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Examining the mediating effect of job satisfaction on the relationship between budgetary participation and organizational citizenship behavior in Indonesian higher education institutions

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Abstract: This study aims to investigate the relationship between budgetary participation, job satisfaction, and organizational citizenship behavior. This study particularly examines if job satisfaction mediates the relationship between budgetary participation and organizational citizenship behavior of faculty members of Indonesian higher education institutions using self-determination theory. Further, this study examines whether such relationship is stable for both public and private higher education institutions. Using a positivistic-quantitative approach with survey method, we have responses from 350 faculty members, 149 are from public institutions and 201 are from private institutions. We analyzed the data using causal mediation analysis procedure and find that job satisfaction does not mediate the



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This research is part of the author's dissertation, which is currently still in the finishing process.

PUBLIC INTEREST STATEMENT

Organizational citizenship behavior (OCB) is a voluntary behavior carried out by individuals in a particular organization. This behavior is not the primary task in the organization. Therefore, there is no direct relationship with the reward system in those organizations. An example of OCB is a voluntary behavior of helping colleagues do something related to their work (P. M. Podsakoff et al., 2000).

This study investigates the relationship between budgetary participation, job satisfaction, and OCB. This study particularly examines if job satisfaction mediates the relationship between budgetary participation and organizational citizenship behavior of faculty members of Indonesian higher education institutions.

This study finds difference in the relationship between budget participation and job satisfaction in explaining OCB of lecturers in public institutions and private institutions shows that OCB in lecturers at private institutions has a broader antecedent factor than OCB for lecturers at public institutions.

relationship between budgetary participation and organizational citizenship behavior. Instead, job satisfaction and budgetary are independent variables of organizational citizenship behavior. Further analysis, however, reveals that in public institutions, job satisfaction mediates the relationship between budgetary participation and organizational citizenship behavior.

Subjects: Applied Social Psychology; Personnel Selection, Assessment, and Human Resource Management; Management Accounting; Human Resource Development;

Keywords: Budgetary participation; Higher education; Indonesia; Job satisfaction; Organizational citizenship behavior

1. Introduction

To maintain its existence in fierce competition, an organization must continually improve the organization's efficiency and effectiveness in their operations in various ways. One way that can be done is to encourage the emergence of positive behavior for the organization—i.e. Organizational Citizenship Behavior (OCB). OCB is the behavior of individuals in organizations which have a positive attitude in increasing organizational effectiveness. This behavior is not the organization members' primary task and is not directly related to its formal reward system (Organ, 1988). Examples of OCB behavior include voluntary behavior in helping colleagues do something related to their work, complying with all applicable rules in the organization even though no one is supervising, and maintaining the organization's reputation (P. M. Podsakoff et al., 2000). Although it is not directly related to the formal reward system, OCB is considered vital because it can streamline social mechanisms in the organization to create situations and conditions that can improve individual performance in the organization; and in the end will increase organizational efficiency (Koys, 2001; Smith et al., 1983).

Since OCB is especially important for organizations, it is important to understand factors affecting OCB. Previous studies show that OCB is affected by the trust of a person in the organization (Akram et al., 2018; Aryee et al., 2015; Blau, 1964; Cardona et al., 2004; Hameed Al-ali et al., 2019) and justice (Akram et al., 2018; Ang et al., 2003; Wong et al., 2006). From management accounting and control system perspectives, in this paper we hypothesize that budgetary participation is a control system which affect OCB. However, the effect is indirect via job satisfaction. Our hypothesis is based on the previous findings that budgetary participation affects job satisfaction (Chenhall, 1986; Lau & Chong, 2002) and that job satisfaction affects organizational citizenship behavior (Bies, 1989; Organ, 1977; Smith et al., 1983; Somech & Drach-Zahavy, 2000; Van Dick et al., 2008; Williams & Anderson, 1991), and Zenker & Rütter, 2014). Therefore, it is likely that the effect of budgetary participation on OCB is indirect via job satisfaction. Additionally, from a theoretical perspective, our model is consistent with the self-determination theory (Ryan & Deci, 2000). The theory suggests that satisfaction would promote internal motivation and functional behavior, in this case, is OCB.

