Intervening Role of Performance-Based Budgeting in the Relationship between Transformational Leadership, Organizational Commitment and University Performance

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ABSTRACT

This study aims to investigate the influence of transformational leadership and organizational commitment on performance-based budgeting systems of Indonesian universities. It also examines the impact of performance-based budgeting systems on universities’ performance and the role of performance-based budgeting as an intervening variable. The population in this study was private universities registered in Indonesian Higher Education Service Institutions (or Lembaga Layanan Pendidikan Tinggi/ LLDikti) region XIII Aceh, Indonesia. The samples were selected using convenience sampling method. There were 130 completed questionnaires collected and analyzed using Partial Least Square. This study found that transformational leadership and organizational commitment have no direct effect on university performance, while the performance-based budgeting system has a significant positive effect on the performance of universities. This study also found that a performance-based budgeting system serves as an intervening variable in the relationship between transformational leadership and organizational commitment concerning higher education performance.

Peran Intervensi Anggaran Berbasis Kinerja pada Pengaruh Kepemimpinan Transformatif dan Komitmen Organisasi terhadap Kinerja Universitas

ABSTRAK

Penelitian ini bertujuan untuk menguji pengaruh kepemimpinan transformasional dan komitmen organisasional terhadap sistem penganggaran berbasis kinerja (SPBT) pada perguruan tinggi (PT) di Indonesia. Selain itu, riset ini juga menguji pengaruh SPBT terhadap kinerja PT serta peran SPBT sebagai variabel intervening. Populasi dalam penelitian ini adalah perguruan tinggi swasta (PTS) yang terdaftar di Lembaga Layanan Pendidikan Tinggi (LLDikti) wilayah XIII Aceh. Pemilihan sampel menggunakan metode convenience sampling dan 130 respon valid berhasil dikumpulkan sebagai sampel penelitian. Teknik pengumpulan data dilakukan dengan metode survey dengan responden adalah pimpinan PTS sampel. Data diolah menggunakan Partial Least Square. Hasil penelitian menemukan bahwa kepemimpinan transformasional dan komitmen organisasional tidak berpengaruh secara langsung terhadap kinerja PT, sedangkan SPBT berpengaruh positif signifikan terhadap kinerja PT. Selain itu, penelitian ini juga menemukan bahwa SPBT berperan sebagai variabel intervening dalam hubungan antara kepemimpinan transformasional dan komitmen organisasional dalam kaitannya dengan kinerja PT.
1. Introduction

The performance of universities in Indonesia is measured using the national accreditation system managed by Indonesian National Accreditation Body (or BAN-PT). However, in general, most universities have not successfully achieved the highest accreditation results. This situation reflects the poor performance of universities in Indonesia (Pratolo, S., Sofyani, H., & Anwar, 2020). The Ministry of Education of the Republic of Indonesia reported that in 2018, only 1,974 out of 4,680 universities have submitted the application for the institution accreditation assessment and only 85 universities obtain "A" (very good), 725 "B" (good), and 1164 "C" (less good) (BANPT, 2019). Most universities with ‘C’ accreditation predicate are private universities. This phenomenon is also found in Aceh Province where most of the private universities in this province accredited ‘C’ (BANPT, 2020). Table 1 shows the accreditation of private universities in Aceh province.

