

HOW QUALITY ASSURANCE DRIVES CREATIVITY AND INNOVATION IN JORDAN'S PRIVATE UNIVERSITIES?

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ABSTRACT

This study sought to assess the effects of quality assurance on innovation and creativity at Jordanian private universities across three of its dimensions: input quality, operations quality, and quality audit. Four private universities in Jordan completely invented the study's sample. The deans and heads of the academic departments were also included in the study sample, making a total of 140 participants. A questionnaire was created as a tool for data collecting as part of the study's descriptive analytic technique. The distribution of the questionnaire was conducted through a thorough surveying procedure. Depending on the results of the statistical analysis, there is a high level of application of quality assurance standards by academic departments' deans and heads, through supporting quality assurance programs in Jordanian private. In addition, the study found that there is a statistically significant impact of quality assurance on creativity and innovation in Jordanian private universities.

Keywords: Quality Assurance, inputs quality, operations quality, quality audit, Creativity, Innovation

1.0 INTRODUCTION

Jordan has made significant strides in higher education over the past few decades, with an expansion in the number of universities and the development of academic programs to keep up with changes in knowledge and market demands (Altbach, 2016). Jordan's higher education is being developed as a result of the relevant authorities' acute understanding of the value of education and its role in gaining leadership, advancing society, and in a growing economy (Qudah, 2018).

However, the objectives set in terms of developing higher education in Jordan cannot be achieved if the increase in the number of universities and the academic programs offered is not accompanied by an enhancement of quality, which has become a prerequisite for achieving sustainability and prosperity of Jordanian universities, especially since universities have developed into a source of creativity and innovation, which are seen as the results of imaginative ideas that universities transform into novel and distinctive services (Al-Dmour et al., 2018; Alshurideh and Al-Hawari, 2020). Besides their function as a valuable resource for national economy organizations in problem-solving and logical decision-making, universities

also aid in identifying novel ways to deliver these services, as well as ways to improve and develop already-existing ones (Al-Faouri, 2016).

It should be mentioned that, until very recently, quality assurance in higher education was mostly an implicit activity since it was commonly believed that quality cannot be measured in higher education. Yet, during the past two decades, a number of arguments have challenged and criticized this conventional perspective of quality assurance. Additionally, a number of organizations exerted pressure for the use of quality assurance, including the World Bank and UNESCO, which made the quality assurance in higher education institutions a goal and a crucial part of government policies as it has been recognized as an essential tool for guiding higher education systems globally (Nabaho et al., 2020).

In order to foster creativity and innovation, which help university employees grow their intellectual and cognitive skills by allowing them to identify the skills they need to work on, each and every university administration must devote enough time, effort, and resources to this aim (Al-Adaileh & Zyod, 2020). By utilizing scientific techniques that keep up with current advancements in educational institutions, this action will also assist universities in making the greatest use of their financial resources (Najjar, 2017).

Hence, this study sought to measure the impact of quality assurance on creativity and innovation in Jordanian private universities. The importance of this study can be manifested through the variables researched, as quality assurance, creativity, and innovation are among the important elements that light must be shed on because of their role in raising the level of university performance.

2.0 LITERATURE REVIEW

While education is one of the most crucial aspects of people's lives all over the world due to its role in advancing both society and the environment, there has been a noticeable growth in all areas of education recently. In particular, higher education is seen as one of the main aspects upon which society is built since it is crucial to the overall advancement and development of society and the people who comprise it (UNESCO, 2015). Thus, higher education has an important role in establishing the intellectual, scientific, and professionals for society's institutions, in addition to its primary function in accessing and fostering knowledge processes and employing them to carry out scientific research (Goetsch et al., 2014).

2.1 Quality and Quality Assurance definitions

There is a positive correlation between customer satisfaction and quality in the modern era; a higher level of product quality will increase customer satisfaction with that service or commodity. The American Society for Quality Control (ASQC) and the European Organization for Quality Control (EOQC) have both defined quality, as identifying a collection of traits that impact a product's capacity to satisfy consumers' expectations (Oakland, 2003). The concept of quality has changed to reflect the degree of conformity of goods to global standards and requirements, which are known as international quality standards (International Standard Organization, ISO), which are universally accepted by the producer and the consumer. In the age of globalization, quality standards are no longer only linked to satisfying the needs of the local market (Gunawan & Prasetyo, 2020).

