non-financial orientation. We also build on Turner and Guilding (2012) who while gathering information from the same financial and non-financial perspectives as we do in this current study, our research is different because it gathers data through the use of DCEs, rather than Turner and Guilding's use of traditional Likert type scale measurement. While a decision-maker might, for example, consider both a financial and a non-financial orientation to be important or influential; DCEs instead force decision-makers to make trade-offs among all of the available attributes in making a clear choice of which they prefer. This is argued to represent a more realistic and real world decision-making context vis-à-vis the use of Likert type scale measurement (see e.g., Turner & Coote, 2017). Finally, it is worth noting that the work of Chen (2008) also gathered data through the use of Likert type scales.

an underlying assessment about the extrinsic motivations or incentives which face the proposal preparer (Cheng & Mahama, 2011). Here it is important to recognise that there is an innate human propensity to assume that extrinsic rewards play a guiding role in shaping employee behaviour (Kadous, Koonce, & Towry, 2005). Accordingly, where the preparer of a capital budgeting proposal stands to receive a personal incentive for securing project go-ahead, their approver is expected to interpret this behaviour by establishing causality in light of the extrinsic motivation (Wagner III & Gooding, 1997).

From these perspectives, it is expected that where the preparer of a capital budgeting proposal stands to receive a personal incentive for securing project go-ahead, they will perceive for there to be a lower overall likelihood of gaining project acceptance from their approver. Given the importance of financial factors in capital budgeting (e.g., Bennouna, Meredith, & Marchant, 2010; Gitman & Vandenberg, 2000; Graham & Harvey, 2001; Truong, Partington, & Peat, 2008) and decision-makers preference for them (see Chen, 2008; Turner & Guilding, 2012), it is therefore expected that decision-makers will perceive for it to be in their best interests to attach a higher degree of emphasis to projected cash inflows and to attach a lower degree of emphasis to projected cash outflows so as to raise the likelihood of the project gaining acceptance (Cantarelli, Flyvbjerg, Molin, & van Wee, 2008).⁴ Propositions 2a and 2b have been worded in a manner consistent with this expectation.

P2a: Decision-makers who receive a personal incentive for project go-ahead will attach a higher degree of emphasis to cash inflows in capital budgeting.

P2b: Decision-makers who receive a personal incentive for project go-ahead will attach a lower degree of emphasis to cash outflows in capital budgeting.

⁴ The way that a decision-maker ‘perceives’ the relative degree of emphasis that they attach to a financial and non-financial orientation in capital budgeting is expected to extenuate from the way in which they regard, understand or interpret the situation. For this reason, perceptions tend to arise through both conscious and unconscious cognitive thought processes (see Marcel, 1983).

Although non-financial information is often considered less important in capital budgeting (see Chen, 2008; Turner & Guilding, 2012), non-financial information is nevertheless also often used to some extent to assist in capital budgeting decision-making (Moyer, McGuingan, & Kretlow, 2001). As a successful capital budgeting project does not necessarily have to be justifiable on purely financial grounds (Carr, et al., 1994). It is therefore expected that decision-makers will perceive for it to be in their best interests to attach a higher degree of emphasis to non-financial factors so as to raise the likelihood of the project gaining go-ahead. Proposition 2c has been worded in a manner consistent with this expectation.

P2c: Decision-makers who receive a personal incentive for project go-ahead will attach a higher degree of emphasis to non-financial factors in capital budgeting.

2.3. The impact of a personal incentive and monitoring

To improve the accuracy of capital budgeting forecasts firms often engage in monitoring control activities to assist in the promotion and acceptance of only those projects that will be viable and beneficial from the firms' point-of-view. In capital budgeting the most common mechanism by which monitoring control can be enacted is through the use of a post-audit (Haka, 2007). While there have been few studies focused upon the control stage of the capital budgeting process (see Burns & Walker, 2009), Pohlman, Santiago and Markel (1988) found that 75% of their respondent firms had performed a post-audit. Furthermore, Gitman and Vandenberg (2000) reported that 47% of the firms they surveyed had formal procedures for evaluating the operating performance of existing projects.

Although there are various definitions of what a post-audit is, it is generally agreed that they can be introduced depending on the timing of the process either: 'early' at the start-up of an investment project; and/or 'intermediate' during the operational phase, which can include controls associated with verification of budgeted performance; and/or 'final' at the end of the

life-cycle of an investment (see Giovanni & Maccarrone, 2001). The primary objectives of a post-audit are to serve as a mechanism of financial control, to provide information pertaining to future capital expenditure decisions, to eliminate psychological and/or political impediments associated with asset control and abandonment, and they can have a psychological impact on the proposers of capital investments (Gordon & Myers, 1991).

Post-audits are essentially designed to evaluate the efficiency of managers and to assess the accuracy of the basic assumptions and estimates that they initially made about a project before it received the go-ahead (Chenhall & Morris, 1993). In this way the overarching goal of a post-audit is to foster more accurate forecasting by making forecasters aware that their efforts will be reviewed (Farragher, et al., 1999) and that the review outcomes will be used to administer rewards such as promotion, and punishments such as denials of promotion (Koch, et al., 2009). On the one hand, post-audits can lead to behavioural-related improvements whereby the actions of the agent are better aligned with those of their principal (Azzone & Maccarrone, 2001). However, on the other hand post-audits can have deleterious effects whereby an agent can become more conservative or even shy away from projects when proposing capital budgeting projects (Koch, et al., 2009). A further issue is that post-audits traditionally emphasise numerical figures as opposed to non-financial information because financial information tends to be considered more objective than an analysis based on non-financial information (Farragher, et al., 1999).

