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VALUE FOR MONEY IN E-LEARNING OUTCOMES

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Abstract

The purpose of this study was to examine how the "Value for Money" (VfM) principle, a crucial element of international quality standards in higher education, is applied to educational outcomes. In order to promote positive transformation among academic staff and students, it focuses on assessing the balance between financial expenditure and the efficacy of resource utilization. Three Palestinian universities participated in the study, which used qualitative information gathered from interviews. A purposive sample of six employees from e-learning centers was included in the study population, which included 13 members from e-learning administration departments. With an emphasis on the fourth standard, "Value for Money," which was modified for the context of e-learning in Palestinian universities, the interview protocol was created using international quality assurance standards in higher education. The results showed that there are major obstacles to raising the caliber of educational outputs in order to keep up with the quick development of

educational products around the world. Limited funding for infrastructure development and maintenance, attempts to improve network performance in the face of ongoing budget deficits, and wage cuts in certain institutions to support e-learning programs were among the main problems. Based on financial limitations, universities grant network access with regard to data security. Many institutions rely on free and open-source software because of their limited funding. To improve self-sustainability, the study suggests investing in university facilities and looking into alternate funding sources. In order to reduce the risks associated with unanticipated events, it also promotes fortifying the infrastructure for online education and establishing alliances with insurance providers.

Keywords:

Value for Money, E-Learning Administration, Palestinian Universities, Resource Utilization, Higher Education Standards

1. Introduction

Islamic jurisprudence and law prohibit deception and mandates diligence and excellence in all forms of work. The concept of quality, as understood in contemporary discourse, finds deep resonance in Islamic teachings through the principle of itqan (proficient and meticulous execution), which underscores the importance of precision and integrity in managing worldly affairs. Historically, as noted by Weh(2003), the concern for quality predates modern frameworks. For instance, over five millennia ago, Babylonian King Hammurabi decreed capital punishment for builders whose constructions led to the death of inhabitants—an early form of quality accountability. In the early Islamic period, the role of muhtasib (market inspector) was central to ensuring compliance with standards and specifications, highlighting a longstanding tradition of quality assurance.

The formal institutionalization of quality as a management practice began in the mid-17th century. In its modern formulation, quality is conceived as a strategic management system grounded in a set of core values. It leverages data-driven decision-making and invests in human capital across all organizational levels to achieve continuous improvement—particularly within educational institutions.

Contemporary perspectives on education have shifted significantly. Education is no longer regarded solely as a public service provided free of charge; rather, it is increasingly evaluated in terms of performance outcomes and cost-effectiveness. Education systems are now integrally linked with other societal systems, and shortcomings in educational outputs often impose substantial financial burdens on other sectors, particularly those responsible for retraining and capacity development. Furthermore, several economists conceptualize educational institutions analogously to industrial production systems—employing frameworks that assess inputs, processes, and outputs (Amer, 2007).

1.1 Statement of the Problem

In the wake of the global crisis triggered by the COVID-19 pandemic, educational institutions worldwide were abruptly compelled to shift to remote learning in order to ensure the continuity of education. This transition necessitated the widespread adoption of internet-based platforms and smart devices for distance communication. As noted by Yulia (2020), this sudden transformation created significant disruption within educational systems, particularly as

institutions grappled with defining the role of e-learning—whether as a supplementary tool for traditional education or as a standalone mode of instruction. Among the pressing challenges faced were ensuring the quality of educational outcomes, aligning them with societal needs, and fostering students' personal development and positive behavioral traits.

This study draws on the work of Kivisto & Pekkola (2017), who developed a framework for assessing the quality of e-learning management. The current research focuses on the fourth standard in that framework: Value for Money in educational outcomes. Based on the researchers' professional experience within Palestinian universities, it is evident that while several institutions have established e-learning management units, these initiatives remain in their early stages. They require substantial financial support to evolve into robust systems capable of producing innovative and high-quality educational content that meets contemporary demands.

