

# Does performance evaluation kill creativity? A(re) interpretation of existing literature

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## Abstract

**Purpose** – Enabling employee creativity and channeling the creativity of employees toward process and product innovations is a starting point of value creation processes and strategy maps. The dominant view in early creativity research seemed to be that creativity and control are inconsistent. More recently, a number of studies have come to acknowledge that performance evaluations (and rewards linked to such evaluations) may well have positive effects on creativity. This paper aims to review existing results on the effects of performance evaluations on creativity from the perspectives of different research streams.

**Design/methodology/approach** – This paper analyzes a stream of research in social psychology which has promoted the notion of an overall negative effect of performance evaluations on creativity. The (reinterpreted) results from this research stream are contrasted with findings from the behaviorist perspective and with research in management accounting.

**Findings** – The review of the different research traditions in the analysis of the effects of performance evaluations on creativity indicates that the seemingly contradictory empirical results can be explained by the different settings used and by the different ways how performance evaluations and linked rewards are conceptualized.

**Originality/value** – The paper clarifies that, in contrast to common beliefs, performance evaluations and linked incentives do not kill creativity in general. Performance evaluations and incentives can support creativity and innovation if they are transparent about what kind of creativity is desired and how such creativity is measured and rewarded. Moreover, incentives can effectively support behaviors that are known to be important within creativity and innovation processes.

**Keywords** Intrinsic motivation, Creativity and innovation, Performance evaluations

**Paper type** Research paper

## Introduction

Creativity is essential for business success because it is a differentiator and the main source of competitive advantage (Anderson *et al.*, 2014). In a global survey of more than 1,500 CEOs conducted by IBM (2010), creativity was rated as the most important leadership factor for an organization's future effectiveness and success. Besides creative industries such as advertising, more and more organizations that are not seen as creative businesses have begun to recognize that many of their activities require high creativity (Shalley *et al.*, 2000). Quality leadership of products cannot be sustained without a highly creative workforce and also cost leadership requires ongoing process



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innovation which is typically fueled by employees' creative ideas. Therefore, enabling employee creativity and channeling the creativity of employees toward process and product innovations is a typical starting point of value creation processes and strategy maps (Speckbacher *et al.*, 2003).

Creative ideas are defined as ideas that are both:

- (1) new or different and
- (2) useful, meaningful, appropriate or relevant (Amabile, 1983a; Anderson *et al.*, 2014; Oldham and Cummings, 1996).

Creativity forms the starting point for innovation, which can be defined as the successful implementation of creative ideas. Innovation can stem from creative ideas inside or outside the organization. The more an organization's success relies on creative ideas from within the organization, the more it becomes important for this organization to establish a work environment that facilitates, fosters and encourages creative thinking (Amabile *et al.*, 1996, p. 1155). However, how can an organization support creativity and which organizational design choices hinder creativity?

There is ample anecdotal evidence suggesting that highly creative people suffer from performance evaluation. Einstein, for example, described the detrimental effects of performance evaluation during his student days on his intrinsic motivation to do science and to be creative: "The hitch in this was. . . the fact that one had to cram all this stuff into one's mind for the examinations, whether one liked it or not. This coercion had such a deterring effect upon me that, after I had passed the final examination, I found the consideration of any scientific problem distasteful for an entire year" (Schilpp, 1949, p. 17; see also Amabile, 1979; Gil and Spiller, 2007).

The dominant view in early creativity research seemed to be that creativity and control are inconsistent (Amabile, 1983a, 1983b, 1988; Amabile *et al.*, 1996; Kopnowski, 1972; Weick, 1979). Great parts of this research are based on the Intrinsic Motivation Principle of Creativity (IMPC) which proposes that intrinsic motivation, defined as "the drive to do something for the sheer enjoyment, interest and personal challenge of the task itself (rather than for some external goal)," is conducive to creativity, whereas extrinsic motivators are almost always detrimental (Amabile, 1983b, p. 366; Hennessey and Amabile, 2010, p. 581). Originally formulated as a research hypothesis, this proposition came to hold the status of an undisputed principle (Hennessey, 2003). Besides extrinsic constraints such as rules, standards and operating procedures which had long been attacked for their negative effect on employee creativity (March and Simon, 1958; Kopnowski, 1972; or Weick, 1979), also the expectation of external performance evaluation was argued to have a negative effect on creativity (Amabile, 1979, 1983a; Amabile *et al.*, 1990).