From each of these perspectives imposition of monitoring through a post-audit is expected to result in decision-makers' recommendations being scrutinised more closely by their principal. Drawing on psychology literature, when monitoring is combined together with a personal incentive it is therefore expected to make the features of the decision-makers' choice to recommend a project or not become more difficult or to require more difficult trade-offs, meaning that they are likely to display a higher propensity to avoid making the choice (i.e., to

not recommend) (Luce, 1998). This is because more difficult choices typically involve some higher level of internal tension due to clashes between opposing or contradictory impulses (Weber, Baron, & Loomes, 2001). Tension can be associated with feelings of uncertainty, unpleasant feelings of distress (Janis & Mann, 1977), or of anxiety, worry, and unease (Luce, 1998).

Decision-makers are therefore expected to have a higher fear of failure where monitoring through a post-audit is in place, relative to when it is absent, because poor project performance is more readily capable of being detected. Under these circumstances, decision-makers may deem it better to have a bad outcome as a result of inaction (i.e., by not recommending a project) rather than failure as a result of action (i.e., by recommending a project) (Zeelenberg, Inman, & Pieters, 2001). Choice avoidance, for example, can be a viable coping mechanism in the face of difficult choices (Lazarus, 1991). This is important because as individuals experience feelings such as fear or worry they tend to judge the riskiness of investments as higher and therefore choose safer investments with lower payoffs (Loewenstein, Weber, Hsee, & Welch, 2001). Decision-makers can therefore be motivated to avoid decision alternatives that produce negative feelings (Zeelenberg & Beattie, 1997). As Sprinkle, Williamson, and Upton (2008, p. 437) explain, “risk aversion leads individuals to ... select “safe” projects...[that] reduce firm welfare.”

The combination of monitoring and a personal incentive for securing project go-ahead is therefore expected to lead decision-makers to become more fearful and risk averse about recommending a project due to the greater potential for bad project performance to be detected by way of the post-audit. Furthermore, evidence of bad project performance can also impose costly reputational losses to the decision-maker involved (see Ozbas, 2005). As post-audits typically follow a financially orientated imperative (Farragher, et al., 1999), it is therefore expected that decision-makers will become more conservative in terms of the proposals they

put forward for recommendation, which will result in changes to the relative degree of emphasis they attach to cash inflows and cash outflows. Specifically, decision-makers are expected to attach a lower degree of emphasis to cash inflows and a higher degree of emphasis to cash outflows so as to make their project recommendation carry a lower risk of failure. Propositions 3a and 3b have been worded in a manner consistent with these expectations.

P3a: Decision-makers who receive a personal incentive for project go-ahead and who are monitored through a post-audit will attach a lower degree of emphasis to cash inflows in capital budgeting.

P3b: Decision-makers who receive a personal incentive for project go-ahead and who are monitored through a post-audit will attach a higher degree of emphasis to cash outflows in capital budgeting.

When a personal incentive for project go-ahead and monitoring through a post-audit are present, because post-audits typically have a financial imperative (Farragher, et al., 1999), decision-makers' are expected to be less risk averse in connection with placing a higher degree of emphasis on non-financial information so as to raise the likelihood of project acceptance. Proposition 3c has been worded in a manner consistent with this expectation.

P3c: Decision-makers who receive a personal incentive for project go-ahead and who are monitored through a post-audit will attach a higher degree of emphasis to non-financial factors in capital budgeting.

3. Method

3.1. Research design

DCEs have been used extensively in several fields such as applied economics and psychology, marketing, and transport and logistics studies (e.g., Hensher, Rose, & Greene, 2005; Louviere, Hensher, & Swait, 2000) and their use in accountancy research is called for (see Turner & Coote, 2017) and increasing (see e.g., Chung & Hensher, 2015a, 2015b; Jones, Hensher, Rose, & Walker, 2012). The main advantage of DCEs is that they are well-suited to research questions which examine some tension between competing alternatives. Tension here meaning two or more phenomena in a dynamic relationship that involve both competition and complementarity (English, 2001), such as the trade-offs in the relative degree of emphasis decision-makers attach to financial and non-financial information in capital budgeting.

The specific design of the DCEs implemented in this study includes nine attributes. These attributes have been selected to be representative of the types of information that typically confront decision-makers at the point of evaluating a capital budgeting project for recommendation. For this purpose Butler et al.'s (1993) categorisation of financial and non-financial information in capital budgeting has been adopted with minor adaptation to the specifics of the contextual case scenario. As shown in Table 1, along with their identifying code, this has resulted in the following: two financial factors, cash inflows (F1) and cash outflows (F2); three strategic factors, fit of the capital budgeting project with business strategy (S1), improvement in the position of the hotel vis-à-vis competitors (S2), and improvement in the overall performance of the hotel (S3); two risk factors, the impact of economic changes on the project (i.e., internal or external changes) (R1), and the impact on the financial position of the hotel if the project failed (R2); and two performance factors, the effect of the project on product quality (P1), and the effect of the project on the morale of hotel staff (P2).

