Motivating revisions of management accounting systems: An examination of organizational goals and accounting feedback

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A R T I C L E   I N F O

A B S T R A C T

Successful revisions of management accounting systems (MAS) require substantial effort, and it has been suggested that providing feedback about the success of short-run MAS changes can motivate continued change efforts. Based on psychology theories of goal priming, I predict that such feedback can either increase or decrease continued effort, depending on whether it activates a high-level goal (i.e., an overarching long-term project goal) in individuals' minds. Activation of a high-level goal via a slogan in an accounting report leads participants in my experiment to interpret feedback in terms of their commitment to the goal, and thus to exert more effort toward MAS revision after success than failure. In the absence of high-level goal activation, however, participants interpret feedback in terms of whether sufficient progress has yet been made, and thus they exert more effort after failure than success. These findings not only provide insight into the effects of accounting feedback on individual effort; they also expand our understanding of the effects of accounting-report design by providing evidence of motivational effects in addition to the cognitive effects addressed in prior studies.

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1. Introduction

Academic and practitioner literature has long stressed both the value and difficulty of revising management accounting systems (MAS; e.g., product costing and performance measurement systems) in response to changes in markets, products, organizational designs, and technologies (Chapman & Kern, 2012; Keegan & Eiler, 1994; Keegan, Eiler, & Jones, 1989; Tatikonda & Tatikonda, 1998; Waldrup, MacArthur, & Michelman, 2009; Wouters, 2009). Successful MAS revisions can improve accounting information quality, which can lead to better decision-making, but motivating the individuals involved in the revisions can pose significant challenges. One challenge is that these individuals have competing demands on their time. Further, MAS revisions can be uncertain projects in which the path to the goal is not always clear and the expected benefits of these revisions, and thus appropriate rewards for revision effort, can be difficult to estimate. This uncertainty of achieving success can discourage effort.

One suggested strategy to motivate continued effort in revision projects is, when possible, to initiate a major revision with a small-scale activity that is likely to be a success, and then prominently report these short-run successes. Prior successes—for example, in a pilot or demonstration project or a previous revision—are expected to motivate further revision efforts by increasing enthusiasm and estimates of the probability of further success, reducing the uncertainty about the outcomes of effort (Hankinson & Lloyd, 2000; O'Hara, Watson, & Kavan, 1999). Accounting reports can provide feedback of success.

Research offers evidence that the presentation and format of accounting reports can affect *cognitive* processes of individual attention to information and decision-making (Bloomfield, Hodge, Hopkins, & Rennekamp, 2015; Cardinaels, 2008), but these studies do not address *motivational* effects of format on individual effort. In my study, I bring the two literature streams of MAS revision and accounting report format together by examining how accounting reports about the success of prior MAS revision and language accompanying these reports can affect future effort on MAS revision.

Report presentation and format can include language or graphics that influence effort by affecting how people interpret feedback provided by the report. I argue, based on theories from motivational psychology (Fishbach & Dhar, 2005; Fishbach, Dhar, & Zhang, 2006), that how individuals interpret feedback of success (or failure) on a prior MAS revision can increase or decrease their effort on continued MAS revision. Further, the goal(s) activated in

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individuals' minds as they consider the feedback can affect this interpretation.

Individuals often have goal hierarchies that consist of high-level goals that are abstract and long-run focused and low-level subgoals that are concrete and immediate. Even if they know their goals equally well at multiple levels of the hierarchy, one goal level is often more strongly activated in their minds and is more likely to influence their behavior and decisions at a given time (Anderson, Reder, & Lebiere, 1996). I argue that language accompanying accounting information can act as a prime that affects the goal that is more activated in individuals' minds. Thus, it can affect their interpretation of accounting feedback and their subsequent behavior.[1,2]

Psychology theory presented in this study predicts that if a high-level goal is more activated in individuals' minds during MAS revision, then individuals are more likely to interpret feedback in a goal-commitment frame; that is, *why* they are pursuing a high-level goal (Zhang, Fishbach, & Dhar, 2008). Thus, individuals will consider whether further commitment or effort to the distant high-level goal is appropriate. Accordingly, with a goal-commitment frame, the message of success feedback is that effort *is* appropriate, and hence feedback of success (compared to failure) motivates further effort by invigorating individuals and increasing their commitment and belief that the high-level goal can be achieved (Ilies & Judge, 2005; Locke & Latham, 2002; Zhang et al., 2008).

