



Academic Leadership and Organizational Effectiveness in Context of Higher Education



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Article history:

Submitted: 27 June 2020

Revised: 09 July 2020

Accepted: 18 August 2020

Keywords:

academic leadership;

job satisfaction;

organizational effectiveness;

professional commitment;

work culture;

Abstract

This study aims to analyze the role of academic leadership and work culture on organizational effectiveness as measured by work motivation, job satisfaction, and professional commitment of lecturers. The study population was all permanent lecturers in the five major faculties at Udayana University, namely the Faculty of Cultural Sciences, Medicine, Engineering, Law, and Economics and Business. The sample used was 150 lecturers in the five selected faculties who were determined by quota. The data collection method used was a questionnaire. The analysis technique used in this study is Structural Equation Modeling-Partial Least Square (SEM-PLS). The findings show that academic leadership has a positive and significant effect on work motivation, work motivation has a positive and significant effect on professional commitment, and work motivation fully mediates the effect of academic leadership on lecturers' professional commitment. This research implies that academic leadership needs to be improved in an endeavor to directly increase the work motivation of lecturers. Additionally, academic leadership plays an important role in the activities of the Three Pillars of Higher Education because it increases work motivation which in turn will increase lecturers' job satisfaction.

International research journal of management, IT and social sciences © 2020.

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1 Introduction

According to [Dessler & Tan \(2006\)](#), education is an engine of growth and a key element for the development of a society in an economic era based on a knowledge-based economy. This means that for education to contribute significantly to the growth and development of a country's economy, quality education is needed. Higher education as an educational institution will be able to provide high-quality education if it is managed optimally. One of the ways to achieve optimal management is through effective leadership.

The achievement of competitive advantage in the higher education sector has been driven by the reformation in the quality of teaching and learning. Besides, nowadays, there has been a shift in the higher education paradigm from the view that “students” who were originally only learners turned into “customers” so that all activities must be centered on students and directed to the quality ([Anthony & Antony, 2017](#); [Flavell et al., 2008](#)). As profit-oriented organizations, universities must strive to participate actively at the local, regional, national, and international levels. However, it is different from profit-oriented organizations, universities must always strive to maintain and develop academic values and knowledge formation on an ongoing basis. [Siddique et al. \(2011\)](#), also argued that the higher education organizational system has different interests, goals, values, needs, and motivational instincts from other organizations. Because of such a unique characteristic, academic leadership which is relevant to the higher education context is needed. Academic leaders should be able to motivate, ensure job satisfaction, and develop a professional commitment of the teaching staff they lead ([Ramsden et al., 2007](#); [Cetin & Kinik, 2015](#)).

Excellent academic performance and also efficient, effective, and sustainable management of institutions are closely related to the vocabulary of an academic leader ([Anthony & Antony, 2017](#)). So, in the context of higher education, it is the responsibility of the faculty leaders and their staff to improve the quality of activities at the faculty in particular, and the university, in general. As stated by [Flavell et al. \(2008\)](#), leadership in academic work areas uses a different context of leadership from general organizational areas in interpreting things. Thus, being a good leader in college life will be related partly to specific leadership skills and partly about how to demonstrate a proper leadership style, as suggested by [Doherty et al. \(2013\)](#).

The results of empirical studies show that various factors contribute to organizational effectiveness. One of them is the leadership style and organizational culture. Many measurements can be used to determine organizational effectiveness. Some of them are work motivation, job satisfaction, and organizational commitment. In the context of higher education, leadership that is suitable to be applied is academic leadership because activities in higher education are focused on the Three Pillars of Higher Education (education, research, and community service), one of which is related to academic activities. Besides, because members of the organization who are directly related to academic activities are lecturers who hold positions and carry out tasks professionally, the commitment that is closely related to the teaching profession is professional ([Zheng et al., 2010](#); [Yukl, 2008](#)).

This study uses two theories as a reference. The main theory is the Social Exchange Theory which states that employees form beliefs related to how far the organization perceives their contribution and/she cares about their welfare. This means that the individual has an exchange ideology in which he believes that the work effort carried out depends on the attitude and behavior of how the person is treated by the organization. It means, if the employee feels that the organization is mistreated, then he/she will show low work effort. Conversely, if such an individual concerned perceives that the organization is treating him/her well, then the work effort dedicated to the organization will also be high.

The second theory used is the Theory of a Distributed Model of Leadership which postulates that there is a balance between needs and expectations of internal stakeholders and the pressure exerted on the institution by external stakeholders. In other words, a leader in higher education institutions who excels in management and leadership will be able to balance these two interests, which sometimes conflict with each other, to be able to create something superior in the organization they lead.

Academic leadership as a key indicator of the way academics deal with rapid and continuous changes is an important part of campus life today ([Flavell et al., 2008](#)). It was explained that academics must answer the challenges of a non-stop process related to quality assurance, performance management, education development, and others so that they are successful in all activities related to improving the quality of learning.