Over the past 20 years, however, a growing number of studies have come to acknowledge that performance evaluations (and rewards linked to such evaluations) may well have positive effects on creativity. This change may be due in part to the observation that highly creative companies such as Google or Facebook use both intrinsic motivation and extrinsic rewards to motivate their employees (Gerhart and Fang, 2015; Hennessey and Amabile, 2010). Most importantly, this research recognizes that the relationship between intrinsic and extrinsic motivation is not an "either/or" relationship but a far more complex one. Extrinsic motivation can reduce intrinsic motivation when it makes people feel controlled and undermines their perceived self-determination (Deci and Ryan, 2002). However, extrinsic motivation may as well enhance intrinsic motivation when rewards confirm competence, provide useful information, are supportive or refer to tasks where initial levels of intrinsic motivation are already strong (Hennessey and Amabile, 2010, p. 581). Overall, it is far from

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clear whether external performance evaluation really undermines the positive effects of intrinsic motivation on creativity and, more particularly, it is still unclear under which circumstances performance evaluations and linked rewards will have a positive or negative effect on creativity.

The situation becomes even more complicated when the unit of analysis is not an individual but when the creativity of teams or organizations is analyzed. Most creative work in organizations is accomplished by two or more persons working together (Thompson and Choi, 2006). In other words, it is rarely the lone genius who drives the creativity of organizations, but instead, creativity in organizations is typically a team sport. To make team output more than the sum of individual performances, work processes need to be interdependent that is team members cannot work completely independent of each other but need to communicate, build on each other's ideas and integrate work processes. Task interdependence within teams, however, requires coordination of these tasks and such coordination will hardly work without any form of external control. Furthermore, large scale creativity in organizations requires even more coordination to align creative efforts with organizational goals (Adler and Chen, 2011). In fact, when it comes to organizational creativity, usefulness (the second component of creativity, besides newness) means "having the potential to create value for organizations in the short or long run" (George, 2007, p. 441) and thus, by definition, creative efforts need to be somehow associated with strategic intention and organizational goals. It is very unlikely that such alignment of creative efforts with organizational goals can be accomplished without any use of control. As a consequence, it can be expected that coordination and control become even more important for managing creative efforts when the level of analysis is not the individual but the team or the organization.

In this paper, we review existing results on the effects of performance evaluations on creativity from the perspectives of different research streams in the literature.

### **(Re-)interpreting classical studies in social psychology and management**

#### *Amabile's (1979) pioneering study*

In an article based on her doctoral dissertation, Teresa Amabile analyzed the effects of external evaluation on artistic creativity (Amabile, 1979). In this study, (female) college students worked on an art activity either with or without the expectation of external evaluation of their creative performance. On average, students who did not expect an evaluation of the quality of their work produced artworks significantly higher on judged creativity than those working under the expectation of an external evaluation of their artwork. This study and a book on the social psychology of creativity which discusses this work more broadly (Amabile, 1983a) became highly influential and formed the basis of the IMPC.

Taking a closer look at this study helps to (re-)interpret its findings. In fact, the study provides evidence for an overall negative effect of expected evaluations on creativity for three subject groups, where subjects in the first group were told that the level of creativity shown in their artwork is not of any interest, in the second group subjects were told to focus on the technical aspects of their activity, and in the third group subjects were told to focus on the creative aspects. In all these three groups those subjects who expected an evaluation of their artwork showed lower creativity on average than subjects in the no-evaluation group. Most interestingly, however, the by far highest creativity across all groups was shown when subjects expected an evaluation of their creative performance *and* received information on a number of criteria to specify what kind of creativity is expected from them. These criteria were quite general:

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- the novelty of the idea itself,
  - the novelty was shown in the use of materials,
  - the amount of variation in the shapes used,
  - the asymmetry of design,
  - the complexity of design,
  - the amount of detail and
  - the amount of effort evident.