On the other hand, quality assurance is defined as a collection of methodical actions and procedures intended to ensure that an organization produces goods or renders services of a standard that complies with the requirements and quality standards established by the organization in the production plan. This is done by regularly monitoring the production process and identifying, controlling, and fixing errors (Sadikoglu and Olcay, 2014). The majority of researchers and quality enthusiasts hold that quality assurance focuses on creating and maintaining documented procedures intended to make sure that design, development, and operation activities result in product delivery of goods and services at a level that satisfies the beneficiary's established or contractual needs and requirements (Gora et al., 2019).

2.2 Quality Assurance in Education

The term "quality assurance" has recently evolved to refer to the processes and practices that are routinely observed, particularly in respect to the operational or service elements, in order to identify and confirm that the defined quality standards are being followed (Bourke, 2014). It is well known that educational institutions vary from one another in a variety of ways, including the components of their systems, i.e., the vision and mission they adopt and the goals they seek to achieve, as well as the nature of the available specializations, the circumstances of their various environments, and the nature and type of their outputs (Tatla & Virdee, 2020). The process of assuring high-quality results is challenging because of all these factors. As a result, current educational institution directives have shifted in favor of a new educational process system that places a higher emphasis on the intended outcomes that universities want to achieve through the established standards. As a result, it became clear that educational institutions, particularly universities, must concentrate on determining the function of quality assurance and its applications in connection to attaining their goals (Jones, 2018).

3.0 DIMENSIONS OF QUALITY ASSURANCE IN EDUCATION

This study identified the following components, which are regarded as subcategories of education quality assurance, after evaluating several related earlier studies:

3.1 Inputs Quality

The students, teachers, educational curriculum, and technical resources and tools are the inputs to the educational process (Leszczyska and Oleksy, 2018).

3.2 Operations Quality

The University Quality Assurance Unit at Jordanian private universities uses a series of procedures and activities to ensure the smooth operation of the process of providing the required services with the objective of evaluating and improving the operations carried out step by step (Al-Hadidi et al., 2019). Ababneh (2016) emphasized that people interested in this dimension primarily paid attention to the operations without disregarding the inputs or outcomes. The factors used to evaluate this dimension included the number of faculty members to students, the amount of time allotted for in-person meetings during the learning process, the degree of interaction between learners and lecturers, and the teaching techniques used, which have recently shifted from traditional learning to modern techniques that encourage students to think critically, seek out information, and participate in t (Al-Samarrai and Zaki, 2021).

3.3 Quality Audit

Jarar (2019), who argued that this process is essential in guaranteeing the correctness and integrity of all quality operations in universities, supports the idea of ongoing inspection and control in quality assurance. In a similar vein, Cheng (2019) highlighted the significance of this dimension in evaluating the effectiveness of education and its results to make sure that they are in line with planned goals. The writers stress the need to thoroughly examine all the key components, including students, faculty, and other things that could have an influence on performance quality.

3.4 Creativity and Innovation

The term "creativity" refers to the capacity to generate novel concepts, products, services, or efficient ways of performing tasks, as well as to develop fresh ideas, scientific hypotheses, innovative inventions, or original approaches to managing educational institutions. These ideas or inventions are then shared to achieve outstanding results and gain a competitive edge over others (Amabile, 1988). However, when applied to administrative tasks, creativity can be described as the ability to identify imaginative and innovative solutions to the challenges that individuals within the organization face or to develop new and beneficial work methods (Rejeb et al., 2018).

In addition, creativity fosters the growth of the intellectual and cognitive abilities of employees within the organization by enabling them to choose the specific skills they want to develop. It also facilitates the efficient utilization of financial resources by utilizing cutting-edge methodologies that align with the latest advancements in educational institutions (Rejeb, Bouallegue, and Boujelbene, 2018). Creativity also involves striking a balance between various developmental initiatives and available resources, while effectively leveraging human capital by allowing individuals to explore novel approaches and techniques in their respective fields of work. Moreover, creativity helps ensure the continual modernization of educational systems in response to external changes (Al-Khateeb, 2015).