Research on organizational effectiveness in the context of higher education or higher education institution is very rare ([Anthony & Antony, 2017](#)). It was explained that organizational effectiveness in education is directed to the satisfaction of teachers and students. In the context of higher education, organizational effectiveness is related to the satisfaction of teaching staff (lecturers) and students. [Siddique et al. \(2011\)](#), argued that the effectiveness of academic leadership will be reflected in the way the management of higher education institutions maintains, attracts, and

stimulates members as a very valuable organizational asset. It was explained that there are many measures or indicators of organizational effectiveness that can be used in the context of higher education. Two important measurements include the satisfaction of lecturers and students. In this study, indicators of organizational effectiveness are measured from work motivation, job satisfaction, and professional commitment.

According to [Narayana & Sekar \(2009\)](#), work culture is a work activity related to values, norms, and habits. Work culture is also defined as a collection of values and norms held by people and groups in an organization ([Joshi, 2012](#)) and a person's perspective of interpreting work ([Moehariono, 2012](#)). In detail, [Darodjat \(2015\)](#), explains that work culture is social values or overall patterns of behavior in carrying out activities or work. Thus, work culture is the attitude and work behavior of employees displayed when carrying out work activities. Therefore, work culture is one important factor that affects employee commitment.

Academic leaders should be able to motivate, inspire, direct, and lead organizational members (lecturers) to achieve organizational effectiveness as defined goals. This is due to, as stated by [Goertzen \(2009\)](#), higher education institutions are required to show good performance to the government through various types of assessments carried out continuously and consistently. [Siddique et al. \(2011\)](#), suggested that effective leadership can affect work motivation, job satisfaction, and employee organizational commitment. It is explained furthermore that members of higher education institutions (lecturers) who are motivated in completing tasks and responsibilities and achieving satisfaction in their work are like "brains" and "blood" for educational organizations because they are the ones who create the quality of students. If they are not motivated and dissatisfied in their work, they will most likely leave the organization. Although it is unlikely that lecturers (especially in state universities) resign or quit from their jobs, the bad thing that might happen due to dissatisfaction or low work motivation is no optimal task completion.

Based on the results of empirical studies, leadership has a large contribution to employee commitment. According to [Dumay & Galand \(2012\)](#), understanding the process of teacher (lecturer) commitment is important to be studied because it determines the academic achievement of students. In their research, which took primary school teachers as respondents, it was explained that the principal's transformational leadership had a positive effect on teacher organizational commitment. Furthermore, if a person experiences low commitment, he will show behavior that leads to failure in carrying out duties and responsibilities in the organization. Besides, [Bell & Mjoli \(2014\)](#), stated that participatory leadership can improve employee performance through a motivational mechanism for organizational commitment. If it is related to academic leadership in higher education institutions, the more effective academic leadership is, the higher the professional commitment will be because the individual has higher congruence, thus directing him to put more effort into the implementation of his professional duties, as stated by [Hao-Yuang et al. \(2015\)](#).

Educators are a group of professionals who generally not only have discretion in determining the form and content of work in class but also have obligations related to administrative and organizational policies ([LaMastro, 1995](#)). Since this study was conducted in the context of higher education, it is suggested that the academic leadership of faculty leaders will have a positive impact on the professional commitment of lecturers.

Higher education institutions have unique cultural characteristics so that their leaders are required to apply management principles that are conventionally applied to the business sector towards the private sector in the context of higher education ([Van Ameijde et al., 2009](#)). For this reason, leaders in higher education should also have special leadership abilities to motivate members of the organization, in this case, lecturers, who are also involved in a specific field, namely education. [Moorhead & Griffin \(2013\)](#), state that motivation is a series of forces that cause people to engage in the behavior. In line with that, [Zammer et al. \(2014\)](#); [Shahzadi et al. \(2014\)](#), as well as [Omollo & Oloko \(2015\)](#) argued that employee motivation is the key to success and plays an important role in the achievement of individual and organizational goals. Thus, work motivation is an impetus to carry out work activities that come from within (internal) and from external factors.

Today, universities are gaining a political position in line with the wider discourse that knowledge and learning are the key drivers of economic and social life in society ([Henkel, 2002](#)). To realize this condition, it requires effective management or regulation of higher education leaders to meet the demands of stakeholders. This condition is necessary because, in the era of globalization, universities occupy a strategic position as partners of the government in realizing the nation's welfare. In the context of the faculty, as part of a higher education institution, this responsibility will be on the dean and the head of the department/study program. In other words, they will act as both managers and academics.

Academic leaders must have the ability to formulate and implement educational strategies to maintain the key values included in the Three Pillars of Higher Education. Based on this reason, as stated by [Henkel \(2002\)](#), these leaders must be able to motivate and satisfy the teaching staff and create a conducive academic atmosphere, so that the

lecturers be able to carry out institutional tasks effectively. This means that the more effective the academic leadership, the more motivated and satisfied the teaching staff will be in carrying out their duties and responsibilities.

Ware & Kitsantas (2007), states that the results of educational psychology studies show that work motivation is related to commitment which will ultimately have an impact on the effectiveness of student learning. The results of studies on professional commitment indicate that this variable is related to several other variables. Hao-Yuang *et al.* (2015), argued that motivation is closely related to professional commitment. Those who have high motivation in carrying out their duties and responsibilities in the profession they are engaged in will be indicated to show a high commitment to dedicating their energy and time for the survival and progress of the organization.