| No | Institutions                                                                 | Accreditation |
|----|-----------------------------------------------------------------------------|---------------|
| 1  | AMIK Indonesia                                                             | B             |
| 2  | IAIN Langsa                                                                 | B             |
| 3  | Institut Agama Islam Al Muslim Aceh                                        | B             |
| 4  | Politeknik Aceh                                                            | B             |
| 5  | Politekkes Kemenkes NAD                                                    | B             |
| 6  | Sekolah Tinggi Keguruan dan Ilmu Pendidikan Bina Bangsa Getsempena         | B             |
| 7  | Universitas Abulyatama                                                     | B             |
| 8  | Universitas Al Muslim                                                      | B             |
| 9  | Universitas Muhammadiyah Aceh                                             | B             |
| 10 | Akademi Pariwisata Muhammadiyah Aceh                                      | C             |
| 11 | Institut Agama Islam (IAI) Al-Aziziyah Samalanga Bireuen Aceh              | C             |
| 12 | Politeknik Aceh Selatan                                                    | C             |
| 13 | Politeknik Indonesia Venezuela                                             | C             |
| 14 | Sekolah Tinggi Agama Islam Aceh Tamiang                                    | C             |
| 15 | Sekolah Tinggi Agama Islam Darul Hikmah                                    | C             |
| 16 | Sekolah Tinggi Agama Islam Sepakat Segenep Kutacane                         | C             |
| 17 | Sekolah Tinggi Ilmu Administrasi Pelita Nusantara                           | C             |
| 18 | Sekolah Tinggi Ilmu Ekonomi Kebangsaan Bireuen                             | C             |
| 19 | Sekolah Tinggi Ilmu Ekonomi Sabang                                         | C             |
| 20 | Sekolah Tinggi Ilmu Kesehatan Cut Nyak Dhien Langsa                        | C             |
| 21 | Sekolah Tinggi Ilmu Pertanian Yashafa                                       | C             |
| 22 | Sekolah Tinggi Ilmu Syar'i'ah (STIS) Nahdlatul Ulama Aceh                  | C             |
| 23 | Sekolah Tinggi Ilmu Syar'i'ah Al-Hilal Sigli                               | C             |
| 24 | Sekolah Tinggi Ilmu Syariah (STIS) Al-Aziziyah Sabang                      | C             |
| 25 | Sekolah Tinggi Ilmu Syariah (STIS) Ummul Ayman Pidie Jaya                  | C             |
| 26 | Sekolah Tinggi Ilmu Tarbiyah Al Hilal Sigli                                | C             |
| 27 | Sekolah Tinggi Ilmu Tarbiyah Muhammadiyah Aceh Barat Daya                  | C             |
| 28 | Sekolah Tinggi Manajemen Informatika Dan Komputer Bina Bangsa               | C             |
| 29 | STAI Al-Washliyah Banda Aceh                                               | C             |
| 30 | STAI PTIQ Kota Banda Aceh                                                  | C             |
| 31 | STAI Syekh Abdur Rauf Singkil                                              | C             |
| 32 | STAI Tgk. Chik Pante Kulu Kota Banda Aceh                                  | C             |
| 33 | STIT Bustanul Arifin                                                       | C             |
| 34 | STIT Hamzah Fansuri Subulussalam Aceh                                      | C             |
| 35 | STKIP Bina Bangsa Meulaboh                                                  | C             |
| 36 | STKIP Muhammadiyah Aceh Barat Daya                                         | C             |
| 37 | STMK Indonesia Banda Aceh                                                  | C             |
| 38 | Universitas Gajah Putih                                                    | C             |
| 39 | Universitas Iskandar Muda                                                   | C             |
| 40 | Universitas Jabal Ghafur                                                    | C             |
| 41 | Universitas Serambi Mekkah                                                  | C             |
| 42 | Universitas Ubudiyah Indonesia                                              | C             |

Source: BAN-PT (2020)
2. Theoretical framework and hypotheses development

**Goal-Setting theory**

Some authors used goal-setting theory (GST) to discuss the interrelationship between organizational commitment variables, transformational leadership, budgeting system quality, and university performance (for instance, Locke and Latham, 1990). The theory states that conscious human behavior has a purpose and controlled by an individual goal. Binswanger (1990) shows that purpose-directed action has 3 attributes: (1) self-generation: integration between energy and creation; (2) value-significance: actions that are not only possible but necessary for the survival of beings; (3) goal-causation: the action taken is triggered by a goal.

GST relates to how the creation of goal congruency between components in the organization in achieving its goals. Self-generation is related to how the organization can manage its resources both human resources and financial resources to achieve its goals. Goal congruency in the context of human resources requires the organizational commitment of employees and pro leadership to achieve goals. Goal congruency in the field of financial resources requires a good financial management system that begins with the budgeting system.