On the other hand, innovation is often associated with renovation, as noted by Papaleontiou-Louca et al. (2014), who explains that innovation can refer to the reinvigoration of a product. It can also be defined as the generation and implementation of new ideas within an organization. In this sense, the term "comprehensive development" encompasses everything from conceiving a new idea to realizing and implementing it within the institution. Given the need to remain competitive in the market, innovation is a top priority for organizations across all domains (Papaleontiou-Louca et al., 2014).

Innovation is critical because it promotes the development and accumulation of individual skills and group collaboration through brainstorming exercises. It also enhances the quality of decision-making, enabling effective resolution of problems at both organizational and sectorial levels, in various technical, financial, marketing, and social work environments (Tatla & Virdee, 2020). By reducing the time between introducing new products or services, innovation enhances an organization's competitive position, giving it an edge over competitors. Additionally, by introducing innovative concepts, products, or services that are entirely novel, an organization may gain a partial and temporary monopoly of the market, depending on the degree of innovation (Rejeb et al., 2018).

3.5 The Relationship between Creativity and Innovation

The relationship between creativity and innovation may be seen in the fact that every invention starts with creative ideas, and that both people and teams can be creative, which serves as the foundation for innovation (Alzoubi, 2015). This definition suggests a synergistic relationship between creativity and innovation; in other words, there cannot be innovation without creative ideas, and creative ideas can only be realized by innovative people and work teams because they form the basis of the creativity process. However, the presence of these individuals and work teams is necessary for innovation but is not sufficient, meaning that there must be other factors influencing innovation that are available. In conclusion, this definition shows that invention is fundamentally a human endeavor (Isaksen, 2017).

3.6 Hypotheses Development

According to a study by Abu-Zaid, (2019), there is a significant positive relationship between quality assurance and creativity in higher education institutions in Jordan. However, another study by Abujarad et al. (2021) found that there is no significant impact of quality assurance on innovation in the context of the UAE higher education system. In a study by Al-Tarawneh & Al-Emad, (2021), the authors found that quality assurance practices in higher education institutions in Jordan did not significantly impact innovation. Furthermore, a study by Al-Shehri and Almarashdeh (2019) found that quality assurance practices in higher education institutions in Saudi Arabia had no significant effect on innovation. These studies suggest that the relationship between quality assurance and creativity/innovation may vary depending on the context and the specific practices and strategies employed.

As a result, The First Main Hypothesis (Ho1) states that quality assurance in its dimensions (input quality, operations quality, and quality audit) does not statistically significantly affect creativity and innovation in Jordanian private universities at the level of ($\alpha = 0.05$).

The first sub-hypothesis (Ho1-1) states that the quality of inputs has no statistically significant influence on creativity and innovation at Jordanian private universities at the level of ($\alpha = 0.05$).

The second sub-hypothesis (Ho1-2) holds that operations quality in Jordanian private universities has no statistically significant influence on creativity and innovation at the level of ($\alpha = 0.05$).

The Third Sub-Hypothesis (Ho1-3): Quality audit has no statistically significant effect on Jordanian private universities' creativity and innovation at the level of ($\alpha = 0.05$).

4.0 THEORETICAL FRAMEWORK

In order to achieve the objectives of the study in terms of determining the effect of the independent variable on the dependent variable, the researchers developed a special model for the study. This study's theoretical framework focuses on quality assurance and its dimensions, as well as on creativity and innovation while identifying the requirements for achieving educational quality. Quality assurance is a broad administrative process that relies on a mixed set of information and values. It can be achieved by employing workers' energies and talents in various fields in order to achieve the goals of the educational institution.

