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University-Government relationship in Ethiopian public universities in the Framework of information asymmetry and goal conflicts

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Abstract

This study examined the university-government relationship with a focus on Ethiopian public universities in the framework of information asymmetry and goal conflicts. Agency theory was used to examine organizational thinking and behavior of the agents and the relationship between agent and principal to highlight goal conflicts and information asymmetries**.** The study employed a parallel convergent mixed research design. A self-developed survey questionnaire was administered to 1474 participants. Those participants were selected using puprsive and random sampling techniques from the nine public universities. Data on legal issues were collected from purposefully selected legislative documents. Both descriptive (percentage, frequency, mean, standard deviation) and inferential statistics (Principal Component Analysis, Regression, Factor loading) were employed. Results show that public universities in Ethiopia experience strong government interference and control in internal affairs that has resulted in information asymmetry problems and goal conflicts. The Ethiopian government fails to materialize steering from distance and self-governance of public universities. It is concluded that the control system of the government did not conceive the loosely coupled, multidimensional features of public universities and failed to institutionalize a sound government-universality relationship. Outcome-based funding and performance indicators be adopted, a balanced autonomy and accountability with clear boundaries be granted, effective governance structures be institutionalized, and a strong supervisory mechanism as major policy implications be established to create an effective university-government relationship.

Keywords: University-governance, university-government relationship, agency theory, information asymmetry, goal conflict

Introduction

Higher education is currently experiencing demands to synchronize its strategic goals with government objectives and increase the quality of teaching and research (Ahmad et al., 2012a, 2012b). Thus, most countries today bank on large-scale government funding to improve the quality of public universities and the relationship between governments and universities (Roger, 1995). Hence, knowledge of the dynamics of state-university relationships is vital to implement governance reform effectively.

According to Rungfamai (2008), a good relationship between government and university is crucial in enhancing the output of both government educational policy and university productivity. Government is the sole source of funding for most public universities in developing countries. Yet, government (principal) links funding to performance and allocates funding based on the agent's (university) performance (Liefner, 2003). A system of performance-based mechanisms promotes better alignment of universities actions and government objectives (Kivistö, 2008, OECD, 2010), confirming that universities are working to fulfil the plan set by governments and reduce their unsuccessful activities (Alexander, 2000).

A global move in the state's locus of control from direct to a more indirect form of university governance has recently been observed. This move has been necessitated by a variety of factors, mainly the demand-response imbalance, changes in the environment in which universities operate, the state's growing limitation of resources and funding, and increasing market pressure (De Boer and Goedegebuure, 2009). These changes tend to shift university governance from a 'centralized' to a 'decentralized' system and from state control to state supervision (Schmidt and Langberg, 2007) which strengthens institutional autonomy and enhances good relationships between governments and universities.

In order to meet the requirements of the above changes, governance structures within universities have required the provision of more autonomy, the introduction of new systems of accountability, the empowerment of institutions, leaders, and employees, and new governance arrangements. Thus, this study uses agency theory as a base to examine the state of the government-university relationship in Ethiopian public universities.

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Agency theory plays a significant role in examining the relationship between the government and the university and the shifts in this relationship (Lane and Kivistö, 2008; Kim and Mahoney, 2005). Kivistö (2008) defined agency theory as "a contract under which one or more persons (principal) engage another person (agent) to perform some service on their behalf which involves delegating some decision-making authority to the agent". This contract is based on the premise that the agent possesses the skills, information, qualification, experience and abilities to perform the outlined tasks and produce good outcomes for the principal (Kivistö, 2008). This theory helps the principal (government) to obtain the required information on the agent's (university) performance through a monitoring and auditing system. This theory mainly focuses on how the principal (government) can control the agent (university) in a context of information asymmetry and goal conflict (Ahmad et al., 2012a; Kim and Mahoney, 2005). Thus, information asymmetry and goal conflict are the focus of this study.

Information asymmetry is related to the efficacy of complete and accurate information flow and interaction between principal and agent on some specific tasks assigned by the principal stated in the contract between the two parties**.** It occurs when the agent possesses more or better information about the details of the individual task assigned to him, his own actions, abilities, and preferences compared to the principal (Kivistö, 2007). Despite some difficulties on the government's side, Kivistö and Hölttä (2008) concluded that without some degree of government intervention, informational asymmetries would lead to degradation of quality of teaching, learning, research, innovation and market failure.