OCB has been extensively studied in the company context (Bies, 1989; Organ, 1977; Smith et al., 1983; Somech & Drach-Zahavy, 2000; Van Dick et al., 2008; Williams & Anderson, 1991; Zenker & Rütter, 2014) and OCB research in the context of higher education institutions is growing. Among the OCB research in the context of higher educational organizations, studies were performed by LeBlanc (2014), Dong and Phuong (2018), Junru and Huang (2019), Azila-Gbettor et al. (2020), and LeBlanc (2014) identified characteristics that shape OCB among higher education students. Dong and Phuong (2018) proposed a research proposition using variables of organizational justice, employee's job satisfaction, and OCB. Junru and Huang (2019) investigated the mediating role of job satisfaction on the relationship between organizational justice and OCB on private universities in China. Meanwhile, Azila-Gbettor et al. (2020) revealed that self-esteem positively affects OCB among university students in Ghana. In Indonesia context, OCB studies were conducted, among others, by Indarti et al. (2017), Munawir et al. (2019), Abror et al.

(2020), and Indarti et al. (2017) investigated whether organizational citizenship behavior mediates the effects of personality, organizational commitment, and job satisfaction on performance. Using 275 samples of faculty members of two private colleges in Makassar, their hypotheses were supported. Munawir et al. (2019) examined the mediating effect of university governance on relationship between OCB and university performance. Using samples of educators have become heads of study programs in religious ideology-based private universities in Makassar and Aceh City, they found that good university governance has a significant mediation effect on relationship between OCB and performance. Abror et al. (2020) studied the relationship between self-efficacy, employee engagement, remuneration, satisfaction, organizational citizenship behavior (OCB) and employee loyalty. Using samples of lecturers at a state university in West Sumatera, they found that (1) engagement, self-efficacy, remuneration significantly affects satisfaction, (2) engagement is a significant antecedent of lecturer loyalty, (3) self-efficacy, remuneration, and satisfaction have significant impact on OCB, and (4) satisfaction has a significant effect on loyalty.

Whilst Indonesia is a big country with thousands of islands, previous studies of OCB in Indonesia used samples of faculty members from outside of Java islands. This study uses more representative samples because our study covers samples from both Java and out of Java islands. Based on data released by the government in 2019, the area of Indonesia is 1,916,906.77 km² and consists of 16,056 islands (Biro Pusat Statistik, 2019). This study is expected to increase the generalizability of the findings compared to previous studies. Further, this study includes budgetary participation variable, an important yet neglected by previous studies. Finally, this study also employs samples from public and private universities to investigate whether the results are stable for those two different groups.

The geographical condition of Indonesia forced the Indonesian government to get the private institutions to be actively involved in providing education for the Indonesian Citizens. Consequently, there are two types of university in Indonesia, private and public university. However, the government shows different support for them. The public institution receives more support from the government in terms of money. This situation forced private institutions to rely more on their own.

The research questions in this study are: (1) Does job satisfaction mediate the relationship between budgetary participation and OCB? (2) Was the mediation role of job satisfaction similar for the public universities and private universities. Therefore, the objectives of this research are: (1) To investigate the relationship of budgetary participation, job satisfaction, and OCB within the self-determination theory, and (2) to investigate whether the relationship is stable both for public and private universities in Indonesia. In doing so, this study performed a causal mediation analysis procedure (Hicks & Tingley, 2011). The results provide evidence to support the hypothesis of the mediation effect of job satisfaction on the relationship between budgetary participation and organizational citizenship behavior in public universities. Further analysis shows a different pattern of OCB between faculty members of public institutions and private institutions.