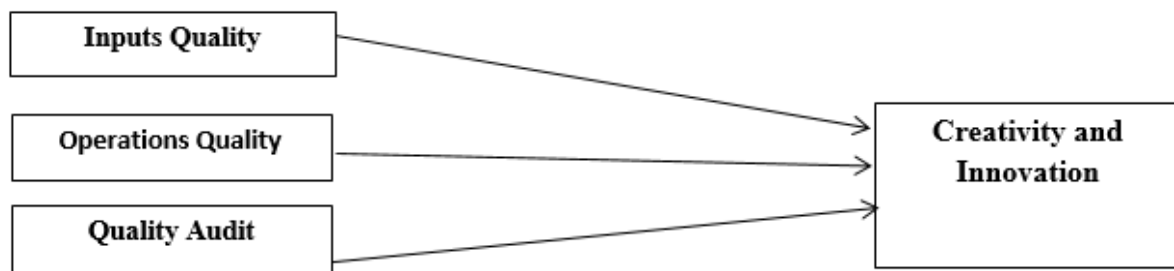


Figure 1 Research Framework

5.0 STUDY METHODOLOGY

In this study, an analytical descriptive approach and comprehensive survey methodology were adopted in collecting data and information from the members of the selected sample, which included all the officials in administrative positions (such as deans and heads of the academic departments) in Jordanian private universities.

6.0 DATA ANALYSIS AND DISCUSSION

6.1 Background information of Respondents

The population consisted of (4) private Jordanian universities located in the Northern Region, where they were all included all the officials holding administrative positions (such as: the deans and heads of the academic departments) with total of (140) participants. The study used comprehensive survey methodology and the researcher developed a questionnaire and distributed (140) questionnaires to the participants in this study. However, only (132) questionnaires were retrieved and (128) of them were valid for statistical analysis, with a percentage of (91%) of the questionnaires distributed.

After the statistical analysis of the characteristics of sample members who occupy administrative positions (such as the deans and heads of academic departments), the results demonstrated that 5.5% of sample members were females while 94.5% of them were males. This disparity indicates that there is a small number of female faculty members who wish to assume administrative positions in universities. In addition, many female faculty members feel a desperate need to achieve a balance between family and work – not to mention male faculty members' distinguished ability to bear the burdens of administrative work and long working hours greater than the ability of females to do so.

With regard to age, 82.4% of sample members are less than 35 years old, while 13.5% were between 35 and 45 years old; which indicates that the percentage of those over 45 years old was 4.1%. All of the participants included in the study hold doctoral degrees in various specializations. Their practical experience, by a percentage of 100%, ranged between 5 and 10 years, which indicates that those who occupy administrative positions in Jordanian private universities have long practical experience, and are able, through their knowledge and experience, to perform their work with the required quality and efficiency.

6.2 Consistency

Cronbach's Alpha coefficient was relied upon to measure the internal consistency between the paragraphs of each variable of the study. Table (1) shows that the results of Cronbach's Alpha for all study variables are higher than 70%, and this percentage is considered acceptable, according to Sekaran (2010). These results indicate that the paragraphs of the questionnaire, along with the dimensions, have a high degree of internal consistency.

Table (1) Results of the internal consistency coefficient (Cronbach alpha)

Variable	Cronbach Alpha Coefficient
Quality Assurance	0.829
Inputs Quality	0.791
Operations Quality	0.867
Quality Audit	0.831
Creativity And Innovation	0.758

6.3 Testing Study Hypotheses

To test the main hypothesis and its sub-hypotheses, multiple regression analysis was used:

Testing the main hypothesis (Ho): There is no statistically significant impact at the level ($\alpha = 0.05$) for "quality assurance" (inputs quality, operations quality, and quality audit) on creativity and innovation in Jordanian private universities.

Multiple regression coefficient was used to test the impact of "quality assurance" on creativity and innovation.

Table (2) summary of the model for testing the main hypothesis

The Model	Correlation coefficient (R)	Determination coefficient (R ²)	Adjusted R Square	Std. Error of the Estimate
1	0.747	0.557	0.547	0.43864

Table No. (2) Demonstrates a summary of the results reached in relation to the model designed for testing the main hypothesis. It shows that the value of the correlation coefficient between the independent variable (quality assurance) and the dependent variable dimension (creativity and innovation) amounted to (0.747). This indicates that there is a higher-than-average positive correlation between the variables. The table also shows that the value of the determination coefficient (R²) = (0.557), meaning that the model explained 55.7% of the total variance in creativity and innovation, while the rest is explained by other factors.

