THE IMPACT OF RESULTS CONTROL ON AFFECTIVE ORGANIZATIONAL COMMITMENT: THE MEDIATING EFFECTS OF PERCEIVED PROCEDURAL JUSTICE

Pascal Langevin, Carla Mendoza

Association Francophone de Comptabilité | « Comptabilité - Contrôle - Audit »

2014/1 Volume 20 | pages 13 - 42
ISSN 1262-2788
ISBN 9791093449005

This document is the English version of:

DOI 10.3917/cca.201.0013

Available online at:

https://www.cairn-int.info/article-E_CCA_201_0013--the-impact-of-results-control-on.htm

How to cite this article:

DOI 10.3917/cca.201.0013

Electronic distribution by Cairn on behalf of Association Francophone de Comptabilité.
© Association Francophone de Comptabilité. All rights reserved for all countries.
Reproducing this article (including by photocopying) is only authorized in accordance with the general terms and conditions of use for the website, or with the general terms and conditions of the license held by your institution, where applicable. Any other reproduction, in full or in part, or storage in a database,
in any form and by any means whatsoever is strictly prohibited without the prior written consent of the publisher, except where permitted under French law.
The impact of results control on affective organizational commitment: the mediating effects of perceived procedural justice

Abstract
Organizational literature provides evidence that organizational commitment positively influences employees’ behaviors and performance. However, although results

Résumé
La littérature en organisation a montré que l'engagement organisationnel avait un effet important sur le comportement et la performance des salariés. Pourtant, curieusement, alors que

* Professeur, EMLYON Business School
** Professeur, ESCP Europe
controls are central in organizations and are known to influence behaviors, few studies in the management control area have investigated their effects on organizational commitment. We argue that results control systems that are perceived to be fair affect managers’ organizational commitment positively. Based on survey responses from 320 managers, we find that three components of the control process – namely participation, application of the controllability principle and performance feedback – increase managers’ organizational commitment through perceived procedural justice. These results invite management control academics to take an interest in perceived justice and provide organizations with some guidelines on how to design fair, thus more effective, control systems.

**Keywords:** justice; management control; organization commitment

**Mots-clés :** justice – contrôle – engagement organisationnel

**Correspondence:**

Pascal Langevin  
Professeur  
EMLYON Business School  
23 avenue Guy de Collongue  
69134 Ecully cedex  
langevin@em-lyon.com

Carla Mendoza  
Professeur  
ESCP Europe  
79 avenue de la République  
75543 Paris Cedex 11, France.  
mendoza@escpeurope.eu

**1. Introduction**

Management control systems are an instrument used by most organizations today (Berland and De Rongé 2010, p 71). They are based on a specific mode of behavior orientation: results control (Giraud and Zarłowski 2011, p21). As well as objective-setting, they incorporate measurement and evaluation of results in relation to those objectives, and have a significant influence on managers’ attitudes, behaviors, and ultimately performances (Naro 1998; Gervais 2009). It is thus important for both theory and practice that control studies analyze and identify the ways these systems act on behavior.
To this end, research can build on the organizational behavior literature. One interesting result from this literature is that organizational commitment, and more specifically its affective dimension, is a critical explanatory factor for employees' attitudes and behaviors in organizations. In particular, this literature has shown that organizational commitment is, for example, positively related to job satisfaction, citizenship behavior and performance, and negatively associated with stress and employee turnover (Meyer et al. 2002). Research has also demonstrated that both personal and organizational characteristics are antecedents of organizational commitment (Meyer et al. 2002).

Some control research has begun to incorporate organizational commitment into its analyses (Georgescu and Commeiras 2011). This article is part of that movement, and proposes to examine how the results control system influences affective organizational commitment.

The results produced by two streams of research are mobilized to achieve this aim. In the management control research field, a certain number of studies over the last decade have shown that managers are sensitive to the perceived fairness, or justice, of control systems. These studies observe that the perceived justice of control systems reduces managers' propensity to adopt dysfunctional behaviors (Little et al. 2002; Wentzel 2002; Staley and Magner 2007), leads them to display citizenship behaviors (Little et al. 2002; Burney et al. 2009; Nasr et al. 2009), increases their commitment to their objectives (Wentzel 2002) and results in greater job satisfaction (Lau and Sholihin 2005; Lau and Tan 2005; Lau and Moser 2008; Sholihin and Pike 2009).

The organizational research field also provides evidence that perceived justice is an important antecedent of organizational commitment (Cohen-Charash and Spector 2001; Meyer et al., 2002; El Akremi et al. 2006b), especially the affective form of organizational commitment. Studies conducted across industries and organizational levels consistently demonstrate that employees who feel that they are treated fairly by their organization, their superior, or their colleagues, are more motivated and more committed to their organization (Manville 2008; Müller and Djuatio 2011).

Drawing together the findings of these two streams of research suggests that procedures for objective-setting and results evaluation that are perceived as fair will be good for managers' organizational commitment, and this is what our study proposes to examine.

The process analyzed generally covers one year, and comprises the following stages: (1) setting objectives; (2) regular measurement of results in order to supply feedback and define corrective action where necessary; (3) measuring and evaluating performance based on managers' degree of achievement of their objectives. The aim is to identify which features to include in the procedures used in order to increase perceived procedural justice, and thereby foster greater organizational commitment on the part of managers.

Some management control studies already provide evidence of the critical role of perceived procedural justice in mediating the relationships between management control systems and managers' attitudes and behaviors. However, so far, research has produced fragmented results. Studies often explore only one component of the control system and/or one specific stage of the management control process. For example, among components that have been shown to affect perceived fairness positively, participation is involved at the objective-setting stage (Wentzel 2002; Lau and Tan 2005), whereas the use of multiple non-financial measures (Lau and Sholihin 2005; Lau and Moser 2008; Burney et al. 2009) concerns the performance evaluation stage. Results found on a single independent
variable may be contaminated by other variables not included in the analysis. This is the reason why our study examines three components of the control process simultaneously: (1) the opportunity given to managers to participate in objective-setting; (2) application of the controllability principle when setting managers’ objectives or evaluating their performance; (3) the provision of performance feedback to managers during the year as well as at year-end. We selected these three components for two reasons. First, they take place at different stages in the control process. Second, research has shown that they influence perceived procedural justice positively. This is the case for participation in objective-setting (Magner et al. 1995; Libby 1999; Wentzel 2002; Lau and Tan 2005; Derfuss 2009) and to a lesser extent, performance feedback (Hartmann and Slapničar 2009). The effect of applying the controllability principle has been qualitatively observed by Giraud et al. (2008), without being empirically tested.

Our study takes a quantitative approach. Most of the variables in our model have already been operationalized, and so instruments to measure them are available. Also, statistical testing on a broad sample is an appropriate way to test a mediating relationship between variables. The results obtained confirm that perceived procedural justice is a mediating variable in the relationship connecting participation, application of the controllability principle and communication of feedback to organizational commitment.

To sum up, the objectives and contributions of this study lie at three levels. First, it extends a little-explored field in management control research, by examining whether results control systems have an influence on the level of organizational commitment via the procedural justice effect. Second, it contributes to identification of the antecedents of procedural justice by its positioning in the framework of results control systems, which are used in many firms. Third, it aims for a fuller view than previous studies by including three components relating to three different phases in the process. In terms of theory, this study thus makes the contribution of highlighting procedural justice’s central role in the relationships between management control system features and the managerial behaviors they foster. In terms of methodology, this study uses a substantially larger sample than previous studies on the subject, to confirm and complement the results of those studies. Finally, our results open up avenues to understand which levers firms can adjust to promote members’ organizational commitment through their control systems.

