



## Investigating the effect of management control system on behavioral accounting with emphasis on the perception of organizational justice and organizational commitment

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Submit: 05/01/2022 Accept: 16/01/2022

### ABSTRACT

The purpose of this study is to investigate the effect of management control system on behavioral accounting with emphasis on the perception of organizational justice and organizational commitment. This study is an applied study in terms of its objectives. Besides, the data were collected using standard questionnaires. The statistical population of this study includes financial deputies, financial managers, supervisors and heads of accountings of listed companies. To investigate the impact of the research variables, structural equation modeling with the partial least squares approach was used. The results showed that managers' participation in setting objectives which is one of the components of the management control system will increase managers' perception of procedural justice and thus leads to behave ethically in accounting and improves the quality of financial statements. The Perception of procedural and distributive justice was also observed in the use of multiple measures of performance and quality of feedback by the company. Moreover, multiple measures of performance have an indirect positive effect on the quality of financial statements through organizational commitment and also distributive justice has an indirect positive effect on the quality of financial statements through organizational commitment.

### Keywords:

Organizational Justice, Behavioral Accounting, management control system, Organizational Commitment

## 1. Introduction

Nowadays, the discussion of work ethic has attracted much attention. Work ethic is one of the most important aspects of an organization's culture and goes a long way toward becoming part of an organization's strategy. In the last two decades, there have been many scandals in the business world, many of which being associated with ethics in accounting and perception of organizational justice. Therefore, it is important to seek reasons behind unethical behaviors as one of the sources of many of these scandals, may be the perception of organizational injustice that can lead managers to behave in a way that is detrimental to the organization (Langevin and Mendoza, 2012). For example, a manager may engage in unethical behaviors such as presenting low-quality financial statements and creating budgetary slack. Some researchers found that these unethical behaviors can be reduced when a fair management control system is perceived to be fair (Cohen-Charash & Spector, 2001; Colquitt et al., 2006). In this sense, the objective is to contribute to the development of this field of research from the perspective of the accounting, by addressing aspects of management control system associated with perception of organizational justice, organizational commitment and the reflexes in the creation of budgetary slack and presenting low-quality financial statements. These aspects are important because these behaviors distort the processes of planning and performance measurement and may lead managers to make decisions that are contrary to the interests of the organization, as well as generating unnecessary costs and rewards that are detrimental to the organization (Klein et al., 2018). Management control system is understood as the process of influencing the behavior of the members of the organization, in order for people to behave in a way that favors the achievement of the organizational objectives. It is not about controlling people's behavior, but influencing them to act in line with the organization's predetermined goals to ensure that ethical behaviors are followed and the decisions that are made are consistent with the goals and strategies of the organization (Tayebzadeh, 2005). So far, the issue of the impact of management control system on the ethical behavior of managers with emphasis on the perception of organizational justice and organizational commitment has not been studied simultaneously. Therefore, according to the studies, this is the first research in Iran and the existence of

research in this field and related theoretical issues. Therefore, this research is completely new and with its innovative aspect seeks to promote the theoretical basis and enrich the current literature. Also, the results of this research will be significant for the managers of the companies to produce more positive results. Thus, the question that guides this study is: Which management control system dimensions indicated by Langevin and Mendoza (2012) raise the perception of organizational justice and reduce managers' unethical behavior (creation of budgetary slack and presenting low-quality financial statements)? The main purpose of this study is to explain the impact of management control system on behavioral accounting with emphasis on the perception of organizational justice and organizational commitment.

## 2. Research background

### 2.1. Behavioral accounting

Behavioral accounting is one of the branches of accounting that addresses the relationship between human behavior and the accounting system. The need to pay attention to this field began when managers and professional accountants realized that accounting systems and financial reports do not provide all the information needed to make decisions. In fact, in addition to financial information, it is necessary to have a series of information about the extent and the way human behavior affects accounting systems and the relationship between human behavior and the design of accounting systems. This type of information, although not financial in nature, can improve decision makers' awareness and increase the information content of financial statements

### Components of unethical behavior

Langevin and Mendoza (2012) argue that if the management control system is considered unfair, it can influence managers' behavior in a way that is harmful to the organization. For example, managers may behave immorally (Langevin & Mendoza, 2012) by reporting budgetary slack (Onsi, 1973; Merchant, 1985; Dunk, 1993) and presenting low-quality financial statements.

### Budgetary slack

The first unethical behavior is to create a budgetary slack, which is the difference between the amount of

the budget and the amount really needed to meet the anticipated expenses (Merchant, 1985). In other words, budgetary slack is the deliberate underestimation of budgeted revenue or overestimation of budgeted expenses. Thus, creating a budgetary slack can be understood as deliberately underestimating production capacity and overspending the budget (Libby, 2003; Anthony & Govindarajan, 2006). A slack is created in the budget when a manager overestimates expenses and underestimates revenues, demanding more resources under his or her control without the consent of his or her superiors (Davis et al., 2006) and creating satisfaction with his/her performance in the process of rewarding budget-related outcomes.