This paper provides two contributions to the literature. First, from the theoretical perspective, this study tests the self-determination theory in the context of higher education institutions using a more comprehensive samples and explains the relationships between budgetary participation, job satisfaction, and OCB. Participation in the budgeting process leads to a positive effect on job satisfaction, and finally, will also shift up the OCB in public universities. The result supports the self-determination theory in explaining the OCB and supports Schiff and Lewin (1970) in contending that participation in the budgeting process has positive behavioral impacts. Second, from a practical perspective, this paper brings insight into higher education institution management, particularly public university, that promoting job satisfaction is paramount. The member of their organization will shift up the OCB as their satisfaction get raised.

The rest of the paper is organized into six sections. The next section explains the background of this research. The third section is the theory, literature review and hypotheses development. The

fourth section explains the research design, and it is followed by the fifth section, the empirical finding of this research. The final section, the conclusion, explains how this research will impact the literature and it explains avenues for future research.

2. Background

Research on the topic of budgeting and OCB in the Indonesia university context is paramount to study, because in higher education institutions in Indonesia, faculty members generally are also involved in the management process of the institution. Some of the faculty members at higher education institutions have dual assignments; in addition to teaching assignments, they also have duties in their organization's management process.

The organizational structure of higher education in Indonesia is fascinating to observe. This is due to the portion of private educational organizations operating in Indonesia. Data for 2019 shows that nearly 70% of higher education institutions in Indonesia are private institutions (Kementerian Riset & dan Pendidikan, 2019). In private higher education institutions, government support, especially in terms of finance, is minuscule. This results in private institutions having to be fully independent so that the institution can continue to operate. This will be realized by the involvement of all private institution elements to increase their efficiency and effectiveness. Thus, it is suspected that there will be differences in the behavior of OCB in human resources in private institutions and public institutions. Research conducted in higher education is expected to provide a clearer picture of the relationship between budgetary participation, job satisfaction, and OCB because the environment in higher education has particular characteristics.

Many Indonesians interested in pursuing higher education in Indonesia are not comparable to universities' capacity. Data from Kementerian Pendidikan dan Kebudayaan (2013) show that state universities can only accommodate forty percent (40%) of students—the rest is accommodated by private universities scattered throughout Indonesia. In terms of quantity, the number of private universities in Indonesia is far above the number of public universities. Data up to 2018 show that there are 3,171 private universities in Indonesia, while the number of public universities is 122. The difference in government support for tertiary institutions and the high level of competition between private universities requires managers and the entire academic community in private universities to make a more challenging effort to maintain their existence in the field of higher education.

3. Theory, literature review, and hypotheses development

3.1. Self-Determination theory and social exchange theory

From theoretical perspectives, organizational citizenship behavior can be explained by two theories: self-determination theory and social exchange theory. An essential element in the self-determination theory is intrinsic motivation, which explains that individuals will behave voluntarily even without rewards. Self-determination theory was developed by Ryan and Deci (2000) in line with the learning theory, which states that individual behavior will emerge due to psychological drives (Hull, 1943). A taxonomy of human motivation was then developed, and it was stated that intrinsic motivation would be closely related to satisfaction (Ryan & Deci, 2000).

The relationship between behavior and satisfaction will be different when analyzed using social exchange theory. Social exchange theory states that behavior will appear after the individual assesses the social exchange theory elements, i.e. (1) the reward and the reward value (Homans, 1961), where rewards can be in the form of material and in the form of social rewards (Blau, 1964); (2) the cost sacrificed made by individuals. Blau (1964) stated that humans would behave after comparing the costs and benefits they will receive; (3) profit which is the difference between the costs and benefits that will be received. Humans will take action if they perceive that they will get more benefit than the cost they incur (Homans, 1961); (4) Equity and distributive justice (Redmond, 2015). People, however, will react to their perceptions about equality and justice they are threatened.