Table 3: Results of analysis of variance in multiple regression of the impact of "quality assurance" on creativity and innovation (ANOVA).

The Model	Data Source	Sum of Squares	Degrees of Freedom Df	Mean Square	Calculate d F Value	Significance Level FSig
1	Regression	30.044	3	10.015	52.049	0.000 ^b
	Residual	23.858	124	0.192		
	Total	53.902	127			

Table (3) shows the results of analysis of variance in multiple regression of the impact of "quality assurance" on creativity and innovation; where the table shows that calculated (F) value reached (52.049) at the level of significance (0.000). Accordingly, the model is suitable for analyzing the impact of "quality assurance" (with its dimensions: inputs quality, operations quality, and quality audit) on creativity and innovation.

Table (4) results of the Coefficients for the impact of "quality assurance" on creativity and innovation

Independent Variables	Non-Standard Coefficients		Standard Coefficients	T Value	Significance Level Sig
	B Value	Standard Error	Beta Value		
Constant	0.512	0.280		1.829	0.070
Inputs Quality	0.375	0.091	0.377	4.144	0.000
Operations Quality	0.224	0.110	0.207	2.041	0.043
Quality Audit	0.260	0.108	0.239	2.393	0.018

Table (4) shows the results of the coefficients of the impact of "quality assurance" with its sub-variables on the dependent variable dimension (creativity and innovation). The table shows the calculated t values for each of (inputs quality, operations quality, and quality audit) which amounted to (4.144, 2.041, 2.393) respectively, at a significant (t sig) level of (0.000, 0.043, 0.018), respectively.

Based on the previously described decision rule related to t , the null hypothesis of the dimensions (inputs quality, operations quality, and quality audit) will be rejected; meaning that there is a statistically significant impact of these dimensions on creativity and innovation. The table also shows the values of the standard coefficient, Beta, where it is clear that the highest dimensions affecting creativity and innovation were the dimension of inputs quality, with a Beta value of (0.377), then quality audit came in second place, with a Beta value of (0.239), followed by 'operations quality', with a value of Beta (0.207). The Beta value is (0.207).

Based on the values of B in the table, the regression equation can be substituted as follows:

Creativity and Innovation = $0.512 + 0.375$ (inputs quality) + 0.224 (operations quality) + 0.260 (quality audit).

In this sense, increasing one unit of 'inputs quality' led to an increase of 37.5% in creativity and innovation, and increasing one unit of 'operations quality' led to an increase of 22.4% in creativity and innovation, and an increase in one unit of 'quality audit' led to an increase of 26.0% in creativity and innovation.

7.0 RECOMMENDATIONS AND CONCLUSION

The results of testing the main hypothesis indicated that there is a statistically significant impact of quality assurance on creativity and innovation in Jordanian private universities. The result of the current study with the results reached in the study conducted by Khalifa (2019), in which there was an impact of creativity and innovation on the sustainability and continuity of university performance, as stated in the current study. Thus several recommendations that may benefit this industry as the following:

First, maintaining the high rate of achievements made by the quality assurance system in Jordanian private universities by providing both material and moral support to university employees, especially the deans and heads of academic departments.

Second, Spreading awareness about the usefulness of applying a quality assurance system and its impact on improving the performance of universities; because it is a factor in the success of universities and the development of their performance. It is one of the main boosters of enhancing the development of work within educational institutions.

Third, holding periodic conferences to discuss the reality of applying quality assurance and its impact on the level of Jordanian universities and the results of its application.

Fourth, developing an integrated plan to benefit from the opinions of the deans and heads of academic departments, and their skills and abilities, to find innovative solutions to the problems facing universities.

Fifth, adopting a quality assurance system in university education to include all universities in Jordan and benefiting from the expertise and experience of advanced universities globally in improving the quality audit system in universities.

Sixth, the establishment of a special department for auditing and quality control in Jordanian universities that were discussed in particular and in all universities in general.

The last, Obtaining continuous feedback from stakeholders, especially the students and the organizations in which graduates work, civil society organizations and others, on the level of educational services quality and how to develop them.

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