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ORIGINAL PAPER

Linking deviation with innovation: behavioral effects of management control through the lens of a theory of deviance

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Abstract
This paper starts its analytical endeavour by basically asking how management control can contribute to person's innovative behavior at the workplace. However, in doing so, the paper takes a hitherto rather unusual perspective. By defining innovative behavior as a kind of 'desired deviance', it relates to a 'dark side perspective' on management control. In particular, by introducing Merton's anomie theory, the paper explores under which conditions the multiple forms of control proposed by the objects-of-control framework are likely to produce desirable and undesirable deviant behaviors. The findings inter alia show how actual 'dysfunctionalities' of management control can create precisely the conditions for producing innovative behavior. However, at the same time, they demonstrate that same conditions can also lead to frustration and withdrawal and thus produce rather undesirable behavioral consequences. In this way, the paper calls for deeper elaboration of the dark side effects of management control.

Keywords Anomie · Creativity · Deviance · Innovation · Management control · Objects-of-control framework

1 Introduction

Creativity and innovation prevail as central issues in nowadays organizations and enjoy considerable research from various theoretical perspectives and at different analytical levels (e.g., see Anderson et al. 2014 for overview). This paper focuses on

[1] The term 'innovative behavior' is usually referred to the implementation of novel ideas (innovation). Here it also addresses the generation of such ideas (creativity). This follows a more integrated perspective on creativity and innovation and the respective argument that creativity occurs not only in the early stages of an innovation process but, rather, as recursive process of idea generation and implementation (Anderson et al. 2014, p. 1299).

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the individual workplace level and starts its analytical endeavour with the question how management control can contribute to persons' innovative behavior—their creativity and engagement in innovation.[1]

Following a behavioral definition of control (Malmi and Brown 2008, p. 290; Hutzschenreuter 2009, p. 17; Strauß and Zecher 2013, p. 235), management control subsumes all the devices or systems managers use to ensure that the behavior and decisions of their employees are consistent with the organization's objectives and strategies (Merchant and Van der Stede 2012). Respective systems are commonly referred to as management control systems (Strauß and Zecher 2013, p. 245). While management control systems (MCS) thus basically involve "that managers take several types of steps to keep their organizations reliably on track" (Merchant and Otley 2007, p. 786), the fostering of innovative behavior is specifically challenging. Hence, innovative behavior needs a certain degree of freedom, autonomy and intrinsic motivation (e.g., Amabile 1996; see Anderson et al. 2014 for overview). By intending MCSs' key purpose to keep "things on track" (Merchant 1985, p. 1), managers run the risk to undermine the intended behavior due to excessive control or application of wrong types of control (e.g., Bonner et al. 2002, p. 233f; Grabner and Speckbacher 2016, p. 31f). Thus, contemporary research proposes that the application of "more complex notions of control" (Chenhall and Moers 2015, p. 2), hence the consideration of the constraining or enabling character of control and different possibilities of its usage as well as of multiple types of control,[2] can encourage creativity and innovation at the workplace (e.g., Bonner et al. 2002; Grabner 2014; Bedford 2015; Grabner and Speckbacher 2016; Speklé et al. 2017).[3]

The paper at hand aims to contribute to this field of inquiry. However, it takes a different and a hitherto rather unusual approach. Previous research basically follows the question how management control can facilitate innovative behavior as intended behavioral outcome and avoid unintended consequences. In contrast, this paper asks how management control is likely to produce unintended or deviant behavioral outcomes.[4] Starting point for this approach is the idea that innovative behavior can be defined as a desirable deviation from conventional ways of rendering performance. By thus turning the research question upside down, the paper explores management control and behavioral outcomes from a theoretical perspective of deviance.

This approach has two advantages. First, by delineating the factors that are likely to produce deviant behavior, it improves awareness of factors which facilitate the intended innovative behavior as a form of 'desired deviance' but might have been less considered so far. Second, by investigating deviance, the paper sensitises for behavioral outcomes that might be unintended but not necessarily dysfunctional from an organization's perspective (Merton 1936; Mainemelis 2010; Vadera et al. 2013). Hence, new ideas are often rejected when firstly proposed "because they are perceived

[2] See, e.g., the framework of Tessier and Otley (2012) for differentiated overview on these and other characteristics of MCS.

[3] While each from different theoretical lens or interest, reviews are offered from Haustein et al. (2014), Chenhall and Moers (2015), Moll (2015), Fried (2017) and Lövstål and Jontoft (2017).

[4] See as an exception Burney et al. (2017). They focus on ethical characteristics of work units and ethical work climates and their effects on the potential benefits of performance measurement systems in organizations.

as weird, inappropriate, unworkable, or too risky", but same ideas may later result in an outcome that is accepted as useful (Mainemelis 2010, p. 558; Lu et al. 2018). In this way, the paper particularly acknowledges the inherent uncertainty of innovative behavior, which seems all the more relevant when expectations of non-conformity and out-of-the-box thinking (Vadera et al. 2013, p. 1267) are increasingly directed at organizations and its employees.