### Reporting low-quality financial statements

The degree to which financial statements are prepared as relevant, reliable, understandable, accurate, and comparable is called the quality of financial statements (Nkundabanyanga et al. 2013). The tendency to present low-quality financial statements, in turn, is considered unethical behavior when it is for personal gain (Merchant & Van Der Stede, 2007).

### Organizational justice

Organizational justice is the perceived fairness of the interactions in the organization, including socioeconomic interactions as well as individual relationships with bosses, subordinates, colleagues, and the organization as a social system. Organizational justice refers to an assessment of people's perception of fairness and equality in the organization. The components of organizational justice are as follows:

#### Distributional justice

Distributional justice shows people's perception of the degree of fairness in the distribution and allocation of resources and rewards. These resources can be economic or emotional-social. However, most definitions of distributional justice emphasize the economic or instrumental aspects of equitable outcomes, and most studies have equated it with individuals' responses to economic allocations. Distributional justice refers to a fair judgment of the distribution of results such as the level of pay or promotion opportunities in an organizational context.

#### Procedural justice

Procedural justice was first proposed by Thibaut and Walker (1975) and refers to individuals' perceptions of the fairness of current procedures in deciding to compensate for their service rather than the actual distribution of income. Procedural justice is the perceived equality of the means used to distribute compensation for wages and benefits.

#### Interactional justice

Interactional justice is defined as the quality of interpersonal behaviors that are accepted by individuals. Interactional justice emphasizes the interpersonal aspect of decision-making, especially the equality of decision-makers' behavior in decision-making processes. Interpersonal behavior includes trust in relationships and treating individuals with respect and modesty.

#### Organizational commitment

Organizational commitment refers to the degree to which a person identifies himself/herself with and is involved in an organization. According to this definition, organizational commitment includes three components:

- Belief in the organization's goals and values
- Willingness to make a considerable effort for the sake of the organization.
- Strong and deep desire to continue membership with the organization (Rezaeian, 2005)

#### Management control system

Management control can be a facilitating mechanism for the adoption of business strategies and one of the main artifacts of the management process. Anthony (1965) understands managerial control as an explicit and formalized mechanism that contributes to the company achieving maximum efficiency and effectiveness, given that the purpose of the system is to promote the alignment between the objectives, so that personal purposes coincide with business' purposes. They include all the mechanisms that managers use to ensure that their subordinates present behaviors and make decisions that are consistent with the organization's objectives and strategies (Anthony and Govindarajan, 2006; Merchant and Van Der Stede, 2007). Langevin and Mendoza (2012) constructed a

general framework based on the theoretical results of their research to identify the dimensions of management control system. The authors identified four critical characteristics or key dimensions of management control system

- managers' participation in setting goals
- controllability principle
- Quality of feedback
- Use of multiple measures of performance

According to Langevin and Mendoza (2012), participation in setting goals gives managers the opportunity to influence their objectives, as well as the amount of resources that will be allocated to them. In addition, participation gives them the opportunity to influence the objectives, which will then be used as a reference for their assessment. Thus, participation can increase the chances that managers will receive fair rewards, as they will depend on the targets they helped to set.

The second key dimension of management control system predicts that managers should be assessed only based on what they can control. Langevin and Mendoza (2012) argue that the controllability principle meets most of the procedural rules set forth by Leventhal et al. (1980). First, the removal of uncontrollable factors from targets and assessments indicates that the performance measurement will be tied to the managers' efforts rather than to events beyond their control. Second, the controllability principle allows greater consistency in procedures of performance assessment. Third, the implementation of the controllability principle implies neutralization of uncontrollable factors that could affect the results of the assessed ones. Fourth, the controllability principle is in line with the ethical criteria, under the argument of Merchant and Van Der Stede (2000), of being more ethical not to penalize managers for results adversely affected by uncontrollable events.

The third key dimension of the management control system regards to the perception of procedural justice is the quality of feedback (Cohen-Charash and Spector, 2001). Consistency and precision, two rules of Leventhal et al. (1980), are the main features of the quality of the performance feedback (Hartmann and Slapnicar, 2009). Quality feedback also affects interactional justice. According to Colquitt and Jackson (2006), providing quality feedback favors approachability and encourages communication between managers and their superiors. Therefore, it

contributes to promote informational justice, which is one of the two components of interpersonal justice. In addition, superiors who discuss the results with their subordinates are considered as being more respectful. Quality feedback may indicate that subordinates are valued as members of the group.

The fourth key dimension pointed out by Langevin and Mendoza (2012) is the adoption of multiple measures of performance, which affect more the distributive justice by measuring more accurately the actual performance. The use of multiple performance indicators provides greater accuracy in comparing performance indicators with organizational results, and this is reflected in the employees' greater perceptions of distributive justice (Burke et al., 2009). The use of multiple non-financial measures can also contribute to increase the perception of procedural justice of MCS, as the accuracy of the information is a relevant criterion of procedural justice (Leventhal, 1980).