The questionnaire was developed in close consultation with fourteen academics and six practitioners who piloted it at various stages. Consistent with the recommendations of Brownell (1995) the instrument was also reviewed by experts in survey methods. Several iterations of

the questionnaire were pilot tested. Piloting was achieved by firstly providing a copy of the questionnaire to the reviewers. Following this, telephone discussions, and, where possible, face-to-face meetings were carried out with the individual concerned who was asked to comment on the questionnaire's layout, the relevance and appropriateness of questions and any ambiguities. Through the piloting phase it emerged that the capital budgeting project would need to be of a long-term nature and of a large size to draw out the requisite agency challenges (Frezatti, et al., 2013). This resulted in the case study scenario for this current study focusing on a potential \$20 million investment to expand a hotel via the construction of 80 new rooms. Throughout the piloting phase much input was sought concerning development of the levels for each of the study's nine attributes. In terms of the financial attributes, it emerged that it would be most representative of realism that it be important for respondents to be able to receive either a positive or a negative net cash flow possibility across the various choice sets they would be presented with. For example, to capture the possibility of a project having a negative net cash flow effect but non-financial benefits.

In terms of the non-financial attributes, labels for each of these except for the attribute S1 were developed as having from a very small improvement, impact, or effect through to having a very large improvement, impact, or effect meaning that they were non-directional with only a positive potential effect. Fit of the capital budgeting project with business strategy (S1), however, used a negative/positive scale which ranged from a very poor fit to a very good fit. Decision-makers who piloted the survey saw this attribute as requiring a dual-directional scale in order to capture the potential of a manager promoting a project that would not fit well with the firm's strategy so as to achieve, for example, short-term goals, as opposed to a firms' longer-term strategy.

Table 1 provides information about this current study's: meta-attributes (column one); attributes and an identifying code (column two); and levels for each of the attributes (column

three). As each of the nine attributes are defined by four levels each, there are many thousands of choice alternatives (4^9). For this reason a fractional factorial design has been adopted which enables the entire design to be systematically divided into versions that each possess a unique combination of choice sets and which can be randomly allocated to groups of decision-makers (Hensher, et al., 2005). Following Louviere et al. (2000) a form of fractional factorial design known as an orthogonal main effects plan was employed to design the choice sets and alternatives for both the 'A' and 'B' choices, and the 'not recommend' option. The not recommend option is necessary to act as a baseline alternative, corresponding to the status quo or do nothing situation. This results in a closer representation of a real-world decision-making situation because one of the options must always be in the decision-makers' currently feasible choice set.

An orthogonal main effects plan enables generation of a more parsimonious design (in 64 rows) than does the full factorial enumeration (in 128 rows). To reduce respondent fatigue, the 64 possible choice sets were then blocked into 8 blocks, with each block containing 8 choice sets. Hence, each decision-maker was required to complete 8 choice sets from one of 8 randomly assigned choice set blocks. In doing this, an equal number of each of the questionnaire versions was administered and received from the respondents. Appendix B contains an example of one of the 64 choice sets presented to the respondents and the capital budgeting scenario posed is available in Appendix A.

---Insert Table 1 about here---

To investigate the impact of a personal incentive and monitoring on the relative degree of emphasis decision-makers attach to a financial and non-financial orientation, the DCEs were placed within a master experiment defined by the agency variables. The incentive structure was operationalised through the variable; personal incentive to agent for project go-ahead. The

monitoring structure was operationalised through the variable; monitoring of agent. Hence, the agency conditions of a personal incentive to agent for project go-ahead and monitoring of agent were manipulated in a between-subjects fashion by varying the experimental case scenarios. These variables are described further below. The variables studied gave rise to four conditions (2×2). Of the four conditions, the singular condition monitoring of agent was excluded from the analysis. Based on the principles of agency theory, there must first be personal incentive until the need arises to monitor. As such, an examination of monitoring was considered to be not theoretically correct.

3.2. Research context and scenarios

The research instrument contained a case scenario which adopted the approach taken in Carr and Tomkins (1998) by focusing on a single industry. The particular industry chosen is the hotel industry, which is characterised as having high capital intensity (ISHC, 2015). We incorporated Guilding's (2003) view that capital budgeting is rendered more complex in hotels that operate with a management contract.⁵ Framing the scenario in this way allowed for a clearly defined principal-agent relationship to be explained and an industry context where capital budgeting is important (Collier & Gregory, 1995). The capital budgeting scenario related to a \$20 million proposed investment to expand a hotel via the construction of 80 new rooms. Subjects were informed by their instructor at the beginning of the session that the proposed investment would have a 10-year life-span and that the information in each choice set represented annualised information, which would perpetuate for the 10-year period. This was considered pertinent because of the horizon problem encountered in an agency relationship

⁵ Under a hotel management contract, one party (the owner) owns the hotel and its associated assets and a second party (the operator) manages the hotel's day-to-day operational activities through their general manager (Rushmore, 2002).

whereby an agent can achieve short-term goals, whilst their principal often desires the achievement of longer-term goals (Lambert, 2001).