The next prominent theme of agency theory is goal conflict. Goal conflicts occur in a situation where the principal (government) and agent (university) desire, and have interests concerning certain ends that are in conflict with each other, and where they would therefore prefer different courses of action, other than desired by government (Kivistö, 2007). Moreover, universities are large, complex organizations having autonomy; they are trying to achieve their own strategic direction to meet institutional priorities other than following the government direction, leading to goal conflicts and disagreements in vision, mission and goals between agent (university) and principal (government) (Kivistö, 2007).

In essence, agency theory thus minimizes bureaucratic procedures and government influences on institutional structures; the state increases the decision-making power of university leaders; it

promotes more hierarchical structures for intra-university decision-making based on agency theory. In addition, the government needs to focus its own role on setting priority development objectives and monitoring the university's progress in its achievement (output control) based on performance indicators. Furthermore, the government also needs to reorganize the distribution of public funds among universities based on past performance to ensure better relationships and effective governance systems (Kivistö, 2008).

Lerra (2014) and MoE (2004) also attribute the absence of significant changes in Ethiopian public universities to excessive interventions by the government and lack of autonomy of the universities. Deterioration in institutional autonomy in spite of enacted policies remains a challenge Ethiopian public universities face (Kenenisa, 2015; Demewoz, 2013; Yohannes, 2010; Taye, 2008). Further, the balance between autonomy and accountability of public universities has been restricted as a guiding value but public universities experience excessive government intervention (Demewoz, 2013). This situation effects the government-university relationship in general and institutional performance in particular. Although various policy initiatives and directives support the enhancement of good university-government relationship, Ethiopian public universities face various challenges to promote a good relationship with the government. Cognizant of this situation, the main objective of this research was to explore the state of the government-university relationship based on the information asymmetry and goal conflicts.

Methodology

Research design

This study used a parallel convergent mixed research design to examine the state of universality - government relationships based on the pragmatist points of view (a deconstructive pattern that advocates the use of mixed methods in research) through concurrent strategy (Creswell, 2012). Mixed methods provide a better understanding of the research problem and question (Creswell, 2012; Giddings, 2006; Neuman, 2006), and help to minimize the risk of validity, reliability and subjectivity issues (Philip and De Bruyn, 2013).

Furthermore, the integration of qualitative and quantitative findings may provide this study with more support and more certainty, leading to greater confidence in the outcomes (Boyd et al., 2012). The quantitative data complemented the qualitative data generated from focus group discussions, key informant interviews, open-ended items on the surveys, empirical materials and

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other relevant documents. This was done in line with Creswell (2012) advice that mixed methods help to gain broader perspective from the different types of data or study groups within the study.

Target Population, Sample and Sampling Techniques

Since 2015, 41 public universities have existed in Ethiopia, 31 of which were included in the present study. The public universities fall into four categories, grouped by the Ministry of Science and Higher Education (MoSHE) based on their age (the 8 oldest, first generation universities; 13 Second generation; 10 third generation; and 10 fourth generation or most recently established universities). The fourth generation universities were not in the target population, because they were the most recently established universities and not well organized in terms of their governance. Of these, the present study is delimited to nine (N-total number of teaching staff and academic leaders =7510) public universities from 1st, 2nd and 3rd generation universities, namely, Jimma University, Arba Minch University, Wolaita Sodo University, Dire Dawa University, Axum University, Debre Berhan University, Woldia University, Wachamo University, and Wolkite University.

The target population for this study was the entire academic community of the nine sampled public universities. Academic leaders (i.e., presidents, vice presidents, directors, deans, and department chairs) and academic staff members on duty, permanently working and teaching postgraduate and undergraduate courses (both Ethiopians and expatriates) were the participants of this research. Administrative staff (directors, including institutional transformation directors, institutional quality assurance directors, research directors, plan and program directors, academic program directors, finance directors, and human resource management directors) and student councils who had been active in these institutions at least two semesters were the subjects of the study. To maintain anonymity of the institutions and participants, each study unit and participant was identified by a code letter.