### 3. Literature review

Dadkhah and ghitani (2021) found that organizational commitment as a fundamental factor affects many characteristics of individual behavior and performance of the organization. Job satisfaction increases productivity and commitment in the organization, ensures physical and mental health of the individuals and also causes increasing the morale of the individuals. Every organization seeks ways to increase the motivation of its people, thereby improving their performance and increasing their commitment to the organization. One of these methods is to increase job satisfaction and organizational commitment, which ultimately leads to a reduction in unethical behavior and lawlessness in the organization. Matteson et al. (2021) stated that individuals react to the actions and decisions of organizations on a daily basis. A person's perception of these decisions as fair or unfair can affect a person's subsequent attitudes and behaviors. Justice is often the focus of organizations because the consequences of perceiving injustice can affect job attitudes and behaviors in the workplace. Justice in organizations can include issues related to the perception of rights and justice, equal opportunities for promotion and methods of selecting employees. Roszkowska and Mele (2020) considered organizational variables along with psychological and individual variables of organizational managers as effective indicators on the occurrence of ethical

behaviors in organizations. According to them, the more ethical the organizational structure is and the more efficient the organizational justice is, the less immoral and fraudulent behaviors are performed by the managers of the organization.

Rahnamay Roodposhti, Nikumaram, Vakilifard and Nezhad Tavalomi (2019) examined the tendency to disclose accounting fraud among accountants of private and public sector of organization based on procedural, interactive and distributive justice, their research findings showed that Procedural, interactive and distributive justice have a positive effect on the tendency to disclose, and of course there is no significant difference between accountants working in the private and public sectors in the tendency to disclose. Klein et al. (2018) in their research showed that the definition of objectives increases the perception of procedural justice, but the same was not observed regarding the remuneration of the managers. Likewise, disregarding aspects that are uncontrollable by managers in performance evaluation does not lead to the perception of procedural and distributive justice. However, quality feedback leads to the understanding that the MCS is fair. Perception of procedural and distributive justice was also observed in the use of multiple measures of performance by the company. Chong and Strauss (2017) found that high levels of commitment are associated with a reduction in the intentional deficit in the budget. Thus, the perceived justice of the management control system is more reflected in the organizational commitment, so will lead to reduce the tendency of managers to create intentional budget deficits and data manipulation.

Rezaloui and Mahdavi (2016) showed that organizational commitment has a moderating effect on the relationship between obedience pressure and immoral decision making, and higher organizational commitment makes accountants less likely to commit immoral behavior under obedience pressure. Priya Tavakoli, Hamidreza Peykari and Parastoo Golshiri (2016) in their research showed that the perception of organizational justice is related to the occurrence of deviant behaviors and violation of patients' privacy in Isfahan psychiatric hospitals, and to reduce the incidence of deviant behavior enforce justice in the situation and enforce the rules by making available the rules set for incentives and punishments, to create commitment and loyalty in employees, reduce retaliatory behaviors, prevent the disregard of laws by

employees and improve service compensation and reward systems through payroll explicit about payments, encouraging useful competitions, considering ethical principles in payments, and observing justice and stability in performance appraisal, and a system of rewards and punishments, as well as strengthening the ethical atmosphere, can be helpful in this regard. Khodami and Osanlou (2015) in their research entitled "Designing a model of ethical behavior of employees with emphasis on the role of ethical values of the organization" showed that organizational justice is related to organizational commitment and job satisfaction, and organizational commitment and job satisfaction are positively related to ethical behaviors and ethical values in the organization can lead to ethical behaviors among employees by creating organizational justice, job satisfaction and organizational commitment.

Langevin and Mendoza (2012) argued that perceived justice in corporate governance control systems could be a mechanism to reduce the development of unethical behaviors

Nikumaram et al. (2012) found that the professional ethics of management accountants is effective on the quality characteristics of management accounting information in all dimensions and this shows the importance of professional ethics in financial and accounting units along with other effective factors. Among the dimensions of professional ethics of management accountants, the professional competence and competence of management accountants have the most, then the objectivity and impartiality of management accountants have a significant impact on the quality characteristics of management accounting information. Samadi et al. (2009) in their study entitled "Study of the effect of accountants' ethics on organizational commitment of employees of the General Department of Taxation of Hamadan Province (case study)" concluded that at different levels of management, all three different dimensions of organizational commitment, including mandatory commitment, Emotional commitment and continuous commitment have a significant relationship with the ethics of accountants. Seyed Javadin, Farahi, and Attar (2008) studied the relationship between organizational justice and job satisfaction of employees and found that perceived justice has a significant effect on organizational commitment, overall job satisfaction, and satisfaction with supervisors. Cantisano,

Dominguez, and Depolu (2008) showed that job satisfaction and organizational justice have a significant relationship with deviant and immoral behaviors in a multilevel model. Furthermore, they suggested that many variables mediate the relationship of organizational justice and job satisfaction with unethical behaviors, with organizational commitment playing a prominent role.

