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Relative performance information, rank ordering and employee performance: A research note

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ABSTRACT

We conduct a laboratory experiment to examine whether the provision of detailed relative performance information (i.e., information about the specific performance levels of peers) affects employee performance. We also investigate how – if at all – explicit ranking of performance levels affects how employees respond to relative performance information. Our hypotheses are developed based on insights about social comparisons and status incentives from the psychology and behavioral economics literature. The results of the experiment show that the provision of relative performance information increases employee performance, yet we find no additional effects of rank ordering. Specifically, average performance levels are similar in conditions in which relative performance figures are presented in random order, in best-to-worst order and in worst-to-best order.

1. Introduction

Many organizations distribute information about peer performance levels among their employees. For example, plant managers are informed about other plants' costs, sales people are informed about each other's revenues and margins, and business unit CEOs can compare the results of their unit with the results of other units. Even though the provision of such detailed relative performance information (RPI) is quite common, we know little about whether or how it affects employees' effort and performance (Luft, 2016; Mahlendorf et al., 2014; Newman and Tafkov, 2014). Neither is there much research that has examined if the effects of detailed RPI provision are contingent upon the way in which this information is presented. This is an important issue though, given that there is much variation in the layout of performance reports and the presentation format of peer performance levels (Blanes i Vidal and Nossol, 2011; Hannan et al., 2014). In this research note, we report on a laboratory experiment that we designed to answer two questions. First, does the provision of detailed RPI affect employee performance? Second, do the effects of RPI provision on employee performance depend on how this information is presented to employees, specifically on whether and how employees are explicitly ranked based on their performance levels?

Building on insights from the psychology and behavioral economics literature (e.g., Besley and Ghatak, 2008; Festinger, 1954), we argue that RPI provision will increase employee performance. The reason is that RPI enables social comparison, which is an important non-monetary driver of work effort. We extend this reasoning further to suggest that differences in the RPI presentation format can influence the extent to which RPI motivates employees to increase their performance, because presentation formats vary in the extent to which they frame the setting as a competition. We specifically argue that the ordering of different employees' performance levels in RPI reports determines whether and how individuals will try to outperform their colleagues.

Existing accounting research has examined the effects of RPI on employee effort and performance, but has tended to focus on settings that do not allow us to draw univocal conclusions about the answers to the two questions above. Most importantly, existing RPI experiments have generally not provided participants with detailed information about each other's performance levels but, instead, with information about their relative rank. The difference between distributing information about performance levels and distributing information about rankings is important because only detailed information gives employees insight into how exactly their performance level compares to that of the average, best, and worst performer in their group, which might cause them to change their

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effort levels (Berger et al., 2013; Hannan et al., 2008; Wedell and Parducci, 2000). Also, by reporting performance ranks rather than performance levels, existing studies may have framed the setting as a competition or tournament, which can have incremental effects on employees' motivation and performance. We explicitly address this issue in our study by comparing the performance effects of three types of RPI reports, which vary in the extent to which they emphasize rankings.

In our experiment, groups of five participants engaged in multiple rounds of a real effort task. Consistent with existing accounting experiments (e.g., Tafkov, 2013; Hannan et al., 2013) and real world settings, the participants did not receive any performance-dependent pay. We manipulated whether – and if so, how – they received information about the other group members' performance levels after each round of the task. One experimental group received no RPI, while the other three groups received RPI reports that vary in how the group members' performance levels are ordered. In one condition participants received reports in which the group members' performance levels were not explicitly ranked, but presented in random order. This is reminiscent of company practices listing employee or unit performance (e.g., revenue or profit) alphabetically or geographically. In the two other conditions, group members' performance was explicitly ranked, reminiscent of for example the use of intra-organizational 'league tables' (Moon and Fitzgerald, 1996; Northcott and Llewellyn, 2003). Participants in these ranked-RPI conditions either received reports that ranked group members from best-to-worst or reports that ranked them from worst-to-best, representing 'winner' and 'loser' ranking systems, respectively.