In accordance with GST, universities are organizations whose operational activities are directed by the vision, mission, and organizational objectives and universities must attain the goal of congruency with external stakeholders. In Aceh Province, the government has a clear vision of education as a form of regional privileges. Congruency goals with internal stakeholders must also be created, among others, by organizational commitments and transformational leadership that can encourage good management control such as quality budgeting systems. This is because internal and external organizational conditions are dynamic and universities as an open system must respond to this (Flood, 2017).

**Hypotheses development**

Organizational performance can be linked to organizational vision, mission, objectives. It can also be associated with certain applicable standards that have been pursued with programs and activities with budget support in the form of financial resources and other resources. In Indonesia, the performance of universities is measured using their accreditation status provided by BAN-PT. Achieving optimal organizational performance does not appear without challenges. For Indonesian private universities, the main challenges could be resources, capacity building, and program design (Stander and Herman, 2017). This includes human resources and financial resources. In the design of the program phase, the questions are raised always on how to formulate programs and activities in accordance with what should be realized by universities.

Arif and Akram (2018) demonstrated that transformational leadership and organizational performance are very closely related, where the transformational leadership style of managers within the organization will shape the work character of committed employees and thus impact the performance of the organization. Organizations need an environment where encourages their leaders to motivate and encourage their employees to be more creative and effective in leading successful organizations. In line with Purwana (2015) who states that the presence of effective transformational leadership, a strong academic culture, and a healthy organization, an organization will able to improve managerial effectiveness. In addition, transformational leadership style can affect employee performance because its indicators such as charisma, inspiration, individual attention, and intellectual stimulus can make employees more comfortable and motivated without feeling pressure in work, thus employees can achieve the desired performance of leaders (Praresti, Riana and Wibawa, 2017). Based on the explanation of the relationship between transformational leadership
and organizational performance, hypothesis 1 (H1) can be formulated as follows:

**H1**: Transformational leadership has a significant positive influence on university organizational performance

University performance requires the organizational commitment of its managers. Organizational commitment is a form of strong confidence and acceptance of organizational objectives, a desire to make sufficient efforts on behalf of the organization, as well as a desire to maintain organizational membership (Eslami and Gharakhani, 2012). Organizational commitment is an individual psychological contract with the entire organization (Jing and Zhang, 2013). Another view of organizational commitment in university is that organizational commitment in university contains three meanings, which are trust and acceptance of university objectives and standards; willingness to work on behalf of the university; and a strong individual's desire to maintain membership in university (Khan, Nawaz, and Khan, 2013).

According to organizational commitment concepts, all managers have a high organizational commitment so they will accept the standards and targets of organizational performance achievement of the university and will work on behalf of the university and not leave the university for what is produced. Ekienabor (2018) in his research found that affective, normative, and continuance commitments have a significant influence on organizational performance.

**H2**: Organizational commitment has a significant positive influence on the organizational performance of universities

In the budgeting process, there are two aspects of TGS that are important to consider and attain. The first is to improve the understanding of the head of the department about the goals to be achieved. The second is to increase the organizational commitment to organizational goals. Thus the manager will have more motivation to improve his performance (Negara and Gayatri, 2017). In addition, budget clarity will help managers to obtain information to be used as organizational evaluation materials, which in turn is expected to help managers in determining budget objectives clearly and specifically, to improve the managerial performance of the organization (Candarakusuma and Jatmiko, 2017).

Furthermore, Triani and Sujana (2018) argue that the budget can be used as a control system in measuring managerial performance. Having a proper budget is expected to improve the organizational budget. The budgeting process is part of the organizational management control system and encourages managers to plan, consider stakeholder engagement, provide information to make better decisions, improve and improve information and coordination between departments, and for evaluation. Budgeting has a significant impact on organizational performance (Silva and Jayamaha, 2012).