Aquino, Reid, and Lim (2007) showed that organizational justice is associated with unethical behaviors. Besides, a comparison of the dimensions of organizational justice showed that distributive justice has a weaker relationship with unethical behaviors compared to interactional justice and procedural justice. Colquitt and Jackson (2006) showed that providing high quality feedback strengthens communication and leads to subordinates' favorable perception of their superiors. Davis, Dezort, & Kopp (2006) found that when managers are committed to the

organization they work for, they are less likely to make decisions that will hurt them. Cohen-Charash & Spector (2001) showed that greater perception of justice has positive impact on the behavior of employees in relation to the organization, because it results in greater satisfaction at work, trust in the supervisor, commitment and organizational citizenship behavior, besides reducing stress.

**Conceptual model of the study**

The present study was conducted following a theoretical model proposed by Langevin and Mendoza (2012). In this model first, the relationship between the mentioned features of the management control system (MCS) and organizational justice (distributive, procedural and interactive) is evaluated. Then, the effect of perception of organizational justice on unethical behaviors in accounting will be evaluated.

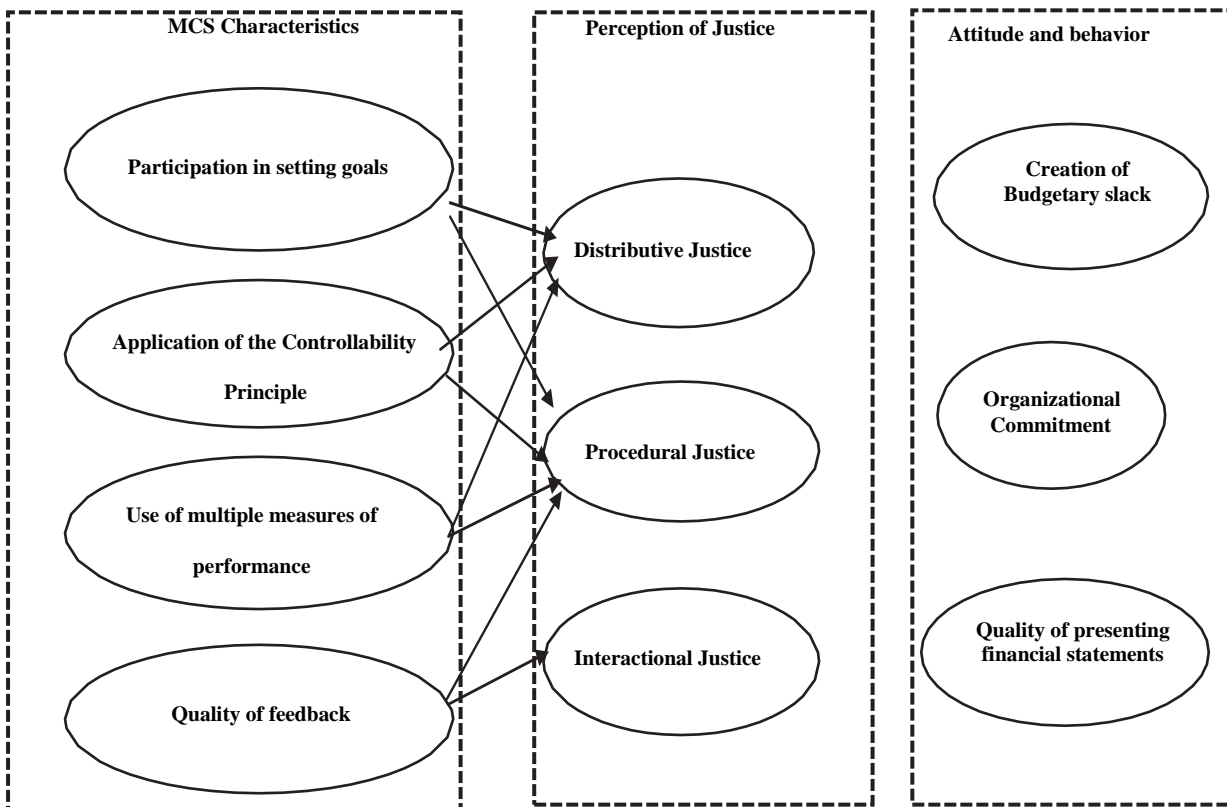


Figure 1: The conceptual model of the study



#### 4. Research hypotheses

Studies by Langevin and Mendoza (2012) Klein et al. (2018) have shown that management control systems undoubtedly have a major effect on managers' sense of justice (or injustice). In other words, the 4 key dimensions of the management control system can increase the perception of organizational justice. Therefore, the main hypothesis 1 and the sub-hypotheses from 1-1 to 1-8 are stated as follows.

**Main Hypothesis 1-** The dimensions of the management control system increase the perception of organizational justice.