Based on the social exchange theory, the organizational citizenship behavior can be considered as an investment in order to get rewards, both financial and social rewards. Based on self-determination theory and social exchange theory, organizational citizenship behavior will be closely related to satisfaction. However, the operational mechanism of organizational citizenship behavior and satisfaction will be very different. Self-determination theory has nothing to do with rewards, while social exchange theory will be closely related to rewards. The relationship between organizational citizenship behavior and social exchange theory will be significantly influenced by individual perceptions of equity and distributive justice.

3.2. Budgeting and job satisfaction

Budget is an important instrument of management control systems (Anthony & Govindarajan, 2007). Further, Anthony and Govindarajan (2007) identified three approaches of how a budget is developed: top down, bottom up, and participative budgeting. Budgeting process is critical in an organization. This process is related to allocating organizational resources used in its business processes (Covaleski, 2003).

Organizations use participatory budgeting for several reasons. One of the factors that encourage participatory budgeting is uncertainty. This budgeting is considered capable of reducing uncertainty on the organization (Chong & Johnson, 2007). Another antecedent factor of participatory budgeting is information sharing. Organizations try to absorb information from all levels of employees so that the budget prepared has a reasonably good level of accuracy (Shields & Shields, 1998).

Implementing participatory budgeting can also increase budget acceptance by employees (Aranya, 1990), and improve performance (Kenis, 1979). However, Milani (1975) states that the relationship between participatory budgeting and performance is very weak. The contradiction mentioned before is attempted to be explained by Cherrington and Cherrington (1973), who state a moderating effect between budget participation and budget instrumentality. This means that the relationship between budget participation and performance or budget participation and motivation will be influenced by the interaction between budget participation and the organization's achievement of the reward system budget (budget instrumentality). Aranya (1990) states that high performance or job satisfaction is associated with high budget participation and low budget instrumentality or low budget participation but high budget instrumentality.

The impact on the application of budgetary participation, among others, was investigated by Chong et al. (2006). The study reveals that budgetary participation positively affects job satisfaction and there are multi roles of budgetary participation to affect job satisfaction. The relationship between budgetary participation and job satisfaction has also begun to be linked to the specific characteristics of a country, for example, in Mexico (Frucot & Shearon, 1991), and in Indonesia (Iriyadi & Gurd, 1998).

The latest studies on the relationship between budget and job satisfaction, among others, were conducted by Farahmita (2016), Sim and Utami (2018), Zonatto et al. (2020), and Farahmita (2016) revealed that budgetary participation and job satisfaction have an interaction effect on performance. Sim and Utami (2018) found evidence that budgetary participation affects job satisfaction with job relevant information as the mediating variable. Meanwhile, Zonatto et al. (2020) found that budgetary participation affects the job satisfaction.

3.3. Job satisfaction and organizational citizenship behavior

Job satisfaction is one of the most important antecedents of organizational citizenship behavior (OCB) variable. Heriyadi et al. (2020) and Nurjanah et al. (2020) conducted studies on the effect of job satisfaction on OCB. They found that job satisfaction has a positive effect on OCB. Organ (1988) states that OCB is a form of prosocial behavior in an organization. This research was conducted in high education context in Indonesia. Since then, as drawn from Organ (1988), OCB in this study is defined as the lecturers' behavior in performing a positive attitude that is not directly related to the

formal reward system in the universities. The relationship between job satisfaction and OCB is consistent with explaining behavioral motives in organizations (Katz, 1964). Following the principle of reciprocity and social exchange theory, individuals in organizations with high job satisfaction will try to reciprocate by giving something to the organization, in the form of OCB (Organ, 1977).

The OCB mechanism proposed by Organ (1988) follows the self-determination theory (SDT) proposed by Deci and Ryan (2008). This theory explains the emergence of internal motives in a person, triggered by external factors, such as satisfaction. Studies based on SDT, among others, were conducted by Smith et al. (1983), Somech and Drach-Zahavy (2000), Van Dick et al. (2008), and Williams and Anderson (1991), and Zenker and Rütter (2014).

