

RESEARCH PAPER

Institutional Governance in Yemeni Public Universities

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PURPOSE: The paper addresses the challenges and constraints facing public universities in Yemen in the field of institutional governance.

DESIGN/METHODOLOGY/APPROACH: The paper employs quantitative and qualitative methods to achieve its objectives.

FINDINGS: The analyses of the research results indicate inadequacy in performance of Yemeni public universities in most fields of institutional governance, and that private universities perform better than public universities.

ORIGINALITY/VALUE OF THE PAPER: The paper assesses the possibility of adopting the principles of an institutional governance system in Yemeni public universities and identifies the means and mechanisms for reinforcing these principles.

PRACTICAL IMPLICATIONS: All universities need to improve in the application of institutional governance to achieve educational and administrative objectives.

KEYWORDS: *Institutional Governance, University Governance, Yemeni Universities, Yemen, Arab Countries*

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INTRODUCTION

Around the world, universities are under pressure to change; this is driven by multiple factors such as globalisation, digitalisation and changing internal environments. Pressures on higher education systems have been caused by high growth in numbers of institutions and high rates of participation. Universities are expected to create knowledge, enhance social welfare, and achieve stakeholders' goals. University governance has never been more important for decision-making to respond to challenges, support sustainable management and assure independence and dynamism. Successful international experiences have indicated that adoption of good governance in universities is one of the most important contemporary methods that have contributed to the advancement of institutional performance and achievement of academic goals (Eggins, 2003; OECD, 2003; Fielden, 2008; Song, 2019; EUA, 2021; Estermann *et al.*, 2021).

Yemeni universities face many challenges and problems that limit attainment of a prominent position among international universities. This is despite their contemporary advancement in science and technology and the changes in political, economic, and social contexts at regional and global levels. This is in addition to globalisation and its new requirements, the challenges of labour market requirements, the Fourth Industrial Revolution, and growing competition among educational institutions. All these challenges and problems prevent Yemeni universities from keeping pace with these developments and struggling to contribute actively in achieving Sustainable Development Goals (SDGs) in Yemen.

In this regard, and in addition to poor academic decision-making, spread of corruption, and loss of reputation, most Yemeni universities have many defects in their organisational structures, educational programmes, research efforts and other academic activities that often do not match with current global advancements. These academic, financial, and administrative deficiencies produce inadequate educational and research outcomes. Higher education has become more complex due to the growing number of public and private institutions generating more sophisticated and demanding administration procedures and raising the quest for advanced methods of performance control, appraisal, and revision.

The present paper examines the current situation of Yemeni public universities, focusing on the internal problems and external challenges they face. It concentrates on the aspects of transparency, accountability, participation, academic freedom, scientific, social and institutional work, right to act independently in financial resource management, and right to choose administrative leaders in accordance with professional scientific standards.

An evaluation of the current status of institutional governance implementation in Yemeni universities is an essential step in moving towards determining the likelihood of success in adopting this system in Yemeni public universities. The study is composed of five sections: the first section represents the methodological framework for the study. The second section discusses the current status of Yemeni universities' problems and challenges. The third section explains the need for institutional governance in Yemeni universities followed by an analysis of interviewees' responses

to a questionnaire on institutional governance in Yemeni Universities. The last section discusses mechanisms and means for adopting institutional governance in Yemeni universities, followed by conclusions and recommendations.

Significance of the Paper

The paper addresses the challenges and constraints facing public universities in Yemen in the field of institutional governance, and attempts to evaluate its quality using qualitative and quantitative research methods. Poor institutional governance usually causes academic, financial, and administrative disparities and inefficiencies, leading to poor academic performance in terms of weak educational outcomes, inefficient labour markets, lack of competitiveness, large waste of state funds, weakness in scientific research output, and failure to keep pace with achievement of SDGs. It is worth noting that many Yemeni universities were subjected to distortion because of the pursuance of financial gain at the expense of educational quality.

Objectives of the Paper

The paper aims to:

- highlight the current level of academic and administrative performance of Yemeni universities;
- discuss the problems and challenges facing Yemeni universities;
- evaluate the quality of institutional governance in Yemeni Universities;
- assess the possibility of adopting the principles and mechanisms of institutional governance system in Yemeni universities; and
- identify the means and mechanisms for reinforcing the principle of institutional governance in Yemeni universities.

Justification of the Paper

Given the effective role of institutional governance in improving performance and solving problems in universities, the paper attempts to highlight the global trends in implementation of principles of institutional governance in universities. Further, it endeavours to reflect the association between academic excellence and application of institutional governance. The paper acknowledges the lack of previous studies and research related to university governance in Yemen and tries to fill this gap in the literature. It also appreciates the urgent need to apply institutional governance principles in Yemeni universities to achieve the SDGs effectively. It attempts to send a message to policy-makers about the importance of adopting institutional governance in Yemeni universities.

Research Methodology

The paper aims to assess the current level of implementation of good governance principles in Yemeni public universities and discover its influence on university achievements of its goals. The

paper employs quantitative and qualitative methods to achieve its objectives. Primary data on performance of institutional governance in Yemeni universities were collected using a questionnaire focusing on the views of University teachers. Secondary data were collected using datasets of international reports, such as Global Innovations Index (GII), Global Competitiveness Index and Doing Business reports to reflect on the current state of governance in the country in general and performance in higher education in particular and compare it to other countries. The data were analysed using descriptive statistics, regression analysis and statistical testing.

Further, the paper takes up the following hypothesis to assess the performance of Yemeni public universities in achieving social objectives:

1. managers in public universities run them in the interest of the stakeholders (parents, students, shareholders, university employees);
2. public universities play their roles in social responsibility;
3. good institutional governance improves performance and assists in achieving objectives.