- **Sub-hypothesis 1-1-** Participation in setting goals increases the perception of procedural justice in the management control system.
- **Sub-hypothesis 1-2-** Participation in setting goals increases the perception of distributive justice in the management control system.
- **Sub-hypothesis 1-3-** Application of controllability principle increases the perception of distributive justice in management control system
- **Sub-hypothesis 1-4-** Application of controllability principle increases the perception of procedural justice in management control system.
- **Sub-hypothesis 1-5-** The quality of feedback increases the perception of procedural justice in the management control system.
- **Sub-hypothesis 1-6-** The quality of feedback increases the perception of interactive justice in the management control system.
- **Sub-hypothesis 1-7-** The use of multiple performance measures increases the perception of distributive justice in the management control system.
- **Sub-hypothesis 1-8-** The use of multiple performance measures increases the perception of procedural justice in the management control system.

In the theoretical framework section, as mentioned, in fact one of the reasons why managers are tempted to report low-quality financial statements or create deliberate budget slack is precisely their fear of unfair behavior (Klein et al, 2018). If managers find management control systems unfair, they will not expect to receive appropriate results. Therefore, they may create intentional budget slack and report low

quality financial statements as alternatives. (Langevin and Mendoza, 2012). Therefore, employees' perception of organizational justice is an important factor in committing immoral acts. Perceived justice of management management control systems is reflected in the level of organizational commitment; It means, it affects the relationship between the manager and the organization as a whole; Organizational commitment is an attitude that reduces the tendency of managers to adopt unethical behaviors which are harmful to the organization. Based on the research, the main hypotheses 2 and 3 are expressed as follows.

**Hypothesis 2:** Perception of organizational justice in the management control system increases the tendency to provide high quality financial statements by increasing organizational commitment

**Hypothesis 3:** Perception of organizational justice in the management control system reduces the tendency to create a deliberate budget slack by increasing organizational commitment

#### 5. Research methodology

This study is an applied study in terms of its objective and was conducted using a survey-correlational design to examine the relationship between the research variables. To investigate the effect of management control system on behavioral accounting with emphasis on the perception of organizational justice and organizational commitment, field data were used. The data in this study were collected using questionnaires. The respondents' answers to the questionnaire items were scored using a seven-point Likert scale (1 = strongly disagree to 7 = strongly agree). To avoid the use of different measures for each variable, all scales were developed using seven points. This provided a unified measure of all qualitative variables. The instruments used to collect the data were the Budgetary Slack Scale (Dunk, 1993), Organizational Justice Scale (Niehoff & Moorman, 1993), Participation in setting objectives (Lopez et al, 2007), controllability principle (Burkert et al, 2011), multiple measures of performance (Maletic, 2015), quality of feedback (Hartmann & Slapnikar, 2009) the Organizational Commitment Questionnaire (OCQ; Mowday, Steers, & Porter, 1979), and the Quality of the Financial Statements (Nkundabanyanga et al., 2013). The research population included financial deputies, financial managers, supervisors and heads of accounting of listed companies. To estimate the

minimum sample size, G\*Power 3.1.9 software was used (Faul et al, 2009). As recommended by Cohen (1988), the power of the test was used at 0.80 and the median  $f^2$  was 0.15. Considering the number of four predictors (Figure 2) and that, for PLS, it is the one that defines the minimum sample size, the result of the software pointed out that the minimum number is 85 cases. The nonrandom sample consisted of the 92 respondents who responded the research instrument; thus, it is adequate to estimate the hypothesis of the research.

	F tests - Multiple Regression:
Special ( $R^2$ increase)	Analysis: A priori: Compute
required sample size	Input:
	Effect size $f^2$
= 0.15	$\alpha$ err prob
= 0.05	Power (1- $\beta$ err
= 0.8	Numerator df
= 4	Number of predictors
= 4	Output:
	Noncentrality parameter $\lambda$
= 12.750000	Critical F
= 2.485885	Denominator df
= 80	Total sample size
= 85	Actual power
= 0.803092	

Figure 2: output of G\*Power 3.1.9 software

The present study was conducted using a correlational design and was conducted using confirmatory factor analysis and structural equation modeling. This technique can identify and control measurement errors due to its great flexibility compared to older methods such as multiple regression analysis. It also examines and tests complex relationships with several independent variables and dependent variables. In this study, structural equation modeling and partial least squares (PLS) were used to test the research model and hypotheses.

## 6. Results

### 6.1. Inferential statistics

The descriptive statistics for the research variables are shown in Table 2:

As shown in the table above, all the variables had a mean higher than average (greater than 3), confirming that all the variables were satisfactory.