In light of the above, this study seeks to address the following key research question: What measures have e-learning management departments in Palestinian universities implemented to ensure Value for Money in educational outcomes?

1.2 Research Objectives

This study sought to highlight the potential role of e-learning management departments in implementing the "Value for Money" quality standard, with the goal of producing educational outcomes that align with the competencies required by the local labor market.

1.3 Significance of the Study

Following the COVID-19 pandemic and the rapid shift toward e-learning, there has been growing interest among researchers in examining challenges related to digital/ online education. The significance of this study lies in its focus on exploring how allocations for e-learning impact the educational process budget and influence related strategies and administrative decisions.

1.4 Term Definition

Value for Money in Educational Outcomes

The term "Value for Money" refers to the quality of delivering outcomes in relation to the costs of providing a service, ensuring optimal use of resources. It is closely linked to the concept of efficiency, which emphasizes achieving desired results at lower costs and with minimal resource consumption.

2. Theoretical Framework and Literature Review

Quality in education is conceptualized as a comprehensive system encompassing inputs, processes, and outputs. However, this system often encounters challenges due to the misalignment of academic, administrative, and financial conditions with its requirements (Imam & Ahmed,2017).

While e-learning is increasingly favored by diverse segments of society, its widespread implementation in Arab universities continues to face substantial obstacles—technical, administrative, and human in nature. Among the most critical barriers are financial constraints, notably the limited access to digital devices among university students due to their high cost, particularly in the context of many Arab nations being classified as part of the Global South or Third World. Additional impediments include the high costs and inconsistent availability of internet services, along with the considerable expense involved in developing educational software (Al-Aidi & Bou Fateh, 2018).

Hussein (2019) emphasized that if the allocated budget for addressing the demands of education is insufficient, meaningful development efforts become difficult to achieve. Similarly, the findings of Lamin & Momen (2023) identified several impediments to digital transformation at Tobruk University, ranked in order of significance as: financial constraints, human resource limitations, technological barriers, and organizational challenges. Al-Farhati et al., (2021) also outlined various obstacles hindering digital transformation in institutions, including high costs of equipment and software, insufficient financial allocations for training programs in electronic management and information systems.

These studies collectively underscore the persistent difficulties in advancing e-learning and the pressing need to raise awareness among decision-makers about its importance. There is a critical need for effective educational policies, adequate funding, and the provision of financial incentives to support educators engaged in e-learning environments.

2.1 E-Learning Management

Yildirim et al., (2014) define e-learning management systems (LMS) as online platforms designed to support and facilitate the delivery of education via the internet. These systems primarily aim to streamline specific learning processes within universities in the age of internet. Al-Awda (2021) further describes e-learning management as the administration that utilizes

computer technologies and internet networks to efficiently perform organizational functions and enable rapid communication between departments.

Cavus & Ala'a (2009) notes the proliferation of various learning management systems available in the market, emphasizing that the critical factor lies in selecting a system that aligns effectively with the individual's quality and performance objectives.

According to Simsons & Michael, (2019), e-learning management systems typically comprise three core components: assessment tools, announcements, and curriculum management; content tools, which include content pages, quizzes, and other evaluative features; and communication tools such as discussion forums, messaging, and synchronous email. These components collectively provide a digital platform that supports and enhances both teaching and learning processes.

E-learning management continuously monitors emerging technologies and assesses their potential to improve online education. It also plays a pivotal role in facilitating virtual learning by overseeing the technical, pedagogical, and administrative aspects of course delivery, thereby ensuring the provision of high-quality courses and fostering a positive educational experience.

2.2 Investment in E-Learning

Al-Omari & Manahil (2014) indicated that the significant advancements in information and communication technologies have created numerous opportunities to enhance the quality of educational materials, programs, and methods of delivery and development. The countries of the Organization for Economic, Co-operation and Development (OECD) have developed comprehensive future policies for the integration of these technologies in the education sector, aiming to advance their societies toward cognitive and technological excellence.