Manipulations of personal incentive and monitoring were embedded in the scenarios. In addition to the common part of the scenario (see Appendix A), participants in the personal incentive condition read the following statement:

The hotel operating company you are employed by is enthusiastic for the proposed project to proceed as they will enjoy a significant increase in management fees. Your operating company has therefore agreed to pay you a considerable salary increase should the project go-ahead.

Participants in the monitoring condition read the following statement:

Should the project go-ahead, the project will be subject to an audit after it gets underway by the property's owner. Post-audits are designed to monitor the progress and your performance in relation to the investment project (i.e., budgeted versus actual). The management contract in your hotel stipulates that your appointment as General Manager requires approval of the owner. Further, the owner has authority to remove you as General Manager for unacceptable performance.

3.3. Subjects

Subjects for the experiment consisted of student accountants enrolled in a 3rd year accounting course at a large public university in Australia. Our choice of student accountants as surrogates for professional accountants is justified in several ways. First, Waldron and Fisher (2017) highlight the suitability of accounting students as surrogates for professional accountants, especially where the task involves an investment decision. Second, Swain and Haka (2000) demonstrate there to be no clear differences in the capital budgeting decisions of

experienced and inexperienced capital budgeters. Third, there are numerous examples of studies in the capital budgeting literature which have provided strong arguments in favour of the use of student accountants as surrogates for professional accountants (e.g., Brown & Solomon, 1993; Cheng & Mahama, 2011; Cheng, Schulz, Lockett, & Booth, 2003; Kerler III, Fleming, & Allport, 2014).

A pen-and-paper questionnaire was administered in two separate sessions late in the academic semester at the conclusion of the regularly scheduled lectures. In each session, the instructor clarified that participation was voluntary and would take no more than 20 minutes. Subjects were asked to not communicate with each other while they were filling in the questionnaire. Subjects were randomly assigned to treatment conditions as different versions of the experimental materials were randomly assigned. The study adhered to all relevant guidelines of the ethical review process at the University.

There were a total of 269 students enrolled in the course, 79 students were in attendance at the lectures when the questionnaire was administered and a response was collected from each of these 79 students. The response rate based on total enrolment in the course is therefore 29.37%. A total of 5 responses were discarded, however, due to being incomplete (i.e., missing data) meaning that there were a total of 74 usable responses. Each of these responses were subjected to and passed recommended data screening procedures (see Hair, Black, Babin, & Anderson, 2010). As each respondent chose between the competing alternatives 8 different times, this represents a total of 592 observed choices to analyse.

According to Orme (2010), an acceptable sample size is: $n \geq 500c/ta$, where n is the number of respondents, t is the number of tasks (i.e., choice sets completed), a is the number of alternatives per task (i.e., A, B, and no-choice) and c is the largest number of levels for any one attribute. Hence, for this current study $n = 74$, $t = 8$, $a = 3$, and $c = 4$; meaning that the calculation is $(500 \times 4) / (8 \times 3) = 24$. Hence our total sample size of 74 (592 choices) responses

is more than adequate and we use this sample for our tests involving Propositions 2a, 2b, and 2c (see Table 4), and Propositions 3a, 3b, and 3c (see Table 5). Our tests involving Proposition 1, however, adopt only those responses which were obtained in the absence of an agency condition, which means that this model's sample size is $n = 18$ (144 choices). Although this is slightly smaller than the recommendation (see Orme, 2010), the results (see Table 3) are similar to those in the control groups of the agency models (see Panel A of Table 4, and Panel A of Table 5). Hence, we do not believe that the sample size for the exploration of Proposition 1 poses any strong threat to the validity of the results of this current study. However, we do note this as a limitation and so the results in connection with Proposition 1 should be read with this borne in mind. The distribution of the 74 responses across each of the study's experimental conditions, i.e. 2 (personal incentive) x 2 (monitoring) are reported in Table 2.

---Insert Table 2 about here---

4. Results

4.1. Econometric specification

The relative degree of emphasis decision-makers attach to each of the nine attributes was explored with a conditional logistic regression (logit) model (McFadden, 1974). An implicit assumption going into the model is that all changes in one level of an attribute are expected to have a similar effect. For the purposes of simplifying the interpretations and specifying and estimating a more parsimonious model, each of the non-financial attributes (see Table 1) were re-coded from four levels to two levels. This means that for each of the non-financial attributes, the two lower-levels (e.g., very poor fit and poor fit) have been combined into one lower level, and the two higher-levels (e.g., very good fit and good fit) have been combined into one higher level. As a check on our results, we explored other approaches to coding the non-financial attributes, such as the use of continuous coding for the non-financial

attributes. These analyses showed our results to be robust to the different coding schemes. For this reason we present results based on combining the lower- and upper-levels of the non-financial attributes without loss of generality.