The confirmatory factor analysis was run to measure the reliability of the research model using factor loading, Cronbach's alpha, and composite reliability. Besides, convergent validity and divergent validity are used to test the validity of the research model. Factor loads were calculated by measuring the correlation of the items used to measure a variable with its related construct. If the calculated value is equal to or greater than 0.4, the variance between the variable and its items is greater than the variance of the measurement error of the related construct and its reliability is within acceptable levels. In confirmatory factor analysis (CFA), the calculated factor load of each item for a given variable must be higher than 1.96. In this case, this item has the necessary accuracy to measure the construct or latent variable. The factor loads for the subscales of distributional justice, interactional justice, participation in setting goals, the principle of controllability, and quality of financial statements are greater than 4. Besides, their test values are more than 1.96. However, the factor loads for budgetary slack (item 1), organizational commitment (items 3, 4, and 6), the procedural justice (item 1), and corporate social responsibility (items 2, 3, 5, and 9) are less than 0.4 and their test values are less than 1.96. These items were removed from the model and factor analysis was performed for the subscales of budgetary slack, organizational commitment, procedural justice, performance scales, quality of feedback, and corporate social responsibility. Cronbach's alpha is a traditional indicator for measuring the reliability or internal consistency between observable variables in a model. However, in the partial least squares method, a more modern criterion called composite reliability is used compared to Cronbach's alpha. If the value of composite reliability for each variable is higher than 0.7, the variable has acceptable internal consistency, and a value less than 0.6 indicates the lack of reliability. Other criteria for assessing the research model are convergent validity and divergent validity. Convergent validity indicates the relationship of



different criteria or indicators to each other and shows the relationship of a construct with the variables addressed in hypotheses and the literature. The extracted mean-variance (AVE) is used to measure the internal validity of the measurement model. Table 3 shows the AVE value for each variable, which is

greater than 0.4 for all variables, and confirms the convergent validity of the variables. Besides, the composite reliability and Cronbach's alpha value for all variables are greater than 0.7, confirming the reliability of research variables.

**Table 2: Descriptive statistics for research variables**

Variables	Number	Mean	Median	SD	Min	Max
Controlability principle	92	3.949	3	1.169	1	7
Budgetary slack	92	4.278	5	1.252	2	7
Organizational commitment	92	4.026	4	1.524	1	7
Distributional justice	92	4.652	5	2.115	1	7
Procedural justice	92	3.788	4	1.626	1	7
Interactional justice	92	3.541	3	1.564	1	7
Multiple measures of performance	92	3.874	4	1.482	1	7
Quality of financial statements	92	5.320	5	1.330	1	7
Quality of feedback	92	4.935	5	1.386	1	7
Setting objectives	92	3.791	4	1.634	1	7

**Table 3: AVE, composite reliability, and Cronbach's alpha values**

Latent variables	Cronbach's alpha	Composite reliability	Convergent validity (AVE)
Controlability principle	0.751	0.851	0.851
Budgetary slack	0.730	0.817	0.817
Organizational commitment	0.776	0.855	0.855
Interactional justice	0.882	0.918	0.918
Distributive justice	0.849	0.895	0.895
Procedural justice	0.736	0.850	0.850
Multiple measures of performance	0.909	0.922	0.922
Quality of financial statements	0.899	0.919	0.919
Quality of feedback	0.875	0.920	0.920
Setting objectives	0.886	0.917	0.917

**Assessing the model fit**

The goodness-of-fit index shows an agreement between the quality of the structural model and the measurement model and is calculated as follows:

$$GOF = \sqrt{0.404 \times 0.442} = 0.422$$

The GOF value is equal to 0.422 which is greater than 0.4, indicating the acceptable fit of the model. In simpler terms, the data in this study have a good fit with the factorial structure and the theoretical

framework of the study, confirming that the items in the questionnaires are in line with the theoretical constructs.

**Structural equation modeling**

The results of testing the conceptual model of the study in the case of significant coefficients for the first to Eighth sub-hypotheses (main hypothesis 1) are as detailed in Tables 4.

**Table 4: PLS results, path coefficients, and direct effects**

Sub-Hypotheses from 1-1 to 1-8 (main hypothesis 1)	Path coefficients	t-value	Sig.	Results
1-1-Setting objectives → Procedural justice	0.431	5.775	0.000	effective
1-2- Setting objectives → Distributinal justice	0.168	1.535	0.125	No effect
1-3- Controlability principle → Distributinal justice	0.152	1.283	0.200	No effect
1-4- Controlability principle → Procedural justice	0.000	0.003	0.998	No effect
1-5- Quality of feedback → Procedural justice	0.338	4.207	0.000	effective
1-6- Quality of feedback → Interactional justice	0.331	3.736	0.000	effective
1-7- Multiple measures of performance → Distributinal justice	0.213	2.168	0.031	effective
1-8- Multiple measures of performance → Procedural justice	0.198	2.908	0.004	effective

**Main Hypothesis 1-** This analysis of the hypotheses showed that the value of t-statistic for the five paths is higher than 1.96 and therefore they presented statistical significance, and for the paths of setting goals to distributive justice, the controllability principle to distributive justice and the path of the controllability principle to procedural justice did not present statistical significance. Therefore, sub-

hypotheses 1-1, 1-5, 1-6, 1-7 and 1-8 were confirmed and hypotheses 1-2, 1-3 and 1-4 were not confirmed. The research findings are consistent with the findings of Langevin and Mendoza (2012) and Klein et al. (2018).