This paper is organized as follows: section 2 reviews the literature on organizational commitment, perceived justice, and results control system components, and formulates hypotheses; section 3 presents the research method and section 4 the results; section 5 discusses the findings, presents the limitations of this study, and suggests directions for future research.

2. Literature review and hypotheses

Researchers in organizational behavior have stressed the decisive role played by perceived justice, particularly perceived procedural justice, on individuals’ commitment to their organization (2.1). As the management control system is likely to encourage this perception of procedural justice, we examine three of its dimensions in this study: the possibility of participating in objective-setting (2.2), application of the controllability principle (2.3) and provision of feedback during the year and at the
year-end (2.4). As these three dimensions have a positive influence on perceived procedural justice, which in turn is a determinant of organizational commitment, it is possible to argue that procedural justice acts as a mediating variable in the relationship between these three dimensions of the control system and individuals' organizational commitment (2.5). Figure 1 presents the relationships analyzed in this study.

2.1. Organizational commitment and procedural justice

First, we define organizational commitment, particularly affective organizational commitment (2.1.1), before looking at the effect of procedural justice on this commitment (2.1.2).

2.1.1. AFFECTIVE ORGANIZATIONAL COMMITMENT

Commitment is a psychological force that drives an individual to adopt a behavior towards an object (Meyer and Herscovitch 2001; Meyer et al. 2006). As Herrbach emphasizes (2005, p. 137), the value of the concept of commitment is that it can explain a person's motivation to act independently of his attitudes or the extrinsic advantages he could draw from his actions. Various types of commitment exist, depending on the object concerned (Paillé 2009). The object of the commitment may, for example, be social (the individual's commitment to his organization, his team, his superior, etc.) or non-social (commitment to his work, his objectives, a project, etc.) (Stinglhamber et al. 2004; Meyer et al. 2006). Organizational commitment, or individuals' commitment to the organization that employs them, has been the subject of many studies and models (Meyer and Allen 1991; Meyer et al. 2002). The dominant model today is the model developed by Meyer and Allen (1991; 2002), who distinguish three components of individuals' attachment to their firm (Bentein et al. 2004, p. 69). Affective commitment is defined as the “relative strength of an individual’s identification with and involvement...
THE IMPACT OF RESULTS CONTROL ON AFFECTIVE ORGANIZATIONAL COMMITMENT:
THE MEDIATING EFFECTS OF PERCEIVED PROCEDURAL JUSTICE

in a particular organization. It can be characterized by at least three related factors: (1) a strong belief
in and acceptance of the organization's goals and values; (2) a willingness to exert considerable effort
on behalf of the organization; and (3) a strong desire to maintain membership in the organization.”
(Mowday et al. 1979, p. 226). Continuance commitment is based on an individual’s belief that lea-
ving the organization will be costly. Normative commitment is a sense of obligation to the organiza-
tion, that is, individuals are committed because they believe it is the right and moral thing to do.

While the three forms of commitment are important in predicting a person’s intention to stay with
or leave the firm (Tett and Meyer 1993), workplace behavior and performance tend to be explained
by affective commitment (Nouri and Parker 1998), which has been the subject of many articles of
organizational behavior research (Meyer et al. 2002; Bergman 2006). The meta-analyses conducted
have shown a positive correlation between the affective dimension of commitment and workplace
performance (Mathieu and Zajac 1990; Riketta 2002). Our study is positioned within the framework
of management control research, that is ultimately interested in the performance of organizations and
individuals at work. The affective dimension of organizational commitment thus appears better suited
to our analysis than the other dimensions of commitment.

Meyer and his colleagues (Meyer and Allen 1991; Meyer et al. 2002) also show that the main
determinants of affective commitment are the organization's characteristics and work experiences.
Work experiences are of two types: those that satisfy employees' need to feel comfortable in the or-
ganization (e.g., reward equity, role clarity, procedural justice) and those that contribute to employees’
feelings of competence in their work role (e.g., opportunity for self-expression and participation in
decision-making) (Meyer and Allen 1991, p. 70-71). The other two forms of commitment, however,
are explained more by the individual’s characteristics, the investment made in his work, the efforts
exerted by the organization to hire or retain him, etc.

Organizational features have an influence on employees’ perceptions of their work experiences,
which in turn affect the development of their affective commitment (Chênevert et al. 2007). We believe
that in view of the central role they play in organizations, management control systems are one of the
organizational features that affect employees' work experiences. In short, to follow Chênevert et al.
(2007), it is the affective form of organizational commitment that appears the most likely to be affected
by management control systems, and this is why our study focuses on that type of commitment.

2.1.2. THE EFFECT OF PROCEDURAL JUSTICE ON AFFECTIVE
ORGANIZATIONAL COMMITMENT

In this study we argue that a management control system designed to be perceived as fair by emplo-
yees will influence their degree of affective commitment towards the organization. The social science
definition of organizational justice is based on people's perceptions: an act is fair because someone
perceives it to be fair (Fortin 2008). Byrne and Cropanzano (2001, p.4) define organizational justice
as “an area of psychological inquiry that focuses on perceptions of fairness in the workplace. It is the
psychology of justice applied to organizational settings.” Research has identified different dimensions
of organizational justice (Greenberg and Colquitt 2005). Distributive justice is concerned with the
fairness of outcomes, such as pay, rewards, or promotions. Procedural justice concerns individuals’
perceptions about the fairness of procedures used to determine the outcomes. Finally, interactional
justice refers to the quality of interpersonal treatment people receive when procedures are implemented. All dimensions of organizational justice are affected by the modalities of the control system. These systems influence the perception of distributive justice, for example, because the objectives set, the resources allocated and the performance-based rewards received are examples of outcomes which managers may consider fair or unfair. Moreover, negotiating objectives and evaluating performance at the end of the year are opportunities for interaction between managers and their superiors. Managers are likely to be sensitive to the interactional justice displayed by their superiors during these interactions. Although perceptions of distributive justice and interactional justice are at work during the objective-setting and performance evaluation process, the chosen focus in this study is on procedural justice. This choice was driven by two considerations. First, the way a control system operates is significantly oriented by the rules and procedures that define it, and so presumably managers are particularly attentive to the fairness of those rules and procedures. Second, research examining the differentiated effects of the different forms of justice has shown the decisive role procedural justice plays in organizational commitment. Folger and Konovsky (1989), for example, demonstrate that procedural justice provides a better explanation for organizational commitment than distributive justice. Similar conclusions are reached in a study of 600 bank workers by Sweeney and McFarlin (1993). Magner and Johnson (1995), in a study of 277 municipal police chiefs, observe that the positive effect of procedural justice continues to play a role in organizational commitment after controlling for the influence of distributive justice, which indicates that the importance of fair budget allocation procedures extends beyond their capacity to determine a fair distribution of resources. Finally, in their meta-analysis of 190 studies, Cohen-Charash and Spector (2001) conclude that affective commitment is significantly more related to procedural justice than distributive or interactional justice.