In determining sample size, the purpose of the study, the nature of the data sought, and the size and characteristics of the population were considered. In addition, three criteria used in determining the appropriate sample size were considered. These criteria include the level of precision, the level of confidence or risk, and the degree of variability in the attributes being measured. For the purpose of this study, the sample size was determined using the standard

tables for sampling, using the 95% confidence level. Then, standard tables and formulas indicating an estimate of the sample size were developed by the author (Israel, 2013).

Academic leaders were sampled by taking 50% of the total population due to its small size (Table 1). Thus, academic staff participants were drawn from the individuals available in the institutions to complete the questionnaires on the day the researcher visited their universities. A purposive sampling technique was utilized to select directors, presidents and vice presidents. All of them were served as key interview participants. Administration staff , HR directors and Student Council and FGD participants (three deans and three department heads) – six partcipants were assigned in each group.

Based on the standard table of estimation, the sample size for a population of all nine public universities was 1658 (4.3%). Of these, 1586 (95.7 %) were survey participants (presidents, vice presidents, directors, deans and department heads) while the remainder participated in focus group discussions (FGDs) and interviews. The 54 participants in the nine FGD sessions were three deans and three department heads in each session those were not part of the survey). Two human resource directors and two student council members from each university participated in the 18 interview sessions. The sample size for the study participants is summarized in Table 1.

The public universities were selected for the study using the proportional stratified random sampling technique to ensure representation from the strata of the designated groups of institutions. A multi-stage sampling method was employed in the selection of academic leaders (department heads, deans, presidents and vice presidents), administrative staff (directors) and academic staff (instructors). After simple random selection of colleges/schools/faculties, departments were selected randemly . For the selection of instructors, a simple random sampling (Lottory) technique was used.

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Table 1. Sample size/sample population

Name of university	Academic leaders				Academic Teaching staff (on duty)	
	MLM (dean and DH)		TLM (P, VP, directors)			
	TP	SP	TP	SP	TP	SP
Jima University	58	29	16	8	1403	238
Arba Minch University	66	33	26	13	1435	243
Wolaita Sodo University	47	24	13	7	890	151
Axum University	52	26	23	12	720	122
Debre Berhan University	50	25	21	11	703	119
Dire Dawa University	40	20	12	6	680	115
Woldiya University	48	24	27	14	724	123
Wachamo University	34	17	25	13	485	82
Wolkite University	39	20	17	9	470	81
Total	434	218	180	93	7510	1275

Source: MoE (2015/2017). Note: TP-target population, TS- target sample, TLM –top level, MLM-middle level manager.

Method of data collection

Data were collected from academic leaders and instructors administered by means of standardized and self-developed survey questionnaires. Two sets of survey questionnaires comprised of both open-ended and closed-ended question items were prepared in English language. The survey instruments in general were developed based on the research model, which comprised all aspects of university-government relationship. The instruments were self-administered accompanied by a cover letter that provided the necessary details about the study.

The data collection process was carried out by the researcher and the process took a reasonable duration. A total of 1586 questionnaires were dispatched to the two groups of survey participants and 1474 questionnaires were collected. In order to maintain anonymity, no item asked for names or other identifying information. Given the comprehensiveness of the survey tools, the researcher allowed two days for survey participants (academic leaders and staff) to complete the questionnaires. While it was difficult to distribute and collect the surveys from academic leaders and staff, the administration of surveys to academic leaders was relatively successful because it was carried out on the spot in the offices and some of the academic leaders were supportive.

Interviews

Unstructured interviews were employed to collect qualitative data. Interviews aimed to identify participants' emotions, feelings, and opinions regarding a particular research subject**.** The researcher held interviews for approximately one to one and a half hours using both English and Amharic languages for more clarification and understanding of the issues of the research. Both languages were used because respondents may have had some difficulties in describing their views in only one language. Human resource directors and student councils were participants in the interviews with nine public universities. The participants were interviewed regarding similar issues. All interviews were recorded using an audio recorder, and handwritten notes were taken. This information was compiled into categories and transcribed by the researcher.