Conversely, when high-level goals are not explicitly activated, low-level goals are likely to be more activated, as they are more immediate, and the task itself is likely to activate these goals until they are fulfilled (Förster, Liberman, & Higgins, 2005; Johnson, Chang, & Lord, 2006). When an immediate low-level goal is more activated, individuals are more likely to have a goal-progress frame when interpreting feedback; that is, *how* immediate actions are being achieved (Zhang et al., 2008). Thus, individuals will be relatively more focused on the concrete and immediate low-level goal and how they are accomplishing or making progress toward it. With a goal-progress frame, psychology theory predicts that prior failure will motivate more revision effort compared to success, since with success individuals will believe sufficient progress has been made on the low-level goal and thus their effort can be exerted elsewhere (Dhar & Simonson, 1999; Fishbach et al., 2006). Hence, the effect of a small-scale and/or short-run success depends crucially on whether high- or low-level goals are more activated.

I use an experiment to examine how the interaction between prior success/failure and priming of the high-level goal of improving accounting for making better decisions affects additional effort exerted on MAS revision. In this setting, individuals are involved in improving the organization's costing system by recommending new cost drivers for multiple production activities. Following their first cost-driver choice, participants receive an accounting feedback report indicating whether their choice was successful (i.e., whether usage of the chosen cost driver relates to overhead resource usage). With this accounting feedback report, some participants receive a prime in the form of an accounting slogan, which is expected to activate the high-level goal, whereas others do not receive this prime with the accounting report. Participants then have the opportunity to continue revising the MAS or end their involvement at any time, and I measure the effort they exert in additional revision of the costing system.

Consistent with my hypothesis, the experimental results indicate that accounting reports influence motivation not only by providing feedback about a prior success or failure of MAS revision, but also by affecting the interpretation of this feedback through the presence or absence of accompanying language that activates high-level goals. As predicted, prior success leads to more effort in MAS revision than prior failure when the high-level goal is primed. However, prior failure leads to more effort in MAS revision than prior success when the high-level goal is not primed. Also as predicted, prior success in MAS revision leads to more effort when the high-level goal is primed than when it is not primed, but prior failure leads to more effort when the high-level goal is *not* primed than when it is primed.

This study provides insight to managers on how to motivate employees to be involved in and exert effort toward MAS improvement or similar change projects to support better decision-making throughout the organization. As a project proceeds successfully, managers can increase motivation by reporting this success and activating the high-level goal of the project (e.g., using a slogan pertaining to this goal). If the project is not proceeding successfully, then this lack of success needs to be reported with a focus on the task at hand to keep the *immediate low-level goal* at the forefront of employees' minds to motivate them to continue in the revision process and make successful progress.

My study makes further contributions to the accounting literature. First, academics and practitioners have identified the need to motivate managers and key users to be involved for MAS revision to be successful (Hudson, Smart, & Bourne, 2001; Kennerley & Neely, 2002; Lewy & Du Mee, 1998; McCunn, 1998). There is little accounting research, however, that addresses this important issue of how individuals are motivated to be involved and to persist in MAS revision. My study provides theory and evidence indicating that the strategy of motivating continued MAS revision effort through short-run successes can be effective, but only when individuals are primed with the high-level goal for the project. In the absence of such a prime, however, low-level goals are likely to be more activated in individuals' minds because these goals can relate directly to the task on which individuals are focused and are more concrete and immediate. If this is the case, then prior success can be counterproductive, leading to less subsequent effort on MAS revision.

These findings also suggest broader implications beyond the specific context of MAS revision by expanding our understanding of what accounting reports *do*, besides simply providing accounting information to users. Specifically, these reports can influence individual behavior through their design and format and through priming effects. This study significantly expands the scope of the accounting literature on report design and priming effects by identifying *motivational* effects of these factors, whereas prior studies have focused on their cognitive effects. Prior studies have examined how report presentation and format, including the addition of graphics in reports, can affect decision-making (e.g., Bloomfield et al., 2015; Cardinaels & Van Veen-Dirks, 2010; Jiang, Petroni, & Wang, 2015). This research has focused on cognitive and attention-directing effects and the weights that individuals place on different cues. My study identifies an important additional role of presentation and format by examining how a prime—a slogan-—accompanying an accounting feedback report can affect motivation and future effort. Reports of accounting feedback can include not only information about success or failure but also language (or other information, such as graphics) that can make high- or low-level goals more activated in individuals' minds and thus influence their motivation.

Further, research in accounting has provided evidence of priming effects, generally investigating primes that provide information that is an essential part of the accounting task requiring

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[1] Priming is an implicit memory effect in which exposure to a stimulus can influence behavior in response to a subsequent stimulus (Neely, 2003; Schacter, 1994) by activating affect, knowledge, or goals (Higgins, 1996).

[2] In my study, I focus on language that is not in the standard body of the accounting report.