Procedural justice is defined as “an individual’s perception of the fairness of procedural components of the social system that regulate the allocation process. The concept focuses on the individual’s cognitive map of events that precede the distribution of rewards, and the evaluation of those events” (Leventhal et al. 1980, p.35). Norms that employees apply in assessing procedural fairness require, for example, that procedures provide them with an opportunity to voice their opinions (Thibaut and Walker 1975), are applied consistently (Barrett-Howard and Tyler 1986) and ensure that accurate information is incorporated into decision making (Leventhal et al. 1980). More specifically, Leventhal and colleagues (1980) identify six criteria of perceived procedural fairness. They state that procedures are perceived to be fair when they: (1) are applied consistently across people and across time; (2) are not biased by personal self-interest; (3) ensure that accurate information is collected and used in making decisions; (4) contain the opportunity to review and modify decisions by allowing appeals and grievances; (5) conform to personal or prevailing standards of ethics or morality; and (6) ensure that the opinions of various groups affected by the decision have been taken into account.

Two approaches explain why procedural justice is important for individuals and affects their attitudes towards the organization as a whole, including organizational commitment and loyalty (Blader and Bobocel 2005). According to instrumental models, individuals value procedural fairness because it ensures predictability and favorability of their outcomes. Thus, fair procedures increase employees’ confidence that they have an interest in committing to their organization because they will obtain future favorable outcomes in return. According to relational models, individuals look at procedures to make sense of their social identities: when treated fairly, they feel that they are respected members
of their organization, and identify with, commit to, and develop trust in their organization (Tyler and Blader 2000). Since management control systems include procedures that define how objectives are set, feedback provided, and performance evaluated, managers are likely to be sensitive to the fairness of those procedures. To the extent that they perceive procedures to be fair, they will be confident of obtaining valued benefits over the long run and feel that they are respected members of their organization and should thus commit to their organization.

Several empirical studies have confirmed the link between perceived organizational justice and organizational commitment (El Akremi et al. 2006a, p. 69). Manville (2008), for example, observes that nurses and auxiliaries in seven French clinics are sensitive to the fairness of their treatment, and fair treatment increases their commitment to the organization they work for, whether they are employed on permanent or fixed-term contracts. Another survey of 352 employees highlights the effects of organizational justice on employability, satisfaction and organizational commitment (Müller and Djuatio 2011). These two studies concern the various dimensions of organizational justice. Chênevert et al. (2007), meanwhile, analyze changes in the effects of organizational characteristics on affective commitment, by comparing the answers to a questionnaire administered to two matched samples of 80 employees of a healthcare establishment in Quebec. Their results show that affective commitment increases with the level of perceived procedural justice.

In the more specific management control literature, some studies, although only a limited number to date, have also shown the positive effect on organizational commitment of fair procedures for objective-setting and performance evaluation (Staley et al. 2003; Lau and Tan 2005; Hartmann and Slapničar 2008; Lau and Moser 2008; Lau et al. 2008). For example, Staley et al. (2003) confirm from a sample of 1,358 managers in the US Federal Government that affective organizational commitment is positively correlated with the perceived fairness of budget allocation procedures. Lau and Tan (2005) observe a similar relationship for objective-setting with a sample of 152 managers of industrial companies in Singapore.

These considerations lead to the following hypothesis:

\[ \text{H1: The higher managers' perceived procedural justice, the greater their affective organizational commitment.} \]

However, few studies have attempted to identify the causal antecedents of procedural justice. It is therefore important to examine which components of the results control system could increase perceived procedural justice and, in turn, organizational commitment. Drawing on the existing literature, we have identified three dimensions of the system that are potential determinants of perceived procedural justice: the opportunity for managers to be involved in setting their objectives, the provision of feedback on performance, and application of the controllability principle.

### 2.2. The effect of participation in objective-setting on perceived procedural justice

Participation is defined as a manager’s ability to exert some influence in the objective-setting process. Influence means that employees are afforded a degree of control over the outcomes of the decision-making process (Brownell 1982).
Organizational justice scholars have examined the concept of “voice”, that is to say the opportunity to express views and opinions during decision-making, which gives managers the feeling that they exert some control over the process. For example, Lind et al. (1990) demonstrate how voice promotes perceived procedural fairness in goal-setting activities. More specifically, participation in objective-setting is likely to increase procedural justice as it contributes to implementation of several of Leventhal et al.’s (1980) rules. First, it serves as a means of communication between subordinates and their superiors, allowing subordinates to exchange and seek information from their superiors. This information-sharing role of participation may improve accuracy of the data used in the decision-making process. Secondly, participation enables subordinates to express their grievances and to correct any inappropriate prior beliefs held by their superiors: this is consistent with the rule that procedures should include mechanisms for challenging decisions made. Thirdly, it enables subordinates to express their concerns and values, which favors representativeness. Lastly, participation satisfies the criterion of ethicality since it is consistent with the moral value that individuals should have the opportunity to engage in setting objectives.

Empirical research in different contexts has shown that participation in objective-setting positively affects perceived procedural justice. Wentzel (2002) found that budgetary participation appears to foster a sense of fairness which in turn significantly enhances goal commitment and performance. Magner et al. (1995) demonstrated that employees who receive unfavorable budgets have fewer negative attitudes towards their superior and their organization when they have participated in the budgetary process than when participation is absent. Lau and Tan (2005) reach similar conclusions, showing that participation in setting budget targets increases perceived procedural fairness which, in turn, fosters organizational commitment.

Based on this review, we formulate the following hypothesis:

**H2: Participation in objective-setting is positively related to perceived procedural justice.**

### 2.3. The effect of application of the controllability principle on perceived procedural justice

The controllability principle stipulates that managers should only be assessed on what they can control (e.g., Giraud et al., 2008). This principle can be applied both when setting managers’ objectives and when evaluating their performance. At the objective-setting stage, it involves selecting performance measures that include only items managers can control, or over which they may exert some influence (Loning et al., 2008). At the evaluation phase, it consists in removing the effects of uncontrollable factors from the performance measured. Empirical studies into application of the controllability principle have noted a wide variety of practices (Merchant 1989; Drury and El-Shishini 2005; Giraud et al. 2008; Burkert et al. 2011).

Applying the controllability principle is consistent with most of Leventhal et al.’s rules for procedural fairness. First, by removing uncontrollable factors from managers’ objectives and evaluation, the controllability principle increases confidence that measured performance will be related to managers’ efforts and not to unforeseeable events, thus following the rule concerning the accuracy of information used. Second, it increases the consistency of performance evaluation procedures. Uncontrollable
factors impact differently on managers. Some may be negatively affected by factors they do not control; others may not, or may even benefit from unforeseen circumstances. Applying the controllability principle introduces more consistency into managers' assessment. Third, implementation of the controllability principle requires identification and neutralization of uncontrollable factors that might have affected managers' results. When applied through discussion, this gives managers the opportunity to appeal if they consider that some uncontrollable elements have not been sufficiently taken into consideration. Fourth, applying the controllability principle contributes to the ethicality criterion since it is presumably more ethical not to penalize managers when their results are negatively affected by uncontrollable events. Accuracy, consistency, the possibility of appeal, and ethicality are all in Leventhal et al.’s (1980) conditions for procedural justice.

Nonetheless, it should be noted that the controllability principle can be difficult to apply and in certain cases can generate feelings of unfairness. In the case of interdependence for example, entity managers’ performances result from cross-functional processes. If eliminating factors considered uncontrollable to the benefit of one manager has an unfavorable effect on another’s performance, the second will probably feel it is unfair. And so the effect of application of the controllability principle and perceived procedural justice must be examined at the level of the individual.