The paper will use the agency and stewardship theories as the basis for analysis and selection of performance indicators.

Frameworks of Institutional Governance in Universities

Recently, the world has witnessed a growing complexity of education systems that has been attributed to several factors including: a surge in stakeholders' aspiration and preferences, increase in good governance requirements at national and international levels, and rise in use and intensity of information and communication technologies (ICTs) (Fazekas and Burns, 2012).

The good university governance concept is a derivative of the concept of corporate governance. The latter is concerned with organisational structures, processes of decision-making, accountability, control and behaviour of top management (Armstrong *et al.*, 2005; Spiller, 2002). It is the framework, system or mechanism that controls and safeguards the interests of the stakeholders (Dahya *et al.*, 2002; Morin and Jarrell, 2000; Jarrell and Morin, 2001; Cadbury, 1992).

Theories of Corporate Governance provide the base for explanation of institutional governance performance in universities. One of the main theories in this field is the agency theory (that focuses on separation of ownership and control), and stewardship theory (that assumes that the governing boards and managers both act in the best interests of their principals) (Davis *et al.*, 1997; Donaldson and Davis, 1991). Other related theories explaining the significance of good corporate governance include stakeholder theory, institutional theory, legitimacy theory, resource dependency theory and neoclassical theory.

Generally, much of the research into governance issues is derived from agency theory that calls for good governance to ensure that the principal-agent problem is solved (Berle and Means, 1932; Donaldson and Davis, 1991; Eisenhardt, 1989; ANAO, 2006). This theory was invented by Jensen

and Meckling in 1976 to explain the differences due to the disagreement between management position as agent and shareholders as the owner. The main assumption of agency theory is that principal and agent have their own interests and objectives in carrying out contractual relationships, and interests and objectives are often different.

One implication of agency theory is that good governance provides productivity and competitiveness gains to an organisation because it ensures that agent behaviour is geared towards the interests of principals (Fama and Jensen, 1983a, 1983b).

Theoretically, institutional governance models in universities can be classified into various types. First is the academic model that provides a wider scope for the academic bodies represented by administrative professors to participate in decision-making and managing university affairs; this would be through a broad and effective representation of academic staff on university boards in general. Second is the corporate model that prevails in Australia, the United Kingdom, and the United States. The model emerged in response to the financial crises that affected the performance of university management in these countries. The model is based on the application of basic principles of corporate governance on university management, especially those related to financial aspects. However, the model is criticised for putting more focus on financial aspects than on academic, service, and others. Perhaps the students' role in this model is almost non-existent because they are unable to make decisions regarding financial aspects (Trakman, 2008; Hermanson and Rittenberg, 2003; Hitt *et al.*, 2003; OECD, 2004). Theories and models providing guidelines for governance in higher education were discussed in Austin and Jones (2016).

The Current State of Yemeni Universities: Performance, Problems, and Challenges

The history of higher education in the Republic of Yemen goes back to the 1970s when the first two universities were established: the University of Sana'a and the University of Aden. In 1996, the number of universities increased to seven when five new universities were established in one year: University of Taiz, University of Al-Hudaydah, University of Ibb, University of Dhamar, and the University of Hadramout. This expansion in the establishment of universities came because of an increase in social demand for university education and increase in population growth. At present, there are 10 public universities with 5 others under construction; there are also 25 private universities.

Because of the current social unrest situation facing the country over the last few years, Yemen has remained outside the scope of many international indices' that assess education performance, including the Quality of Education Index. Yemen's ranking in the Global Competitiveness Index (GCI) for 2018 was among the bottom ten countries in the world. Like many other Arab countries, poor quality education is a part of poor economic, social, and political conditions prevailing in the Arab region.

Table 1 shows the performance of the Republic of Yemen in education indicators compared to the rest of the world (126 countries) according to the Global Innovation Index (GII) in 2018. Selected performance indicators include human capital and research, overall education performance, expenditure on education as a percentage of GDP, government funding per secondary school student as a percentage of GDP, school life expectancy, overall tertiary education, tertiary enrolment gross ratio, tertiary inbound mobility, research and development (R&D), and QS ranking for the average of the top three universities. These indicators manifest Yemen's poor performance in the field of education compared to other countries, and can be justified partially by poor quality institutional governance in universities.

Table 1: Education Indicators in Yemen 2018

Indicator	Ranking	Score
Human capital and research	126	28.7
Education	114	26.7
Expenditure on Education, % of GDP	45	5.2
Government Funding / Pupil, Secondary, % GDP / Max	79	12
School life expectancy, in years	107	9
Tertiary Education	101	14.5
Tertiary enrolment, gross ratio	103	10
Tertiary inbound mobility, %	46	4.3
Research and Development (R&D)	117	0
QS ranking for the average of the top three universities	78	0

Source: World Intellectual Property Organization, GI, 2018

To understand the general business environment facing public and private universities in Yemen, we utilise the World Bank *Doing Business* report to highlight the most problematic factors influencing the business environment in Yemen. The report (2018) indicates that these factors include, in descending order, Government instability and coups, difficulty of obtaining finance, policy instability, corruption, insufficient infrastructure, inconvenient foreign currency regulations, restrictive work regulations, insufficiently educated workforce, and weak work ethic in the national workforce (see Figure 1 for details).

Table 2 assesses the general institutional environment in Yemen in 2018 compared with 137 countries in the world according to the Global Competitiveness Index. The table indicates Yemen's very poor performance in these indicators that denote a poor institutional environment in the country in general.

