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The Impact of Demographic Variables on Sound Governance in Ethiopian Public Universities

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Abstract

Objective: This research examines the relationship and influences of demographic variables (independent variables) and sound governance (Dependent variable) in Ethiopian public universities.

Methods: The study employed a sectional survey design through a quantitative approach used for their appropriateness for defining the research problem to converge the two sets of data. While data on legal issues was collected from purposefully selected legislative documents, the survey questionnaire data were collected from 1474 participants and randomly selected from the nine public universities. Both standardized and self-developed questionnaires were used. Inferential statistics-ANOVA, linear and multiple regression were employed based on the nature and types of the fundamental questions.

Result: Demographic variables are a practical and convenient measure to monitor and assess the quality of service, experience and qualification and sex and ageing to compare different groups and populations in Ethiopian public universities. These findings generally agreed with results obtained in different studies concerning sound governance associated with demographic variables, such as gender, education qualification, and working experiences. The need to conceive demographic variables as a comparable and repeatable measure to sound governance was highlighted as fundamental to making it an informative instrument for policymakers

Keywords: demographic variables, governance, ANOVA.

INTRODUCTION

Demographic information provides data regarding research participants and is necessary to determine whether the individuals in a particular study are a representative sample of the target population for generalization purposes. Usually, demographics or research participant characteristics are reported in the methods section of the research report and serve as independent variables in the research design. Demographic variables are independent variables by definition because they cannot be manipulated.

The university's success highly depends on the quality of the academic community that engaged in the teaching-learning, research and community service. Providing a knowledgeable, skilled and capable workforce to various organizations is possible only through universities with high educational standards and sound governance. In agreement with the consideration, academic excellence and teaching will be enhanced by sound governance that facilitates a high level of performance of the employees in the university. Fletchl (2010) highly recognized the impact of demographic characteristics (diversity) on the system of governance in higher education institutions to revamp the institutional performance. Differences in demographic characteristics induce differential outlooks

among the employees that help implement governance reform in the organization. Such demographic characteristics entail sex, age educational qualification, tenure, Position held, and academic rank and are the main variables of the current study.

According to Birechi (2010), priority should be given to an individual's characteristics contrasting to institutionalized or generalized factors while implementing governance reform in higher education institutions. Thus, this study also tried to see the demographic variables as part of the analysis and look over the linkage of demographic variables. Hence, the following fundamental research questions were developed to guide the research.

1. Is there any significant relationship between the demographic variables and sound governance?

2. To what extent do the demographic variables influence the promotion of sound governance in Ethiopian Public universities?

Design and Methodology:

Cross-sectional survey design was used through a quantitative approach to develop a more vital understanding of the problem under investigation because of the advantages of cross-sectional survey designs over other types to address the study's objective. A cross-sectional survey research design was used to investigate the relationship and the influence of independent variables on the dependent variable. (Creswell, 2012).

Sampling Techniques: The proportional stratified random sampling technique was instrumental in selecting public universities. Purposive and simple random sampling techniques selected academic leaders and teachers.

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.

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 (Lecturers). After randomly selecting colleges/schools/faculties, departments were randomly selected. For the selection of instructors, a random sampling technique was used.

Data Gathering Tools: Questionnaires were distributed to teachers and school leaders to collect quantitative data. Teacher respondents were selected randomly for quantitative data.

Data Analysis Techniques: Data were processed with SPSS version 20, for inferential statistics (correlation, regressions) were employed (Gay et al., 2012).

Result and Discussion

Inferential Statistics: Correlation, ANOVA and Regression Analysis

In addition to descriptive statistics, inferential statistics correlation, ANOVA and multiple regression were instrumental in this study to analyze the demographic characteristics and sound governance. The statistical package for social sciences (SPSS V.20) was employed to code, enter and compute the measurements of the multiple regressions for the study.

Table 2. *Spearman Correlation test of Demographic Variables*

No	Variables	r & Sign.	1	2	3	4	5
1	Age	r	1	.421	.590	.595	.157
		Sign.		***	***	***	***
2	Experience	r	.421	1	.458	.458	.025
		Sign.	***		***	***	
3	Education Qualification	r	.590	.458	1	.913	.124
		Sign.	***	***		***	***
4	Academic Rank	R	.595	.458	.913	1	.139
		Sign	***	***	***		***
5	Position	R	.157	.025	.124	.139	1
		Sign.	***		***	***	

Source: Survey Data, 2017

Spearman correlation evaluated the monotonic relationship between two continuous or ordinal variables. Accordingly, there is a statistically significant bivariate association between age and four variables (experience, r=.421; qualification, r=.590; academic rank, r=.595 and Position, r=.157) at a significant difference level (P<0.01). Furthermore, work experience was also positively associated with three demographic variables (age, r=.421; qualification, r=.458; academic rank, r=.458) at a statistical significance level of difference (P<0.01). Educational qualifications were also positively correlated with four other demographic variables (age, .590; experience, r=.458; academic rank, r=.913; and Position, r=.124) at the statistically significant level of differences (P<0.01). Moreover, academic rank has a significant association with age, experience, qualification, and Position (r=.595, .458, .913, and .139) at a statistically significant level (P<0.01). On the other hand, the association of Position with other variables were weak (r=.157, .124, .139) at P-value less than 0.01 level of significant difference.