Job satisfaction is found to have a positive significant effect on normative commitment. Some individuals will commit to remaining in the organization because they have a normative commitment that refers to fulfilling obligations and also loyalty (Aydogdu & Asikgil, 2011). The results of research conducted by Clugston (2000) show that job satisfaction has a positive impact on the continuance commitment which is possible because of the satisfaction with the amount of salary earned. This can affect the willingness of employees to loyal to the organization and his current job.

The results of research done by Tsai *et al.* (2010), on hotel respondents showed that job satisfaction has a positive effect on organizational commitment. Meanwhile, the research results of Armutlulu & Noyan (2011) show that the relationship between job satisfaction and organizational commitment varies between bank branches varying between individuals. Testa (2001) conducted a study on the employee cruise line and food service organization with a sample of 425 and concluded that an increase in job satisfaction will stimulate an increase in organizational commitment, and ultimately service effort. Then the results of the study by Bang *et al.* (2013), in sports (non-profit oriented) organizations in the United States illustrates that job satisfaction influences organizational commitment. The higher the level of job satisfaction, the higher the level of organizational commitment will be.

Work motivation can foster job satisfaction in the employees themselves. Ahmed *et al.* (2010), stated that employee work motivation plays an important role in increasing job satisfaction. In other words, job satisfaction can be increased through motivation. This is supported by the study results of Khalid *et al.* (2011), which show that there is a positive relationship between employee work motivation and job satisfaction. Several other study results found the same thing such as those conducted by Saleem *et al.*, (2010); Ahmed *et al.* (2010); Khalid *et al.* (2011); Singh & Tiwari (2011); Jahamzeb *et al.* (2012); Yamsul *et al.* (2013); Arokiasamy *et al.* (2013); Mazlomi *et al.* (2014); Suminto (2014); Bwire *et al.* (2014); Hutabarat (2014); Arifin (2015); Selvam & Chamundeswari (2015); Riana (2015); Mohan & Ajina (2015); Tiwari & Masih (2015); Olalade & Oguntodu (2015).

According to Darodjat (2015), the basic elements of work culture are attitudes towards work and behavior at work. Work attitudes and behavior reflect a person's job satisfaction. Positive work attitudes and good behavior is a characteristic of someone satisfied (Susanty *et al.*, 2013). Therefore, attitudes and behaviors as elements of work culture affect one's job satisfaction. Work attitudes as part of work culture affect one's job satisfaction (Liao *et al.*, 2012) and behavior affects one's job satisfaction (Susanty *et al.*, 2013).

Several research results also link work culture and job satisfaction namely Singh & Mehta (2013), Vimala (2013), Bansal (2014), Timane & Pendke (2015), and Raverkar (2016). Shikha & Parimoo (2013), in their research at higher education, found that work culture has a positive and significant effect on job satisfaction. Likewise, the results of research conducted by Singh & Mehta (2013) and Vimala (2013), indicate that work culture has a significant positive effect on employee job satisfaction. The research carried out by Oredein & Akinriolu (2013) on high school teachers found that work culture has a significant positive effect on job satisfaction of teachers.

Based on the findings of previous researchers, concerning the concepts proposed by Baron & Kenny (1986), it can be stated that if academic leadership have a significant effect on work motivation and job satisfaction, while work motivation and job satisfaction show a significant effect on the professional commitment of lecturers, so work motivation and job satisfaction can be stated to mediate the influence of academic leadership on professional commitment. Likewise, if work culture has a significant effect on job satisfaction, on the other hand, job satisfaction shows a significant impact on professional commitment, then job satisfaction can be stated as a mediator for the influence of work culture on professional commitment.

H1: Academic leadership has a positive and significant effect on the professional commitment of lecturers.

H2: Academic leadership has a positive effect on the work motivation of lecturers.

H3: Academic leadership has a positive effect on job satisfaction of lecturers.

H4: Work culture has a positive effect on job satisfaction of lecturers.

H5: Work motivation has a positive effect on job satisfaction of lecturers.

- H6: Work motivation has a positive effect on the professional commitment of lecturers.
 H7: Job satisfaction has a positive effect on the professional commitment of lecturers.
 H8: Work motivation mediates the effect of academic leadership on the professional commitment of lecturers.
 H9: Work motivation mediates the effect of academic leadership on job satisfaction of lecturers.
 H10: Job satisfaction mediates the effect of academic leadership on the professional commitment of lecturers.
 H11: Job satisfaction mediates the effect of work culture on the professional commitment of lecturers.
 H12: Job satisfaction mediates the effect of work motivation on the professional commitment of lecturers.

2 Materials and Methods

This research was conducted at five Faculties in The Udayana University, Denpasar-Bali-Indonesia, i.e Faculty of Cultural Sciences, Medicine, Engineering, Law, and Economics and Business. The population of this research is all lecturers in the five selected faculties. The number of samples is 150 people determined by quota sampling with a distribution of 30 people in each faculty. The data were collected by distributing questionnaires to lecturers who accidentally met at the faculty concerned. In the process of collecting data, the number of questionnaires that can be used was 128 copies due to two things. Firstly, 13 questionnaires were not returned until the deadline (one month after the questionnaire was given), so that the total questionnaires returned were 137 copies. Secondly, of all the questionnaires that were returned, 9 copies were incomplete related to the following matters: 1) level of education, 2) job rank, and 3) tenure in the study program. The distribution of respondents according to the target faculties is shown in Table 1. The data analysis technique used is Structural Equation Modeling-Partial Least Square (SEM-PLS).