4.2. Estimation of the base model

Table 3 provides estimation of the conditional logit base model, which produced a log likelihood value of -136.27 and a pseudo R^2 of 13.86% ($n = 18$; 144 choices). Table 3 provides the following information: meta-attributes (column one); attributes (column two); regression coefficients of the mean, otherwise known as betas (i.e., β) (column three); standard error (column four); z score (column five); and level of significance (column six). In Table 3 the z -scores (column six) represent a standardisation estimate divided by the standard error and are used to assess the significance of the relative degree of emphasis decision-makers attach to each of the attributes. Thus the z -scores are applicable in determining the relative degree of emphasis decision-makers attach to a financial and non-financial orientation because coefficients are on the same scale and they measure the deviation from zero of an estimated attribute. Accordingly, Table 3 indicates that in the absence of a personal incentive and in the absence of monitoring that decision-makers attach a significant degree of emphasis to: (1) cash inflows (F1) (coef. .229, $z = 3.64$, $p < .01$); (2) improvement in the position of the hotel vis-à-vis competitors (S2) (coef. .446, $z = 3.12$, $p < .01$); and (3) cash outflows (F2) (coef. .379, $z = 3.08$, $p < .01$). From this perspective it appears that while decision-makers attach the most significant degree of emphasis to cash inflows (F1) ($z = 3.64$); a strategic factor (S2) ($z = 3.12$) has ranked ahead of cash outflows (F2) ($z = 3.08$), a financial factor. Furthermore, if cash inflows and cash outflows are considered as one financial factor (i.e., net cash flows), it is not clear as to whether decision-makers attach any higher degree of emphasis to financial factors relative to non-financial factors. Hence, at the level of a single attribute analysis, it would

appear that there is little support for Proposition 1. Table 3 indicates that decision-makers did not attach any significant degree of emphasis to any of the other attributes.

---Insert Table 3 about here---

4.3. Estimation model for a personal incentive

The model presented in Table 4 produces a log likelihood value of -554.33 and a pseudo R^2 of 14.77% ($n = 74$; 592 choices). This model and the model in the next section are estimated using all 74 responses. Panel A provides the model's main effects, which serve as a baseline control group from which the results in Panel B are additive. Panel A assumes that interactions between the attributes and the manipulated variables are not significant and as would be expected these results are similar to those of the base model (Table 3). Decision-makers, for example, continue to attach a significant degree of emphasis to: (1) cash inflows (F1) (coef. .222, $z = 7.40$, $p < .01$); (2) improvement in the position of the hotel vis-à-vis competitors (S2) (coef. .462, $z = 6.81$, $p < .01$); and (3) cash outflows (F2) (coef. .277, $z = 4.83$, $p < .01$).

Panel B of Table 4 presents the attribute interactions with a personal incentive and consistent with Proposition 2b the results show cash outflows to have a statistically significant negative coefficient (coef. -.079, $z = -1.69$, $p < .05$). This indicates that decision-makers who receive a personal incentive from project go-ahead attach a lower degree of emphasis to cash outflows. However, as decision-makers did not exhibit any significant changes in the relative degree of emphasis they sought to attach to the other attributes, this means that there is no significant evidence to support either Proposition 2a or Proposition 2c.

---Insert Table 4 about here---

4.4. Estimation model for the interaction between a personal incentive and monitoring⁶

The model presented in Table 5 produces a log likelihood value of -552.34 and a pseudo R^2 of 15.07% ($n = 74$; 592 choices). Panel A provides the model's main effects and consistent with the base model (Table 3) decision-makers continue to attach a significant degree of emphasis to: (1) cash inflows (F1) (coef. .218, $z = 6.54$, $p < .01$); (2) improvement in the position of the hotel vis-à-vis competitors (S2) (coef. .452, $z = 5.59$, $p < .01$); and (3) cash outflows (F2) (coef. .321, $z = 4.87$, $p < .01$).

Panel B of Table 5 presents the attribute interactions with a personal incentive and monitoring and consistent with Proposition 3b the results show cash outflows to have a statistically significant positive coefficient (coef. .093, $z = 1.65$, $p < .05$). This indicates that decision-makers who receive a personal incentive and that are monitored attach a higher degree of emphasis to cash outflows. However, as decision-makers did not exhibit any significant changes in the relative degree of emphasis they sought to attach to the other attributes, there is no significant evidence to support Proposition 3a or Proposition 3c.

---Insert Table 5 about here---

5. Discussion and conclusion

This study advances the literature because instead of determining the use or non-use of capital budgeting techniques as in most surveys, this study has instead pursued the objectives of exploring for: (1) the relative degree of emphasis decision-makers attach to a financial and non-financial orientation in capital budgeting; and (2) the role, if any, that two agency theory

⁶ Interaction terms were also added to a model (but not reported here) to capture the effects of the singular agency theory variable monitoring. As expected, decision-makers did not attach any significant degree of emphasis to a financial or a non-financial orientation. This means that decision-makers reported no change in the relative degree of emphasis they attach to a financial and non-financial orientation where only the monitoring condition was present.

variables might have on the relative degree of emphasis: a personal incentive for project go-ahead; and monitoring of project outcomes through a post-audit.

With regard to the first of these objectives, decision-makers have been found to attach a significant degree of emphasis to only a relatively narrow band of attributes in making capital budgeting decisions: cash inflows, cash outflows, and one strategic factor being improvement in the position of the hotel vis-à-vis competitors. With regard to the significant strategic factor, this appears as consistent with the view that an enhancement of competitive advantage should be one of a managers' main motivations (Burcher & Lee, 2000). Furthermore, that strategic factors are often considered to be the most important non-financial consideration in the evaluation of a capital budgeting proposal (Alkaraan & Northcott, 2007). For each of the other strategic factors, however, such as fit of the capital budgeting project with business strategy, decision-makers did not attach any significant degree of emphasis to these, which appears as counterintuitive if the prior literature is recognised whereby strategic factors should be used to ensure a project's link with a firm's strategy (e.g., Alkaraan & Northcott, 2006; Carr & Tomkins, 1996). Our findings therefore build on the work of Chen (2008) and Turner and Guilding (2012) who while also demonstrating the usefulness of strategic factors in capital budgeting, found strategic factors to have a lower level of importance and influence than financial factors.