Focus group discussion

Focus group discussions (FGD) were employed to provide a more in-depth look into the issue under study. This was used to understand how deans and department heads describe their experiences in the practices of governance in the framework of autonomy, accountability and empowerment. FGDs helped to get detailed information not obtained through survey questionnaires. Discussions were carried out to generate ideas of divergence and convergence between deans and department heads. Deans and department heads (three from each) who were not part of the survey questionnaire were participants in the FGDs.

The construction of the FGD protocol was made by breaking down the research questions into thematic discussion questions and then, simple and dynamic questions that could generate spontaneous responses and rich descriptions were formulated in advance. Those selected for the discussions (N=54) were chosen purposefully based on their university experience and seniority

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after discussing this with their academic vice presidents and college/school and faculty deans based on chain of command.

FGD participants were nominated by their academic vice presidents and college deans and they were approached informally, after obtaining information about their experience, to gather information on university governance. Discussions were scheduled by contacting purposefully selected deans and department heads and were held at times convenient to the participants. Then face-to-face discussions were held with the deans and department heads of the participating institutions in the Amharic and English languages. The discussions were conducted in all nine universities in an appropriate hall and classroom. Each focus group consists of six participants that were led by the researcher. In total, nine focus group discussions lasting for about one to one and a half hours each were conducted. Participants were assured anonymity and confidentiality of their responses. They were also advised to keep the confidentiality of issues raised in the discussions.

Validity and reliability

Content validity was determined by employing knowledgeable experts in the area of study and by distributing a sample of the questionnaire to participants in the study population to ensure clarity and relevance of the questions. Some questions were found to be irrelevant and deleted.

Reliability is a measurement concern generally associated with the credibility of research findings or interpretation of findings (Schwandt, 2001). The reliability of the survey instruments was tested to determine the manner in which items in each domain were effectively grouped together. To this end, Cronbach's alpha coefficient was used to measure internal consistency of items (Table 2). The reliability value of the constructs was 0.93 for the questions on the university-government relationship. After checking the accuracy of the surveys and rejecting unnecessary questions not related to the variables, the survey was carried out.

Table 2. Overall instrumental reliability in Cronbach Alpha value (α)

No	Items	No. of items	Alpha (α)
1	University-government relationship	8	0.93

Source: Survey data, 2017

Data analysis

The survey data recorded on the two sets of survey questionnaires were first coded before being analyzed along with the research questions. Both descriptive and inferential statistical methods were employed in data analysis. Data generated from the questionnaire were presented in a table and then analyzed using means, standard deviation, and one-way ANOVA. Furthermore, linear and multiple logistic regressions, principal component analysis (PCA), factor analysis for examining the contribution of predictor variables to the dependent variable (university-government relationship) and for answering research questions were instrumental accordingly (see the result and discussion section below). SPSS Version- 21, Stata, and Version 13 software for statistics and Data Science for quantitative data analysis interchangeably, whereas Hyper-TRANSCRIBE Version 1.6 V.10.0 was employed to analyze the qualitative data.

Results

In Table 3, key practices of government-university relationships are listed. Eight variables were specified to examine the state of the relationship between the government and university. The first constructed five-point Likert scale was rearranged into three-point scales for managing the variables appropriately. Three-point Likert scales were instrumental based on the acknowledgment of Preston and Colman (2000) (1-Disagree=1-1.667, 2-Undecided=1.668-2.334 and 3-Agree=2.335-3.00). The responses were as follows:

Table 3. Descriptive statistics for mean and analysis of variance to university-government relationships

U-G Relationship Variables	Mean	SD	SS	DF	MS	F	Sig.
1. Fast & flexible analysis & reporting of data	1.56	0.96	105	2	52.8	176.7	0.000
2. Quality & timely information	1.64	0.86	0.7620	2	0.381	1.66	0.190
3. Well-designed direction toward objectives	2.68	0.70	0.2121	2	0.106	0.46	0.630
4.Well-designed strategic plan	2.48	0.69	1.15	2	0.575	2.51	0.082
5. Strong alignment with U-G Strategic Plan	2.49	0.69	5.654	2	2.82	12.32	0.000
6. Have a good financial resource strategy	1.64	0.94	0.7604	2	0.380	1.66	0.191
7. Autonomous to use the funds	1.73	0.93	0.750	2	0.375	0.57	0.565
8 Autonomous to use internal financial resources	1.63	0.87	2.63	2	1.32	7.45	0.006
Aggregate Weighted Mean and SD	1.98	0.83					