Table 1
Distribution of respondents by faculty

No	Name of Faculty	Number (person)	Percentage
1	Faculty of Cultural Sciences	30	23.40
2	Faculty of Engineering	28	21.90
3	Faculty of Economics and Business	29	22.70
4	Faculty of Law	15	11.70
5	Faculty of Medicine	26	20.30
Total		128	100

Primary data, 2019

3 Results and Discussions

Characteristics of the respondents in this study were evaluated from their age, gender, level of education, and tenure. Most of the respondents (33.59%) were 40-49 years old. Meanwhile, only 3 people (about 2%) were under 30 years old. From the data distribution, there was 1 lecturer who is 28 years old and 2 lecturers who are 29 years old. This condition is probably due to the sufficient number of lecturers at the target faculties so that only a relatively small number of new lecturers are recruited. Besides, the proportion of lecturers who are greater than and equal to 60 years is quite large (more than 16%). This data shows that quite a several respondents are about to retire.

In terms of gender, there were more males (57%) than females (43%). From this distribution, most of the respondents (65.60%) had a Master's degree. Respondents with a doctoral degree are about half of the lecturers with a master's degree. It is interesting to note that there are still lecturers who are bachelor degree holders which is about 2 percent of the total sample.

The shortest tenure in faculties and study programs is 1 year, while the longest is 40 years. Most of the respondents have a working period ranging from 10-19 years in both the faculties and study programs, namely 29.69 percent and 30.47 percent, respectively. Besides, the lecturers' tenure of ≤ 9 years, 20-29 years, and 30-39 years both in the faculties and in study programs appears to be balanced, which is around 20 percent. Only 1 respondent reported having served in the study program for 40 years. It is interesting to note that there is a difference in the proportion of lecturers with tenure of 10-19 years and 30-39 years when compared between faculties and study programs. This means that there are respondents who change study programs during their tenure in their respective faculties.

The evaluation measurement model (outer model)

To assess indicators (observed variable) this study uses a measurement model. Testing these indicators aims to validate the model and see the reliability of constructs that can reflect the parameters of the latent variables formed based on existing theories and various empirical studies. The variables in this study consist of two exogenous variables, namely academic leadership and work culture, and three endogenous variables namely work motivation, job satisfaction, and professional commitment. This study has reflective indicators, so it uses a reflective measurement model. Criteria used to test the validity and reliability of the reflective model were convergent validity, discriminant validity, composite reliability, dan Cronbach's Alpha.

Convergent validity

The indicator is said to be valid if the indicator has a value of outer loading above 0.60 t-statistic above 1.96 (Latan & Ghozali, 2012). However, for research in the early stages of developing a measurement scale, the value outer loading 0.50 to 0.60 is considered to be sufficient (Ghozali, 2014). Table 2 shows the value of the outer loading of each indicator. It can be seen from Table 2 that all indicators of the research variables have outer loading greater than 0.50, so they are valid. The highest value of outer loading for work culture is in the people-orientation dimension (0.858). It can be concluded that this dimension provides the largest contribution to the work culture variable. This becomes an indication that lecturers are more oriented to activities to help others and discuss with others in carrying out their work as a reflection of strong work culture.

Table 2
Value of outer loading of each indicator toward latent variables

Dimension	Name	WC	AL	JS	PC	WM
WC1	Causality and control	0.742				
WC2	Responsibility seeking	0.755				
WC3	Time orientation	0.831				
WC4	Malleability	0.834				
WC5	Task orientation	0.730				
WC6	Success orientation	0.738				
WC7	People orientation	0.858				
AL1	Innovator		0.874			
AL 2	Broker		0.876			
AL 3	Deliver		0.937			
AL 4	Monitor		0.813			
AL 5	Developer		0.912			
JS1	Intrinsic			0.919		
JS 2	Extrinsic			0.925		
JS 3	General			0.967		
PC1	Affective				0.877	
PC 2	Normative				0.860	
PC 3	Continuance				0.729	
WM1	Intrinsic					0.880
WM 2	Integrated Regulation					0.849
WM 3	Identified Regulation					0.705
WM 4	Introjected-Regulation					0.841

WM 5	External-Regulation	0.689
WM 6	Motivation	0.900

Primary data, 2019

WC = working culture; AL = academic leadership; JS = job satisfaction; PC = professional commitment; WM = work motivation

The highest value of outer loading for academic leadership is found in the developer dimension (0.912). This shows that the most important thing to be considered by the coordinator of the study program to make it competitive in the development of lecturers. Things such as developing lecturer competence, understanding the strengths and weaknesses of lecturers, developing a lecturer team, and discussing the formulation and execution of lecturer development are expected.