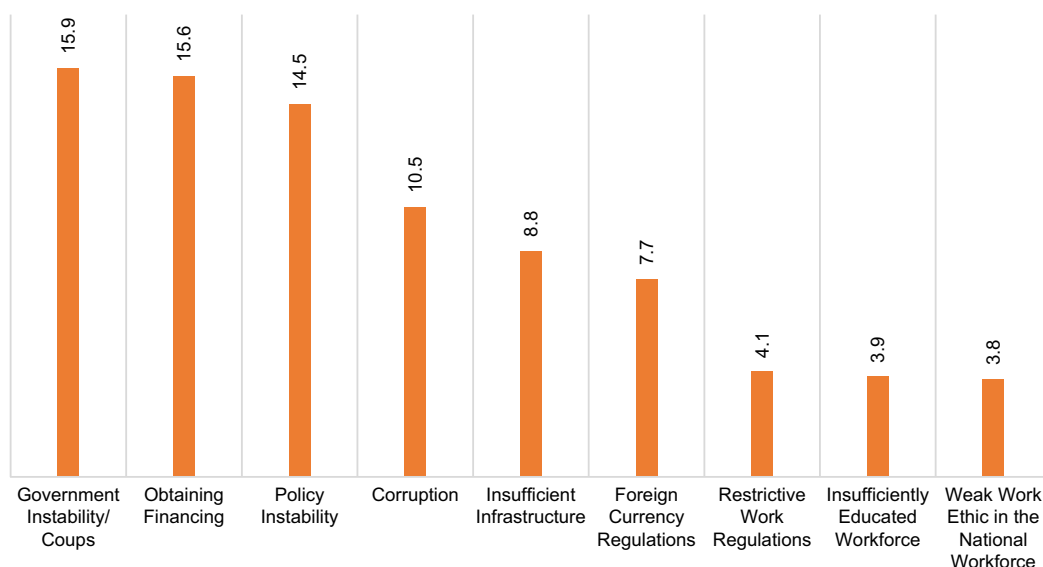


Figure 1: The Most Problematic Factors in Doing Business in Yemen 2018

Source: Doing Business report 2018

Table 2: Institutional Indicators in Yemen 2018

Indicator	Rank/137	Score	Indicator	Rank/137	Score
Property rights	132	3	Transparency of government policy-making	135	2.5
Intellectual property protection	135	2.5	Business costs of terrorism	137	2.4
Diversion of public funds	112	2.5	Commercial costs of crime and violence	127	2.9
Public confidence in politicians	115	2	Organised crime	128	3.3
Irregular payments and bribes	134	2.3	Reliability of police services	133	2.4
Judicial independence	124	2.5	Ethical behaviour of firms	131	2.8
Favouritism in government officials' decisions	117	2.2	Strength of auditing and reporting standards	136	2.6
Efficient government spending	116	2.4	Efficiency of corporate boards	136	3.3
Burden of government regulation	94	3.1	Protection of minority shareholders' interests	133	2.8
Efficiency of the legal framework in settling disputes	123	2.6	Strength of investor protection	106	4.3
			Efficiency of the legal framework in challenging regulations	100	2.7

Source: The World Economic Forum, Global Competitiveness Report, 2018

Figure 2 shows good governance indicators in Yemen in 2019, but indicates very poor performance in those indicators.

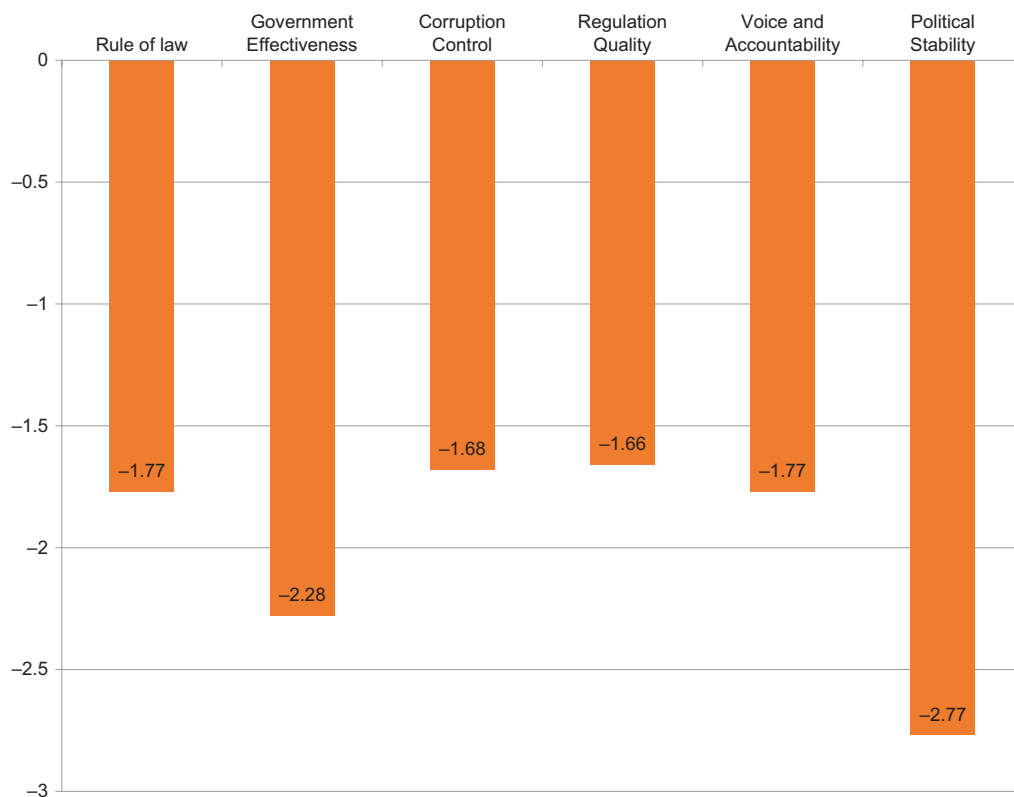


Figure 2: Governance Indicators in Yemen in 2019 (Index Values: Weak –2.5 to Strong 2.5)