Against this backdrop, the paper explores the objects-of-control framework (Merchant 1985; Merchant and Van der Stede 2012) from the perspective of Merton's sociological theory of anomie (Merton 1938). The objects-of-control framework differentiates between multiple forms of control and considers the role of personnel and cultural controls as indirect types of control in particular (e.g., Hutzschenreuter 2009, p. 40; Strauß and Zecher 2013; Haustein et al. 2014). With regard to the latter, the selection of the two approaches was specifically guided by their conceptual similarities and their emphasis of socio-cultural mechanisms of control and the respective self-control of human beings.

The paper contributes both to the literature on management control and on innovation and creativity. Hence, by emphasizing socio-cultural aspects an anomie theory lens particularly fortifies and extends a holistic perspective on management control (e.g., Merchant and Otley 2007, p. 786; Strauß and Zecher 2013, p. 264) and, from this perspective, provides a systematic overview on possible unintended behavioral outcomes of control. For studies on creativity and innovation, the paper offers a 'dark side' perspective on the predictors of innovative behavior. It shows theoretically that creativity and innovation can also get unintendedly provoked by 'dysfunctional' management control. So far such dark side research on creativity and innovation has been scarce (e.g., Mainemelis 2010; Sveiby et al. 2012). However, it might considerably contribute to the understanding of these phenomena at the workplace (Anderson et al. 2014, p. 1322; Fried 2017).

The remainder of this paper is organized as follows: In the next section (Sect. 2) the theoretical background of the analysis is introduced. This is followed by the explorative transfer (Sect. 3) of thoughts of anomie theory to the objects-of-control framework. Here first propositions about deviant behavioral outcomes are conveyed and reflected in terms of creativity and innovation. In the next section (Sect. 4) central findings are discussed against the backdrop of contemporary research on management control before a summary and final conclusions wind up the paper.

2 Theoretical background and analytical framework

2.1 Innovative behavior and deviance

Creativity and innovation can be understood as "the process, outcomes, and products of attempts to develop and introduce new and improved ways of doing things" (Anderson et al. 2014, p. 1298). While they are related, the creativity stage of this process is commonly referred to as idea generation, and innovation is commonly referred to the subsequent stage of implementing ideas toward better procedures, practices, or products (see also Amabile 1996, p. 1154f). Research on creativity and innovation

takes place at different levels of analysis (e.g. individual, team, organization) and from various theoretical perspectives (see review of Anderson et al. 2014). It is focused on diverse organizational settings and contexts (e.g., Bonner et al. 2002 on R & D projects; Haustein et al. 2014 on innovation companies; Sveiby 2012 on financial institutions during the global financial crisis) and modes of innovation (e.g., Madjar et al. 2011 on radical and incremental creativity or Bedford 2015 on exploration and exploitation). This paper focuses on the individual level. It is interested in people's innovative behavior at the workplace. While the term 'innovative behavior' is commonly referred to the implementation of novel ideas (innovation), in the following it also addresses the generation of such ideas (creativity). This is in line with a more integrated perspective on creativity and innovation and the respective argument that creativity occurs not only in the early stages of an innovation process but, rather, as recursive process of idea generation and implementation (Anderson et al. 2014, p. 1299). Consequently, innovative behavior always involves a degree of uncertainty. From perspective of management control, it can be defined as a desirable deviation from conventional ways of rendering performance.[5]

Deviance at the workplace has long been defined as intentional violation of organizational norms that threatens the well-being of the organization or its members (Robinson and Bennett 1995, p. 556). However, contemporary research increasingly challenges this notion of deviance as dysfunctional and factual phenomenon. Hence, research gains new insights into the positive effects of deviance (Mainemelis 2010; Vadera et al. 2013; Warren 2003) and on the social processes that define, interpret and thus 'label' certain behaviour as 'deviant' (Badham et al. 2003; Bryant and Higgins 2010). The analysis at hand joins this direction of research and broadly defines deviance as departure from common repertoires of behaviour, which can be perceived as desirable or undesirable. Accordingly, also from this theoretical angle, innovative behavior can be defined as a type of deviant behavior that is perceived as desirable in nowadays organizations (Petrou et al. 2018; Vadera et al. 2013, p. 122). Against this backdrop, insights from theories of deviance are basically suitable for exploration of innovative behavior at the workplace. Arguably, central conditions of innovative behavior can thus be identified from this perspective and fruitfully elaborated for research and practise of MCS.

In social theory, a great deal of deviant behavior is explained by conditions of the overarching social structures, respectively the characteristics of the organization and the workplace as well as people's according reference groups (Vadera et al. 2013; Warren 2003). Till today, Merton's (1938) sociological approach to anomie is one of the most influential theories in the field (e.g., Vidaver Cohen 1993; Mainemelis 2010). It posits that specific conditions of social structure generate the circumstances in which the departure from conventional norms becomes an expectable response. Regarding MCS, the objects-of-control framework (Merchant and Van der Stede 2012) was chosen because it particularly emphasises the influence of such socio-cultural types of control on human behavior and action (e.g., Hutzschenreuter 2009; Strauß and Zecher 2013). Apart from this and in comparison to other well-known frameworks

[5] When such deviance at the workplace is desired and even expected, it can be also referred to as "conventional deviance" (Dollinger and Raithel 2006; Faßauer 2012).

(e.g., Malmi and Brown 2008), the objects-of-control framework offers considerable conceptual overlaps and thus starting points, e.g. in terms of the differentiation and definition of the different types of control, for the explorative transfer to Merton's anomie theory. However, before this analysis and the presentation of findings take place, Merton's anomie theory and the objects-of-control framework are introduced in more detail in the following section.