The results of the experiment indicate that RPI provision increases employee performance, but that whether or not RPI reports explicitly rank team members based on their performance is irrelevant in this respect. We also find no difference in average employee responses to best-to-worst rankings and worst-to-best rankings. Supplemental analyses provide some insights into the different responses of stronger and weaker performers to detailed RPI and to alternative types of rankings. Descriptive evidence suggests that the average performance increase due to RPI provision is primarily driven by performers in the upper deciles of the performance distribution. Also, we find that weaker performers do better under loser rankings than under winner rankings, whereas there is no such difference for stronger performers.

Our research note contributes to the literature by examining how employees respond to the distribution of detailed peer performance information in a setting in which there are no monetary incentives. Our main conclusion that employees respond to such information by increasing their performance is consistent with our reasoning that RPI provision leads to social comparison, which is an important non-monetary motivator of effort. The result is important for management accounting research and practice because it suggests that the positive effects of RPI provision that have been documented in the literature are not limited to settings in which RPI consists of information about rankings. More generally, the result highlights the importance of non-monetary incentives and symbolic rewards that trigger affective states such as pride and shame, as antecedents of individuals' responses to management accounting and control systems in organizations.

In addition, our study is the first that we are aware of to examine whether explicitly ranking RPI has a notable effect on employee performance and the first to explicitly compare best-to-worst and worst-to-best rankings. While we find that whether and how RPI is ranked has little effect on average performance levels, additional exploratory analyses also indicate the effects of ranking might be different for relatively high and relatively low performing employees. These findings contribute to ongoing debates in the literature on the incentive effects of rankings (Brown et al., 2014; Charness et al., 2014; Tran and Zeckhauser, 2012) and on how the framing of information influences employee behavior (e.g., Church et al., 2008).

2. Hypothesis development

The first question that we address in this study is whether employees who are informed about the performance levels of their peers perform better than employees who receive no relative performance information. Existing literature in economics and psychology suggests that this will be the case. The reason is that dissemination of peer performance information induces social comparison (Luft, 2016; Festinger, 1954). Social comparison theory (Festinger, 1954) states that individuals have an innate drive to compare themselves with others and are generally motivated to do better than others. Indeed, it is well established that favorable comparisons with others lead to positive affective states such as pride, happiness, and "the thrill of victory," while unfavorable comparisons are associated with negative affective states such as shame and unhappiness (Brown et al., 2007; Coffey and Maloney, 2010; Greenberg et al., 2007; Smith et al., 1989; Williams and DeSteno, 2008).

Based on social comparison theory, we predict that employees who are informed about their peers' performance levels, and who know that their own performance will be observed by their peers, are willing to put in additional work effort in order to increase the probability of comparing favorably to their peers. In other words, we predict that by disseminating performance information, organizations can create "status incentives" (Besley and Ghatak, 2008; Charness et al., 2014) that motivate employees to increase their performance.

While the accounting literature does not provide clear evidence that informing employees about the performance levels of their peers will increase their performance, our reasoning is supported by the findings of studies that have investigated related issues. First, there is research that has found that the extent to which the organization's accounting system is transparent about peer performance levels affects employee decision making on other issues than effort provision and productivity. For example, Maas and Van Rinsum (2013) find that the public distribution of detailed RPI reduces employee misreporting of private performance information. Next, several studies (e.g., Charness et al., 2014; Hannan et al., 2013; Kuhnen and Tymula, 2012; Tafkov, 2013) have found that the distribution of information about performance *ranks*, instead of performance *levels*, has a positive effect on employee effort and performance.

It is important to note that conclusions about employees' responses to information about rankings do not necessarily apply to settings in which employees receive information about performance levels. First, employees who receive information about performance ranks, but not performance levels, cannot update their beliefs about the social norms for effort provision and about the potential for performance improvements.[1] Moreover, detailed information about peers' performance levels enables employees who care about their relative rank to assess the likely change in rank that will result from a specific change in performance. For example, only when employees are informed about each other's

[1] For example, only with detailed information might employees come to realize that some colleagues achieve far better results than they do, and that investments in improving their skills or task strategies are likely to result in performance increases. On the other hand, detailed information may also make it clear to some employees that they are putting much more effort into a task than most of their colleagues, and that apparently there is a social norm to do not much more than the minimum that is considered acceptable by the organization.

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