According to Hamdan (2023), e-learning also known as online learning—has become increasingly popular in universities over the past few years. With the expansion of the internet and technological advancement, e-learning has emerged as a practical and cost-effective alternative to traditional classroom instruction. However, e-learning is not without its challenges. One of the most pressing issues is ensuring continuous student engagement and motivation throughout the learning process. This becomes particularly challenging when students study remotely and lack the level of interaction with peers and instructors typically found in conventional classroom settings.

Rawab & Gharib (2015) noted that one of the key motivations for adopting quality standards in higher education is the pursuit of academic excellence. Since the early 1970s, many societies have witnessed a rapid expansion in education, often at the expense of educational quality. This decline in quality has contributed to rising unemployment rates and heightened economic competition. As a result, nations have increasingly viewed education systems as strategic tools for addressing global transformations, by cultivating citizens with the skills and competencies necessary to navigate economic competitiveness and globalization. The ongoing technological revolution—characterized by an unprecedented flow of scientific and intellectual knowledge—poses a challenge to human cognition in terms of timely information retrieval. Leveraging such advancements requires systematic investment in improvement strategies through continuous data analysis. A comprehensive quality system can facilitate quality control, curriculum review and development, and the enhancement of administrative and professional skills.

Tondeur et al, (2017) highlighted how technology has profoundly impacted the acquisition and dissemination of knowledge in society, largely through the steps and initiatives undertaken by universities and educational institutions as primary sources of knowledge production.

Al-Ghamdi & Suleiman (2021) proposed a strategic framework to overcome administrative and financial barriers, offering several key recommendations—particularly concerning funding, training, and development—to address the obstacles hindering academic engagement with e-learning. Similarly, the study by Abbasi & Foudi (2020) confirmed that the digital relationship between teacher and learner has not evolved adequately on a technical level. Their research identified difficulties in accessing devices and emphasized the financial burden as a major obstacle. Al-Khadri's (2020) study recommended increasing attention to implementing information security standards to enable institutions to confront unauthorized access or cyber-attacks effectively.

3. Research Population and Sample

The research population for the interviews consisted of members of e-learning administration departments at universities, totaling thirteen (13) individuals. The researchers conducted in-depth interviews with staff members from the e-learning departments at Palestinian

universities. The total number of participants was thirteen (13): four (4) from University 1, four (4) from University 2, and five (5) from University 3. Two staff members from each university—namely the head of the department and an administrative employee—were also selected for the interviews. Table 1 below shows a description of selected demographic characteristics of the interview participants:

Table 1: *Demographic Characteristics of Interview Participants*

University No.	Gender	Academic Qualification	Years of Experience
1	Male	Master's in Computer Science	5 years
	Female	Ph.D. in Curriculum and Instruction	10 years
	Male	Ph.D. in E-learning	5 years
	Male	Master's in Computer Science	5 years
2	Male	Ph.D. in Educational Administration	12 years
	Male	Ph.D. in Educational Administration / E-learning	5 years
	Male	PhD in Education and Psychology	12 years
	Female	PhD in Measurement and Evaluation	11 years
3	Male	Ph.D. in Educational Administration / E-learning	4 years
	Female	Master's in Computer Science	10 years
	Female	PhD in Measurement and Evaluation	10 years
	Male	Ph.D. in Educational Administration	10 years
	Male	PhD in Education	4 years

3.1 Study Tool (Interviews)

The study relied on the work of Kivistö & Pekkola (2017), specifically adapting the fourth criterion—Value for Money—to suit the focus of this research. The qualitative interview questions were initially developed and then presented to expert arbitrators to evaluate their clarity and validity. Feedback was incorporated accordingly. The interviews followed a semi-structured format: they began with general questions and gradually moved toward more specific ones. During the interviews, questions related to the research focus were posed, such as: What obstacles does the university face in supporting infrastructure and technical assistance? How is the quality of outcomes pursued through balancing cost and resource utilization? What challenges does the university face in supporting information security?