2.2 Anomie theory

Anomie explains deviant behavior by highlighting the eroding acceptance of social rules and norms as a result of social imbalance and change (see for an overview Adler and Laufer 1999; Lincoln and Guillot 2006; Passas and Agnew 1997). Approaches to anomie theory thus focus on institutional causes of deviant behavior and define deviance as non-conformity with a certain set of expectations. Anomie theory is basically rooted in the studies of Emile Durkheim and Robert K. Merton. Merton's work on 'Social Structure and Anomie' (1938) in particular triggered a wave of reception in both American and European social sciences and contributed to rooting the term 'anomie' in the basic vocabulary of sociological research (Besnard 1988, p. 91).

Merton describes anomie as an erosion of values, norms and rules. He assumes that certain institutional circumstances can exert pressure on individuals to engage in nonconformist rather than conformist conduct (Merton 1938, p. 672). In particular, the development of anomie is traced to an imbalance between the institutional emphasis on desired goals and means and the acceptance of these goals and means among the institutional members.

The goals arise from the institutional environment or an organization's 'cultural structure'. This cultural structure marks the normative level of the organization and, at the same time, dictates the legitimacy of means that determine what is considered permissible or impermissible in pursuing the goals. According to Merton (1938, p. 674), institutional stability can be maintained "as long as satisfactions accrue to individuals who conform to both constraints, viz., satisfactions from achievement of the goals and satisfactions emerging directly from the institutionally canalized modes of striving to attain these ends." Organizations are in an anomic state when their members demonstrate either a low or an irregular acceptance and internalization of these goals and means. Such unbalanced subjective significance of institutional prescribed goals and means can have various reasons. Hence, institutional amplification of goals and means might be more or less tight (e.g. in terms of sanctions) or goals and means might be discrepant to each other. According to Merton, such imbalances are especially likely when opportunities or resources to achieve goals using legitimate means are limited (see in detail also Merton 1999). The inequality in the distribution of opportunities and resources for access to legitimate means, which Merton defines as part of the 'social structure' of an organization, is therefore a weighty factor when anomie arises. Individuals and groups whose access to legitimate means of reaching the goals is very limited are thus particularly subject to pressure to behave deviant.

Against this theoretical background, Merton develops a typology of possible reactions to anomic conditions, thus moving away from the macro or institutional to the

microlevel of anomie theory (Merton 1938; Passas and Agnew 1997). The types are differentiated by their respective acceptance of the goals prescribed for an area of social interaction and the prescribed means of attaining those goals. For example, a person can accept both goals and means, or merely the goals, etc. The types represent modes of prolonged reaction by individuals or groups in particular social situations. Individuals can change their modes of reaction depending on the area of social interaction; they can be persuaded by relevant experiences to change their previous reactions to the same situation or to choose one of the other types of reaction. Hence, apart from 'conformism' which does not suggest anomie, Merton distinguishes the reaction types of 'innovation', 'ritualism', 'retreat', and 'rebellion' (Merton 1938, p. 676).

'Innovation' occurs when an individual has adopted the institutional emphasis of a goal without likewise internalizing the norms that determine the ways and means of attaining it; that is, when someone uses institutionally forbidden means to reach accepted goals. According to Merton, this type of reaction occurs especially in those contexts in which the goal of success (in terms of status) is strongly emphasized, but is accompanied by social structures that do not ensure the effectiveness of legitimate means (opportunity, resources) for all basically able individuals. In turn, 'ritualism' is characterized by the abandonment or diminished acceptance of significant institutional goals (such as achievement of high status), but the simultaneous retention of and adherence to institutionalized means. According to Merton, this type of reaction particularly results from a high degree of status uncertainty that can arise through intense competitive struggle. One way to avoid this uncertainty is to reduce one's own expectations, and yet still act in strict accordance with the prescribed means, or follow prescribed routines. 'Retreat' is characterized by a rejection of both the prescribed goals and the means. In Merton's analysis, retreat particularly occurs when individuals have been profoundly disappointed in their expectation of achieving prescribed goals with prescribed means, but at the same time their deeply internalized values prevent them from using forbidden means. Retreat might be particular observed in situations where prescribed goals and means are discrepant, hence, where achievement of goals is hardly possible when applying prescribed means. Persons engaging in 'rebellion' reject institutionalized goals and means. The precondition for this reaction type is an individually or collectively shared image of a model perceived as an alternative to the social unit as it is now. Rebellion is likely to arise in situations of high individual and collective frustration about prevailing institutional structures. Table 1 gives an overview on the reaction types.

In sum, Merton clearly focuses on the institutional and social conditions such as the emphasis of goals and means and the availability of resources when explaining the reaction types. However, Merton himself as well as later research also point out that reference groups, extent of institutional socialization, and respective internalization of institutional values and norms (see also Vaughan 1997, p. 97) play a considerable role too. Thus, personal identity claims and their behavioral expression may influence the choice of a certain reaction type too (see especially Cohen 1965).