The results of testing the second and third main hypotheses are as described in Tables 5 and 6.

**Table 5: PLS results, path coefficients, and indirect effects**

Main Hypotheses 2 and 3	Path coefficients	t-value	Sig.	Results
Distributinal justice → The quality of financial statements	0.173	2.513	0.012	effective
Procedural justice → The quality of financial statements	0.096	1.116	0.265	No effect
Interactional justice → The quality of financial statements	0.009-	0.112	0.911	No effect
Setting objectives → Organizational commitment	0.154	1.890	0.059	No effect
Setting objectives → The quality of financial statements	0.070	1.464	0.144	No effect
Multiple measures of performance → Organizational commitment	0.122	2.309	0.021	effective
Multiple measures of performance → The quality of financial statements	0.156	1.975	0.025	effective
Controlability principle → Organizational commitment	0.058-	1.082	0.280	No effect
Controlability principle → The quality of financial statements	0.026-	0.899	0.369	No effect
Quality of feedback → Organizational commitment	0.075	1.704	0.089	No effect
Quality of feedback → The quality of financial statements	0.029	1.131	0.259	No effect
Procedural justice → Creating a budgetary slack	0.075	0.791	0.429	No effect
Distributinal justice → Creating a budgetary slack	0.041-	0.679	0.498	No effect
Interactional justice → Creating a budgetary slack	0.115	1.373	0.170	No effect
Setting objectives → Creating a budgetary slack	0.025	0.659	0.511	No effect
Multiple measures of performance → Creating a budgetary slack	0.006	0.659	0.511	No effect
Controlability principle → Creating a budgetary slack	0.006	0.401	0.689	No effect
Quality of feedback → Creating a budgetary slack	0.064	1.418	0.157	No effect

**Table 6: PLS results, path coefficients, and direct effects**

Main Hypotheses 2 and 3	Path coefficients	t-value	Sig.	Results
Distributinal justice → Organizational commitment	0.381	3.488	0.001	effective
Procedural justice → Organizational commitment	0.209	1.308	0.192	No effect
Interactional justice → Organizational commitment	0.345	2.186	0.029	effective
Organizational commitment → The quality of financial statements	0.439	4.352	0.000	effective
Organizational commitment → Creating a budgetary slack	0.001	0.010	0.992	No effect

**Main Hypothesis 2** - The results show that three of the four components of the management control system (setting goals, control principle and quality of feedback) do not have significant relationship with the quality of financial statements, but the dimension of performance measures have Indirect positive effect (0.156) on the quality of financial statements through organizational commitment. Also, the measure of performance from the dimensions of management control system has an indirect positive effect on organizational commitment (0.122) and two dimensions of distributive justice and interactive justice. From the dimensions of organizational justice, have a direct positive effect on organizational commitment (0.381) and (0.029), respectively, organizational commitment has a direct positive effect on the quality of financial statements (0.439), and finally, distributive justice has a Positive indirect effect (0.173) on the quality of financial statements through organizational commitment. Therefore, the hypothesis of the effect of organizational justice perceived in the management control system on the quality of financial statements through organizational commitment was confirmed. This research findings is consistent with the result of the studies of Khodami and Osanloo (2015). Their study showed that organizational justice is related to organizational commitment and job satisfaction, and organizational commitment and job satisfaction are positively related to ethical behaviors, and ethical values in the organization can lead to ethical behaviors among employees by creating organizational justice, job satisfaction and organizational commitment.

**Main Hypothesis 3:** The results showed that none of the the components of the management control system had any significant relationship with the tendency to create a budgetary slack through organizational commitment. Therefore, the hypothesis of the effect of perceived organizational justice in the management control system on the tendency to create a deliberate budget slack by increasing organizational commitment was not confirmed. The research findings are inconsistent with the results of the studies of Chong et al. (2017). They found that high levels of commitment are associated with a reduction in the intentional deficit in the budget. Thus, the perceived justice of the management control system is more reflected in the organizational commitment, so will

lead to reduce the tendency of managers to create intentional budget deficits and data manipulation.