Table 3. *Model Summery of Demographic Variables*

Model	R	R^2	Adjusted R^2	Std. Error
1	0.6109	0.3727	0.3710	.18557

Source: Survey Data, 2017

The degree to which changes in the dependent variable can be explained by the change in the

independent variables (age, experience, qualification, academic rank and Position) can be explained by the Coefficient of the determination under the study. Moreover, the five independent variables (age, experience, qualification, academic rank and Position) that were studied moderately explain 37.27 % of the state of the sound governance system of public universities as denoted by the adjusted R2.

Table 4. *ANOVA (Analysis of Variance) to Demographic Variables*

Model 1		**SS**	**DF**	**MS**	**F**	**Sign.**
	Regression	869.066	16	54.316	61.2	.000***
	Residual	1293.144	1457	.88754		
	Total	2162.2	1473	1.46789		

Source: Survey Data, 2017

Analysis of Variance (ANOVA) is a hypothesis-testing method used to test the equality of two or more population (or treatment) means by scrutinizing the variances of designated samples. It consists of estimations that provide evidence about levels of variability within a regression model and form a basis for tests of significance. Thus, as indicated in table 15, the value of the test of significance is (***), less than 0.001. Thus, the model is statistical significance in predicting how age, experience, educational qualification, academic rank and Position affect the promotion of sound governance in public universities. One-Way ANOVA further suggests statistically significant differences exist between and within the respondents (F=61.2, ***, DF=16). The F tabulated value at a 1 % level of significance was 4.015. Subsequently, F calculated value is greater than the F calculated (value = 61.2), which confirms that the overall model was significant.

Table 5. *Regression Coefficient of Demographic Variables*

Variables	**β**	**St Error**	**T**	**Sign.**
Model Constant	-.08649	.18572	-0.47	0.641
Age	.1396	.0195	7.14	.000***
Experience	.267	0.051	5.32	.000***
Educational Qualification	.755	.1085	6.96	.000***
Academic Rank	.362	.0832	4.36	.000***
Position	.240	.03366	7.14	.000***

Note: P value significant at 0.01 (2 tailed)

Source: Survey Data, 2017

Regression Coefficient Determination

Multiple regression analysis utilized multiple regression analysis to determine the relationship between the sound governance system of public universities in Ethiopia and the five demographic variables. As the equation derived through the Stata:

($Y = \alpha + \beta 1\ x1 + \beta 2x2 + \beta 3x3 + \beta 4x4 + \beta 5x5 + \varepsilon$)…This also becomes: Y= -.08649+ .1396X1+ .267X2+ .755X3+.362X4 + .240X5.

As demonstrated in the regression equation, all factors (Age, work experience, educational qualification, academic rank, and Position) remain constant at zero; the state of sound governance at public universities will be -.08649. The result illustrated also reveals that taking all other predictor variables at zero, a unit increase in age will have a .1369 unit increase in the state of sound governance practice in Ethiopian public universities. Likewise, a unit increase in work experience will also lead to a .267 unit increase in sound governance practice. Similarly, a unit shoot in educational qualification will also secure a .755 unit increase in the practice and promote sound governance in public universities. Similarly, a unit increase in academic rank and Position in the universities will also have a .362 and .240 unit increase in the practice of a sound governance system in sampled public universities of Ethiopia, respectively. The result of the study infers that the contribution of educational qualification in promoting sound governance in public universities is high and followed by academic rank, work experience, Position and age of respondents. Despite various contributions, each demographic variable positively influences promoting a

sound governance system in Ethiopian public universities.

Conclusion

Demographic variables are a practical and convenient measure to monitor and assess the quality of ageing and compare different groups and populations in Ethiopian public universities. These findings generally agreed with results obtained in different studies concerning sound governance associated with demographic variables, such as gender, education qualification, and working experiences. Therefore, the need to conceive demographic variables as a comparable and repeatable measure to sound governance was highlighted as fundamental to making it an informative instrument for policymakers.

Research limitations/implications

The study is limited by the exclusive emphasis on the influence of various independent demographic factors on only sound governance. In addition, the sample represents highly educated and experienced respondents of Higher education Institutions' governance, and thus, the results might be biased. Therefore, future studies may look beyond the demographic variables by evaluating the overall governance system and structure. Furthermore, future research could be an in-depth examination, through focus groups, of the factors that impede an active interaction in the Governance system of Ethiopian Higher Education Institutions. Finally, to overcome biases in the results, future work should include non-users, comparing the adoption behaviour of online and offline users.

Practical implications

The significant results are helpful for policy-makers and decision-makers for an accurate understanding of the needs of the Ethiopian Public Universities and to re-conceptualize the governance structure, leadership and management as the best tool as an interactive channel of communication in enhancing transparency and participation and, therefore, to contribute to the democratic process in Ethiopian Public Universities.

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