Note: Minimum and maximum mean value ranged from 1-3 respectively. (disagree, undecided, agree) ***=0.000

Source: Survey data, 2017

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The first section treated three variables related to information asymmetry. Accordingly, the data in Table 3 reveal that most participants rated the practices of public universities in providing fast and flexible analysis and reporting of data which assist the government to make accurate strategic decisions (M=1.56, SD=0.96, p<0.001) unfavorably. The mean score depicts a statistically significant difference amongst the groups at 0.001 level of significance. Likewise, the practice of public universities producing timely and quality information relevant to government requirements was not favorably rated by most respondents (M=1.64, SD=0.86) between and within the groups (p=0.190). Although access to well-designed strategic direction of public universities to achieve the desired goals of the government was highly rated by most respondents (M=2.68, SD=0.70), differences between and within the groups were not statistically significant (p=0.630). The mean score of the variable is not significant between the groups**.**

This section thoroughly analyzed the extent of goal conflict between the government and university in line with desires and interests in certain outcomes. Five variables were used to examine the state of government-university relationship from goal conflict points of view. Accordingly, access to a well-designed strategic plan to increase the institutional responsiveness in line with government objectives was favorably rated by the majority of respondents (M=2.48, SD=0.69) at a statistically non-significant level of difference between and within the groups (p=0.082). The mean score of the variable was not significant between the groups, which is by chance rather than sample error. High alignment of the strategic plans of public universities and the government was also rated favorably by most respondents (M=2.38, SD=0.79) at a statistically significant level of difference between and within the groups **(**p<0.001**)**. This further shows a significant difference in the mean score among the groups at 0.001 level of significance.

Access to a strong financial resource strategy, authority to use all funds without the influence of government, and better uses of internal financial resources as part of the strategy to generate funds in line with government objectives were not favorably rated by the majority of respondents, respectively (M=1.64, SD=0.94; M=1.74, SD=0.93; and M=1.63, SD=0.87). The results show that the mean scores of the first two variables amongst the respondents are not significant, (p=0.191 and 0.565), respectively, while the last variable mean score was statistically significantly different among the groups at the p<0.05 level of significance.

These findings reveal the problem of information asymmetries in Ethiopian public universities, while the government (principal) failed to audit and monitor the performance of universities and take necessary and timely corrective measures to address the problem. On the other hand, whereas two of the variables consistently denied the conflicts of interests between the university and government, three of the variables showed goal conflicts because of the absence of financial autonomy. Hence, the problem of information asymmetries and goal conflicts resulted in unbalanced and weak university-government relationships.

The FGD and Key Interview (KI) participants were asked to reflect their views on the relationship between the university and the government. Accordingly, most FGD participants claimed that: "A strategic plan and strategic objectives are in place, and all are designed by the government. Therefore, the university is working to achieve those strategic objectives initiated by the government, which did not contextualize based on the local and institutional priorities." Echoing a similar concern, participants from other FGDs decried that absence of a strong system of supervision; strong interference and control by government organs, "even sometimes more than control"; control of universities for the security of the state; limited autonomy at the college and departmental levels; and interference by top officials in decision-making characterized universities.

Participants in key interviews also reflected their views on the university-government relationship. According to one KI participant, "Excessive interference by top management and governing board" was common. The other KII remarked, "The University is considered as one branch of the zonal sector rather than as a federal institution". The fact that the board nominates zonal officials who failed to perform well in the other sector without the consent of the college and department supports the above findings. Other KI participants also reacted to this question during interviews. One of the KI participants stated, "Lack of a decentralized governance system is the main feature of my university. Students in institutional governance were not engaged. Unless the agenda is a student case, student representatives have no chance to attend the management meetings, even though the legislation gives them the right to participate". The above responses confirm an autocratic governance system in these universities.