Very few studies have examined the effects of the controllability principle on perceived fairness. Huffman and Cain (2000) studied application of the controllability principle in sales force performance evaluation: sales territories often differ substantially in terms of market potential, geographic size, competitive strength, etc. When territory specificities are not taken into account, salespeople's rewards or punishments might be based more on the characteristics of the territory than on their actual actions or efforts. Huffman and Cain’s results show that making adjustments for territory difficulty increases both sales managers’ and salespeople’s perceptions of the fairness of the evaluation system.

The theoretical and empirical discussions above lead us to formulate the hypothesis that application of the controllability principle tends to have a positive influence on perceived procedural justice.

\[ H3: \text{The more the controllability principle is applied when objectives are set and performance is evaluated, the higher the managers’ perceived procedural justice.} \]

2.4. The effect of performance feedback on perceived procedural justice

Performance feedback is information provided to subordinates on their performance level at different times during the year, including year-end (Steelman et al., 2004). Feedback is a critical component of the budgeting process as it helps managers understand how they can adapt their behaviors to improve performance (Hartmann and Slapničar 2009). Feedback can be formal or informal. Formal feedback consists in providing managers with structured information based on comparisons between actual performance and preset objectives or standards. Informal feedback is discussions between a manager and his superiors or other members of the organization. The dividing lines between formal and informal feedback practices are ambiguous, as they are made up of various interlinked elements (Pitkänen and Lukka 2011). The literature suggests that in order to be effective, performance feedback must provide useful information to subordinates, that is, accurate information delivered with
the appropriate frequency and timeliness by a reliable source (Ilgen et al. 1979; Steelman et al. 2004; Hartmann and Slapničar 2009; Pitkänen and Lukka 2011). In addition, feedback should be the basis for open communication (Malo and Mathé 2000).

Research provides evidence that effective feedback affects managers’ attitudes, behaviors, and work performance (Kenis 1979; Steelman et al. 2004; Hartmann and Slapničar 2009; Kuvaas 2011). For instance, Taylor et al. (1995) report a significant relationship between perceived feedback accuracy and motivation to improve. Their results show that the motivational properties of feedback may depend on the perceived correctness of the feedback itself. Similarly, Brett and Atwater’s (2001) findings indicate that people who perceive performance feedback as less accurate are likely to view it as less useful for future development and tend to show less motivation to change their behavior and improve performance.

Effective feedback is also an antecedent of procedural justice (Taylor et al. 1995; Cohen-Charash and Spector 2001). In a meta-review, Shaw et al. (2003) show that providing explanations and the pertinence of the explanations are both positively related to procedural justice perceptions. Similarly, Bies and Shapiro (1988) find that people with negative outcomes are more likely to accept a procedure as fair when an explanation is offered. Hartmann and Slapničar (2009) find that the perceived quality of feedback has a positive impact on perceived procedural justice. In addition, when feedback is accurate, it is perceived to be procedurally fair, which positively influences recipients’ motivation to improve their performance (Roberson and Stewart 2006).

This leads us to formulate the following hypothesis in which the notion of feedback quality encompasses its quantity, frequency, accuracy, usefulness, etc:

\[ H4: \text{Performance feedback quality is positively related to perceived procedural fairness.} \]

### 2.5. The mediating role of procedural fairness

Some research has looked at the direct effect of participation on organizational commitment (Nouri and Parker 1998; Chênevert et al. 2007; Derfuss 2009). For example, Chênevert et al. (2007) find a positive, significant link between participation and affective commitment. The interviews they conduct also seem to indicate that participation increases perceived justice. However, these authors do not test the mediating effect of perceived justice between participation and commitment. The analyses presented in the previous paragraphs indicate that participation has a positive influence on perceived procedural justice, which itself fosters greater organizational commitment. We therefore believe that participation has an indirect influence on organizational commitment, through perceived justice. To our knowledge, only Lau and Tan (2005) have verified that procedural justice is a mediating variable in the relationship between participation and affective organizational commitment. More specifically, their results show that this relationship is no longer significant when procedural justice and satisfaction are inserted into the model, reflecting a total mediation effect. This leads us to test the following hypothesis:

\[ H5: \text{Procedural justice is a mediating variable in the relationship between participation in objective-setting and managers' affective organizational commitment.} \]
To our knowledge, no study to date has attempted to examine the link between application of the controllability principle and organizational commitment. Presumably when managers consider significant efforts are being made in their firm to protect them from the effects of unfavorable, uncontrollable factors, they are more satisfied with their organization and more inclined to do their best for it. We have seen that application of the controllability principle is likely to be a determinant of perceived procedural justice, which in turn is related to organizational commitment. It is thus possible to put forward the hypothesis that application of the controllability principle encourages organizational commitment through the perception of procedural justice it generates:

\[ H_6: \text{Perceived procedural justice is a mediating variable in the relationship between application of the controllability principle and managers' affective organizational commitment.} \]

The effects of quality feedback on organizational commitment have received little attention to date (Kuvaas 2011). As seen earlier, when managers receive feedback they consider good quality, and can freely discuss it with their superior, they perceive the management control system as fair, and the perception of justice is itself positively related to affective commitment. This leads to the following hypothesis:

\[ H_7: \text{Procedural justice is a mediating variable in the relationship between performance and managers' affective organizational commitment.} \]

### 3. Research method

To test our hypotheses and our theoretical model, we used a covariance-based structural equation modeling method, with AMOS 17 software. This approach is appropriate to test models with mediating effects and is often used in management accounting research (Smith and Langfield-Smith 2004; Henri 2007). We present below the data collection method and the sample (3.1), then our measurement instruments (3.2).

#### 3.1. Data collection and sample

Data was collected through a questionnaire, since the variables in our study correspond to perceptions, and the questionnaire is an appropriate instrument for collecting perceptions anonymously (Hartmann and Slapničar 2009).

Our questionnaire comprised 41 questions presented in three sections. The first section explained the purpose of the study, the emphasis on perceptions, the guarantee of anonymity and instructions for completing the questionnaire. The second section contained 30 questions corresponding to the five variables used in this research (and three other variables not studied here). Each variable was presented in a subsection, with explanations in some cases when considered necessary (such as the controllability principle). All the questions in this section consisted of statements with which respondents indicated their level of agreement on a five-point scale. The third and final section contained ten questions describing the sample, which could be used as control variables.
We administered this questionnaire to a population of managers who, in principle, had a level of responsibility that involved the use of objectives and regular measurement of performance against those objectives. To improve the external validity of our results, we also wanted a population including managers from a range of different business sectors, firms and functions. As a result of these considerations, we built up a sample of managers attending training seminars in our business schools, because they were likely to have objectives and performance evaluation based on achievement of those objectives, and came from various firms and functions.

We distributed 381 questionnaires and collected 370 (a 97% response rate). Of the 370 respondents who returned their questionnaires, 45 declared that no objectives were used to evaluate their performance, and thus they could not answer the main questions pertaining to this study. This left us with 325 questionnaires, or an 85% response rate. A missing value analysis showed no variables with 5% or more missing values. However, four cases with more than 5% missing data and one outlier were removed from the sample. The final data analyses are thus based on 320 questionnaires.