**H3**: Performance-based budgeting has a significant positive influence on university organizational performance

Budgeting is one form of the management control system. Prior studies revealed that behavior based on organizational performance achievement including transformational leadership behavior will support the use of good management control systems including quality budget systems that will further generate improved performance (Lunardi, Zonatto and Nascimento, 2019; Peljhan and Tekav, 2008). Leadership style also influences participation in budgeting so that the quality of budgeting is improved, thus influencing the perceiving of justice and ultimately affecting outcomes (Kohlmeyer and Sincich, 2014). Leadership style is crucial in determining organizational success because leadership style influences and increases the commitment of staff to participate in drafting and implementing budgets so that the budget is more qualified. In order to achieve good performance, organizational personnel must
commit to the work based on organizational planning and budget. In this case, Asumta et al., (2016) found that leadership types influence organizational performance through commitment to budgeting.

\(H_4\): Transformational leadership has a significant positive impact on university organizational performance through performance-based budgeting.

A high-quality budgeting system is budgeting that has performance-based characteristics, whereby with the preparation of the budget, the organization has implemented the principles of good governance (Pratolo and Jatmiko, 2017). Organizational commitment is a strong belief and support for the values and goals that the organization wants to achieve (Darlis, 2002). An organizational commitment will be awakened if each individual can develop an attitude of identification, involvement, and loyalty (Ikhsan and Ishak, 2008).

Meanwhile, Sumarno (2005) found that the higher the organizational commitment will lead to improvements to organizational performance through the participation of budgeting. Meanwhile, Rachman (2014) revealed that organizational commitment has a significant influence on participatory budgeting, and participative budgeting has an influence on performance. Therefore, the organizational commitment of management and employees who at the time of the preparation of a performance-based budgeting system is believed to have a positive impact on the organizational performance of universities. Based on the logic of thinking the results of the research formulated hypotheses 5 as follows:

\(H_5\): Organizational commitment has a significant positive impact on the organizational performance of universities through performance-based budgeting.

Based on the hypothesis formulation, a research model can be drawn. The research model includes the relationship between transformational leadership, organizational commitment as an independent variable followed by quality budgeting system as intervening variable and private university performance as the dependent variable.

![Conceptual framework](image)

**Figure 1 Conceptual framework**

### 3. Research method

**Population, analysis units, and samples**

The analysis unit in this study is an institution, which are the private universities registered in Lembaga Layanan Pendidikan Tinggi (LLDikti) region XIII Aceh. The total population is 111 private universities of which 43 universities are accredited B and C. In addition, the sampling is carried out using the convenience sampling method where the selection of samples is based on the availability of the university representatives (respondents). They filled the questionnaires while attending training on financial governance and human resources for private universities in Aceh.
The respondents are faculty leaders at private universities since they have the competence to assess organizational performance. The final samples are 86 universities and 130 respondents.

**Data type, source, and collection method**

The type of data used in this study is primary data. Using an explanatory approach and questionnaires, this study successfully collected 130 responses from the head of faculties of private universities in the Aceh region.

**Variable measurement**

The variable measurement in this study was adopted from several previous studies, but each element of the question has been modified based on the research needs. Organizational performance was measured using performance dimensions based on the matrix assessment of accreditation instruments of undergraduate study programs formulated by BAN-PT. It has 7 dimensions, which are: organizational vision and mission, organizational management system, students and graduates, human resources, learning and academic atmosphere, facilities and infrastructure, and cooperation (BAN PT, 2008). Performance-based budgeting is measured using the dimensions of money follow function and value for money including indicators of the existence of strategic plans, operational plans, performance indicators, standard cost analysis, and evaluation of performance achievements. Organizational commitment is assessed by normative commitment, affective commitment, and continuance commitment dimensions. Transformational leadership variables measured using its characteristics include visionaries; communication; commitments; inspiration; innovation; customer focus; and empowerment (Rifai et al., 2018). In addition, the scale used in this study is an ordinal-based Likert scale indicated by the number 1= strongly disagree; 2= disagree; 3= neutral; 4= agree; 5= strongly agree.

**Data analysis method**

Partial Least Square-Structural Equation Modeling (PLS-SEM) was used to analyze the data and test the proposed hypotheses. The PLS-SEM can be used to test measurement models while testing structural models simultaneously (Chin, Marcolin, and Newsted, 2003; Hair, Sarstedt, Hopkins and Kuppelweiser, 2014). The use of PLS is also motivated by the presence of non-parametric properties of the Likert scale and the possibility of large multicollinearity. In addition, PLS allows the assumption of minimum data and requires a relatively small sample size (Chin, Marcolin, and Newsted, 2003).