The highest outer loading value of 0.967 for job satisfaction emerges in general job satisfaction. The lecturers perceive that job satisfaction will be easier to be achieved if they are seen as "someone" in society. Apart from that, the praise they received for being involved in the teaching profession is also important that made them proud to choose this profession. Affective commitment appears as the dimension of professional commitment that has the highest value of outer loading. A strong sense of belonging to the profession they are engaged in is an important thing to maintain and increase the commitment of lecturers to their institution. Being part of the teaching profession causes them to feel that the teaching profession has an important meaning in life, so they want or are happy to spend the rest of their career as lecturers.

In the work motivation variable, the highest outer loading value lies in the motivation dimension. This means that lecturers know very well about the reasons they choose the teaching profession as their job. They believe in what is expected and what are their reasons for doing their job as lecturers. Therefore, they see that whatever work is assigned by the study program and faculty can be managed properly (Chen, 2006; Beebe *et al.*, 2009; Indahyati & Sintaasih, 2019).

Discriminant validity

Testing discriminant validity is done by using values of cross-loading. The indicator is said to be valid if the value of cross-loading for each indicator of the variable is greater than the cross-loading of other variables. The value cross-loading for each variable is suggested to be greater than 0.6 (Lathan & Ghozali, 2012). The test results on the value cross-loading as in Table 3 show that the correlation value between constructs and its dimensions, namely for work culture, academic leadership, job satisfaction, professional commitment, and work motivation is greater than the correlation between constructs and other dimensions. So this shows that the constructs predict the size of their block better than the size of the other blocks.

Table 3
Value of cross-loading of each indicator for each latent variable

Indicator	WC	AL	JS	PC	WM
WC1	0.742	0.138	0.026	0.324	0.257
WC2	0.755	0.212	0.027	0.365	0.290
WC3	0.831	0.237	0.066	0.321	0.194
WC4	0.834	0.191	0.047	0.257	0.224
WC5	0.730	0.212	0.061	0.345	0.314
WC6	0.738	0.161	0.031	0.328	0.289
WC7	0.858	0.184	0.102	0.267	0.227
AL1	0.195	0.874	0.277	0.165	0.223
AL2	0.253	0.876	0.153	0.187	0.160
AL3	0.129	0.937	0.254	0.218	0.257
AL4	0.259	0.813	0.096	0.078	0.200
AL5	0.270	0.912	0.223	0.140	0.264
JS1	0.067	0.167	0.919	0.109	0.067
JS2	0.084	0.243	0.925	0.003	0.122
JS3	0.110	0.247	0.967	0.176	0.227

PC1	0.256	0.080	0.176	0.877	0.345
PC2	0.227	0.146	0.169	0.860	0.291
PC3	0.384	0.223	0.046	0.729	0.372
WM1	0.233	0.274	0.060	0.290	0.880
WM2	0.283	0.194	0.053	0.275	0.849
WM3	0.164	0.216	0.232	0.383	0.705
WM4	0.253	0.210	0.031	0.278	0.841
WM5	0.205	0.224	0.200	0.388	0.689
WM6	0.229	0.229	0.184	0.334	0.900

Primary data, 2019

Composite reliability

Composite reliability is used to test reliability among indicators of the constructs. Test results for composite reliability and Cronbach's Alpha it is said to be good if the value is above 0.70 (Lathan & Ghozali, 2012). This study uses composite reliability above 0.7. Table 4 shows the composite reliability of the construct under investigation. It can be seen from Table 4 that the test result of variable consistency shows that the composite reliability was above 0.70 and Cronbach's Alpha is above 0.70. Thus, it can be said that the indicators that make up the research variables are reliable.

Table 4
Construct reliability of work culture, academic leadership, job satisfaction, professional commitment, and work motivation

	Cronbach's Alpha	rho_A	Composite Reliability	Average Variance Extracted (AVE)
WC	0.890	0.826	0.878	0.526
AL	0.930	0.949	0.947	0.780
JS	0.932	1.020	0.956	0.878
PC	0.762	0.757	0.864	0.680
WM	0.898	0.921	0.664	0.898

Primary data, 2019

Evaluation of structural model

Two approaches were used for the measurement of the structural model (inner model), namely Q Square Predictive Relevance (Q^2) and Goodness of Fit (GoF). The first estimation is used to measure how well the observations produced by the model ranging from 0 to 1). The closer to the value of 1, the better observations will be. The formula and result of the estimation of Q^2 are as follows:

$$\begin{aligned}
 Q\text{-Square } (Q^2) &= 1 - (1 - R_1^2) (1 - R_2^2) (1 - R_3^2) \\
 &= 1 - (1 - 0.070) (1 - 0.178) (1 - 0.075) \\
 &= 1 - (0.93) (0.82) (0.925) \\
 &= 1 - (0.7071) \\
 &= 0.2928 \text{ (medium predictive relevance)}
 \end{aligned}$$

The results show that the value of Q^2 is 0.2928, which means that the is quite good, (29.28 percent of the relationship between variables can be explained by the model, while the remaining of 70.72 percent due to factor error or other factors not included in the research model). The Goodness of Fit (GoF) measures the accuracy of the overall model, which was developed by Tenenhaus (2004), who states that the GoF is small if the value is 0.10, categorized as a medium if the value is 0.25, and large when the value is 0.36.

$$\begin{aligned}
 \text{GoF} &= \sqrt{\overline{\text{AVE}} \times \overline{R^2}} \\
 &= \sqrt{\overline{\text{AVE}} \times \overline{R^2}}
 \end{aligned}$$

$$\begin{aligned}
 &= \sqrt{[(\{3.528\} / 5) \times \{(0.323) / 3\}]} \\
 &= \sqrt{(0.7056 \times 0.1076)} \\
 &= \sqrt{(0.07597)} \\
 &= 0.275626 \text{ (medium)}
 \end{aligned}$$

The calculation result shows the GoF value is 0.275626 (medium) which indicates that the accuracy of the overall model measurement is quite good.