Companies represented in the sample are rather large in terms of employees (< 500: 37%; 500-2000: 15%; > 2000: 48%) and sales revenues (< 1.5 millions of €: 5%; 1.5-50M€: 27%; > 50M€: 68%). The main sectors represented are industry (44%) and non-financial services (16%). Fifty-two percent are listed on the stock market, or belong to a group that is listed. Respondents’ length of employment in their company suggests that most of them know their company well (< 2 years: 8%; 2-5yrs: 33%; > 5yrs: 59%). They have managerial positions in many different functions (e.g., Sales, Finance, Manufacturing, R&D, HR, Supply chain). Since tests showed that these demographic variables had no significant influence on the model’s latent variables, we did not use them further in this study.

### 3.2. Measurement instrument

We measured the five variables used in this study with the help of 19 questions that were all adapted from the existing literature, except the question for application of the controllability principle. Table 1 shows the 19 items, as well as univariate statistics. It also shows the mean and standard deviation for each construct using the sum of their corresponding observed items. Each scale is explained below.

#### 3.2.1. MEASUREMENT OF PARTICIPATION IN TARGET-SETTING (PART)

We used four items from the widely-used instrument developed by Kenis (1979) to measure participation in setting objectives (PART). Those items include the two important dimensions of participation: 1) the possibility for managers to give their opinions (e.g., PART2: «My superior usually asks for my opinions and thoughts when determining my budget goals»); and 2) the perceived possibility, for managers, of influencing their objectives (e.g., PART1: «I am allowed a high degree of influence in the determination of my budget goals»). The participation scale has a Cronbach’s alpha of 0.89, indicating high internal consistency.

#### 3.2.2. MEASUREMENT OF PERFORMANCE FEEDBACK (FDBK)

In order to measure performance feedback (FDBK), we combined two items from Kenis’ (1979) and one from Steelman’s (2004) instruments. We selected these items because they measure managers’
perceptions regarding three complementary and equally important dimensions: 1) the fact that they receive feedback from their superiors (FDBK2: « My boss lets me know how well I am doing in terms of achieving my budget goals»); 2) the amount of feedback received (FDBK1: «I receive a considerable amount of feedback about my achievement concerning my budget goals»); and 3) the usefulness of the feedback received (FDBK3: «The feedback I receive from my supervisor helps me do my job»). A Cronbach's alpha of 0.87 indicates that the feedback scale has high internal consistency.

### 3.2.3. MEASUREMENT OF APPLICATION OF THE CONTROLLABILITY PRINCIPLE (CONT)

Since there was no well-established instrument to measure application of the controllability principle (CONT), we designed our own instrument. The empirical literature (Merchant 1989; Giraud et al. 2008) shows that application of the controllability principle concerns internal factors (e.g., decisions made by colleagues or superiors) and external factors (e.g., economic or competitive situation). In addition, application of the controllability principle takes place at two different points in time. Firstly, at the objective-setting stage, applying the controllability principle requires that the objectives set for managers must not include any factors they cannot control. For example, the profit indicator for a profit center should not include indirect overheads over which the profit center manager has no influence at all. Secondly, at the performance evaluation stage, applying the controllability principle means that the uncontrollable factors that have impacted a manager’s performance should be neutralized. This would be the case, for example, when the manager’s performance has been impacted by a natural disaster or a political crisis (Merchant 1989). Based on these considerations, we designed four items asking respondents whether the impact of external (respectively, internal) uncontrollable factors are neutralized when their objectives are set (CONT1 and CONT2) and when their performance is evaluated (CONT3 and CONT4). This scale’s internal consistency is acceptable, with a Cronbach’s alpha of 0.70.

### 3.2.4. MEASUREMENT OF PERCEIVED PROCEDURAL JUSTICE (PROJ)

We combined the measurement instrument of McFarlin and Sweeney (1992) and Hartmann and Slapničar (2009) to measure three items of perceived procedural justice (PROJ1, PROJ3 and PROJ4). We added an item (PROJ2) to also take into account the perceived justice of procedures used to allocate resources, which is an important component of the budgeting process. More specifically, we asked managers to rate the fairness of procedures used to set objectives, allocate resources, evaluate performance, and determine rewards. The procedural justice scale has a Cronbach’s alpha of 0.83, indicating high internal consistency.

### 3.2.5. MEASUREMENT OF ORGANIZATIONAL COMMITMENT (ORGC)

Two measurement instruments are usually used in research to measure organizational commitment. The one by Meyer and Allen (1991) encompasses the three types of organizational commitment (affective, continuance, and normative) and is well suited to studies looking at two or three of these dimensions (e.g., Stinglhamber et al. 2004; Herrbach 2005; Paillé 2006). The OCQ instrument (Organizational Commitment Questionnaire), developed by Mowday et al. (1979), only measures affective commitment. Many studies in management accounting have used it (e.g., Nouri and
**Table 1**
Descriptive statistics and measurement model

<table>
<thead>
<tr>
<th></th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Cronbach alpha</th>
<th>Standardized factor loadings</th>
</tr>
</thead>
<tbody>
<tr>
<td>Participation in budget-setting (PART)</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>PART1 I am allowed a high degree of influence in the determination of my budget goals</td>
<td>3.36</td>
<td>1.138</td>
<td>0.822</td>
<td></td>
</tr>
<tr>
<td>PART2 My superior usually asks for my opinions and thoughts when determining my budget goals</td>
<td>3.73</td>
<td>1.233</td>
<td>0.867</td>
<td></td>
</tr>
<tr>
<td>PART3 My superior considers my point of view when determining my budget goals</td>
<td>3.66</td>
<td>1.079</td>
<td>0.930</td>
<td></td>
</tr>
<tr>
<td>PART4 My budget is not finalized until I am satisfied with it.</td>
<td>2.77</td>
<td>1.230</td>
<td>0.666</td>
<td></td>
</tr>
<tr>
<td>Application of the controllability principle (CONT)</td>
<td>9.76</td>
<td>3.365</td>
<td>0.70</td>
<td></td>
</tr>
<tr>
<td>CONT1 My budget goals are not influenced by any external factors that I do not totally control</td>
<td>2.16</td>
<td>1.177</td>
<td>0.260</td>
<td></td>
</tr>
<tr>
<td>CONT2 My budget goals are not influenced by any internal factors that I do not totally control</td>
<td>2.29</td>
<td>1.169</td>
<td>0.216</td>
<td></td>
</tr>
<tr>
<td>CONT3 When my performance is evaluated, the impact of external factors that I do not control is neutralized</td>
<td>2.71</td>
<td>1.186</td>
<td>0.916</td>
<td></td>
</tr>
<tr>
<td>CONT4 When my performance is evaluated, the impact of internal factors that I do not control is neutralized</td>
<td>2.60</td>
<td>1.104</td>
<td>0.829</td>
<td></td>
</tr>
<tr>
<td>Performance feedback (FDBK)</td>
<td>8.84</td>
<td>3.491</td>
<td>0.87</td>
<td></td>
</tr>
<tr>
<td>FDBK1 I receive a considerable amount of feedback about my achievement concerning my budget goals</td>
<td>3.11</td>
<td>1.268</td>
<td>0.846</td>
<td></td>
</tr>
<tr>
<td>FDBK2 My boss lets me know how well I am doing in terms of achieving my budget goals</td>
<td>2.89</td>
<td>1.368</td>
<td>0.830</td>
<td></td>
</tr>
<tr>
<td>FDBK3 The feedback I receive from my supervisor helps me do my job</td>
<td>2.84</td>
<td>1.288</td>
<td>0.812</td>
<td></td>
</tr>
<tr>
<td>Procedural justice (PROJ)</td>
<td>11.89</td>
<td>3.452</td>
<td>0.83</td>
<td></td>
</tr>
<tr>
<td>PROJ1 I consider that the procedures used to determine my budget goals are fair</td>
<td>3.09</td>
<td>1.032</td>
<td>0.789</td>
<td></td>
</tr>
</tbody>
</table>
Pascal Langevin and Carla Mendoza