Table 1 Typology of reaction types according to Merton (1975, p. 346)

Reaction types		
Acceptance/non-acceptance of institutionally prescribed goals and means		
	Goals	Means
Innovation	+	−
Ritualism	−	+
Retreat	−	−
Rebellion	+/−	+/−

+ acceptance, − non-acceptance, +/− should indicate that the activity of the rebel is aimed at the realization of goals and means that are outside the existing cultural structure of an institution

2.3 The objects-of-control framework

For Merchant and Van der Stede (2012, p. 6) management control basically involves addressing the question: Are our employees likely to behave appropriately? By making a clear distinction from the strategic function of control, they argue that organizations must rely on the employees' behavior to accomplish the organizational objectives. Objectives are necessary for any purposeful activities and defined as central prerequisites for the design of MCS (Merchant and Van der Stede 2012, p. 7). According to the organization's purpose, such objectives might be various and do not have to be quantitative or financial. However, to put it with Merchant and Van der Stede, in any organization "employees must have some understanding of what the organization is trying to accomplish" (Merchant and Van der Stede 2012, p. 7). The need for the implementation of MCS then stems from necessity to deal with three basic challenges (Merchant and Van der Stede 2012, p. 10): lack of direction (employees perform poorly because they do not know what the organization wants from them), motivational problems (employees choose not to perform because their objectives do not coincide with those of the organization), and personal limitations (employees are unable to perform because of limitations, e.g. lack of personal skills or lack of information). Consequently, MCS are directed towards tackling these challenges and to guard against respective undesired behaviors in organizations.

Against this backdrop, Merchant and Van der Stede propose that control activities should focus on four different entities or objects of control (Hutzschenreuter 2009, p. 44). These are results, action, personnel, and cultural controls (Merchant and Van der Stede 2012, p. 29). In contrast to results and action controls, personnel and cultural controls refer to management's adjustments of the working environment and sociocultural factors in an organization. With regard to the different interaction effects between management and employees resulting from this, Hutzschenreuter basically differentiates between indirect (personnel and cultural controls) and direct forms of control (results and action controls) (Hutzschenreuter 2009, p. 47).

Results controls refer to the management's control of employees' performance through monitoring and rewarding performance outcomes. Results controls thus aim to direct employees' attention towards organizationally desired outcomes of performance

and to motivate them to achieve these outcomes (Merchant and Van der Stede 2012, p. 30; Hutzschenreuter 2009, p. 29; Haustein et al. 2014, p. 350). By focusing on the achievement of outcomes, results controls encourage employees to take those actions they believe will best produce the desired results and to develop their talents and to get placed into the jobs in which they will be able to perform well. Pay for performance is a prominent example for this form of control. However, results controls are appropriate only where the achievement of desired outcomes can be controlled to a considerably extent by the employees and where outcomes can be measured effectively (Merchant and Van der Stede 2012, p. 33).

Instead of focusing on the results of performance, action controls are concerned with the performance process itself (Merchant and Van der Stede 2012, p. 81). As behavior control it ensures that only those activities are carried out that are known as desirably for the organization (see also Hutzschenreuter 2009, p. 30). Examples are physical and administrative constraints for behavior (e.g. passwords, decision making authorities), but also preaction reviews (e.g. expenditure approvals, budgeting) and action accountability (e.g. operating policies, supervision of rules). While action controls inter alia support managers' and employees' awareness and respective mitigation of personal limitations for performance, they are only suitable when there is sufficient knowledge about the desirable performance process (Merchant and Van der Stede 2012, p. 86; Hutzschenreuter 2009, p. 32).

Key mechanism of personnel controls is employees' self-control (Merchant and Van der Stede 2012, p. 88; Hutzschenreuter 2009, p. 44). Self-control thus serves to guide people's behavior towards certain goals. Underlying phenomena have been discussed under several terms including intrinsic motivation, ethics and morality in organizations, loyalty or commitment. In organizations personnel controls can be achieved through selection and placement of employees, training, and job design and provision of necessary resources (e.g. degree of autonomy, staff support). Prerequisite of personnel controls is a certain degree of individual motivation among the employees.

Finally, cultural control builds on social interaction effects among the members of a group (Hutzschenreuter 2009, p. 46). Respective controls aim to encourage mutual monitoring and thus to prevent deviation from group norms and values (Merchant and Van der Stede 2012, p. 90). Cultural control is achieved through establishment of shared values, norms and beliefs, e.g. by defining and communicating mission statements, creation of role models as well as group-based incentives. In this way, a basic emotional tie between the employees is viewed as prerequisite for effective cultural control.

The application of the different forms of control can be more or less tight. According to Merchant and Van der Stede (2012, p. 123) tight controls provide a higher degree of certainty that employees will act as the organization wishes. For example, tight results controls would be characterized by highly specific, disaggregated and quantified performance targets that are congruent with true organizational objectives, are effectively communicated and are aligned with feedback in short time increments. Apart from tightness of single control forms, tight control can be also achieved by using reinforcing combinations of the various management control forms. However, Merchant and Van der Stede also propose that tight controls must not always be beneficial for every performance area and organizational situation (2012, p. 209). Hence, costs of

implementing tight controls as well as possible harmful side effects (e.g. stifling of creativity or slow adaption to changing environments) have to be considered when deciding on the tightness or looseness of management control.