Table of Inter-Image Correlation

The requirement for principal component analysis (PCA) under the Kaiser-Meyer - Olkin measure of sampling adequacy (MSA) should be greater than 0.50 for each individual variable

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and for all variables (Kaiser, 1974). For all incorporated variables in the PCA, the measure of sample adequacy was greater than 0.5 on iteration 1; this also implies that it is supporting these variables retention in the analysis.

KMO and Bartlett's Test of Sphercity

The Kaiser-Meyer-Olkin statistic was used to measure sampling adequacy. The range of KMO statistics lies between zero and one. According to Kaiser (1974), the values close to one illustrate that the pattern of correlations is relatively compact; consequently, the factor analysis should yield distinct and reliable factors. Kaiser recommended that the acceptable values are greater than 0.5. Hutcheson and Sofronious (1999) ranked values between 0.5 and 0.7 as moderate, between 0.7 and 0.8 as good, between 0.8 and 0.9 as better, and values above 0.9 as excellent on the acceptance scale. Thus, on iteration 1, Measure of Sample Adequacy (MSA) for all of individual variables included in the analysis greater than 0.50, supporting their retention in the analysis.

Table 4. Anti-Image Correlation Matrix for Appropriateness of Factor Analysis

		1	2	3	4	5	6	7	8
Anti-Image Correlation	**1**	0.**878**[a]							
	2		0.**867**[a]						
	3			0.**936**[a]					
	4				0.**924**[a]				
	5					0.**900**[a]			
	6						.0**924**[a]		
	7							0.**916**[a]	
	8								0.**938**[a]

Source: Survey data, 2017

Furthermore, the overall measure of sample adequacy (MSA) for a set of variables included in the analysis was high (0.847), which significantly exceeds the minimum requirements of 0.50 for overall MSA. The probability associated with Bartlett's test of sphericity was <0.001 with chi-square 5237.72, and 28 Degree of Freedom, which satisfies the requirement.

Table 5. KMO and Bartlett's Test of Sphercity

Kaiser-Meyer- Olkin measure of sample adequacy	0.847
Bartlett's test of sphercity - approximate chi-square ($X^{2)}$	5237.72
DF	28
Sign.	***

Source: Survey data, 2017

Factor Loading

Stata analysis verified eight linear components of university-government relationships within the given data set from 13 variables. The association of eigenvalues and each factor describe the variance explained by particular linear components identified by principal component analysis. Eigenvalues are also displayed in terms of percentage of variance explained. Thus, the total variance explained by the first factor or component under initial Eigenvalues was 51.05% (Table 6).

Table 6. Total Variance Explained

	Initial Eigenvalues			Extraction Sums of Squared Loadings			Rotation Sums of Squared Loadings		
Component	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	4.084	51.05	51.049	4.084	51.04	51.049	2.971	37.18	37.137
2	1.112	13.895	64.944	1.112	13.89	64.944	2.225	27.81	64.944
3	1.001	11.014	75.958	1.001	11..01	75.958	2.131	16.43	75.958
4	0.496	6.229	82.187						
5	0.443	5.538	87.725						
6	0.408	5.100	92.829						
7	0.348	4.356	97.181						
8	0.226	2.819	100.00						

Extraction method: principal component analysis, the eigenvalue cut point =1 (Kaiser, 1974)

Source: Survey data, 2017.

In Table 6, using the output from iteration 1, there are three eigenvalues greater than 1.00. The latent root criterion for number of factors to derive would indicate that there are 3 components to be extracted from these variables. A three components solution would explain 75.958% of total variance.

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Data presented in Table 7 examine the content of questions developed that loads on to the identical factors to try to verify common themes. In this analysis, factor loadings less than 0.4 were not displayed. The requested factor loading to identify the common themes was = > 0.4. Fielden (2008) indicated that ordering variables by loading size also substantially simplify the interpretation. Thus, the table above illustrates that the values of factor loading for all eight components were greater than 0.4, with an overall alpha value of r=0.8629.