THE IMPACT OF RESULTS CONTROL ON AFFECTIVE ORGANIZATIONAL COMMITMENT:
THE MEDIATING EFFECTS OF PERCEIVED PROCEDURAL JUSTICE

XVI

Parker 1998; Staley et al. 2003; Lau and Moser 2008; Sholihin and Pike 2010). We therefore chose to adapt it for our study to measure affective organizational commitment (ORGC). Mowday et al. (1979) construct includes three dimensions: (1) acceptance of the organization’s values; (2) a willingness to exert effort on behalf of the organization; and (3) a desire to maintain membership in the organization. Among the four items used in this study, one corresponds to the first dimension (i.e., ORGC2: «I find that my values and the organization’s values are very similar»), two items correspond to the second dimension (i.e., ORGC1: «I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful» and ORGC4: «I really care about the fate of this organization») and one item corresponds to the third dimension (i.e., ORGC3: «I am proud to tell others that I am part of this organization»). With a Cronbach’s alpha of 0.85, the affective organizational commitment scale has high internal consistency.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Description</th>
<th>Mean</th>
<th>Standard Deviation</th>
<th>Cronbach’s Alpha</th>
</tr>
</thead>
<tbody>
<tr>
<td>PROJ2</td>
<td>The resources allocated to me for achieving my budget goals are determined by a fair procedure</td>
<td>2.88</td>
<td>1.037</td>
<td>0.797</td>
</tr>
<tr>
<td>PROJ3</td>
<td>I perceive the procedures used to evaluate my year-end performance as fair</td>
<td>3.20</td>
<td>1.056</td>
<td>0.746</td>
</tr>
<tr>
<td>PROJ4</td>
<td>I perceive the procedures used to determine my reward as fair</td>
<td>2.72</td>
<td>1.131</td>
<td>0.629</td>
</tr>
<tr>
<td>ORGC1</td>
<td>I am willing to put in a great deal of effort beyond that normally expected in order to help this organization be successful</td>
<td>4.06</td>
<td>0.933</td>
<td>0.614</td>
</tr>
<tr>
<td>ORGC2</td>
<td>I find that my values and the organization’s values are very similar</td>
<td>3.47</td>
<td>1.088</td>
<td>0.824</td>
</tr>
<tr>
<td>ORGC3</td>
<td>I am proud to tell others that I am part of this organization</td>
<td>3.66</td>
<td>1.099</td>
<td>0.849</td>
</tr>
<tr>
<td>ORGC4</td>
<td>I really care about the fate of this organization</td>
<td>3.96</td>
<td>1.039</td>
<td>0.759</td>
</tr>
</tbody>
</table>

N = 320 for all items. Responses on all observed items range from 1 to 5. Bold figures indicate the mean and standard deviation of each construct using the sum of their corresponding observed items.

*Variable CONT was later reduced to two items (CONT3 and CONT4) for reasons explained in the text. Its mean, standard deviation and Cronbach alpha were respectively 5.31, 2.15, and 0.89.

4. Results

The literature on structural equation modeling recommends a two-step process to assess full models with latent variables (Kline 2005; Hair et al. 2006; Henri 2007; Byrne 2010). Therefore, (1) we tested the fit and construct validity of our measurement model (4.1), and (2) we tested our structural model and hypotheses (4.2). In both steps, we used the maximum likelihood procedure.
4.1. Analysis of the measurement model

In this first step, we test whether our measurement model is satisfactory. Absolute values of kurtosis and skewness are all below 3 and 7 respectively, indicating acceptable univariate normality (Kline 2005). However, Mardia’s multivariate normality index is equal to 13.6, well above 5, showing that the multivariate normality condition is not satisfied. Therefore, to check the robustness of our results, we supplement our analyses with a bootstrapping approach (Byrne 2010, p. 329) and a partial-least squares (PLS) method7 using the SmartPLS 2.0 software. Whatever the method used, we found similar results and are thus confident of their robustness. We also checked the absence of multicollinearity. Tolerance values are all greater than 0.20 (i.e., variance inflations factors are less than 5), indicating no evidence of multicollinearity.

We performed a first confirmatory factor analysis that led us to eliminate two items with standardized factor loadings lower than 0.50 (see Table 1) and standardized residuals higher than 4.00 (Hair et al. 2006). Those two items (CONT1 and CONT2) correspond to application of the controllability principle at the budget-setting stage. Although these items raised no issue at the pre-test level, further discussions with respondents indicated that they had difficulties understanding the concept of neutralizing the influence of uncontrollable factors at the goal-setting stage.

We therefore respecified the model with the seventeen remaining items8 and assessed the validity of this new model with a second confirmatory factor analysis. All criteria show that the convergent validity is satisfactory (Hair et al. 2006): factor loadings are all significant (p-value < 0.01); standardized loadings are greater than 0.50; Cronbach’s alphas and construct reliability (CR) values are all higher than 0.70; and average variance extracted (AVE) estimates are all greater than 0.50 while being smaller than CR values (see Table 2). Results also provide evidence of discriminant validity (Hair et al. 2006): the square root of each construct’s AVE estimate is greater than the correlations between

### Table 2

Test of convergent and discriminant validities

<table>
<thead>
<tr>
<th></th>
<th>Convergent validity</th>
<th>Discriminant validity: correlation matrix</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Cronbach alpha</td>
<td>CR</td>
</tr>
<tr>
<td><strong>PART</strong></td>
<td>0.89</td>
<td>0.895</td>
</tr>
<tr>
<td><strong>CONT</strong></td>
<td>0.89</td>
<td>0.877</td>
</tr>
<tr>
<td><strong>FDBK</strong></td>
<td>0.87</td>
<td>0.869</td>
</tr>
<tr>
<td><strong>PROJ</strong></td>
<td>0.83</td>
<td>0.830</td>
</tr>
<tr>
<td><strong>ORGC</strong></td>
<td>0.85</td>
<td>0.849</td>
</tr>
</tbody>
</table>

Constructs correspond to latent variables. PART: Participation; CONT: Application of the controllability principle; FDBK: Performance feedback; PROJ: Perceived procedural justice; ORGC: Organizational commitment.

CR: Construct reliability; AVE: average variance extracted.

In the correlation matrix, bold figures on the diagonal are square roots of AVEs.
the construct and any of the four other constructs (Tableau 2); and modification indices indicate no significant between-construct error covariances.

We evaluated the model's goodness of fit using the Chi-square statistic ($\chi^2 = 252$, df = 109, $p < 0.01$), the comparative fit index (CFI = 0.95 > 0.92), the standardized root mean residual (SRMR = 0.07 < 0.08), and the root mean square error of approximation (RMSEA = 0.06 < 0.07). The model appears to fit the empirical data well. Although we could have improved the model's fit further by withdrawing three other items, we found no theoretical reasons to do so and decided to keep this 17-item model.