Essentially, these criteria refer to the newness/difference dimension of creativity and to the level of effort and sophistication visible in the artwork. Judges had to assess each artwork along these dimensions and a composite measure of their assessments was used to measure creativity.

Contrary to the prevailing interpretation of this study's results as evidence on the harmful effects of expected evaluation on creativity, [Amabile's \(1979\)](#) pioneering study does not support the notion that expected evaluations harm creativity. Rather, this study provides evidence that creativity is maximized if subjects know that their creativity will be evaluated and they get some information about the criteria used in judges' subjective evaluations. However, according to this study, expecting an evaluation of creative performance without knowing anything about the criteria of such evaluation undermines creativity (and to some extent intrinsic motivation). Even telling people to focus on creativity or to focus on technical aspects of the artwork without telling them what is meant by "creativity focus" or "focus on technical aspects" undermines their creative performance and just the same their technical performance, respectively. It is interesting to note that, just as in the case of creativity, telling subjects that the technical goodness of their design will be assessed without telling them anything about the criteria of such evaluation undermines technical goodness performance. So the undermining effect of announcing performance evaluations without informing subjects about the criteria of such evaluation seems not restricted to the production of creativity. Interestingly, the paper provides only weak and inconclusive evidence on whether an expected evaluation is associated with lower self-reported levels of intrinsic interest, experienced playfulness during task completion and satisfaction with the result. Self-reported intrinsic interest is by far the lowest in the condition where subjects are told to focus on the technical goodness of the design and expect an evaluation of technical goodness while the highest intrinsic interest, playfulness and satisfaction with the result is shown when subjects produce artworks without any focus and without evaluation. Surprisingly, in the condition where subjects are told to focus on creativity, they report higher intrinsic motivation when they expect an evaluation of their creative performance than when they do not expect such evaluation. However, in the condition where subjects expect the evaluation of their creative performance and are informed about the criteria of such evaluation, creative performance is maximized while intrinsic motivation, experienced playfulness and satisfaction with the result are relatively low. Overall, there was no evidence in support of the IMPC that is there was no evidence on intrinsic motivation acting as a mediating factor in the relation between expected evaluation and the level of creativity.

Later studies in the tradition of [Amabile \(1979\)](#)

More than 15 years after [Amabile's \(1979\)](#) pioneering study, [Shalley \(1995, p. 487\)](#) built on this study, arguing: "Research has suggested that expecting evaluation can have

dysfunctional consequences for intrinsic motivation and creativity.” The research Shalley cites to support this claim consists of three studies: Amabile (1979), that is the study outlined above, Amabile *et al.* (1990) and Shalley and Oldham (1985). While Shalley and Oldham (1985) only look at intrinsic motivation as their dependent variable and do not analyze any effects on creativity, Amabile *et al.* (1990) indeed provide evidence for negative effects of expected evaluation on individual creativity. Again, it is instructive to take a closer look at the results. In this study, subjects had to write poems. Evaluation expectation was introduced by telling half the subjects that expert judges will rate their poem and subjects will receive a copy of the judges’ evaluation of the poem. All subjects (also those in the no-evaluation condition) were told, however, that the poem they created would eventually be donated to a high school teacher for use in his classes. According to the experimenters, the reason for this was that also the subjects in the no-evaluation condition would make an attempt to write a legitimate, coherent poem. Therefore, it seems that both groups were “incentivized” in a subtle way to write a potentially useful and meaningful poem that will be donated to a good cause and the value of this donation obviously depends on the quality of the poem. One group expected to be judged by experts and the other group did not expect such evaluation. It was shown that the no-evaluation group wrote poems that were rated as more creative than those written by the evaluation group. Notably, there was no information for the subjects in the evaluation condition which criteria will be used by the judges to evaluate their poems. Several interpretations of these results are possible. Perhaps, subjects were primarily motivated by the prospect of donating a poem for use in a school and perceived the expectation of evaluation somehow as a distraction. They may have felt like a volunteer who helps to prepare a meal for poor people in need and then is judged by a professional cook. In line with Amabile’s (1979) experiment, the expectation to be assessed without knowing anything about the criteria of this assessment may as well explain the relatively low performance in the evaluation condition. Moreover, it may well be that subjects in the evaluation condition focused more on criteria that they (erroneously) assumed to be relevant, such as correct spelling, grammar and punctuation or coherence. Indeed, such criteria of conformity instead of divergence are quite common when work is evaluated at school and it is likely that these learned (at school) criteria are expected when no other information is given.