Further to research objective one, decision-makers have been found to attach no significant degree of emphasis to either of the two risk attributes or the performance factors. In terms of risk factors, incorporation of risk is theorised to be most beneficial for the purpose of career concerns, reputation entrenchment, or to obtain incentive components (see Markowitz, 1959). Hence, it may be perhaps somewhat unsurprising that decision-makers did not attach any significant degree of emphasis to risk factors in the absence of the agency conditions. Alternatively, it does appear as unusual, however, that no significant degree of emphasis was

attached to risk factors especially in the presence of a personal incentive. Likewise, for performance factors we know that employers often take steps to grow their employee's stock of value and investments into human capital and are made to create sustained shareholder value through the mechanism of profitable performance (Roslender, 2009). Moreover, improving the quality of a firm's products is usually considered fundamental to a businesses' success (Everett et al., 1997). Again, it is surprising that decision-makers did not attach any significant degree of emphasis to these risk factors.

With regard to the second research objective of this study, when decision-makers received a personal incentive for project go-ahead they sought to attach a lower degree of emphasis to cash outflows. Alternatively, when monitoring through a post-audit was introduced together with the presence of a personal incentive, decision-makers then sought to attach a higher degree of emphasis to cash outflows. Under both of these agency conditions decision-makers demonstrated no other significant changes in the relative degree of emphasis they sought to attach to the other financial factor, cash inflows, or any of the non-financial attributes. A possible reason as to why decision-makers exhibited significant changes in only the relative degree of emphasis they sought to attach to cash outflows may relate to the controllability principle (Merchant & Otley, 2006).

According to the controllability principle, if individuals have no impact on an outcome then it should serve no meaningful purpose to hold them accountable for that outcome. As Antle and Demski (1988, p. 701) explain, for a manager to "control" an evaluation statistic (e.g., cash outflows), the question which needs to be asked is "whether his or her supply of inputs is able to affect the probability distribution of the output statistic". If this is the case, decision-makers may perceive a relative lack of control in connection with cash inflows along with the other non-financial attributes but to have significant control over cash outflows. This may be true if one considers the often large sums of cash payments which are required at the start-up

of a project, which are often based on a vendor's quote and hence would carry a reasonable degree of certainty. Contrast this to cash inflows, which are arguably subject to greater uncertainty, especially from the external environment. Uncontrollable factors, for example, can fall into three broad categories: horizontal interdependencies (i.e., decisions made by other managers in a company); vertical or hierarchical interdependencies (i.e., decisions made by superiors); and external factors (i.e., unforeseen changes in the economic and competitive environment, natural catastrophes, etc.) (Giraud, Langevin, & Mendoza, 2008). Another reason might be that measuring non-financial outcomes may be somewhat difficult and subjective leading decision-makers to perceive there to be little control over such.

The findings of this study have potentially important practical implications, especially in terms of the design of capital budgeting monitoring control systems. As was highlighted earlier, it has been claimed that an important goal of a post-audit is to foster more accurate forecasting by making forecasters aware that their efforts will be reviewed (Farragher, et al., 1999). Alternatively, findings of this research appear to be more supportive of the view that post-audits can lead agents to become more conservative or even shy away from projects (see e.g., Koch, et al., 2009), as demonstrated through decision-makers attaching a significantly higher degree of emphasis to cash outflows, and to hence make a capital budgeting project appear as less favourable.

As Eccles (1991) explains, where managers perceive an appraisal system to be unfair due to an inclusion of factors beyond their control, they are likely to engage in behaviour to protect themselves but which might be harmful to their company. A conjecture then is that this protection mechanism manifests in decision-makers compensating for their perceived relative lack of control over cash inflows and non-financial factors, by attaching a higher degree of emphasis to cash outflows. That is, to reduce their feelings of a fear of failure and negative consequences. However, this type of action might well lead to a lower number of capital

budgeting projects receiving a decision-maker's recommendation relative to when monitoring were absent (noting here that the opposite is likely to be true in the presence of only a personal incentive). If this is true, a firm's growth might well be hindered to some extent through the application of monitoring through traditional post-audit control methods that attach emphasis to both cash inflows and cash outflows. Recall that post-audits traditionally emphasise numerical figures as opposed to non-financial information because financial information tends to be considered more objective than an analysis based on non-financial information (Farragher, et al., 1999). Firms may therefore find it beneficial to design post-audits in a way that attaches a higher level of emphasis toward cash outflows as these likely carry a perceived higher degree of controllability.

Such a recommendation, however, should be tempered in light of the literature which has analytically demonstrated that under certain conditions, for example, information asymmetry, it can often be in a principal's best interests to use any and all information at their disposal to assess their agent's efforts, including any indicators beyond their control (see Antle & Demski, 1988; Holmstrom, 1979). Some authors have highlighted, for example, that it is not always in the best interests of a firm to apply the controllability principle (see Manzoni, 2002). That is, holding managers accountable for performance factors that they cannot fully control but to which they can have at least some partial influence, can induce them to maintain attention to those factors capable of their influence (Dearden, 1987; Merchant, 1989).