The relationship between job satisfaction and OCB is also explained by the valence-instrumentality-expectancy theory (Vroom, 1964). Based on this theory, it is explained that OCB behavior by employees occurs due to economic motivation. Employees who have low job satisfaction will perform OCB because they expect rewards (Bolino, 1999). The relationship between job satisfaction and OCB, according to Bolino (1999), is also explained by the agency theory (Jensen & Meckling, 1976), which states that employees' behavior is driven by pecuniary behavior. However, OCB's explanation by Organ (1988) is considered more appropriate because OCB is not a performance indicator that will have implications for rewards. Thus, we propose the following hypothesis:

Ha1: Job satisfaction mediates the relationship between budgetary participation and organizational citizenship behavior.

Research with educational settings in Indonesia has begun to be widely carried out. Education with a higher education setting was carried out, among others, by Pratolo et al. (2020), who researched performance-based budgeting in universities. Pratolo's research shows that higher education is a fascinating research theme to do. This may occur because universities, as higher education institutions, are required to behave like business organizations.

The difference in government support for higher institutions and the high level of competition between private universities requires managers and the entire academic community in private universities to make a more challenging effort to maintain their existence in the field of higher education. One of the academic community's efforts in private universities is to conduct higher OCB than academics in private universities. Thus, hypothesis 2 is as follows:

Ha2: There is a difference in the relationship between budget participation, job satisfaction, and organizational citizenship organizations in public and private institutions.

4. Research design

This research was designed using positivistic-quantitative approach with survey method. This study was conducted with cross-sectional data collected by an online survey with the faculty members throughout Indonesia as the respondents, both faculty members at state institutions and those at private institutions. This approach is expected to enhance the external validity of this study. The data were collected through an online survey that was distributed through closed community media using a virtual snowball sampling. The link for the survey was sent to 25 public/state universities and 100 private universities. The sampling covers both public and private universities in Java island and out of Java islands. The questionnaires used were adopted from the ones developed by Milani (1975), Spector (1985), and Lambert and Hogan (2013). In order to prevent semantics biases, we performed a back-translation procedure for those instruments. This procedure provides verification on semantics equivalency between the source language and the target language (Maneesriwongul & Dixon, 2004).

To test the hypothesis, the causal mediation analysis procedure (Hicks & Tingley, 2011) using STATA was performed. This procedure was chosen because this one was the most appropriate procedure, considering the ratio between number of indicators and the data collected. In estimating the mediation effect, the causal mediation procedure proposed by Hicks and Tingley (2011) was derived from a formal framework for causal inference. This leads to a better estimation compared to the traditional mediation analysis procedure based on a common regression analysis. The data collected were 350 responses, 149 (43%) were from state institutions and 201 (57%) were from private institutions.

4.1. Measurement

4.1.1. Budgetary participation

This construct was measured by six statement items developed by Milani (1975) and with 7-point Likert approach. The validity test showed that this instrument is suitable for use because the loading value of each item is more than 0.6 (Hair et al., 2010). Additionally, it is also reliable as it has a Cronbach's Alpha value of 0.901 (Nunally, 1967). The details are presented in Table 1 below.

4.1.2. Job satisfaction

Measurement of job satisfaction was carried out with the instrument developed by Spector (1985). This instrument consists of 30 statement items measured by a 7-point Likert.

The validity test showed that two items must be dropped because they had a loading value below 0.4 (Hair et al., 2010). The reliability test of this instrument shows a good Cronbach's Alpha value of 0.930 (Nunally, 1967). The details are presented in Table 1 below.

4.1.3. Organizational citizenship behavior

This instrument refers to the instrument used by Lambert and Hogan (2013). Initially, this instrument consists of eight items. Two items could not be used because they did not pass the pilot test. The validity test was carried out and the results showed that two items had to be dropped because the loading value was below 0.4 (Hair et al., 2010) and the items that could be used were four items. The reliability test results showed quite good results with a Cronbach's Alpha value of 0.746 (Nunally, 1967). The details are presented in Table 1 below.