The Amabile *et al.* (1990) paper, moreover, contains a second study where subjects had to perform an art activity (making of a collage using cardboard, glue and various pieces of colored paper). Again, in one condition subjects were told that their artwork will be evaluated by judges and they will then receive the results of the evaluation, while in the other condition there was no such evaluation. The collages of the no-evaluation group were rated as more creative than those produced by the evaluation group. Just as in the previous experiment, subjects did not know anything about how the collages would be evaluated. Therefore, the results are in line with Amabile (1979), but in contrast to this earlier study, there was no condition where subjects were informed about the criteria of judges’ subjective evaluation. Therefore, it is unclear how informing subjects about the criteria of evaluation would have influenced their creativity. When no information on evaluation criteria is given, it is likely that subjects form individual expectations about these unknown criteria building on their individual experiences in similar evaluative situations (such as school). It would have been interesting to analyze how designs in the evaluation condition differ from those in the no-evaluation condition. The only aspect that was analyzed is the technical quality of collages, where no significant differences were found between the conditions. Interestingly, the effects of expected evaluation on intrinsic motivation were weak or non-existent and again there was no empirical support for the intrinsic motivation hypothesis of creativity

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that is there was no evidence for intrinsic motivation acting as a mediator between expected evaluation and creativity.

In [Shalley's \(1995\)](#) experiment, subjects were asked to assume the role of a human resource director and to find solutions to a number of problems presented to them on memos. Subjects were given a focus on both creativity and productivity. They were told that they should try both to be highly creative in generating a solution to each problem (creativity was defined as finding a novel and appropriate solution) and to do their best to generate solutions to as many memos as possible in the time allotted. In the no-evaluation condition, experimenters made no mention of evaluation to subjects. In the expected-evaluation condition, subjects were told that their productivity and the creativity of their responses on this task would be evaluated by experts and compared to that of all the other students. While performance in terms of productivity was simply measured by the number of problems where the subject provided a solution, the creativity of solutions was assessed by HR experts. In contrast to the theoretical argument provided in this paper, no effect of expected evaluation on the creativity of provided solutions was found. Interestingly, subjects in the expected evaluation condition showed *lower* productivity than those who did not expect evaluation.

In a second study within the same paper, subjects again got memos with HR problems as in Study 1, but they received no instructions to focus on productivity. Rather, all subjects were told that they could spend as much time as they liked on each memo and that they did not have to complete all the memos. Additionally, in one group subjects were assigned a creativity goal ("do your best to be creative") while in a control group no goal was assigned. Moreover, creative solutions "were described as both original and appropriate; therefore, subjects were told, they needed to generate solutions that weren't the typical response to these types of problems in organizations and yet were not bizarre – solutions were to be original but not impractical, illegal or the like" ([Shalley, 1995](#), p. 495). When subjects worked alone on these problems, the group with expected evaluation plus a creativity goal ("do your best to be creative") received the highest creativity ratings.