Source: World Bank, WGI, 2019

Problems and Challenges Facing Yemeni Universities

Problems and challenges facing Yemeni Universities can be classified into internal and external challenges (see Figure 3). External challenges include unstable political and economic environment, social and cultural conflict, lack of scientific and technical progress and lack of structural reform programmes. Internal challenges include weak university administration, deficiency in financial resources, inadequate postgraduate studies and scientific research, lack of satisfactory university roles and efficiency, insufficient education approaches and goals, deficiencies in curricula and teaching methods, poor admission policies and shortages in human resources. More discussion of the challenges facing governance principles applications in higher education in the Republic of Yemen is provided by Mutahhar (2005), Ministry of Higher Education and Scientific Research of Yemen (2019), and Al-Hidabi and Alazizi (2019).

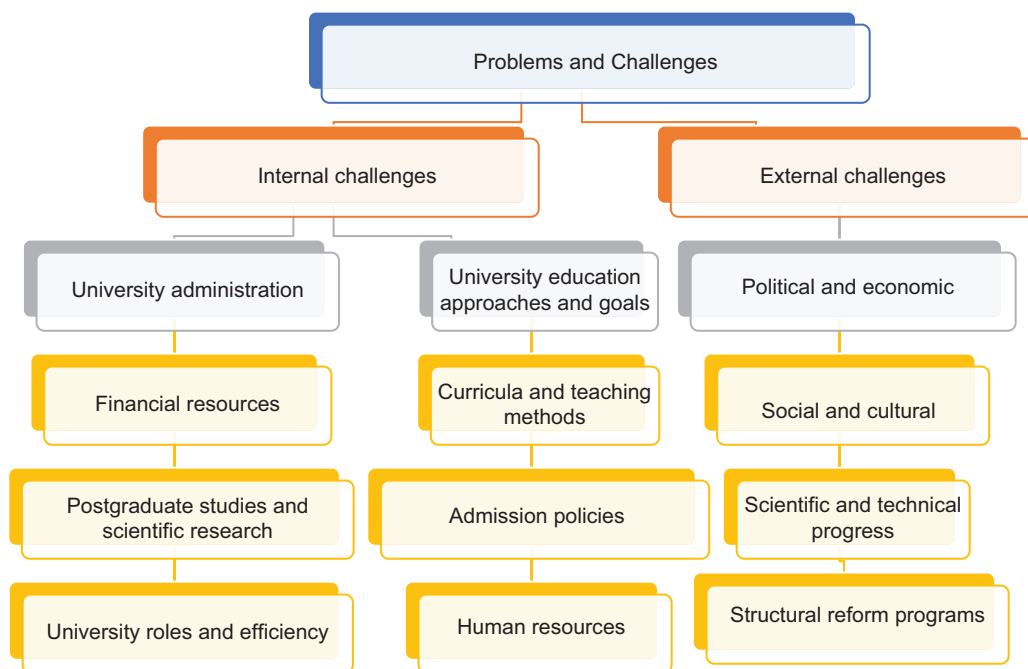


Figure 3: Problems and Challenges Facing Yemeni Universities

Source: Prepared by authors

Given the previous problems and challenges facing Yemeni public universities, it can be emphasised that the current state of these universities, in general, represents one of the most important challenges facing SDG achievement in Yemen. It calls for universities to perform their roles and entrust them to provide professional solutions for the various problems facing Yemeni society.

The Need for Institutional Governance in Yemeni Universities

Good institutional governance practices have become among the most important topics covered in conferences and research, and a major global debated issue. This makes it imperative to pay attention to reform systems and frameworks of institutional governance to correct university conditions in Yemen. The existence of a consistent and developed higher education system is one of the most important elements of business competitiveness and scientific progress.

Application of institutional governance in Yemeni public universities can improve academic and administrative performance in many aspects as follows:

- contributing to the creation of independent institutions with governing councils and bodies responsible for determining strategic orientation and ensuring effective management;

- assisting universities in achieving their goals in the best possible manner;
- detecting deficiencies in performance and weaknesses in outcomes;
- ensuring balance between long-term strategic responsibilities and short-term operational duties;
- assisting in enhancing competitiveness and preventing administrative and financial corruption in universities;
- ensuring protection of university's resources, and achieving optimal investment;
- ensuring rights and interests of employees in both academic and administrative bodies without discrimination;
- enhancing processes of monitoring and revision that lead to the sound application of legislation, good management practices and protection of workers' rights that, in turn, raise levels of community satisfaction with university performance.

It is feasible to overcome the challenges facing Yemeni public universities and build an action plan for the establishment of good governance systems by gradually removing existing obstacles. Looking at structure, values, and control dimensions, it is possible to adapt institutional governance systems in Yemeni universities in line with the requirements of the educational process.

In this regard, a recent study in Yemen compared the performance of public and private universities in applying nine aspects of institutional governance standards, as shown in Table 3. The study concluded that public universities represented by the University of Sana'a scored a lower overall rating than private universities represented by the University of Science and Technology, which scored a higher general rating (see Table 3).