The test of direct effect

The direct effect test can be seen through the path coefficient of each variable, using a significance level based on the t-statistic as presented in Table 5.

Table 5
Test direct effect

Direct effect	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O / STDEV)	P Values
AL -> PC	0.073	0.070	0.121	0.605	0.545
AL -> WM	0.273	0.280	0.093	2.926	0.004
AL -> JS	0.203	0.199	0,105	1,942	0,053
WC -> JS	0.020	0.025	0.139	0.141	0.888
WM -> JS	0.113	0.112	0.116	0.973	0.331
WM -> JS	0.390	0.401	0.079	4.960	0.000
JS -> PC	0.027	0.028	0.102	0.271	0.787

Primary data, 2019

The results presented in Table 5 shows that academic leadership does not have a direct and significant effect on professional commitment with a path coefficient of 0.073 with a t-statistic of 0.605 (<1.96). Hypothesis 1, which states that academic leadership has a positive influence on lecturers' professional commitment is rejected. This means that variations in academic leadership do not contribute significantly to variations in the professional commitment of lecturers. The effect of academic leadership on job satisfaction is significant. This is as presented in Table 5 that the path coefficient is 0.273 with a t-statistic of 2.926 (>1.96). The results of this test indicate that empirically there is evidence to accept the hypothesis. Thus, Hypothesis 2 which states that there is a positive influence of academic leadership on lecturers' work motivation is accepted.

The academic leadership variable shows an insignificant effect on job satisfaction. This is indicated by the path coefficient of 0.203 with the t-statistic 1,942 (>1.96). Thus, the variations of academic leadership have nothing to do with fluctuations in job satisfaction. Hypothesis 3 which stated that there is a positive effect of academic leadership on job satisfaction, is not supported in this study. The results of testing the direct influence between variables show that work culture does not affect job satisfaction. This is indicated by the path coefficient of 0.020 with t-statistic 0.141 (<1.96). The results of this test show that there is not enough evidence to accept Hypothesis 4 which states that work culture has a positive effect on job satisfaction. The test results prove that work motivation has no significant effect on job satisfaction. The path coefficient shows a value of 0.133 with a t-statistic of 0.331 (<1.96). So Hypothesis 5 which states that there is an effect of work motivation on job satisfaction is rejected. The test results prove that work motivation has a positive and significant effect on professional commitment. The path coefficient shows a value of 0.390 with a t-statistic of 4.960 (>1.96). So, Hypothesis 6 which states that there is an influence of work motivation on professional commitment is accepted. The test results do not prove that job satisfaction has a positive and significant effect on professional commitment. The path coefficient shows a value of 0.027 with t-statistic 0.271 (<1.96). So Hypothesis 7 which states that there is an effect of job satisfaction on professional commitment is rejected.

The test of the indirect effect

To see the role of the mediating variable in the research model, mediation testing is carried out. In this study, there are four mediation relationships, namely the role of work motivation in mediating the influence of academic leadership on lecturers' professional commitment, job satisfaction in mediating the influence of academic leadership on lecturers' professional commitment, job satisfaction in mediating the influence of work culture on professional commitment, and job satisfaction in mediating the influence of work motivation on professional commitment. The test of indirect effect can be seen in Table 6.

Table 6
The result of the indirect effect test

Indirect Effect	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (O / STDEV)	P Values
AL -> WM -> JS	0.031	0.033	0.037	0.827	0.409
WC -> JS -> PC	0.001	0.002	0.015	0.037	0.971
AL -> JS -> PC	0.006	0.006	0.024	0.234	0.815
WC -> JS -> PC	0.001	0.001	0.005	0.173	0.863
AL -> WM -> PC	0.106	0.113	0.046	2,323	0.021

Primary data, 2019

The results of the mediation test in Table 6 show that of the four hypotheses of the mediation relationship, only one is supported, namely hypothesis 8 which states that work motivation mediates the effect of academic leadership on lecturers' professional commitment. (with coefficient of 0.106, t-statistic 2.323 > 1.96). In the previous discussion, testing of all proposed hypotheses was carried out by examining the direct and indirect effects of exogenous variables on endogenous variables. The direct effect is if the exogenous variable directly effects on endogenous variables without going through other endogenous variables, while the indirect effect is the effect of exogenous variables on endogenous variables through other endogenous variables. The empirical model of the twelve proposed hypotheses is presented in Figure 1.