Overall both studies in [Shalley \(1995\)](#) did not support a negative effect of expected evaluation. One explanation why these results differ from the results in [Amabile et al. \(1990\)](#) may lie in the nature of the task. The tasks analyzed in [Amabile et al. \(1990\)](#) were purely artistic, while the task in [Shalley \(1995\)](#) was more "practical" with a higher focus on the "usefulness dimension" of creativity. Moreover, in [Shalley's \(1995\)](#) Study 1, subjects were provided with a very general definition of creativity (while no such definition was given in [Amabile et al., 1990](#)) and in Study 2, a more elaborated and more situation-specific definition of creativity was provided. In line with the results in [Amabile \(1979\)](#), this can explain the neutral effect of expected evaluations on creativity in Study 1 and its positive effect in Study 2.

[Yuan and Zhou \(2008\)](#) extended Shalley's study in an important way. They argued that the process of creative idea production includes two main cognitive processes, variation (idea generation) and selective retention (idea selection and modification). Variation and selective retention determine the novelty and appropriateness of the final creative product, respectively. According to their theoretical argument, variation and selective retention respond in different ways to external evaluation. In their laboratory study, they used a task similar to the one used by [Shalley \(1995\)](#). [Yuan and Zhou \(2008\)](#) provided evidence that during the variation, expected evaluation led to fewer numbers of generated ideas. During selective retention, individuals who expected external evaluation performed better in improving idea appropriateness. Individuals who expected evaluation only during selective retention produced the most creative ideas.

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In an unpublished study, [Amabile et al. \(1996\)](#); see also [Hennessey, 2003](#)) compared commissioned and non-commissioned works by professional artists and showed that some artists saw the extrinsic incentive of a commission as a highly controlling constraint but others looked at the commission as an opportunity to achieve recognition or a confirmation of their competence by respected others. In the latter group, creativity was even enhanced by providing a commission. A lab study by [Amabile et al. \(1986\)](#) overall provides some support for the assumed detrimental effects of rewards on creative performance, but it does not support the assumed negative effect of rewards on intrinsic motivation and also the evidence on the effects of intrinsic motivation on creativity is very weak. A closer look at this laboratory study reveals that rewards were provided in a very unusual way and, therefore, this study can hardly be seen as evidence on the detrimental effects of extrinsic incentives. First, rewards were *not* linked to creative performance or any other performance measure. Rather, rewards were given to subjects for just participating in the task, independent of the outcome. Moreover, the reward was quite insignificant and intangible. Subjects were allowed to use a camera for taking a few photos as a reward for participating in a creative task.

Taken together, the classical studies by Amabile and colleagues ([Amabile, 1979](#); [Amabile et al., 1990](#)) and Shalley (1990) and subsequent studies such as [Yuan and Zhou \(2008\)](#), do not support the assumed negative effect of expected performance evaluation on creativity. Moreover, these studies do not support the mediating role of intrinsic motivation in the relationship between expected evaluation and creative outcomes. However, these studies provide important insights on the effects of expected performance evaluations. It seems notable that the early studies by Amabile and her colleagues focus in their experimental designs on artistic creativity, divergent thinking and the newness aspect of creativity, not so much on convergent thinking and the usefulness of ideas. The expected evaluation may have different effects for different kinds of creativity (artistic or more “practical” creativity) and in different phases of the creativity process. Moreover, it seems that expected evaluation of creative performance can increase creativity if such evaluation is accompanied with information on what kind of creativity is expected or how creative performance will be assessed. One might well argue that the more individuals know how their creative performance will be evaluated the less heuristic is the underlying task ([Amabile, 1979](#)). However, it should be noted that performance evaluation in all studies above was a subjective evaluation and when the criteria for performance evaluation were communicated to individuals, these criteria only described the dimensions along which subjective evaluations were made.