Table 3: Ranking of Institutional Governance Standards in the University of Sanaa and the University of Sciences and Technologies in the Republic of Yemen

Ranking	Public Universities (Sana'a University)	Private Universities (University of Science and Technology)
1	Fairness	Responsibility
2	Responsibility	Accountability
3	Academic independence and freedom	Ethics
4	Ethics	Efficiency and effectiveness of institutional performance
5	Leadership and management	Transparency and disclosure
6	Transparency and disclosure	Academic independence and freedom
7	Accountability	Fairness
8	Efficiency and effectiveness of institutional performance	Leadership and management
9	Participation	Participation

Source: Al-Hidabi and Alazizi (2019)

Institutional Governance in Yemeni Universities: Questionnaire Analysis

The authors of the present paper designed a questionnaire containing 12 questions to assess the level of institutional governance performance in Yemeni universities, focusing on the views of university teaching staff. The questions covered the key areas (or key variables) in good university governance, including availability of vision and mission, university ownership, management style, financial autonomy, academic freedom, responsibility to university stakeholders, social responsibility, commitment to principles of scientific competence in recruitment and promotion decisions, financial integrity, quality control of education, stakeholders' participation in making decision, accountability and transparency. Table 4 shows the twelve questions asked to the participants.

Table 4: The Twelve Questions asked to the Respondents of the Questionnaire

Question no.	Variable Name	Question Statement
Q1	Vision and mission	The university has vision and mission that are officially disclosed.
Q2	Management style	The university relies on traditional, non-results-based mechanisms of management.
Q3	Financial autonomy	The university enjoys autonomy in their financial resources.
Q4	Academic freedom	There exists academic freedom at the university.
Q5	Stakeholders' responsibility	The university bears its responsibility towards stakeholders (parents, students, shareholders, university employees).
Q6	Social responsibility	The university plays its role in social responsibility.
Q7	Commitment to principle of professional competence	The university is committed to principles of professional qualifications and competence in job appointments and academic promotions.
Q8	Financial integrity	The university uses tools and mechanisms of controlling financial integrity and applies financial auditing.
Q9	Education quality control	The university applies educational quality control standards.
Q10	Stakeholders' participation in decisions	Stakeholders participate in the process of decision-making in the university.
Q11	Accountability	The university is committed to applying accountability standards for all individuals at all levels.
Q12	Transparency	The university periodically publishes performance reports on its website in all areas of activities.

Source: Authors' construction

The questionnaires were distributed to a number of university teachers of different academic ranks in different regions through the Internet. However, only 30 responses were collected due to social unrest, bad social and financial conditions of university teachers, and poor Internet infrastructure. Because of these conditions, some professors have not received their salaries for months.

The responses came from professors in both public and private universities from different regions in Yemen. Their academic titles vary between full professor, associate professor, assistant professor, and teaching assistant, with percentage share of the sample of 30%, 16.7%, 36.7%, and 16.7% respectively. A 4-level Likert scale was used for rating participants' answers, disagree, neutral, agree, and strongly agree. Female participants represent 26.6% of the study sample, and males 73.3%. Most respondents belong to public universities, with a share of 83% of the sample, while those belonging to private universities represent 17%. All participants hold academic qualifications of PhD or MSc degrees, with shares of 73.3% and 26.7% of the total sample respectively.

In answering the first question in the questionnaire about the existence of officially disclosed vision and mission in the university, 60% of respondents confirmed its existence, while 30% rejected the existence and 10% abstained from answering the question. When classifying these general responses into public and private universities, the statement confirmation rate was 56% in public universities and 80% in private universities. This indicates that while officially disclosed vision and mission exist in Yemeni universities, it is more likely in private universities than in public ones (see Figure 4).

With respect to the second question about university management style, 70% of respondents indicated that Yemeni universities depend on traditional methods of management and non-results-based mechanisms. Approval rates for the correctness of the statement ranged between 76% in public universities and 40% in private universities. This indicates that public universities are more likely to rely on traditional management methods than private universities.

University academic freedom is investigated in the third question. A total of 32% of the participants in public universities denied the existence of academic freedom, compared to 24% who confirmed its existence; 40% of participants did not answer this question. Within private universities, 80% of the respondents confirmed the existence of academic freedom, while 20% declined to answer the question. This indicates that academic freedom is weak in public universities.

Regarding a university's independence in financial resources (question 4), 40% of the respondents from Yemeni universities rejected the presence of financial autonomy, 36.7% confirmed it, and 23.7% abstained from answering this question. Classification of the answers into public and private universities reveals that 44% of the respondents from public universities rejected financial autonomy, 32% confirmed and 34% abstained from answering the question. In private universities, 60% of the respondents confirmed the existence of financial autonomy, 20% disagreed with the statement, and 20% abstained from answering the question. These results indicate a lack of financial autonomy in public universities. Figure 4 shows the respondents answers to questions 1-4 in percentages of total answers.