5. Empirical results and discussion

The result showed that OCB's mean values were 23.027 and 22.602 for public institutions and private institutions, respectively. The mean values of job satisfaction were 116.329 for public institutions and 117.508 for private institutions. The mean values of budgetary participation were 23.732 and 21.756 for public institutions and private institutions, respectively. Those values were statistically not different between public and private institutions with p-values of 0.257, 0.653, and 0.055 for OCB, job satisfaction, and budgetary participation, respectively (see Tables 2 and Tables 3 below).

Hypothesis testing was carried out using a procedure developed by Hicks and Tingley (2011). This procedure was carried out in three stages. Stage 1 was carried out by regressing the variables thought to be the mediating variables on the independent variables. Stage 2 regressed the dependent variable on the independent variable and the variable suspected as the mediating variable. In stage 3, a test was conducted to determine the mediation (indirect effect), direct effect, and total effect.

5.1. Test of hypothesis 1

All stages in hypothesis 1 testing were carried out using the whole data (full sample). In stage 1, which was carried out by regressing the mediating variable (job satisfaction) on the independent variable (budget participation), budget participation was positively associated with job satisfaction. Budget participation had a coefficient value of 0.769, with a p-value of 0.000. The second stage

Table 1. Confirmatory factor analysis and Cronbach's alpha			
Variable	Loading	Variable	Loading
OCB		Job Satisfaction	
ocb1	0.526	js1	0.695
ocb2	0.335	js2	0.695
ocb3	0.350	js3	0.430
ocb4	0.656	js4	0.655
ocb5	0.724	js5	0.552
ocb6	0.619	js6	0.454
		js7	0.626
Alpha	0.746	js8	0.399
		js9	0.604
Budgetary Participation		js10	0.558
pb1	0.835	js12	0.746
pb2	0.609	js13	0.475
pb3	0.601	js14	0.668
pb4	0.879	js15	0.698
pb5	0.874	js16	0.529
pb6	0.843	js17	0.683
		js18	0.740
Alpha	0.901	js19	0.446
		js21	0.385
		js22	0.549
		js24	0.723
		js26	0.798
		js27	0.568
		js28	0.621
		js29	0.554
		js30	0.454
		Alpha	0.930

analysis, which was carried out by regressing OCB on budget participation and job satisfaction, showed a budget participation coefficient of 0.065 (0.000) and a job satisfaction coefficient of 0.034 (0.000). Stage 3 analysis showed that the mediation effect's value was 0.026, with intervals at the alpha level of 5% between 0.013 and 0.043. The direct effect value was 0.066, with the interval value at 5%, and alpha was 0.031 to 0.104. Thus, the direct effect was said to be significant.

Meanwhile, the total effect value was 0.092, with an interval of 5% alpha at 0.058 to 0.128. The direct effect value could be said as significant because all of the interval values were positive. The test results with the whole data showed that the direct effect's value was greater than the mediation effect. Thus, hypothesis 1 was not supported. Therefore, it is concluded that both budget participation and job satisfaction are independent variables that explain OCB (see Table 4).

5.2. Test of hypothesis 2

For hypothesis 2 testing, the samples were regrouped. We divided the samples into two groups, i.e. lecturers in public institutions and lecturers in private institutions. Stage 1 analysis carried out on each

Table 2. Description analysis

		Full sample (n = 350)	Public (n = 149)	Private (n = 201)
Budget Participation	Mean	22.597	23.732	21.756
	Std. Dev.	3.466	3.589	3.369
Job Satisfaction	Mean	117.006	116.329	117.508
	Std. Dev.	24.203	25.786	23.013
OCB	Mean	22.783	23.027	22.602
	Std. Dev.	3.466	3.589	3.369