In recent years, also Amabile and her colleagues have proposed a more nuanced and balanced view on the IMPC. For example, in their review article [Hennessey and Amabile \(2010, p. 581\)](#) argue: “When investigations of the effects of extrinsic constraints began about 30 years ago, it was thought that the determinants of task motivational orientation were straightforward [. . .]. High levels of extrinsic motivation were thought to preclude high levels of intrinsic motivation; as extrinsic motivators and constraints were imposed, intrinsic motivation (and creativity) would necessarily decrease. Now, many years and hundreds of investigations later, most researchers [. . .] have come to appreciate the many complexities of both motivational orientation and extrinsic motivators, particularly expected reward. They have come to supplement the original [. . .] conceptualization with an additive model that recognizes that under certain specific conditions, the expectation of reward can sometimes increase levels of extrinsic motivation without having any negative impact on intrinsic motivation or performance. [. . .][R]ewards can actually enhance intrinsic motivation and creativity when they confirm competence, provide useful information in a

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supportive way or enable people to do something that they were already intrinsically motivated to do. These boosting effects are most likely when initial levels of intrinsic motivation are already strong.”

In line with the view that performance evaluation is not necessarily controlling but may as well provide important feedback on what is expected from the individual and how performance can be improved, [Zhou \(2008\)](#) suggests that feedback can affect creativity in various ways. Supervisors can affect employee creativity positively when they give feedback in an informational style with a focus on developing the employee’s creative capabilities and performance, by giving employees valuable information that will enable them to learn, develop and make improvements on the job (developmental feedback) and by focusing feedback on the task, not the person.

### **Contributions from the behaviorist research perspective**

The behaviorist perspective in psychology has provided important insights for a better understanding of how performance evaluations influence behavior and creativity. With its focus on how environmental factors influence human behavior, this perspective points at the dynamic nature of performance evaluations and linked rewards. In general, repeated performance evaluations and rewards allow the individual to learn about better strategies to perform well and to receive a reward. This mechanism is not restricted to simple, well-structured tasks where it is relatively easy for individuals to learn which behavior is instrumental for earning a reward, but it works as well for complex tasks and creative tasks more particularly ([Winston and Baker, 1985](#)). However, offering a reward that is independent of task performance ([Amabile \*et al.\*, 1986](#)) cannot be expected to have any positive effect on task performance. In particular, when individuals expect an evaluation of their creative performance (and rewards are linked to such performance), without knowing anything about how creativity is defined and/or what are the criteria of subjective performance evaluations, then they are likely to focus on conventional, proven paths for receiving rewards which have been learned from prior experience in evaluative situations such as experience at school. This mechanism can make them focus on technical aspects of a collage or on correct spelling and punctuation in a poem writing exercise ([Eisenberger and Shanock, 2003](#)). It should be noted that this explanation is different from the explanations given in [Amabile \(1979\)](#). Expected evaluation as such is *not* assumed to make the creative process less playful and more focused on proven paths. Rather, if an individual expects to be evaluated and does not get any information on the criteria of evaluation, then this individual will form expectations on the criteria of evaluation based on prior experience. If the experience from prior evaluative situations suggests that focusing on technical or very visible aspects of a task or a task outcome makes positive evaluation more likely, then the individual will focus on such aspects instead of divergent thinking. However, if an individual has learned from prior experience that divergent and unconventional thinking is positively evaluated (and rewarded) then it will focus on divergent and unconventional thinking also in subsequent tasks. As proposed by learned industriousness theory ([Eisenberger, 1992](#)), individuals learn which dimensions of current performance are rewarded and generalize this learning to new activities. In line with this theory, schoolchildren who were repeatedly rewarded for novel performance in one task (generation of multiple words from strings of letters or generation of novel uses for unusual objects) also showed higher novelty of performance in a subsequent (drawing) task. Larger rewards for novelty in the first task even led to higher novelty in the subsequent task ([Eisenberger and Armeli, 1997](#); [Eisenberger and Selbst, 1994](#); see also the follow-up study by [Eisenberger and Rhoades, 2001](#)).