Table 7. Rotated Principal Components (Eigenvectors) Matrix

	Information Asymmetry	Goal Conflicts		
Variable	System Issues	Financial Issues	Strategy Issue	Alpha Value
	Component-1	Component-2	Component- 3	Reliability /α/
1	0.5844			
2	0.5719			
3	0.4871			
4			0.4548	
5			0.8533	0.8629
6		0.5704		
7		0.6006		
8		0.5553		

Extraction method: principal component analysis; rotation method: Varimax with Kaiser Normalization

Source: Survey data, 2017

Accordingly, the items that load highly on factor one appears to relate to system issues between state and university. Hence, this factor is labeled information asymmetry. The items that load highly on factors two and three all appear to relate to strategic and financial issues. Therefore, these components are labeled goal conflict. The results of this factor analysis appear to portray that the initial question items in certainty is a collection of two subscales-goal conflict and information asymmetry-which is the basis for agency theory to measure government-university relationships of Ethiopian public universities.

Table 8. ANOVA and Multiple Regression Analysis of University - Government Relationship

Model	β	SE	t	df	F	R	R^2	Sig.	
1 University-gov't. RSH									
System issues	0.481	0.0219	21.90						
Strategic issues	0.511	0.0223	23.60	16	4.40	0.488	0.5105	***	
Financial issues	0.465	0.0292	15.95						
Constant	1.970	0.0307	92.40						

Source: Survey data, 2017.

As shown in Table 8, the multiple regression model is statistically significant ($p<0.001$) in predicting how the independent variables (system issues, strategic issues, and financial issues) measure the extent of effective university-government relationships (dependent variables) in the framework of information asymmetry and goal conflict in Ethiopian public universities. A one-way ANOVA test further suggests that a statistically significant difference exists between and within the groups ($F=4.40$, $p<0.001$, $DF=16$). The F tabulated value at the 1% level of significance was 4.015. Successively, the F tabulated value was less than the F calculated (value = 4.40), confirming that the overall model was significant. Moreover, the value of R^2 was 0.5105, revealing that 51.05% of the total variability (DV) was explained by independent variables.

According to the p-value of the multiple regression for each predictor component after principal component analysis (PCA) at the cutoff points of eigenvalues (1) and communality requirement (0.4), each of the three components contributes to the regression model. Therefore, the regression weight of the second component (strategic issues) is highest, as the results of β- value revealed (0.5109), followed by the first component (system issues) and third component (financial issues) (0.4812 and 0.465) β-values, respectively, at the $p<0.001$ significant level.

The findings further show that a unit improvement in system issues (fast and flexible data analysis and reporting, and quality and timely information relevant to government to make sound decisions), will lead to a 0.481 unit contribution to promoting an effective system of university-government relationships. Similarly, a unit increase in strategic issues (having an improved strategic plan that focuses on responsiveness to government objectives, high alignment of government and institutional objectives) will lead to a 0.511 unit influence to enhance the system of effective relationship between the government and the university. A unit improvement in financial issues (having improved financial resources strategy, autonomy to uses funds internal

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or external without the influence of the state) will lead to a 0.465 unit contribution to ameliorate the system of relationships between the university and the government.

As understood from the analysis of multiple regressions, all of the variables (three components) have a significant positive influence to promote an effective university-government relationship in Ethiopian public universities.

Discussion

The Ethiopian government demands a strong and effective system of governance to manage public universities and to fulfil the goals outlined in government strategic priorities. To realize and achieve these goals, the government-university relationship needs to play a key role. In this study, the relationship between the government and public universities in Ethiopia was examined in the framework of agency theory. The findings indicate that although universities and governments have common concerns and assumptions on the agent-principal relationship, the elements of providing fast and flexible analysis of data and reporting of information that is necessary for government to make accurate and strategic decisions to improve the relationship were not in place. Moreover, though timely and quality information on public university functions significantly influence the supervision and management of their performance (Lane and Kivistö, 2008), this linkage was not fully realized in most Ethiopian public universities. This problem also indicates the failure of government to manage the financial environment of the public universities, which are fully funded by the government, demanding cost-effectiveness of this investment and streamlining university goals with the objectives of the government's strategic plan. The findings of the current study indicate weakness in information flow and interaction between the government and universities with performing various prescribed tasks.