Limitations and avenues for future research

Firms often have more acceptable projects than funds available to invest, which can lead to capital rationing, which occurs about 40% of the time (Gitman & Vandenberg, 2000). As this current study did not examine the impact of capital rationing, future research could usefully explore for this impact on the financial and non-financial orientation of capital

budgeting. Another fruitful extension of this research would be to recognise that while cash inflows and outflows are often the key inputs to financially oriented capital budgeting appraisal techniques such as payback and accounting rate of return, more sophisticated DCF appraisal techniques, such as net present value and internal rate of return must also typically assign risk premiums subjectively or based upon sensitivity analysis (Shao, 1994). Future research could hence examine for the role of other financial factors in capital budgeting such as the assignment of discount rates or required rates of return.

As with any experimental research, when interpreting the results of this study it should be borne in mind that the findings relate only to the capital budgeting scenario posed. The extent to which the results are generalisable to other projects and contexts is therefore something for which future research is called. Another limitation is that the labels assigned to each of the non-financial attributes in this current study, except for fit of the capital budgeting project with business strategy were non-directional. While these labels were rationalised based on theory and on the extensive piloting phase, it could be that having both directional and non-directional scales may have impacted upon the results of this current study. Future research may therefore consider research designs that utilise a uniform approach to label development.

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Table 1			
Meta-attributes, attributes and levels			
Meta-attributes	Attributes (identifying code)	Levels appearing on questionnaire	
		\$8 million per year	
		\$6 million per year	
		\$4 million per year	
		\$2 million per year	
			\$4 million per year
			\$3 million per year
			\$2 million per year
			\$1 million per year
		Very good fit	
		Good fit	
		Poor fit	
		Very poor fit	
			Very large improvement
			Large improvement
			Small improvement
			Very small improvement
			Very large improvement
			Large improvement
			Small improvement
			Very small improvement
		Very large impact	
		Large impact	
		Small impact	
		Very small impact	
			Very large impact
			Large impact
			Small impact
			Very small impact
		Very large effect	
		Large effect	
		Small effect	
		Very small effect	
			Very large effect
			Large effect
			Small effect
			Very small effect

Table 2			
Distribution of responses across the experimental conditions			
Personal incentive	Monitoring	Respondents	Choices
Absent	Absent	18	144
Absent	Present	16	128
Present	Absent	22	176
Present	Present	<u>18</u>	<u>144</u>
		74	592

Table 3
Emphasis attached to a financial and non-financial orientation

Meta-attributes	Attributes	Coef. of the mean (β)	Std. Err.	z	P> z ^A
	Cash inflows (F1)	.229	.063	3.64	.000‡*
	Cash outflows (F2)	.379	.123	3.08	.000‡*
	Fit of the capital budgeting project with business strategy (S1)	.063	.132	.48	.633‡
	Improvement in the position of the hotel vis-à-vis competitors (S2)	.446	.143	3.12	.000‡*
	Improvement in the overall performance of the hotel (S3)	.175	.141	1.24	.216‡
	The impact of economic changes on the project (i.e., internal or external changes) (R1)	-.013	.134	-.09	.924‡
	The impact on the financial position of the hotel if the project failed (R2)	.155	.139	1.12	.264‡
	The effect of the project on product quality (P1)	-.266	.138	-1.92	.054‡
	The effect of the project on the morale of hotel staff (P2)	-.211	.143	-1.47	.141‡
Not recommend		.024	.473	.05	.960‡
Log likelihood = -136.27					
Pseudo R ² = .1386					
n = 18; 144 choices					

^A † One-tailed test; ‡ Two-tailed test

* p < .01; ** p < .05

Table 4					
Effect of a personal incentive					
Meta-attributes	Attributes	Coef. of the mean (β)	Std. Err.	z	P> z ^A
Panel A: Main effects					
	Cash inflows (F1)	.222	.030	7.40	.000‡*
	Cash outflows (F2)	.277	.057	4.83	.000‡*
	Fit of the capital budgeting project with business strategy (S1)	.031	.063	0.48	.628‡
	Improvement in the position of the hotel vis-à-vis competitors (S2)	.462	.068	6.81	.000‡*
	Improvement in the overall performance of the hotel (S3)	.102	.067	1.53	.126‡
	The impact of economic changes on the project (i.e., internal or external changes) (R1)	.057	.065	0.87	.385‡
	The impact on the financial position of the hotel if the project failed (R2)	.078	.065	1.19	.235‡
	The effect of the project on product quality (P1)	-.072	.067	-1.09	.277‡
	The effect of the project on the morale of hotel staff (P2)	-.114	.068	-1.68	.092‡
Not recommend		-.200	.230	-0.87	.386‡
Panel B: Attribute interaction with a personal incentive					
	Incentive X Cash inflows (F1)	.140	.023	.01	.195†
	Incentive X Cash outflows (F2)	-.079	.047	-1.69	.046†**
	Incentive X Fit of the capital budgeting project with business strategy (S1)	-.056	.063	-.89	.375‡
	Incentive X Improvement in the position of the hotel vis-à-vis competitors (S2)	-.010	.068	-0.14	.888‡
	Incentive X Improvement in the overall performance of the hotel (S3)	.014	.067	.21	.417†
	Incentive X The impact of economic changes on the project (i.e., internal or external changes) (R1)	.065	.065	.99	.161†
	Incentive X The impact on the financial position of the hotel if the project failed (R2)	.011	.065	.17	.432†
	Incentive X The effect of the project on product quality (P1)	.038	.067	.57	.285†
	Incentive X The effect of the project on the morale of hotel staff (P2)	-.003	.068	-.05	.961‡
Log likelihood -554.33					
Pseudo R ² = 0.1477					
n = 74; 592 choices					