Table 3. Description across institutions

	Institution	Mean	Std. Dev.	Freq.	t test (p-value)
OCB	Public	23.027	3.589	149	1.134 (0.257)
	Private	22.602	3.369	201	
	Total	22.783	3.466	350	
Job Satisfaction	Public	116.329	25.786	149	-0.445 (0.653)
	Private	117.508	24.203	201	
	Total	117.006	24.203	350	
Budgetary Participation	Public	23.732	9.698	149	1.925 (0.055)
	Private	21.756	9.338	201	
	Total	22.597	9.529	350	

sub-sample showed the same results. Budget participation was positively associated with job satisfaction in both samples of public institutions and private institutions' lecturers. The coefficient values were 1.023 (0.000) for public institutions' lecturers and 0.593 (0.002) for private institutions' lecturers.

Different results were shown in the stage 2 analysis. The budget participation coefficient was not significant for private institutions' lecturers because it showed a value of 0.038 ($p = 0.244$). In contrast, for private institutions' lecturers, the budget participation coefficient remained significant with a value of 0.081 ($p < 0.000$), while the job satisfaction variable was significant in both subsamples.

Stage 3 analysis on public institutions' lecturers showed that the direct effect value was not significant because the interval at 5% alpha showed a value between -0.021 and 0.108 . Thus, it can be concluded that for public institutions' lecturers, job satisfaction is a mediating variable between budgetary participation and OCB. However, different result was shown in the sub-sample of private institutions' lecturers. The direct effect's value was greater than the resulting value of the mediation effect (0.082 compared to 0.020), both of which were significant). For private institutions' lecturers, it can be concluded that the job satisfaction variable is an independent variable; and the results of stage two show that the budget participation variable remains significant. Thus, the conclusion that can be drawn is that the two variables, budget participation and job satisfaction, are independent variables that explain OCB. The testing results from stage 1 to stage 3 for each sub-sample showed a different relationship between budget participation, job satisfaction, and OCB. Thus, this study obtained empirical evidence that supports hypothesis 2 (see [Table 4](#)).

The statistics tests showed that the relationship between budgetary participation, job satisfaction and OCB were consistent with the findings of Schiff and Lewin (1970) and Deci and Ryan

Table 4. Mediation effects analysis

			Full sample (n=350) Coefficient (p-value)	Public (n=149) Coefficient (p-value)	Private (n=201) Coefficient (p-value)
Stage 1	Dep. Var.= Job Satisfaction	Budget Participation	0.769 (0.000)	1.023 (0.000)	0.593 (0.002)
Stage 2	Dep. Var.= OCB	Budget Participation	0.065 (0.001)	0.038 (0.244)	0.081 (0.000)
		Job Satisfaction	0.034 (0.000)	0.037 (0.003)	0.033 (0.003)
			Coefficient	95% Confidence Interval	
Stage 3	Full Sample (n=350)	Mediation Effect	0.026	0.013	0.043
		Direct Effect	0.066	0.031	0.104
		Total Effect	0.092	0.058	0.128
	Public (n=149)	Mediation Effect	0.038	0.012	0.074
		Direct Effect	0.041	-0.021	0.108
		Total Effect	0.079	0.011	0.151
	Private (n=201)	Mediation Effect	0.020	0.005	0.042
		Direct Effect	0.082	0.040	0.128
		Total Effect	0.102	0.058	0.147

Table 5. Groups distributions

	Frequency.	Percentage	Cummulative
PBCUT			
Low	166	47.430	47.430
High	184	52.570	100
Total	350	100	
JSCUT			
Low	172	49.140	49.140
High	178	50.860	100
Total	350	100	

Table 6. Two-way ANOVA analysis

	Public	Private	Total
Number of Observation	149	210	350
Adj. R Squared	0.088	0.102	0.104
Model Prob.	0.001	0.000	0.000
PBCUT Prob.	0.039	0.000	0.000
JSCUT Prob.	0.005	0.003	0.000
PBCUT#JSCUT Prob.	0.523	0.731	0.551

(2008) only on public institutions' lecturers. Participation in budgeting process increases job satisfaction and, finally, also increases OCB.