2.4 Analytical framework

This paper basically wants to find out how management control is likely to produce unintended or deviant behaviors. For this the objects-of-control framework (Merchant and Van der Stede 2012) is explored from perspective of Merton's sociological theory of anomie (Merton 1938). Such transfer seems basically legitimate as Merton himself explicitly points to the applicability of his analytical scheme to "various spheres of conduct" (Merton 1997, p. X). Accordingly, it is used here for analysis of organizations and respective work contexts (e.g., Mainemelis 2010). Of course, while the two approaches can be conceptually linked in several ways, they can't be transferred one-to-one. Rather, Merton's theory is used here like a pre-cut pattern looking for connecting points with the objects-of-control framework. Accordingly, the following analysis is explorative in character and contributes to an interdisciplinary reflection of management control and the objects-of-control framework in particular.

Anomie theory and the objects-of-control framework share the assumption that human behavior is embedded and guided by institutional and social structures. In this regard, anomie theory focuses on the stability of organizations and the respective explanation of deviance due to institutional imbalances, while management control deals with the creation of organizational conditions for producing a desired behavior among employees. Interestingly, one can align central factors for explaining conforming and deviant behaviors in Merton's anomie theory with respective factors explaining the control for desired behaviors in the objects-of-control framework (see Fig. 1 for an overview). The goals and means for human behavior that are, according to anomie theory, prescribed by the cultural structure of an organization thus generally correspond with notions of results and action controls in the objects-of-control framework. Also Merton's arguments on the cultural and social structure of an organization can be aligned with the notions of cultural and personnel controls in the objects-of-control framework. Hence, according to Merton, goals and means represent and drive certain norms and values (e.g. the significance of status due to high emphasis of goals) as well as trigger self-control (e.g. through the felt satisfaction when complying to goals and means) among the members of an organization. In turn and mediated through reaction types, these norms and values (cultural and personnel controls) influence the acceptance of prescribed goals and means (results and action controls). Moreover, Merton's argument on the central role of the unsuitable distribution of resources (which he defines as part of the social structure of an organization) is reflected in Merchant's and Van der Stede's notion of personnel controls. Thus, inter alia the latter should provide employees with necessary resources to do their work in the desired way.

Against this backdrop, it seems promising to derive an explorative analytical framework (see Fig. 1) that combines anomie theory thoughts with the objects-of-control framework and thus allows the delineation of propositions under which conditions management control might produce desirable as well as undesirable deviant behaviors.

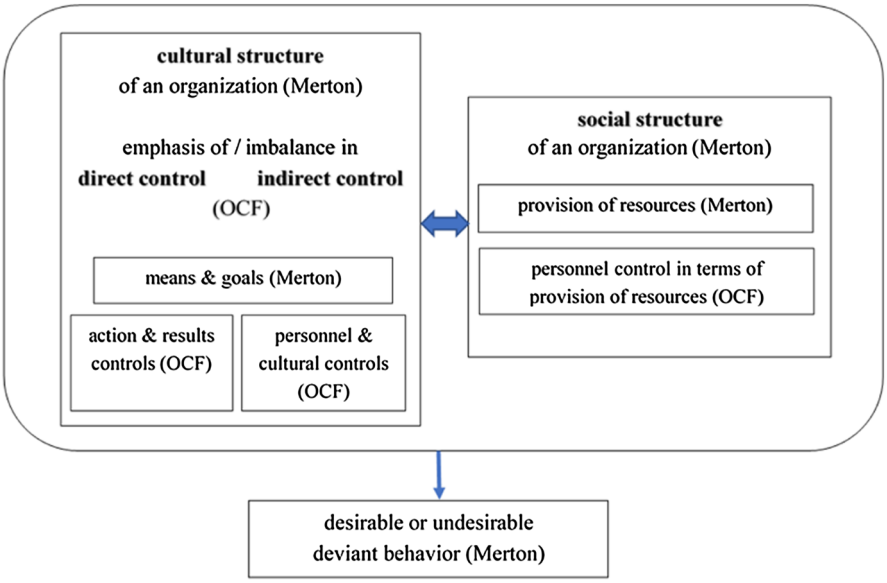

Fig. 1 Analytical framework, own representation. *OCF* objects-of-control framework

This corresponds to a dark side approach as respective characteristics of management control are exclusively explored as possible drivers of deviance. This perspective clearly blurs conventional notions about functional and dysfunctional management control as it considers the possibility that even 'dysfunctional' management control might produce desired outcomes.

3 Explorative analysis

3.1 Objects-of-control framework's conditions for producing anomie and deviance

In this section central explanation variables for anomie and deviant behavior are introduced for explorative delineating of propositions about the respective conditions of management control and the objects-of-control framework in particular. Guiding question for this interdisciplinary transfer is: Under which conditions are results, action, personnel, and cultural controls likely to produce anomie and thus deviant behaviors?

According to Merton, the innovative type of deviance occurs in situations, where high institutional emphasis of goal achievement (e.g., number of product developments as most important performance criteria accompanied with pay for performance) is combined with high internalization of those goals among the employees (e.g., high legitimacy of this performance criteria) and scarcity of resources for application of prescribed means (e.g., high time pressure or staff shortage that undermine standards for testing new product developments). In terms of the objects-of-control framework this

would mean that rather tight results controls are joined by indirect forms of control that strongly focus on meritocratic or intrapreneurial principles (e.g., by representing employees with high number of product developments as role models). Thereby, deviation from the prescribed means of rendering performance (e.g., the standards for testing new product developments) would be additionally pushed by lacking personnel controls in terms of scarce provision of resources (e.g., the lack of time) actually necessary for rendering performance in the officially desired way of action (e.g., sticking to the standards of product testing).