4.2. Analysis of the structural model and tests of the hypotheses

This second step includes the relationships between latent variables in order to obtain the full model and test the hypotheses. Figure 2 presents the structural model (to improve clarity, figure 2 does not include the measurement model). Fit indices reflect an acceptable model fit ($\chi^2 = 257$, df = 112, $p < 0.01$; CFI = 0.95; SRMR = 0.077; RMSEA = 0.06). First, we test direct effects (4.2.1), and then mediating effects (4.2.2).

4.2.1. DIRECT EFFECTS BETWEEN CONSTRUCTS

H1 predicts a positive relationship between procedural justice (PROJ) and organizational commitment (ORGC). Figure 2 shows that the path coefficient is significant and in the expected direction ($b = 0.587$; $p < 0.01$). This result confirms that the fairer target-setting and performance evaluation procedures are perceived to be, the higher managers’ affective organizational commitment. It also confirms the findings of prior management control studies (Staley et al. 2003; Lau and Tan 2005; Hartmann and Slapničar 2008). This confirms the relevance of identifying factors that lead to control procedures being perceived as fair. Our study selected three, corresponding to the following hypotheses.

H2 predicts a positive relationship between participation (PART) and procedural justice (PROJ). Figure 2 shows a positive and significant relationship between procedural justice and participation ($b = 0.446$; $p < 0.01$), supporting H2. This finding confirms the results of prior empirical studies, observed in various contexts in the literature on organizational behavior (e.g., Lind et al. 1990) as well as on management accounting (Wentzel 2002; Lau and Tan 2005).

H3, pertaining to the controllability principle, is also supported. We can see in figure 2 that the path coefficient between application of the controllability principle (CONT) and procedural justice (PROJ) is significant and positive ($b = 0.143$; $p < 0.01$). This finding indicates that applying the controllability principle at the time of managers’ performance evaluation affects their perception of procedural justice. Therefore, it confirms, on a large sample, the results of two prior studies on this topic: the qualitative research by Giraud et al. (2008) and the quantitative study by Huffman and Cain (2000) conducted with a small sample of 97 sales force managers. This result is consistent with the underlying principle in the literature that it is unfair to assess managers on things that they cannot control.

H4 refers to the performance feedback managers receive from their supervisors. H4 predicts a positive relationship between feedback (FDBK) and procedural justice (PROJ). Figure 2 shows that
the corresponding path coefficient is significant and in the expected direction (b = 0.496; p < 0.01), supporting H4. Therefore, the finding of Hartmann and Slapničar (2009) is confirmed.

4.2.2. MEDIATING EFFECTS

Hypotheses H5, H6, and H7 predict that the relationship between the components of the results control system and organizational commitment is mediated through procedural justice. Mediating effects can be analyzed by breaking total effects down into direct and indirect effects. To do this, we construct a saturated structural model, adding direct relationships between each control component latent variable (PART, CONT, and FDBK) and the organizational commitment latent variable (ORGC). A bootstrap procedure provides the standard errors for total, direct, and indirect effects and allows us to test their significance. Table 3 shows that indirect effects of participation, application of the controllability principle, and feedback on organizational commitment are all significant (p < 0.05), supporting H5, H6, and H7, and providing evidence that procedural justice mediates the relationships between control components and organizational commitment. Table 3 also shows that the direct effects of application of the controllability principle and feedback on organizational commitment are not significant, indicating full mediation. On the other hand, the direct effect of participation on organizational commitment is still significant when controlling for procedural justice, indicating only partial mediation.

These findings are further supported by using Baron and Kenny’s (1986) three-step approach and regression analyses. Each component of the control system is significantly (p < 0.01) correlated with organizational commitment (step 1 in Baron and Kenny’s process) and procedural justice (Step 2).
**Table 3**

**Standardized Direct, Indirect, and Total effects**

<table>
<thead>
<tr>
<th>Hypothesis</th>
<th>Standardized Coefficients</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>H5:</strong> Participation to Organizational Commitment: ( \text{PART} \rightarrow \text{PROJ} \rightarrow \text{ORGC} )</td>
<td></td>
</tr>
<tr>
<td>Direct effect:</td>
<td>0.166**</td>
</tr>
<tr>
<td>Indirect effect:</td>
<td>0.432*** x 0.439*** = 0.190***</td>
</tr>
<tr>
<td>Total effect:</td>
<td>0.356***</td>
</tr>
<tr>
<td><strong>H6:</strong> Controllability to Organizational Commitment: ( \text{CONT} \rightarrow \text{PROJ} \rightarrow \text{ORGC} )</td>
<td></td>
</tr>
<tr>
<td>Direct effect:</td>
<td>0.046</td>
</tr>
<tr>
<td>Indirect effect:</td>
<td>0.138*** x 0.439*** = 0.061**</td>
</tr>
<tr>
<td>Total effect:</td>
<td>0.107*</td>
</tr>
<tr>
<td><strong>H7:</strong> Feedback to Organizational Commitment: ( \text{FDBK} \rightarrow \text{PROJ} \rightarrow \text{ORGC} )</td>
<td></td>
</tr>
<tr>
<td>Direct effect:</td>
<td>0.034</td>
</tr>
<tr>
<td>Indirect effect:</td>
<td>0.501*** x 0.439*** = 0.220***</td>
</tr>
<tr>
<td>Total effect:</td>
<td>0.254***</td>
</tr>
</tbody>
</table>

PART: Participation; CONT: Application of the controllability principle; FDBK: Feedback; PROJ: Procedural justice; ORGC: Organizational commitment.

*** Standardized coefficient is significant at the 0.01 level (2-tailed).
** Standardized coefficient is significant at the 0.05 level (2-tailed).
* Standardized coefficient is significant at the 0.10 level (2-tailed).

Procedural justice is significantly correlated with organizational commitment, while controlling for each control component (Step 3). Again, whereas the direct effects of CONT and FDBK become not significantly different from zero \( (p < 0.27 \text{ and } p < 0.35, \text{ respectively}) \), when PROJ is introduced into the regression equation, indicating full mediation, the direct effect of PART on ORGC remains significant, indicating partial mediation.\(^{13}\)

In summary, our study produces the following results. First, it shows that application of the controllability principle is likely to increase managers’ affective organizational commitment by helping them to feel that procedures are fairer. This result has not been demonstrated before. Second, while Kuvaas (2011) observes a relationship between feedback and organizational commitment, our results show that this direct relationship is no longer significant when justice is introduced into the analysis. In other words, it is apparently because managers who receive feedback feel that procedures are fairer that they show greater commitment to their organization. Third, our results confirm past observations that managerial participation in objective-setting has a positive effect on the managers’ organizational commitment (Nouri and Parker 1998; Chênevert et al. 2007; Derfuss 2009). However, contrary to Lau and Tan’s (2005) findings, the direct relationship between PART and ORGC remains significant, even when taking into account the mediating effect of procedural justice. In other words, other variables besides procedural justice mediate this relationship. Lau and Tan’s (2005) model included job satisfaction as a mediating variable between participation, justice, and organizational commitment.
Our model does not include this variable. This may explain the difference observed between our results and Lau and Tan’s (2005) findings. We therefore tested an alternative model that contains a direct path from PART to ORGC (but not from CONT and FDBK to ORGC). Fit indices indicate that the model’s fit improves ($c^2 = 252$, df = 111, $p < 0.01$; CFI = 0.95; SRMR = 0.073; RMSEA = 0.06). Although small, this improvement is significant ($Dc^2 = 4.79$, $Ddf = 1$, $p < 0.05$). We conclude that this alternative model is the better-suited and thus final solution. Figure 3 shows this final structural model.