**4. Results and discussion**

Table 2 presents characteristics of respondents that include gender, long served as dean or head of department, and universities where respondents work.

| Profil           | Description              | Number (person) | Percentage (%) |
|------------------|--------------------------|-----------------|----------------|
| Gender           | Male                     | 57              | 44             |
|                  | Female                   | 73              | 56             |
| Position         | Dean                     | 29              | 22             |
|                  | Head of the department   | 101             | 78             |
|                  | 0-2 years                | 16              | 12             |
|                  | >4 years                 | 68              | 52             |

Source: Data processed (2021)

**Descriptive statistics**

Based on Table 3 the transformational leadership variable has an average score of 4.06 which indicates that most managers of private universities in Aceh province adopt the transformational leadership style. Furthermore, the variable of
organizational commitment has an average value of 4.16 which means that the organizational commitment has been applied properly in the studied universities. However, the descriptive statistics analysis shows that the variable of performance-based budgeting variables has a lower average value (3.65). This figure may indicate a partial adoption of a performance-based budgeting system in the universities. In addition, the variable of university performance has an average score of 3.62 that reflects the relatively low performance of private universities in Aceh Province.

| Items                  | TL  | OC  | PBB | HEIP |
|------------------------|-----|-----|-----|------|
| Mean                   | 4.06| 4.16| 3.65| 3.62 |
| Standard Error         | 0.04| 0.05| 0.06| 0.08 |
| Median                 | 4.00| 4.00| 3.86| 4.00 |
| Mode                   | 4.00| 4.00| 4.00| 4.00 |
| Standard Deviation     | 0.48| 0.58| 0.72| 0.93 |
| Minimum                | 3.00| 2.67| 1.71| 1.00 |
| Maximum                | 5.00| 5.00| 5.00| 5.00 |
| N respondents          | 130 | 130 | 130 | 130  |

Source: Data processed (2020)

**Validity test results**

**Construct validity**

Construct validity test is conducted to assess the quality of research instruments in measuring variables based on the theory that has been formulated (Sekaran and Bougie, 2010). We used loading and cross-loading values at criteria values of 0.5 as the rule of thumb (Hair et al., 2010).

The result of the first test indicates that some construct scores do not meet the rule of thumb, and thus, we remove the construct (TL1, TL2, TL3, TL4, TL6, TL9; OC2, OC3, OC4, OC5, OC6, OC8, OC9; UN2, UN 3, UN 4; HEIP 1, HEIP 2, HEIP 3, HEIP 4, HEIP 5, HEIP 6, HEIP 7, HEIP 8, HEIP 11).

Furthermore, after removing the construct scores, we retested the data and found that all items successfully measured the specific construct result was loaded very high on that construct and for other constructs loaded lower. Table 4 shows that the construct validity is confirmed (Hair et al., 2010).

**Convergent validity**

After the construct validity test, we also tested the convergent validity that measures the conformity level of the items in measuring a similar concept.

**Tabel 4 Loading and cross-loading scores**

| Items | PBB  | HEIP | OC  | TL  |
|-------|------|------|-----|-----|
| PBB1  | 0.793| 0.282| 0.374| 0.186|
| PBB5  | 0.812| 0.368| 0.251| 0.169|
| PBB6  | 0.752| 0.304| 0.260| 0.230|
| PBB7  | 0.794| 0.393| 0.148| 0.215|
| PBB8  | 0.876| 0.349| 0.283| 0.258|
| PBB9  | 0.879| 0.383| 0.117| 0.228|
| PBB10 | 0.792| 0.382| 0.136| 0.116|
| HEIP9 | 0.321| 0.803| 0.092| 0.014|
| HEIP10| 0.413| 0.924| 0.146| 0.240|
| OC1   | 0.261| 0.179| 0.894| 0.073|
| OC7   | 0.193| 0.104| 0.820| 0.135|
| OC10  | 0.218| 0.036| 0.703| 0.225|
| TL5   | 0.169| 0.127| 0.082| 0.737|
In Table 5, it can be seen that the loading value for all items is higher than the recommended score of 0.5 Hair et al., (2010). It can also be seen that all items show AVE values that meet the criteria i.e., higher than 0.5 (Barclay, Higgins and Thompson 1995; Fornell and Larcker, 1981).