However, high institutional emphasis of goal achievement might also create ritualistic behavior, if goal achievement is highly competitive and is thus perceived as very uncertain from perspective of employees (e.g., employees only see a little chance to achieve a certain number of product developments due to the competition with highly skilled colleagues). According to anomie theory, employees in this situation are likely to stick to prescribed means of rendering performance even at the risk of missing the goals. In terms of management control, this would be conditioned through tight results controls (e.g., regular control if a predetermined number of product developments is met). In combination with tight cultural controls in terms of meritocratic or intrapreneurial principles (e.g., employees with a high score of product developments are represented as role models), employees paradoxically would tend to stick to routinized standards of rendering performance (e.g., by sticking to the standards for testing new product developments at the risk of missing the predetermined number of new product developments). From this perspective, it seems only a thin line between the conditions that trigger innovative and ritualistic types of behavior. Personnel characteristics like intrapreneurial orientation, corresponding risk aversion or commitment to professional standards of rendering performance seem to play a central role here. However, such sticking might not only get boosted by uncertainty of goal achievement but also by employee's high acceptance of a particular form of action controls. Hence, action controls might foster certain professional standards of rendering performance (e.g., standards of application of certain research methods or procedures for the testing of new product developments) and thus accommodate with respective commitments among employees (Abbott 1988; Freidson 2001). Arguably, the tightness of such action controls (e.g., in form of the regular and comprehensive control of documents protocolling the orientation towards these standards) can get considerably strengthened by tight indirect controls when providing such professional orientation (e.g., in terms of a mission statement that highlights a scientific approach to new product developments as a value in its own right). The respective orientation of indirect controls (e.g., in terms of valuing competitiveness and entrepreneurial orientation or professionalism) and their respective interplay with direct forms (e.g., tightening of action controls through support of professionalism) thus can significantly influence the particular motivation and kind of ritualistic behavior.

The reaction type of retreat stands for resignation resulting from disappointment about not achieving the prescribed goals (e.g., a predetermined number of product developments) with prescribed means (e.g., given standards for application of certain research methods). Here, deeply internalized values prevent employees from using forbidden means (e.g., to deviate from scientific standards) and thus to show the reaction type of innovation. Conditions for retreat are created through discrepancies between

goals and means, or, from perspective of MCS, through the mismatch between results and action controls. Thus, the objects of action controls are not appropriate for achieving those of results controls. Arguably, this conflictual situation for employees gets even fuelled when both forms of control are rather tight (e.g., number of product developments is quantified and regularly controlled as well as the documents protocolling the application of certain scientific standards). When employees retreat, the indirect forms of control proposedly are very loose or simply fail due to the discrepancy of action and results controls. Hence, if one instead imagines a tight cultural and personnel controls in terms of professional standards, one could rather expect the ritualistic type of reaction (see above).

According to Merton, rebellious reactions stem from frustration about prevailing institutional goals and means. Such frustration may be due to discrepancies (e.g. resource scarcity or mismatch between goals and means mentioned above) and respective inefficiency of the institutional structure. According to Merton, rebellion is aligned with an alternative vision for goals and means and respective attempts to foster these alternative ideas. Proposedly, regarding MSC, rebellious behavior among employees would result from perceived inappropriateness of results and action controls. Arguably, this effect is fuelled when these forms of control are rather tight and thus strongly confine alternative behavior. However, regarding the indirect forms of control two scenarios can be proposed. On the one hand, cultural and personnel controls can support a certain degree of nonconforming behavior among employees (e.g., unorthodox behavior is positively estimated, e.g. by a mission statement which underscores a company's creativity or a personnel selection that focuses on a high diversity among the staff) and thus mitigate the effects of direct forms of control. On the other hand, rebellious behavior can be directed against indirect forms of control too (arguably, when the latter strongly promote conformity among employees). As Grabner and Speckbacher (2016) indicate, the first scenario may point to a conscious management decision aiming to combine efficiency (direct control) with creativity, learning and innovation (indirect control in terms of nonconformity). The latter refers to rebellion in its radical sense and therefore seems rather undesired from perspective management control. Arguably, the tightness or looseness of the indirect controls will intensify respective effects. Again, the particular characteristic of indirect forms of control and their interrelation with direct forms of control could make a considerable difference with regard to the content of rebellious behavior. Table 2 gives an overview of the main findings of analysis.

3.2 Desirable and undesirable deviance

So far the analysis dealt with the objects-of-control framework's conditions for producing anomie and according deviant behaviors. However, referring to the research question raised in this paper, the question remains how one can evaluate the different types of deviance in terms of innovative behavior.