![Final structural model](image)

Measurement model not presented here
*** Standardized coefficient is significant at the 0.01 level.
*** Standardized coefficient is significant at the 0.05 level.

5. Conclusions, limitations and suggestions for future research

Based on a survey of 320 managers, our study shows that the three control components examined – namely managers’ participation in the setting of their objectives, application of the controllability principle, and the feedback managers receive about their performance – positively affect perceived procedural justice. Our findings also show that affective organizational commitment increases with perceived procedural justice. Finally, our results show that perceived procedural justice mediates the relationships between the three control components and affective organizational commitment. They show a full mediating effect for application of the controllability principle and performance feedback, and a partial mediating effect for participation. This study makes several contributions.

From a theoretical perspective, our results reinforce the importance of procedural justice in the relationships between the components of results control systems and managers’ behaviors. These
findings encourage management control researchers to include organizational justice issues when investigating the impacts of management accounting practices on managers’ or employees’ attitudes, behaviors, and performance. Our study also shows that the design of control systems can influence managers’ organizational commitment, a variable that has not been extensively examined in our field, although studies in other research fields have shown that affective commitment affects performance. If the role of control systems is considered to improve performance, then it would appear important to pay attention to such systems’ impacts on organizational commitment. Finally, our study sheds new light on specific components of results control systems. Although participation has been widely examined in the management accounting and control field, our findings provide evidence that application of the controllability principle and feedback may require further exploration, at least empirically.

From a methodological point of view, our research is based on a larger sample than the few prior studies on the same topic.

From an empirical perspective, our results confirm the findings of those previous studies, and our study provides additional findings regarding the mediating role of procedural justice. No prior study has shown the effect of application of the controllability principle and performance feedback on organizational commitment through procedural justice. Our results also indicate that all stages of the control process are equally important in developing the perception of procedural justice. Studies so far have investigated one dimension at a time, taking place either at the beginning of the process or the performance evaluation phase. Our findings confirm that various components, taking place at different times, contribute to raising the level of perceived justice, and thereby increasing managers’ affective organizational commitment.

From a practical point of view, our study helps understand how the design of control systems can contribute to greater organizational commitment, through enhanced perceived procedural justice. Our results send an important message to organizations: the implementation of management control systems is not a solely technical matter. Attention must also be paid to behavioral aspects to achieve the desired managerial motivation and performance. Designing a fair management accounting and control system is part of this approach. A careful watch must be kept over the way procedures are implemented, and this study helps to identify dimensions that deserve special attention.

As with any research, our study has limitations. First, the sample was not randomly designed. Questionnaires were collected from executives participating in training programs. This gave us a high response rate, and although the topics taught in these training programs did not relate to our research themes and participants were not selected, this data collection process may have biased the answers. Second, measurement of application of the controllability principle construct was not very satisfactory, ultimately using only two items. Burkert et al. (2011) have since developed a better-designed instrument to measure this construct, and it would be interesting to replicate our study using their new measure. Third, the cross-sectional survey method used in this study does not allow us to interpret correlations as causal effects. For example, our model assumes that perceived procedural justice increases organizational commitment. However, it is also possible to consider a relationship in the opposite direction, whereby individuals committed to their organization are more likely to perceive implemented procedures as fair. For all these reasons, our findings must be interpreted cautiously. Fourth, many other variables could be introduced into the study. Our study only considers affective
organizational commitment, but other types of organizational commitment (continuance and normative) could be examined. Similarly, in addition to procedural justice, taking into account distributive justice or interactional justice would provide a better understanding of the effects of management accounting systems on behaviors. It can also be assumed that all components of a control process must be fair, to avoid offsetting effects between components. This obviously goes beyond the three dimensions examined in this study. Future research could include variables such as subjectivity, formality, or use of non-financial performance measures that have been considered in other studies.

Despite its limitations, our study provides interesting evidence regarding the role of results control systems on perceived procedural justice and organizational commitment. It promotes more research on how the design and implementation of management accounting and control systems can enhance perceived justice and managers’ attitudes, behaviors, and performance.
Notes

1. We tested the length and understandability of the questionnaire with a first group of 19 managers. This test led to some minor changes in the wording.

2. Recommendations started like this: «The purpose of this questionnaire is to collect your opinion regarding how your budget goals are set and your performance evaluated. It is your perceptions that are of interest to us.»

3. 1) Position held; 2) Length of employment in the company; 3) Hierarchical level with regards to top management; 4) Number of people reporting to the respondent; 5) Time elapsed since the last objective-setting; 6) Time elapsed since the last performance evaluation; 7) Number of people employed in the company; 8) The company’s sales revenue; 9) Whether or not the company is (or belongs to a group that is) quoted; 10) The company’s main sector. All questions were closed-ended, except the first one, which was coded ex post.

4. Most of the 18 training seminars were led by a facilitator who was not one of the authors of this article. Questionnaires were handed out during break-time or before the seminar started. They needed less than 10 minutes to be filled in. A short oral presentation informed the participants that the research did not pertain to the topics covered in the training seminars and that completing the questionnaire was not compulsory.

5. Burkert et al. (2011) designed a MIMIC model to measure this construct. However, their instrument was not available at the time we conducted our study.

6. Mowday et al. (1979) OCQ and the affective dimension of Meyer and Allen’s (1991) instrument are very strongly correlated, which indicates that both instruments measure the same construct (François-Philip Boisserolles de Saint-Julien 2004).

7. PLS-SEM does not require normal distributions of variables. However, we decided to keep our covariance-based SEM approach, because it measures how well the theoretical model fits the data and is thus appropriate to test theories, whereas PLS-SEM is more a predictive method (Hair et al. 2006, p. 878). The PLS-SEM simply provided us with an additional check that our results were not biased by the deviance from the multivariate normality condition.

8. In this new model, application of the controllability principle corresponds to the ex-post application of the controllability principle, that is, at the performance evaluation stage. The new 2-item CONT variable has a mean of 5.31 and a standard deviation of 2.148. The Cronbach’s alpha of 0.89 indicates a satisfactory reliability. We verified that this two-item variable did not generate an impossible solution of the «Heywood’s case» type.

9. A significant Chi-square test corresponds to a poor fit. However, it is well established that this statistic is very sensitive to sample size (Byrne, 2010).

10. In parentheses, values from the analysis are compared to the thresholds recommended by Hair et al. (2006) for our sample size (N = 320) and number of observed variables (m = 17).

11. Three items have communalities smaller than 0.50 and three standardized residual moments are smaller than 2.58.

12. Not reported here.

13. Finally, we also performed a Sobel test, which confirmed that PROJ significantly mediates the relationships between each control system component and ORGC (p < 0.01).

References


THE IMPACT OF RESULTS CONTROL ON AFFECTIVE ORGANIZATIONAL COMMITMENT: 
THE MEDIATING EFFECTS OF PERCEIVED PROCEDURAL JUSTICE

Pascal Langevin and Carla Mendoza