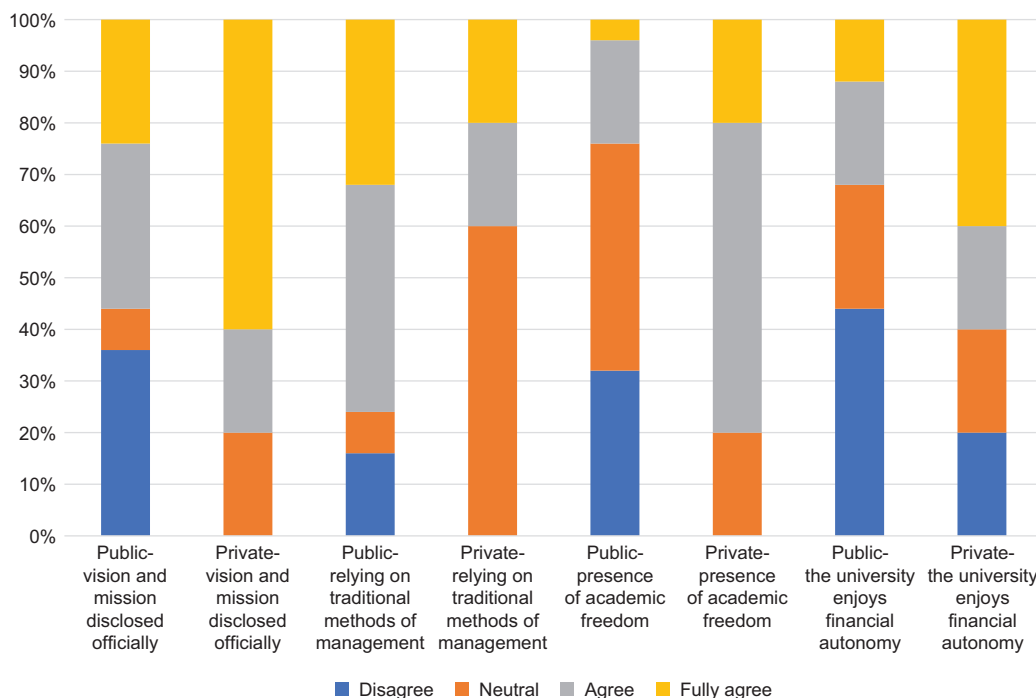


Figure 4: Respondents' Answers to Questions 1-4: Vision, Management Style, Academic Freedom, Autonomy

Source: Authors' construction

Answers to Question 5 about the university holding responsibility towards stakeholders revealed that 48% of the professors interviewed in Yemeni public universities disagreed with the statement, while 32% confirmed it and 20% abstained from answering the question. In private universities, 80% of the respondents confirmed the university having responsibility to stakeholders. These results suggest that public universities are less likely to have responsibilities towards stakeholders.

Similarly, answers to Question 6 about the university performing its social responsibility roles in the required manner, showed that 52% of the respondents in Yemeni public universities disagreed with the statement, while 32% confirmed the correctness of the statement. Within private universities, 40% of respondents confirmed the statement, 20% disagreed, and 40% abstained from answering this question. These answers show that private universities are socially more responsible than public universities.

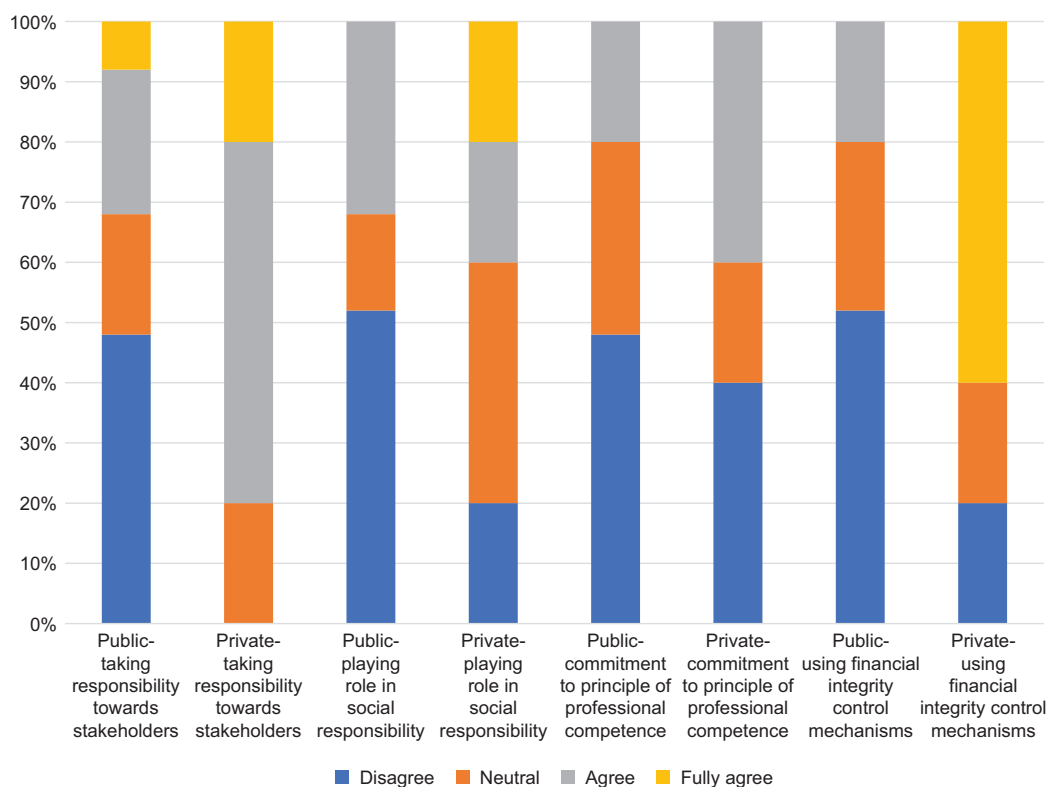


Figure 5: Respondents' Answers to Questions 5-8 on Themes: Bearing Responsibility towards Stakeholders, Social Responsibility, Professional Selection and Integrity Control

Source: Authors' construction

Regarding the university's commitment to principles of professional competence in academic appointments and promotions in Question 7, 48% of the respondents in public universities disapproved the existence of professionalism in the selection, 20% confirmed it, and 32% abstained from answering the question. These answers indicate a lack of professionalism in academic appointments. Responses to Question 8 about the availability of mechanisms for controlling financial integrity and applying the principles of financial auditing, showed that 52% of the respondents in public universities disagreed with the existence of these mechanisms, 20% confirmed their existence, and 28% abstained from answering the question. Figure 5 shows the respondents' answers to the questions on the themes of holding responsibility towards stakeholders, social responsibility, professional selection, and integrity control. The figure shows weakness in public university performance in these institutional governance indicators, and that private universities are doing better in these indicators than public universities.