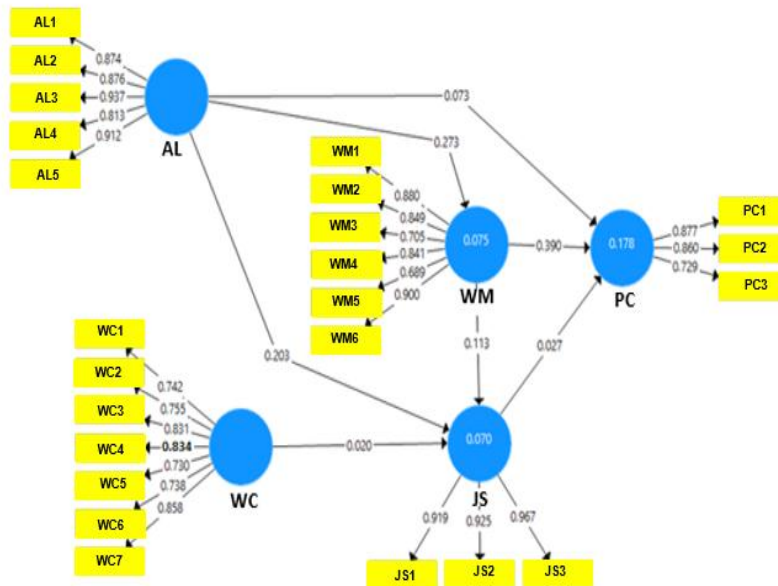


Figure 1. Path Coefficient for Academic Leadership, Work Culture, Work Motivation, Job Satisfaction, and Professional Commitment

The effect of academic leadership on work motivation

The test of the influence of academic leadership on lecturer work motivation show positive and significant result. This result indicates that if academic leadership increases, the work motivation of the lecturers will also increase significantly. According to Tremblay *et al.* (2009), lecturer work motivation is divided into 5 dimensions namely intrinsic, integrated regulation, identified regulation, introjected-regulation, external-regulation, and motivation. For intrinsic motivation, lecturers will be motivated when they get challenging assignments and have opportunities to learn new things in their work. Besides, lecturers also feel that they will be motivated if they can complete or succeed in completing difficult assignments.

The dimension of integrated regulation is related to the increase in the motivation of lecturers in terms of work relations with fundamental things in their lives. Lecturers feel motivated because this chosen profession is a life choice and a fundamental part of their life. Meanwhile, the dimensions of identified regulation were more related to their life goals and career goals. The lecturer profession is indeed the type of work chosen to achieve career goals and goals that have been set in their life.

Introjected-regulation which is another dimension in the work motivation variable related to being the best in one's life. Lecturers feel that they do this job because they want to be the best, want to be successful, and become the winner in this life. Lecturers aim to obtain job security both in terms of income and non-physical job security such as obtaining a decent and expected income and considering that a job as a lecturer provides security for them is an indicator of external-regulation. Motivation is related to understanding the reasons for doing a job. Lecturers understand their reasons for doing work because they feel they are faced with realistic conditions and able to manage assignments well.

Academic leadership in this study is a lecturer's assessment or perception of superior academic leadership, in this case, the coordinator of the study program. The dimensions covered by the academic leadership variable are innovator, broker, deliver, monitor, and developer. The lecturers' assessment of the study program's ability in finding new approaches and being innovative in related teaching and learning is included in their assessment of the innovator dimension.

The ability to build networks with both external and internal parties of the university as well as the ability to guarantee resources for the smooth execution of their duties become the lecturers' assessment of the capacity of the coordinator of the study program in terms of the broker dimension. Meanwhile, in the deliver dimension, the lecturer assessed the coordinator of the study program in terms of motivating ability as well as matters related to the smoothness and quality of the learning process. Things such as the ability of the coordinator of the study program in ensuring the design of lecture activities and coordinating and communicating well with the lecturers are also important.

The capability of the coordinator of the study program in terms of monitoring is assessed from its ability in following up on teaching and learning activities such as gathering information and informing performance to all lecturers in the study program. The last dimension, namely the developer, is related to extracted information about the opinion of lecturers on the ability of the coordinator of the study program in developing lecturer abilities such as developing competency, understanding the weaknesses and strengths, and formulating and executing development strategies in each study program.

The results of this study support the research results of Siddique *et al.* (2011), which suggested that effective leadership can affect employee motivation. Described more go on that members of higher education institutions (lecturers) who are motivated in completing tasks and responsibilities and achieving satisfaction in their work are like "brains" and "blood" for educational organizations because they are the ones who create the quality of students. If they are not motivated and dissatisfied in their work, they will most likely leave the organization. Although it is unlikely that lecturers (especially in state universities) resign or quit their jobs, the bad thing that might happen due to dissatisfaction or low work motivation, meaning that the implementation of tasks is not optimal.

The lecturer profession is a unique type of work because it focuses more on competence in transferring knowledge to students. This ability, although it depends on the inner talents and cognitive abilities of the lecturer, is also more or less influenced by the ability of superiors/leaders in guiding lecturers. The capability of the leader or direct superior, in this case, the coordinator of the study program, has a great contribution to the "will and desire" of the lecturers in carrying out their duties properly. This is based on the discourse that a person's motivation is not only influenced by internal encouragement—external parties can also increase that motivation. In the context of higher education, academic leadership is expected to contribute a lot to the variations of the lecturer's motivation in carrying out the Three Pillars of Higher Education.