Overall, this line of research proposes that performance evaluations and rewards make individuals more creative under three conditions: first, if performance evaluation is expected and this evaluation is linked to rewards, then individuals will be creative in precisely the way that, according to their expectation, makes positive performance evaluation and rewards most likely. Second, if individuals have been trained with a creative task then they will also be more creative in a subsequent task, even when it is unclear to them how this task will be evaluated and rewarded. Third, if individuals perform a task where creativity is rewarded, then these individuals will be more creative in a subsequent task even when performance in this task is not rewarded (Eisenberger and Shanock, 2003).

Moreover, this line of research offers a new view on the role of intrinsic motivation in fostering creativity. As individuals are not necessarily intrinsically interested in high creativity but may as well intrinsically prefer to perform activities that are low in creativity, even extremely high intrinsic motivation does not necessarily foster high creativity. Moreover, in contrast to the IMPC which assumes that extrinsic motivators reduce intrinsic motivation and creativity, it is proposed that extrinsic motivators such as rewards can increase intrinsic task interest and creativity. More specifically, extrinsic motivators may even increase perceived self-determination and perceived competence which then can increase intrinsic motivation and creativity (Eisenberger and Shanock, 2003). For example, Eisenberger and Rhoades (2001) found that employees who perceived a more positive relationship between their job performance and pay raise felt greater self-determination in performing their jobs. Such increased perceived self-determination was then positively related to the creativity of employees' anonymous suggestions for improving the organization's operations (Eisenberger and Shanock, 2003).

### **Research in management accounting**

Measuring task performance and the use of such measurement information for evaluating and rewarding employees is at the heart of management accounting (Merchant and Van der Stede, 2017). Contingency research in management accounting research has pointed out that designing effective performance evaluations is particularly challenging if tasks are complex, uncertain and difficult to measure – which is certainly true for creative tasks (Chenhall, 2003). Creativity research indicates that the differences between creative work processes and other work processes may be quite fundamental (George, 2007; Oldham and Cummings, 1996) and creative work processes consist of various sub-processes with very different characteristics (for a review see Lubart, 2001). To understand how performance evaluations and rewards influence creativity it seems crucial to better understand, how the various sub-processes interact in generating creative outcomes.

Starting with Kachelmeier *et al.*'s (2008) seminal study, a research stream has evolved in management accounting which analyzes the effects of performance evaluation and linked rewards on creativity (Brüggen *et al.*, 2017; Chen *et al.*, 2012; Grabner, 2014; Grabner *et al.*, 2020; Grabner and Speckbacher, 2016; Kachelmeier *et al.*, 2008; Kachelmeier *et al.*, 2018; Kachelmeier and Williamson, 2010; Klein and Speckbacher, 2020; Speckbacher, 2017; Speckbacher and Wabnegg, 2020).

In a series of pioneering laboratory studies, Kachelmeier, Williamson and colleagues have provided important insights on the peculiarities of the creative process and how these peculiarities influence the effects of performance evaluation and linked rewards on creative performance. Kachelmeier *et al.* (2008) find that measuring and rewarding

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productivity can increase the quantity of creative output without lowering the production of high-creativity ideas. Their laboratory study using the creative task of producing rebus puzzles shows that combining quantity and creativity measures in a creativity-weighted pay scheme results in creativity weighted productivity scores that are lower than those generated when only quantity is incentivized. Relative to subjects in the quantity-only condition, subjects in the creativity-weighted condition produce approximately the same number of high-creativity puzzles but produce fewer puzzles overall. One important practical implication from this result is that imbedding creativity or innovation measures in multidimensional performance evaluation and compensation schemes can suppress less creative productivity without necessarily generating more high-creativity output. [Kachelmeier et al. \(2018\)](#) is one of the first studies to consider that different sub-processes of the creative process may respond differently to performance evaluation and rewards. They find evidence that improving productivity through quantity-based incentives in earlier stages of the creativity process does not undermine creativity and can even lead to higher creativity in later stages. Both studies of Kachelmeier, Williamson and colleagues support the notion that performance evaluation and rewards can motivate individuals to “get started,” that is to start the process of producing creative ideas while accepting lower-quality output at the beginning. Once the process got started, high-quality ideas are likely to emerge.