Merton's 'innovator' is certainly the reaction type which comes closest to the notion of innovative behavior introduced above. In order to achieve prescribed goals, the 'innovator' deviates from conventional means of rendering performance showing a

Table 2 Overview on findings, own representation

Reaction type	Central explanation variables/anomie theory (macro-/microlevel)	Propositions on objects-of-control framework
Innovation Goals + Means −	High institutional emphasis of goal achievement High internalisation of prescribed goals among employees Non-availability of resources for applying prescribed means	Tight results controls Tight cultural controls and personnel controls in terms of meritocratic or intrapreneurial principles Personnel controls in terms of scarce provision of resources
Ritualism Goals − Means +	High institutional emphasis of goal achievement High uncertainty referring goal achievement High feeling of uncertainty referring goal achievement among employees	Tight results controls Tight cultural controls in terms of meritocratic or intrapreneurial principles (potentially tightening results controls) *or* Tight cultural and personnel controls in terms of professional standards of performance (potentially tightening action controls)
Retreat Goals − Means −	Discrepancy between prescribed goals and respective means High internalization of prescribed means among employees	Mismatch between tight results controls and tight action controls (action controls don't allow achievement of results) Loose or failing cultural and personnel controls (otherwise tendencies towards ritualism and tightening of action controls)
Rebellion Goals +/− Means +/−	High frustration about prevailing goals and means (e.g. due to discrepancies, inefficiency) Alternative vision for goals and means	Inefficiency, inappropriateness of tight results and tight action controls Tight/loose cultural and personnel controls in terms of nonconformity (desired rebellion) or conformity (undesired rebellion)

non-routine behavior. Arguably, this type of behavior can go along with incremental as well as radical innovations. Supposedly, requirements for short-term results (e.g. costs, delivery time), rather assist continuous improvement and incremental innovations with regard to exploitation of available resources (Atuahene-Gima 2005), while longer-term requirements (e.g. number of patents, sales of a new product) can also serve radical innovations (Cardinal 2001). However, in certain circumstance Merton's innovative type of reaction can also be regarded as negative. For example, the unbounded identification of employees with the required role of the internal entrepreneur can be problematic. This refers to the well-known risks of tight results controls and pay-for-performance systems (e.g., Bonner and Sprinkle 2012). Risks lay in the single-minded pursuit of goal achievement on the part of individuals and organizational units at the cost of collective resources and social relationships within the organization, or in the increased control of personal career risks on the part of managers acting as 'advocates for their own cause' by promoting projects with quick returns at the expense of opportunities for long-term organizational development (Frey et al. 2013; Cascio 2002; Purcell and Ahlstrand 1994; Rumelt 1987). While such a behavior can foster incremental innovations in single organizational units, companies face a trade-off in their capability for long-term innovations (Atuahene-Gima 2005). Moreover, there might be workplace crimes where illegal and immoral actions—such as bribery, illegal price-fixing or the violation of product-related disclosure requirements (Vadera and Pratt 2013)—are pursued to attain prescribed results (e.g. MacLean's 2001). Highly tight results controls can thus impede reflections about socially desired and appropriate practices of performance and allow abusive behaviour to take place in the organization.

'Ritualism' and 'retreat' rather point to non-innovative behavior. Employees who 'retreat' quit internally, hold back their capabilities, and thereby at least compromise the resource efficiency of the organization. Also 'ritualism', when solely resulting from uncertainty avoidance and thus interpreted as rigid adherence to traditional and inadequate operating procedures, appears to impede adaptability to new circumstances and, therefore, contrasts expectations of innovative behavior. Both types of deviance thus seem to hamper innovation activities of a company. However, the case is different if 'ritualism' grounds primarily in obligations toward professional norms and standards. Professional procedures of work are standardized indeed, but they are usually applied to rather uncertain situations and complex tasks by specialized staff and executives (Abbott 1988; Freidson 2001). This way, they especially help to define the acceptable range of options for actions when responding to environmental uncertainty and when facing the need for innovation and change accordingly. Orientation towards professional standards creates security and reliability but without a rigid restriction of options for particular action. The adherence to professional procedures of producing performance can thus contradict the achievement of prescribed results, but might deliver sole orientations and criteria towards possible action in uncertain situations. As argued above, indirect forms of control seem particularly relevant for maintaining such behaviors when confronted with tight results controls.

Finally, also 'rebellion' points to innovative behavior. However, according to the degree of employee's rejection of prevailing forms of control, rebellion can describe innovative behaviors that are more or less desired in an organization. Hence, when rebellion is directed towards challenging direct forms of control but is supported by

indirect control (in term of fostering nonconformity as a shared value and norm) it might positively appear as constructive deviance that fosters creativity, learning and innovation. Instead, when rebellion grounds in complete refusal of prevailing direct and indirect forms of control, it rather points to crucial disruption (e.g. in terms of organizational transformation) and radical innovation.

4 Discussion and implications for research

The analysis demonstrates that different combinations of the forms of control in the objects-of-control framework as well as the particular characteristic of each of these forms can create various types of deviant behavior.[6] While some of these types seem rather undesirable at the workplace some mirror variations of desirable innovative behavior.

The analysis basically facilitates insights into the effects of multiple forms of control and thus advocates a systemic perspective on MCS where the value of single forms of control is viewed to depend on the use of another and vice versa (e.g. Grabner and Moers 2013; Haustein et al. 2014). The analysis further underscores the different effects of tight or loose forms of controls and respective combinations (Merchant and Van der Stede 2012). Hence, situational mismatches between action and results controls, might get mitigated by the loose character of one of those or through tight indirect controls which make the mismatch 'bearable' for employees by giving an orientation for adequate behavior. Arguably, decisions on the tight- and looseness of MCS might be all the more important in times of uncertainty and expectations for innovative behavior by allowing a degree of managerial flexibility when applying controls (e.g. Mainemelis 2010).