The effect of work motivation on professional commitment

The results of hypothesis testing show that work motivation affects lecturers' professional commitment. The professional commitment of lecturers in this study consists of three dimensions, namely affective, normative, and continuance commitment. Affective commitment is related to a lecturer emotionally attached to the profession and/or institution where he works. High effective commitment means that lecturers feel become part of the institution and consider their profession to have a very important meaning in their lives.

Normative commitment is related to the lecturer's desire to remain in the profession or institution where he/she takes shelter because of the feeling that he/she has an obligation and a sense of responsibility towards the parties involved in it. They will feel guilty if they leave the institution because they feel that they owe it to the institution. The last dimension related to professional commitment is a continuance commitment. This dimension has more to do with the desire of lecturers to stay in the profession/institution because they feel disadvantaged/disturbed if they leave it, even though they want to.

The results of research conducted by [Tella et al. \(2007\)](#), showed the influence of work motivation on organizational commitment. [Cetinkaya \(2011\)](#), who examined the effect of work motivation on the affective commitment of several hotel workers revealed that an employee's work motivation intrinsically and extrinsically has a strong influence on affective commitment. Meanwhile, if it is related to work motivation and affective commitment, the value is small, which indicates that there is no direct relationship between work motivation and affective commitment so that the intrinsic and extrinsic self-work motivation must be increased first.

[Wiener \(1982\)](#), argues that normative commitment develops as a result of socialization experiences that prioritize the suitability of one's loyalty to the leader. In this regard, loyalty can be used as a parameter of normative commitment. Meanwhile, according to [Eskildsen et al. \(2003\)](#), research it was found that an employee's work motivation has a positive influence on loyalty to the organization. [Ku-Kuo \(2013\)](#) in his research on marketing orientation as a form of work motivation, concluded that there is a positive direct effect of work motivation on organizational commitment. Partially, work motivation has a positive effect on continuance commitment.

The mediating role of work motivation on the influence of academic leadership on professional commitment

In this study, work motivation is indicated to mediate the effect of academic leadership on the professional commitment of lecturers. Statistical tests find that motivation fully mediated the influence of academic leadership on professional commitments. Increasing academic leadership does not directly increase the professional commitment of lecturers but through work motivation. Therefore, it can be said that indirectly, there is an influence of academic leadership on the professional commitment of lecturers, and this influence can only emerge through work motivation.

In this study, academic leadership, work motivation, and job satisfaction are thought to have a positive and significant effect on lecturers' professional commitment. However, the results of the study indicate that of the three variables, only work motivation contributes to variations in the professional commitment of lecturers at Udayana University. This can be an indication that the professionalism of lecturers' does not depend on the innovative ability of the study program coordinator in developing and looking for new approaches related to teaching and learning activities or building networks with internal parties at the university, for example, but more is determined by the encouragement that comes from within the lecturer himself as a professional intrinsically. For instance, the lecturers do work because they get pleasure from the opportunity to learn new things or because they get it from doing a challenging assignment as a lecturer. As stated by [Choi & Kim \(2014\)](#), the involvement of lecturers in their profession is related to the acceptance of professional values, ethics, desire to maintain membership in organizations and to build trust in their profession.

The results also showed that job satisfaction was not influenced by academic leadership and the work motivation of the lecturers themselves. Job satisfaction is the employees' perception of how the job provides everything they care about. There is a possibility that lecturer job satisfaction is more related not to intrinsic job satisfaction or as stated by [Martins & Proenca \(2012\)](#), which comes from the intrinsic characteristics of work, but is motivated by factors from outside of work such as the condition of students of the course.

4 Conclusion

This study provides a conceptual framework for understanding the relationship between academic leadership, work culture, job satisfaction, and work motivation of lecturers so that in the end it can increase the professional commitment of lecturers. The focus is aimed at the process of influencing the variables of academic leadership and work culture, so this study confirms the recommendations of this study in developing lecturers' professional commitment. In this connection, work motivation plays an important role in mediating the influence of academic leadership on lecturers' professional commitment. It is hoped that this research can be followed up in further research to re-test the validity of this theory.

Given that academic leadership has a significant positive effect on work motivation, it is advisable to improve the quality of academic leadership of the coordinator of the study program. One way that can be done is to increase the commitment of the study program or faculty leader to change their mindset in facing the increasingly complex development of the world of higher education. The world of higher education today should not only be considered as locally but also internationally. This is because work motivation is very important in the teaching profession. After all, it is related to the intention and desire to carry out activities related to the Three Pillar of-Higher Education which become the main duties and responsibilities of lecturers. Lecturer professional commitment will be strong if work motivation is also high. It is necessary for carrying out training or workshops organized by the study program to improve the professional commitment of lecturers. Also, it is necessary to put on further studies regarding the differences in the professional commitment of lecturers between study programs at the faculty of natural sciences and social sciences.

Conflict of interest statement

The authors declared that they have no competing interests.

Statement of authorship

The authors have a responsibility for the conception and design of the study. The authors have approved the final article.

Acknowledgments

We are grateful to two anonymous reviewers for their valuable comments on the earlier version of this paper.

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