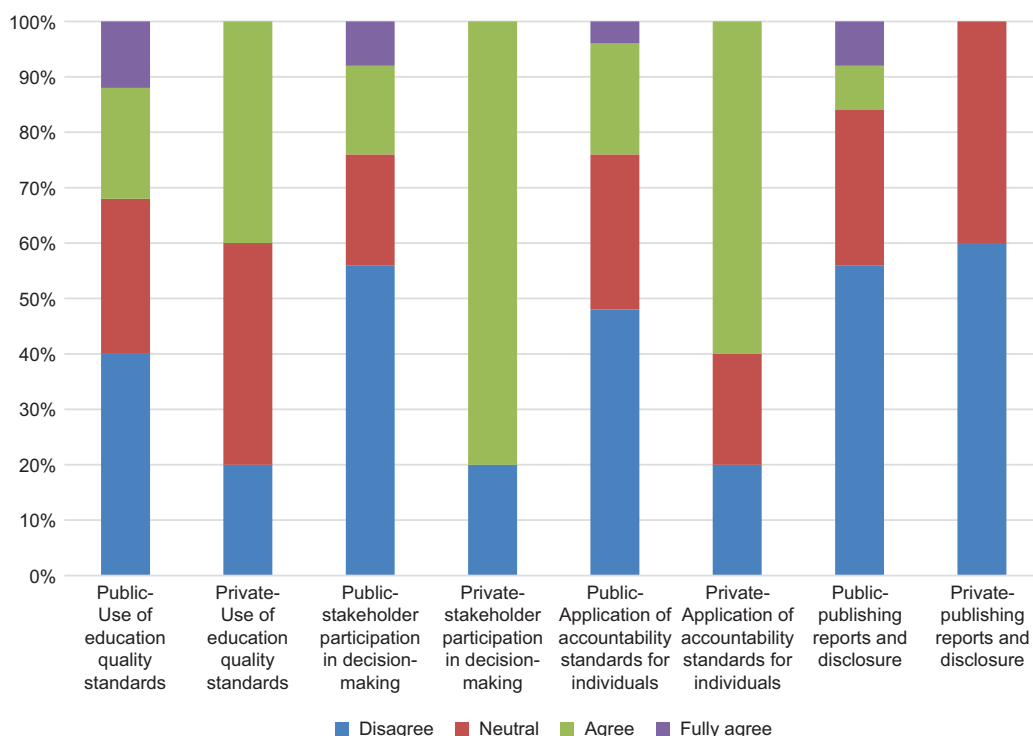


Figure 6: Respondents' Answers for Questions 9-12 on Themes of Quality of Education, Stakeholder Participation, Accountability Standards, Reporting and Disclosure

Source: Authors' construction

In connection with Question 9 about the university's use of education quality control standards, 40% of respondents in public universities disagreed with their existence, 32% confirmed it and 28% abstained from answering the question. For private universities, 40% of respondents confirmed the existence of these standards, while 20% disagreed with the statement and 40% abstained from answering the question. These results indicate inadequacy in education quality control application in both public and private universities in Yemen.

Concerning Question 10 about stakeholders' involvement in university decision-making, 56% of respondents in Yemeni government universities rejected the involvement, 24% confirmed it, and 20% abstained from answering the question. In private universities, 80% of the respondents confirmed the participation of stakeholders in the decision-making process and 20% rejected the involvement. These results suggest a very limited level of participation of stakeholders in decision-making processes in public universities. By contrast, the results indicate a high level of participation in private universities.

Regarding Question 11 about university commitment to applying the standards of accountability to individuals at all levels, 48% of the respondents in public universities denied the commitment, while

24% confirmed it and 28% abstained from answering the question. In Yemeni private universities, 60% of respondents emphasised the application of accountability standards at the university, while 20% rejected the commitment and 20% abstained from answering the question. These results suggest a high level of commitment to accountability standards in private but not in public universities.

For Question 12 about the periodic publication of performance reports in all areas of activities on the university website, 56% of public university respondents disagreed with this statement, 8% confirmed it, and 28% abstained from answering the question. For private universities, 60% of respondents denied publishing performance reports, and 40% did not answer this question. The results indicate insufficiency in transparency in both public and private universities in Yemen (see Figure 6 for details).

The previous discussion for the questionnaire's results indicates inadequacy of performance of Yemeni public universities in most fields of institutional governance. Further, the results indicate that the private universities' performance is better than the public universities. However, all universities need to improve in this institutional governance.

Analysis of Outcomes of Good Governance Performance Variables in the Questionnaire

Observing Stakeholders Interest in Yemeni universities

One of the main institutional governance performance outcome indicators is stakeholders' satisfaction. Our previous analysis to the questionnaire answers suggested that public universities in Yemen are less likely to hold responsibility towards stakeholders. In this section we test the relationship between bearing stakeholders' responsibility (denoted by *respstk*) as a dependent variable and stakeholders' participation (*stkpartc*) in the process of decision-making in the university as a good governance indicator. Our selection for these variables is based on agency theory that assumes that principal and agent have their own interests and objectives in carrying out a contractual relationship, and interests and objectives are often different.