In this vein, the analysis further illuminates how direct and indirect forms of control can complement and tighten each other but also how they loosen and undermine the other's intended effects. In particular, the findings suggest that the actual content of indirect controls, thus the specific norms and values they are directed at, might specifically relate to each of the direct forms of control. For example, indirect control in terms of a strong focus on professional values seem to have a greater undermining effect on results controls, e.g. in terms of a focus on number of product developments, while indirect control in terms of a focus on meritocratic or intrapreneurial values seem to have a greater undermining effect on action controls, e.g. in terms of focusing on the standards for testing new product developments. For future research, this calls for deeper investigation of the actual content of indirect forms of control and its respective interrelation with each of the direct forms of control.

In this line, it seems further remarkably that such undermining effects might precisely create the tensions for influencing innovative behavior. This becomes at most

[6] While the analysis builds on the objects-of-control framework, a complementary view from Simons' levers-of-control framework (Simons 1995) seems recommendable for future research. Thus, in order to prevent undesired deviant behaviors the definition and management of 'boundary systems' in sense of Simons could play a considerable role. Further, the interactive use of control systems as suggested by Simons' framework may considerably reduce the anomic pressure which is built up by the conditions discussed here along the objects-of-control framework.

obvious for the effects of personnel controls and the respective provision of resources. Hence, while also from perspective of research on creativity and innovation, the sufficient provision of resources is viewed as necessary for employees' innovative behavior (e.g. Madjar et al. 2011; Anderson et al. 2014), an anomie theory analysis delivers opposing arguments.[7] It sensitises for the phenomenon that lack of resources, and thus actually 'dysfunctional' personnel controls in term of the objects-of-control framework, is also likely to foster creativity and innovation (e.g. Petrou et al. 2018). However, at the same time it also demonstrates that lack of resources due to perceived discrepancies of MSC can also lead to withdrawal or radical rebellious behavior. Accordingly, one implication for future research on MCS would be to stronger investigate the respective effects of resource scarcity at the workplace and its possible interrelations with other forms of control.

Apart from showing that direct and indirect forms of control complement, supplement or undermine each other's effects, an anomie theory analysis moreover demonstrates that the different forms of control influence each other at their core too. From an anomie theory perspective, behaving according to prescribed results and actions is necessarily dependent upon their acceptance and perceived legitimacy among employees. In this way, certain degree of indirect control is always inherent to effective direct forms of control. One implication resulting from this is not only to focus on the systemic effects of multiple forms of control, but also on how direct forms of control inform indirect forms of control in their very nature; thus how they influence norms and values and processes of self-control at the workplace.

The analysis finally underscores the assumption that MCS's effects are influenced by their different perception and enactment among employees (e.g. Speklé et al. 2017). Thus, employee's personal characteristics (e.g. intrapreneurial orientation, risk aversion, professional commitment) are significant for the functioning of MCS and in this regard call for deeper research (e.g. Fried 2017). Moreover, applying Merton's arguments on the anomie-driven types of deviance to MCS research, also sensitises for the emotional dimension of the enactment of MCS at the workplace. MCS can create negative emotions, like resignation or frustration, and thus considerably drive innovative behavior at the workplace (e.g. in terms of rebellion). Future research is thus invited to focus on the role of positive as well as negative emotions accompanied with the enactment of MCS and the respective effects for creativity and innovation.

5 Summary and conclusion

The paper followed the research question how management control can contribute to desirable and undesirable deviant behavior at the workplace. By framing innovative behavior as a kind of desired deviance, the paper introduced Merton's sociological theory of anomie for a conceptual and explorative analysis of Merchant's and Van der Stede's objects-of-control framework. Central purpose of this interdisciplinary transfer was to elaborate under which conditions the multiple forms of control pro-

[7] Due to the anomie theory lens with its focus on resource scarcity the impact of the opposing situation, hence the excessive resource distribution, was not considered here.

posed by the objects-of-control framework are likely to produce anomie and thus deviant behaviors at the workplace. By discussing Merton's propositions on anomie-driven reaction types, the paper illuminated how conditions of management control can produce desired as well as rather undesired forms of deviant behavior. The findings basically advocate a systemic view on management control, a focus on the effects of the tightness and looseness of MCS, and an emphasis of the significant role of indirect forms of control. However, they also indicate that discrepancies and respective 'dysfunctionalities' of MCS can create precisely the conditions for desired innovative behavior. At the same time, this 'dark side' perspective makes aware too, that an imaginary 'management by dysfunctionalities', such as silent acceptance of undermining effects of certain forms of control for the sake of innovation, can also produce withdrawal and resistance among employees. This basically calls for deeper elaboration of the conditions and characteristics of the 'dark side effects' of management control. Finally, while the paper shows the complexity and potential dynamics of the factors driving deviant behaviors, it, at the same time, is limited in giving clear cut practical solutions for encouraging innovative behavior. It rather sensitizes that innovative behavior can be various, sometimes hides behind initially unwanted behavior and can be encouraged by 'dysfunctional' management control. In this way, the paper's perspective blurs notions about 'functional' and 'dysfunctional' management control and thus consequently advocates a reflexive and interactive use of MCS.

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