| Latent Variable                  | Indicators                                                                 | Code  | Loading | AVE  |
|----------------------------------|-----------------------------------------------------------------------------|-------|---------|------|
| Performance-Based Budgeting      | The use of performance target in budgeting system.                          | PBB1  | 0.793   |      |
|                                  | determined based on activities and performance target                       | PBB5  | 0.812   |      |
|                                  | The institution has both an activation code and an account code.             | PBB6  | 0.752   |      |
|                                  | Price standard document/ list is available and used during the budgeting process. | PBB7  | 0.794   | 0.665|
|                                  | Evaluation is carried out for the proposed budget.                          | PBB8  | 0.876   |      |
|                                  | Evaluation of financial performance achievement is conducted                | PBB9  | 0.879   |      |
|                                  | Evaluation of non-financial performance achievement is conducted by an evaluator | PBB10 | 0.792   |      |
| Higher Education Performance     | Number of researches conducted by lecturers based on study program within the last three years | HEIP9 | 0.803   |      |
|                                  | Percentage of students’ involvement on a lecturer research project during student final research (research collaboration between student and lecturer) | HEIP10| 0.924   | 0.749|
| Organization Commitment          | Happy working in the university                                             | OC1   | 0.894   |      |
|                                  | Will not leave the university due to high responsibility level.              | OC7   | 0.820   | 0.665|
|                                  | Has performance target system which is aligned with vision, mission, objective, and targets of the institution | OC10  | 0.703   |      |
| Transformational Leadership      | The leader is capable to communicate the duties of staff                    | TL5   | 0.082   |      |
|                                  | Leader gain respect from staff                                              | TL7   | 0.108   | 0.644|
|                                  | The leader is capable to encourage academia (staff) to be innovative in their works | TL8   | 0.196   |      |

**Discriminant validity**

The next validity test is a test on discriminant validity that measures the extent to which items can distinguish between one construct and another, in other words, the item is properly able to measure a particular concept. A discriminant validity test was conducted by looking at the absence of inter-construct correlation. Ideally, an item should contain a stronger correlation value on their construct within the model, and the average variance divided on each construct should be higher than the variance value divided between the construct and the other (Compeau, Higgins and Huff, 1999). From Table 6, it can be seen that the value of the construct correlation score against the construct itself is higher than the value of the construct correlation score against other constructs. These results concluded that discriminant validity criteria were met (Gefen and Straub, 2005).
Reliability test results

Reliability tests were undertaken to assess consistency between items. We used Cronbach's alpha and composite reliability scores as the parameters. Based on Table 7, it can be seen that all alpha values are higher than 0.6 as required (Chin, Marcolin, and Newsted, 2003). Composite reliability values range from 0.647 to 0.892. Fornell and Larcker (1981) argue that a composite reliability value of 0.50 or higher is considered acceptable, so it can be concluded that the study's measurements are reliable.

As the data is based on a self-assessment questionnaire, the potential occurrence of Common Method Variance (CMV) has existed. Thus, the CMV was tested by performing Harman's one-factor test. Based on Podsakoff and Organ (1986), CMV will be problematic if one latent factor explains the majority of variants over 50, whereas according to Fuller et al. (2016) the score should not be more than 40%. Based on CMV test results, un-rotated factor analysis showed that the first factor only accounted for 19.12% of variances (Doty and Glick, 1998; Tehseen, Ramayah and Sajilan, 2017).