## 7. Discussion and conclusion

The study aimed to investigate the effect of management control system on behavioral accounting with emphasis on the perception of organizational justice and organizational commitment, In other words the present study sought to answer the question of which dimensions of the management control system increase the perception of organizational justice and reduce unethical behavior in the perception of managers (providing low quality financial statements and creating budget slack, etc.). structural equation modeling with the partial least squares approach was used to test the hypotheses. In sub-hypothesis 1-1 it was verified whether the participation in setting objectives is significantly related to procedural justice. The results indicated that when managers participate in setting objectives, business processes are considered fair. The result is consistent with that observed in Langevin and Mendoza (2012) and Klein et al. (2018). In sub-hypothesis 1-2 it was verified whether the participation in the setting the objectives increases the distributive justice perceived in management control system, but the results did not support this statement. In the sub-hypotheses 1-3 and 1-4, it was investigated whether the application of the controllability principle is significantly related to distributive and procedural justice. The results were not significant, i.e. when the company applied the controllability principle, its managers did not consider the management control system to be fairer. This result contradicts the theoretical assumption of Langevin and Mendoza (2012), that when managers are assessed only on the basis of what they can control, Management control system is perceived as fair. In the sub-hypotheses 1-5 and 1-6 it was analyzed whether the quality of the feedback is significantly related to procedural and interactional justice of management control system. The results were significant, corroborating with the literature Colquitt and Jackson (2006). In the sub-hypotheses 1-7 and 1-8 it was verified whether multiple performance indicators are significantly related to distributive and procedural justice. The results were significant and converge with the premises of Langevin and Mendoza (2012) and Klein et al. (2018). The main hypothesis 2 examined whether the organizational justice perceived in management

control system reduces the propensity to present low quality of financial statements with increased the organizational commitment. In the test results, only the dimension performance measures presented statistical significance, besides signaling with its coefficient that it reduces presenting low quality financial statement. This research findings is consistent with the result of the studies of Khodami and Osanloo (2015). the main hypothesis 3 which is about the effect of perceived organizational justice in the management control system on the tendency to create a deliberate budget slack by increasing organizational commitment was not confirmed. The research findings are inconsistent with the results of the studies of Chong et al. (2017). In summary, the results of the research demonstrate that participation in setting objectives increases procedural justice, i.e. the process of participating in setting objectives is considered fair, but this is not closely related to the remuneration of managers, a fact advocated by literature (H1-2). According to Langevin and Mendoza (2012), participation in setting goals is used as a communication tool between subordinates and their superiors and allows subordinates to exchange and search for information with their superiors, which can improve the accuracy of the data used in the decision-making process. Participation in setting goals and objectives allows subordinates to express their views, actively participate in achieving continuous improvement, and correct any previous inadequate beliefs of their superiors, as well as meet ethical standards. Likewise, disregarding aspects uncontrolled by managers in performance assessment does not lead to the perception of procedural and distributive justice (H1-3 and H1-4). However, quality of feedback leads to the perception that management control system is fair (H1-5 and H1-6), indicating that subordinates feel valued and respected as members of the group. Multiple measures of performance present similar results, i.e. there is a perception of distributive and procedural justice when it is used by the company

#### **Limitations and suggestions for future research**

According to the results of this study, setting goal increases the perception of procedural justice. Similarly, participation in setting goal leads to improved relationships between subordinates and superiors, so based on the results, the opinions of managers and Subordinates should be considered when

making decisions, because everyone wants to be involved in decisions that affect them.

The quality of feedback affects the procedural and interactive justice of the management control system. The results showed that providing high quality feedback strengthens communication and leads to a favorable perception of subordinates of their superiors. Also, the quality of appropriate feedback shows that subordinates are valuable and respected as members of the group. Therefore, providing appropriate feedback to managers and subordinates increases the motivation for hard work in employees and improves the work mood in people. The case of the quality of feedback should be paid more attention because people infer justice from the quality of feedback they receive in reciprocal relationships.

The use of multiple performance measures affect organizational commitment as well as distributive and procedural justice. In other words, managers believe that the use of multiple measures increase the likelihood of more accurate evaluation of their performance. Customer satisfaction, speed of adaptation to new technology, etc. should be considered.

The present study showed that distributive and interactional justice affects organizational commitment. Managers should note that pays and benefits are not factors that affect organizational commitment. However, working conditions, the workplace, mutual respect and attention, employee participation in decision making, observance of justice and fairness in daily treatments and in evaluating employees' performance, handling complaints and disputes, and in general, observance of interactive and distributional justice have a greater impact on employees' organizational commitment and increasing their attention to the goals and values of the organization. Therefore, managers should not just focus on providing material benefits to their employees. It is recommended that managers maintain a fair distribution of rewards and seek to encourage employees and value their attitudes. To establish distributional justice, managers should try to use an excellent performance appraisal system that has a good job description. For this purpose, the analysis of jobs in the organization should be performed in a practical way to pave the way for increasing distributional justice among employees.

The presence of obstacles and limitations in the research procedure is an integral part of the research and this provides a suitable context for future research. Accordingly, the present study was conducted with some limitations. The most important limitations of this study which falls under qualitative research include: The research problem falls under behavioral research and thus the research design cannot be considered to be perfectly scientific. The data of research are collected using tools such as interviews and questionnaires. Accordingly, respondents' feelings, emotions, attitudes, and perceptions affect the data. It is difficult to recruit a suitable research population, so the results are highly dependent on the researcher's observations, and since there are numerical data, the generalizability of the findings is limited and the validity of the conclusions cannot be controlled. Collecting data through questionnaires requires respondents to complete it patiently and at the right time, but finding such people and taking time from them is difficult.

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