On the other hand, the test result on the private institutions' lecturers was also consistent with Schiff and Lewin (1970) and Deci and Ryan (2008), but in a different pattern. Budgetary participation and job satisfaction positively affect the OCB, but they are independent of each other.

5.3. Sensitivity analysis

An additional test was also performed to ensure the nature of the relationship between budgetary participation, job satisfaction, and OCB. For this purpose, we categorized budgetary participation and job satisfaction based on their median value. Values under the median were considered as lower level of budgetary participation and job satisfaction, while values higher than median were considered as higher level of budgetary participation and job satisfaction. The new groups for the budgetary participation and job satisfaction are labeled as PBCUT and JSCUT, respectively. The variable PBCUT represents groups based on the median value of budgetary participation scores. This variable contains two values (dummy): zero and one. Zero represents the group with a budgetary participation score below the median value, and one represents the group with a budgetary participation score above the median value. The same treatment was also applied for JSCUT, zero represents job satisfaction scores below the median value, and one represents job satisfaction above the median value. The distribution of each level for the new group is presented in Table 5 below.

A two-way ANOVA was performed to the total samples and all sub samples. A full factorial ANOVA was performed with OCB as the dependent variable, while the independent variables were PBCUT, JSCUT, and PBCUT#JSCUT as the interaction terms of budgetary participation and job satisfaction.

The result in Table 6 shows that the interaction terms were not significant for all the sub samples, public institutions, private institutions, and all samples, with p-values of 0.523, 0.731,

and 0.551, respectively. It is then concluded that job satisfaction was not moderating the relationship between budgetary participation and OCB. This result showed support for the finding that job satisfaction was an intervening variable.

6. Summary and conclusion

This study provides evidence that supports the hypotheses that there are differences in the relationships between budget participation, job satisfaction, and OCB in lecturers in public/state universities. Job satisfaction can be concluded as mediating the relationship between budgetary participation and OCB. In general, the relationship between job satisfaction and OCB is consistent with the findings of Smith et al. (1983) and Williams and Anderson (1991), which stated that job satisfaction is a vital antecedent factor of OCB.

This study has two theoretical contributions. First, this study revealed the comprehensive link between budgetary participation, job satisfaction, and OCB. Some prior studies have examined the relationships between those variables, but they were conducted separately. The comprehensive link between those variables provides a better understanding of the implication of accounting on behavior. Second, this research used wider coverage of samples hence increase the external validity and generalizability of the findings compared to previous studies which were conducted with a narrow scope of the sample. Additionally, this study supports the self-determination theory.

The difference of the nature of the relationship between budget participation and job satisfaction in explaining OCB of lecturers in public institutions and private institutions shows that OCB in lecturers at private institutions has a broader antecedent factor than OCB for lecturers at public institutions. The practical implication of this study's results is to provide enlightenment for the management of higher education institutions, both public and private, in determined efforts to improve OCB. Management at public institutions can focus more on increasing job satisfaction so that OCB in their lecturers can increase. Meanwhile, management in private universities can involve lecturers and the academic community in the budget preparation process to improve OCB. The relationship between budget participation and job satisfaction of lecturers in private universities is consistent with the findings of Aranya (1990) and Kenis (1979).

This research, however, has limitations. The OCB instrument in this study is a generic instrument and measures OCB in general—it does not measure the OCB dimensions in detail (Lambert & Hogan, 2013). Although this instrument is also used by Organ and Ryan (1995) and N. P. Podsakoff et al. (2009), OCB research that focuses on the dimensions of OCB should be done to understand better the types of OCB that occur in the academic community of higher education.

This research provides insight into a pattern of relationships between budgeting systems, job satisfaction, and OCB. Those patterns are different between the types of organization. Thus, there are opportunities for future research, for example, in investigating the relationship of budgetary participation and OCB when job dissatisfaction occurs among individuals in organizations.

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