Results of hypotheses tests

The hypothetical test results are shown in Figure 2 and Table 8. Based on the path analysis test, it was found that H3, H4, and H5 are supported at a significance level of 0.05 while H1 and H2 are not supported (Table 8).
The results of this study show the role of the budget system quality as a full mediating variable. This can be seen from the role of organizational commitment and transformational leadership that has no significant effect on the performance of universities, or H1 and H2 rejected. Meanwhile, when a performance-based budgeting system is presented as mediating, the influence of the two independent variables becomes significant indirectly on university performance through budget quality (H4 and H5 supported). From these results, it can be concluded that organizational commitment and transformational leadership will have a positive effect on the performance of universities if the performance-based budgeting system in universities goes well. These results demonstrate the importance of a performance-based budget system adopted by universities.

This study found that transformational leadership and organizational commitment did not affect the performance of private universities in Aceh province. This shows that the transformational leadership role of the universities’ management and organizational commitment in Aceh province is still not maximized in improving the performance of its universities. Furthermore, this study also confirms the GST that objective clarity of transformational management and committed employees together with the implementation of the performance-based budget system are very crucial for improving university performance in Aceh province, and finally to achieve their organizational goals (Locke dan Latham, 1990).

Furthermore, the universities are still not adopted fully performance-based budgeting. The low quality of the budgeting system certainly led to poor performance. This study confirms a significant positive influence of a performance-based budgeting system on the performance of private universities in Aceh province. This finding is consistent with studies of Candrakusuma and Jatmiko (2017); Negara and Gayatri (2017); Silva and Jayamaha (2012); Triani and Sujana (2018). Therefore, universities need to continually to improve their budgeting system which serves as a form of a management control system, and to encourage performance improvement of universities.

Furthermore, this study also proves the influence of transformational leadership and organizational commitment on university performance in form of indirect influence through performance-based budgeting systems. In line with Lidona, (2020); Pratolo, Sofyani, and Anwar
(2020) who found the importance of building personnel aspects and system aspects in an organization because organizational performance cannot be improved without both components and the implementation of performance-based budgeting. In addition, it is following the opinion of Lunardi, Zonatto dan Nascimento (2019) who stated that leadership style affects the performance of subordinates in budget preparation through budgeting participation. Leadership style is crucial in determining organizational success because leadership style influences and increases staff commitment to participate in drafting and implementing budgets, and thus, budget quality can be improved. In order to achieve good performance, organizational personnel must commit to the work based on organizational planning and budget. In addition, Rachman (2014) believed that organizational commitment has a positive influence on organizational performance and budgeting participation. This explains that organizational commitment is an internal encouragement to do something to support organizational success following the objectives and more beneficial to the interests of the organization. Hence, if organizational members have a strong organizational commitment, their organization will be able to improve the quality of the budgeting system and finally improve performance of the organization.

The result of this study implies performance management practices in universities. The results suggest the need for strong motivation for a performance-based budgeting system supported by transformational leadership and organizational commitment. The full adoption of a performance-based budgeting system will improve the organizational performance of faculties in universities and ultimately improve institutional organizational performance.

This study contributes to the development of accounting literature as it provides empirical evidence of the intervening role of performance-based budgeting. Thus, it is imperative for universities to increasingly pay attention to and improve their vision of performance through transformational leadership and increasing employee organizational commitment, and implementing performance-based budgeting systems to achieve the best performance. Theoretically, this research confirms the GST application as for the organization to effectively realize their institutional goals, objective clarity and alignment of manager's transformational leadership and employee commitment are obligatory which supported by the adoption of fully performance budgeting system.

5. Conclusion

This study aims to test the influence of transformational leadership and organizational commitment on university performance through performance-based budgeting as intervening variables. The results of this study found that performance-based budgeting mediates the relationship of transformational leadership and organizational commitment to the performance of private universities in Aceh province. In other words, the personnel aspect in the form of transformational leadership and organizational commitment will only have a significant impact if accompanied by the implementation of system aspects in the form of performance-based budgeting.

This study still has some limitations. First, the generalizability of the results is limited as the study only focuses on private universities in one province in Indonesia. For further research, it is suggested to extend the samples and involve also public universities. Second, qualitative based research is imperative to obtain insight into performance management and its dynamics in universities. Thirdly, the coefficient determinant is rather small that indicates more variables can be added in the further research, for instance, information technology control system, to gain better and more significant results.
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