^A † One-tailed test; ‡ Two-tailed test

* $p < .01$; ** $p < .05$

Table 5
Effect of a personal incentive and monitoring

Meta-attributes	Attributes	of the mean (β)	Std. Err.	z	P> z ^A
Panel A: Main effects					
	Cash inflows (F1)	.218	.033	6.54	.000‡**
	Cash outflows (F2)	.321	.066	4.87	.000‡**
	Fit of the capital budgeting project with business strategy (S1)	.035	.075	0.47	.640‡
	Improvement in the position of the hotel vis-à-vis competitors (S2)	.452	.081	5.59	.000‡**
	Improvement in the overall performance of the hotel (S3)	.124	.080	1.55	.122‡
	The impact of economic changes on the project (i.e., internal or external changes) (R1)	.038	.077	0.49	.622‡
	The impact on the financial position of the hotel if the project failed (R2)	.107	.079	1.36	.172‡
	The effect of the project on product quality (P1)	-.138	.079	-1.75	.081‡
	The effect of the project on the morale of hotel staff (P2)	-.154	.081	-1.91	.056‡
Not recommend		-.207	.231	-0.90	.369‡
Panel B: Attribute interaction with a personal benefit and monitoring					
	Incentive X Monitoring X Cash inflows (F1)	-.010	.027	-0.36	0.359†
	Incentive X Monitoring X Cash outflows (F2)	.093	.057	1.65	0.049†**
	Incentive X Monitoring X Fit of the capital budgeting project with business strategy (S1)	.027	.075	0.36	0.359†
	Incentive X Monitoring X Improvement in the position of the hotel vis-à-vis competitors (S2)	-.010	.081	-0.13	0.900‡
	Incentive X Monitoring X Improvement in the overall performance of the hotel (S3)	.050	.080	0.62	0.268†
	Incentive X Monitoring X The impact of economic changes on the project (i.e., internal or external changes) (R1)	-.051	.077	-0.66	0.508‡
	Incentive X Monitoring X The impact on the financial position of the hotel if the project failed (R2)	.047	.079	0.60	0.274†
	Incentive X Monitoring X The effect of the project on product quality (P1)	-.132	.079	-1.68	0.093‡
	Incentive X Monitoring X The effect of the project on the morale of hotel staff (P2)	-.057	.081	-0.70	0.481‡
Log likelihood = -552.340					
Pseudo R ² = 0.1507					
n = 74; 592 choices					

^A † One-tailed test; ‡ Two-tailed test

* $p < .01$; ** $p < .05$

Appendix A:
Questionnaire scenario

You are the General Manager of a prestigious 5-star CBD located hotel operating with a management contract. A hotel management contract is a written agreement between a hotel owner and operator that involves the hotel owner retaining legal ownership of the hotel site, building, plant and equipment, furnishings and inventories, while the operator assumes responsibility for managing the day-to-day operations of the hotel. You are formally employed by the hotel operator.

(This paragraph was present in all versions of the questionnaire)

The owner of your hotel is considering a \$20 million investment to expand the hotel via construction of 80 new rooms. You are responsible for preparing the capital expenditure proposal for this project, which will be used by the owner to help them decide whether to go-ahead with the project or not. Note that the project is 100% funded by the owner. The operating company does not contribute any capital toward the proposed project.

(This paragraph was present in all versions of the questionnaire)

The hotel operating company you are employed by is enthusiastic for the proposed project to proceed as they will enjoy a significant increase in management fees. Your operating company has therefore agreed to pay you a considerable salary increase should the project go-ahead.

(This paragraph was only present in those scenarios where personal incentive to agent for project go-ahead was manipulated)

Should the project go-ahead, the project will be subject to an audit after it gets underway by the property's owner. Post-audits are designed to monitor the progress and your performance in relation to the investment project (i.e., budgeted versus actual). The management contract in your hotel stipulates that your appointment as General Manager requires approval of the owner. Further, the owner has authority to remove you as General Manager for unacceptable performance.

(This paragraph was only present in those scenarios where monitoring of agent was manipulated)

For each of the following choice sets, which alternative would you most likely take forward to the owner.

Appendix B:**Example choice set**

	A	B
Cash Inflows	\$6 million per year	\$2 million per year
Cash Outflows	\$4 million per year	\$1 million per year
Fit with business strategy	Very poor fit	Very good fit
Improvement vis-à-vis competitors	Very small improvement	Very small improvement
Improvement in the overall performance	Large improvement	Small improvement
The impact of possible economic changes	Very small impact	Very large impact
The impact of failure on financial position	Small impact	Large impact
The effect on product quality	Small effect	Very small effect
The effect on the morale of hotel staff	Very small effect	Very small effect

Your choice is:

Alternative A Alternative B Neither