In their recent field studies, [Grabner \(2014\)](#) and [Grabner and Speckbacher \(2016\)](#) provide evidence that performance evaluations play an important role in creativity-intense firms. One reason for this importance is that creativity-intense business firms need to avoid unproductive art-for-art’s-sake activities. In fact, intrinsic employee motivation may become a problem in creativity-intense firms because a high level of intrinsic motivation comes at the cost of an overly narrow focus on creative tasks and neglect of overarching organizational requirements. [Grabner and Speckbacher \(2016\)](#) find field evidence that in responding to such ill-directed intrinsic motivation, managers of high-creativity organizations are more likely to use performance evaluations to shift employees’ interest partly away from creative tasks toward an increased acknowledgment of organizational goals. [Grabner \(2014\)](#) finds that managers of creativity-intense firms are not opposed to using individual performance-based pay. However, they counterbalance such performance pay with subjective evaluations of employees’ performance toward broader organizational goals to avoid a too-narrow focus on the individually rewarded task dimensions.

One of the very few studies that analyze the effects of performance evaluations on team creativity is the laboratory study by [Chen et al. \(2012\)](#). This laboratory study points to the role of a team atmosphere and team cohesion more particularly, within creative processes. According to the results of this study, team-based rewards where teams compete against each other (tournaments) generate higher team creativity than team-based rewards or individual rewards.

Klein and Speckbacher (2020) analyze the use of performance evaluations based on customer-related accounting data, such as client satisfaction measures, revenues or profits, in advertising companies. Building on [Amabile \(1979\)](#), they argue that such performance evaluations communicate to the team which kind of creativity is expected from the team and thus tend to make the creative process more effective. However, the use of such accounting data in performance evaluations can also amplify the tensions between the artistic merit and the commercial success of creative ideas and thus create conflicts that undermine team creativity. It depends on the team leader’s leadership style whether the negative or positive effects of using customer-related data in

performance evaluations on team creativity will prevail. If team leaders show a leadership style that helps team members internalize the values and standards underlying the used performance measures, then negative conflict inside the team is avoided and the positive effects of using customer-related data in performance evaluations can be fully realized.

## Conclusions

The above review of the different research traditions in the analysis of the effects of performance evaluations on creativity indicates that the seemingly contradictory empirical results can be explained by the different settings used and by the different ways how performance evaluations and linked rewards are conceptualized.

One source of seemingly contradictory evidence is the type of creative (sub)processes analyzed. Some studies analyze artistic creativity with very low importance of the “usefulness dimension” of creativity, other studies analyze more “practical” creative processes in a business context where ill-directed intrinsic motivation, art-for-art’s-sake creativity and excessive focus on the creative task at the expense of organizational goals are challenges of managing creativity that can be effectively addressed by using performance evaluations and linked incentives.

Moreover, for performance evaluation and rewards to work well, it has to be transparent what kind of performance is evaluated and rewarded. When individuals are told that their creativity will be evaluated without giving them any information about the definition of creativity in the particular situation or about how creativity will be evaluated, then their task performance will reflect their individual cognitive construal of the link between activities and evaluation outcomes. It has been argued that schools and many other areas of daily life do not reward divergent thinking and non-conforming behavior, but instead reward when individuals follow proven paths, comply with rules and do not deviate from the expected (Kelley and Kelley, 2013). Therefore, it is very likely that in situations where it is unclear how outputs will be evaluated, people will choose proven paths when trying to achieve a favorable evaluation of their performance. Such effects of expected evaluation can easily be avoided and creativity can be boosted when the evaluation is accompanied by information on what kind of creativity is expected in a particular situation. Moreover, rewarding divergent and non-conforming ideas within an organization can foster creative thinking even for those subsequent projects and tasks where creative performance is not included in performance evaluations.

Finally, high creativity and high productivity are not necessarily competing for goals in the sense that a higher focus on productivity leads to less creativity. Instead, motivating people to “get started” and be productive in the early stages of the creativity process may lead to more creative output in later stages.

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