Although public universities have institutional autonomy to determine their own strategic directives, strategies and objectives at the national regional, local and institutional levels demand to achieve vision and mission (FDRE, 2009) and Kivistö and Hölttä (2008) in their empirical finding support some degree of government intervention on strategic issues, lack of institutional autonomy and excessive intervention of government and its authorities characterize Ethiopia public universities. Moreover, Ethiopian public universities are operating with a replica of the strategic directions, strategic plan and financial resources strategy prepared by the central government (Ministry of Education) (MoE 2015, 2017) to achieve its objectives. Thus, the

universities lacked institutional autonomy to prepare their own financial resources strategy and using internal and external sources of funding without the influence of the government.

In supporting these findings, the multiple regression model predicted how the independent variables (information asymmetry and goal conflicts) measure the extent of an effective university - government relationship (dependent variable). Thus, the multiple regression model confirms the fitness of the data with R^2 57.7 % of dependent variable explained by independent variables at $p<0.001$ level of significance. These findings are consistent with the qualitative and quantitative survey data, which complement each other.

The empirical study of the OECD (2006) portrays a widespread institutional tendency to shift from the centralized to the decentralized system of governance toward greater autonomy of institutions in line with governance and management strategies. In this regard, the findings of this research are inconsistent with the above OECD report and Teshome (2007) empirical work, which reported limited interference by the government. On the other hand, the results are consistent with Baye (2008) research findings, which acknowledged excessive state interference in public universities.

Conclusion

This study indicates that the Ethiopian government and universities need to work cooperatively to ensure both a sound governance system and a better relationship. The study results reveal that public universities are experiencing information asymmetry and goal conflicts. This problem has upset the balance between government steering and institutional autonomy in the pursuit of a better alignment among institutional initiatives and government strategic objectives. We therefore conclude that the control mechanisms of the government did not conceive the loosely coupled, multidimensional features of public universities, and the required relationship between government and university was not institutionalized but was manifested by excessive government intervention.

Policy implications

The following policy implications are forwarded based on the major findings of the study and conclusions:

Adopt strong supervision mechanism; outcome based funding and performance indicators:

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At the national level, the government should create an enabling environment for universities and grant the autonomy necessary to function optimally. Moreover, because of greater accountability and transparency concerns, the government should institutionalize strategic approaches to manage public funds and track the performance of public universities. The government should also institutionalize a strong supervision mechanism, outcome-based funding approach (allocation of fund based on the achieved result) and key performance indicators that are an efficient mechanism to manage the agent performance and minimize conflicts of interests between the two parties. Moreover, the government should establish an advanced information management system to easily supervise and manage the performance of public universities and to exchange up-to-date information. The government should establish key strategic performance indicators to help to examine the level of performance of universities and their accountability and reward high performing and achieving institutions.

Granting more autonomy with clear boundaries between university and government organ roles and responsibilities (MoSHE, Governing Board)

At the National Level: First, in order to grant more institutional autonomy to public universities, the legal and policy documents need to be revised, particularly the Higher Education Proclamation, 650/2009 **(**FDRE, 2009), Growth and Transformation Plan-II 2011/12 (FDRE, 2011), and the Education and Training Policy, 1994 (FDRE, 1994) Second, the government should grant and respect the institutional autonomy, particularly in establishing the governing boards and top management executives of public universities based on proclamations and academic merits. Third, the government should grant financial autonomy and help strengthen the internal and external financial capacity of universities by designing and institutionalizing various financial strategic approaches while granting greater autonomy to use their funds effectively and efficiently to achieve national, regional, local and institutional goals. Fourth, strong interference by governing boards, the Ministry of Finance and the Economic Development and Federal Procurement Agency should be minimized and managed through the development of better strategic monitoring and evaluation mechanisms.

At the Institutional Level: Since universities are sources of creative and innovative excellence, granting more freedom to academia is of central importance. Universities should also grant academic autonomy to scholars in order to solve national, regional local and institutional

problems and to facilitate sustainable development. Furthermore, universities should decentralize their financial management system to strengthen the financial autonomy of middle and operational level managers to enable them to make sound decisions and maintain good relationships.

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