We examined the correlation between these two variables using a Pearson correlation coefficient, utilising the means and standard deviation statistics. The test results show that the two variables are significantly correlated at 0.01 level (2-tailed test). We conducted a simple bivariate regression for the two variables according to the following equation:

$$respstk = \alpha + \beta * stkpartc + \epsilon$$

where ϵ is the error term of the regression. Estimation of the equation gives the following results:

$$respstk = 0.906 + 0.625 * stkpartc + \epsilon$$

(2.720) (4.064)

$$F = 16.518 \text{ F- Probability} = (0.000) R^2 = 0.371$$

These results show that shareholder responsibility as a good governance performance outcome indicator is significantly correlated to shareholders' participation in the decision-making process at the 0.05 level of significance. Improvement in application of this governance principle in Yemeni public universities leads to good governance outcomes. Despite the significance of stakeholders' participation in the decision-making process in public universities, only 24% of the professors interviewed confirmed their involvement. Similarly, only 32% confirmed that public universities bear responsibility towards stakeholders.

The previous results prove that the first research hypothesis that states that "Managers in public universities run them in the interest of the stakeholders (parents, students, shareholders, university employees)" as given in the stewardship theory, is not applicable in Yemeni public universities. The results may indicate that agency theory is more applicable to Yemeni universities than stewardship theory.

Further, we attempt to correlate the shareholders responsibility with type of ownership in the university (public or private). We apply the Pearson correlation test to the two variables and find them statistically correlated at the 0.05 level of significance (2-tailed test). This result indicates that ownership matters in bearing stakeholder responsibility.

Holding Social Responsibility

Similarly, we correlate a university's performance in playing its role in social responsibility as a governance performance indicator with explanatory variables such as financial integrity. The Pearson correlation between the two variables shows that they are highly associated at the 0.01 level of significance (2-tailed test).

The previous results confirm the significance of good governance to performance in Yemeni public universities. These results agree with many studies in other countries that have found that good governance has a positive effect on an institution's performance (Rashid Abdo, 2008; Starbuck, 2014).

IMPLICATIONS OF THE RESULTS OF QUESTIONNAIRE ANALYSIS

1. Managers in public universities do not seem to run them in the interest of the stakeholders (parents, students, shareholders, university employees). This leads to a failure to satisfy stakeholders' needs, inadequate educational outcomes, and raises the quest for appraisal and reassessment of university administration methods and procedures (see the first research hypothesis).
2. Public universities do not play their roles in social responsibility adequately. Application of good governance principles of integrity, transparency, and proper management style would enhance performance and gear the university towards playing their role in social responsibility (see the second hypothesis).
3. Good institutional governance in a university improves performance and assists it in achieving objectives. This is the main result of this study and the respondents' answers confirm this statement. This result implies that public universities in Yemen need to adopt institutional governance principles to improve performance and achieve objectives (see the

third hypothesis). In particular, the results indicate that public universities in Yemen need to improve performance by changing their management style by:

- abandoning traditional styles and adopting modern ones;
- raising financial autonomy;
- promoting academic freedom;
- adhering to principles of scientific competence in recruitment and promotion decisions;
- strengthening financial integrity;
- enhancing quality control of education;
- increasing stakeholders' participation in decision-making;
- reinforcing accountability and transparency; and
- assuring availability and disclosure of vision and mission in public universities.

Means and Mechanisms for Adopting Institutional Governance in Yemeni Universities

The present paper proposes some of the means to enhance the institutional governance situation in public universities that would qualify them to overcome internal problems and be prepared to face the external challenges mentioned previously. This will pave the way for public universities to realise ambitious scientific goals to catch up with leading universities at regional and international levels.



Figure 7: Means of Adopting Institutional Governance in Yemeni Universities

Source: Authors' preparation

Figure 7 shows that the way to strengthen institutional governance in Yemeni universities is by:

- creating a suitable scientific environment;
- opening channels of communication between universities and society;
- setting criteria for admission to universities;
- establishing proper information databases;
- allowing financial and administrative independence;
- good preparation for human resources;
- developing curriculum and teaching methods; and
- developing structures and regulations.

CONCLUSIONS AND POLICY RECOMMENDATIONS

The application of institutional governance in Yemeni public universities is a very important issue to confront the academic, financial, and administrative inefficiencies they are facing, especially with regard to the rights of stakeholders (society, university employees, government, university administration, students), as well as with achieving their assigned objectives and using available resources. This requires the adoption of a set of relevant principles of institutional governance in universities such as the revision of the legal and regulatory frameworks. Further, it requires determination of the level of implementation of those principles and detection of related shortcomings. The previous analysis in the present study revealed some of the shortcomings in Yemeni public universities in many fields of institutional governance, including rights and duties of stakeholders, and lack of transparency.

Considering the previous analysis, we suggest the formation of an independent working committee to look after university governance implementation in Yemeni public universities consisting of experts and specialists from academics, professionals, and representatives from the public and private sectors, with the aim of improving the understanding of university governance issues and accomplishing the required changes in various related fields, such as academic, institutional, legal, and regulatory frameworks.

Application of institutional governance requires universities to:

- reconsider their objectives to put community services at the forefront of their priorities;
- reconsider their organisational structures and executive regulations in line with the objectives assigned to them;
- choose administrative leaders in accordance with the principles of professional capabilities, ability to achieve and efficiency;
- change the curricula and teaching methods in accordance with scientific and technical advancements;

- seek a real productive partnership with community institutions to meet their needs, raise their cultural and professional levels, and enhance their economic returns through scientific research, continuous training, translation, and authorship;
- disseminate scientific and technical knowledge among members of society.

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