Deductive reasoning was used to analyze the interview data, as it was appropriate for this type of qualitative analysis. The responses were sorted and categorized, with an emphasis on identifying fine details and classifying them into subcategories. Synonymous expressions were grouped under a single subcategory. The results were then organized into a table with three columns: the first column listed the subcategory, the second included the synonyms on which the researcher based the subcategory, and the third provided sample interview responses that contained the relevant terms. Reviewing the table and its classification system made it easier to interpret and derive conclusions from the data.

3.2 Validity of the Research Instrument (Interviews)

Regarding the credibility of the study, the names of the categories were either the main terms or synonymous expressions representing each thematic group. These terms and their synonyms were systematically arranged in a table along with illustrative examples for each. The validity of the study was further reinforced by selecting interviewees who were staff members in e-learning departments and by focusing on the nuanced details of quality in higher education as referenced in study (Kivistö & Pekkola, 2017). After conducting interviews with six e-learning department staff members from the three universities, their responses were thoroughly analyzed to extract precise and detailed categorizations. Following the analysis of the fifth interview, the sixth was conducted to determine whether any new characteristic would emerge within the main categories; however, no new attributes were identified that had not already been mentioned.

4. Reliability of the Research Instrument (Interviews)

To verify the consistency of the interview responses, Cohen's Kappa coefficient was employed to calculate inter-rater agreement and disagreement.

- First, the interviews were reanalyzed after a time gap, and the agreement and disagreement rates were recorded. Upon repeating the analysis two weeks later, a high degree of similarity was observed, and the Cohen's Kappa coefficient was calculated as 0.95, indicating strong reliability.
- Second, to further ensure the reliability of the analysis, an independent reviewer reanalyzed the interviews. The inter-rater reliability, calculated again using Cohen's Kappa, yielded a

coefficient of 0.93. It is worth noting that the number 42 represents the total number of lexical items identified across all subcategories of the interview results.

5. Research Findings

Results:

Two categories were arrived at with their subcategories and themes. These categories were: ‘funding challenges’ and ‘infrastructure development and cost of e-learning software’. Below, we describe each of these categories.

5.1 Funding Challenges and Infrastructure Development

The category ‘Funding Challenges and Infrastructure Development’ consists of three sub-categories that are outlined below.

5.1.1 Financial deficit and revenue generation

The first sub-category of ‘Funding Challenges and Infrastructure Development’ is ‘Financial deficit and revenue generation’. It details the fundamental lack of capital, the accumulated debt, and the specific internal strategies the university is employing to secure revenue and manage its financial shortfall. This sub-category includes the following three theme that are outlined below:

5.1.1.1 Financial deficit and infrastructure maintenance

The university faces a problem of funding and maintaining infrastructure, working to improve network efficiency through meager revenues available in light of an accumulated financial deficit. Interviewee 1, from University 1, said: "Universities face a problem of funding and maintaining infrastructure, and that they are working to improve network efficiency through the meager revenues available in light of an accumulated financial deficit."

5.1.1.2 Revenue generation

The university is seeking to support its budget by increasing the number of students and organizing revenue-generating activities. Interviewee 3, from University 1 said: "The university is trying to increase the number of students and increase activities that can secure revenues for the university."

5.1.1.3 Salary reduction for investment

Sometimes, universities suffered a financial deficit, which necessitated reducing employee salaries by 70% (a reduction that was later refunded) to allocate funds specifically to support education. Interviewee 5, from University 2, stated: "The university suffered a financial deficit, so it reduced salaries by 70%, which was refunded during the emergency phase, and allocated funds to support education."

5.1.2 Infrastructure and Network Modernization

The second sub-category of 'Funding Challenges and Infrastructure Development' is 'Infrastructure and network modernization'. This sub-category outlines the current state and capacity of the university's technological and network infrastructure, highlighting the need for modernization and development efforts. This sub-category includes the following three themes:

5.1.2.1 Weak network and development needs

Some interviewees described the internet network as weak due to poor funding and requires development to keep pace with the global communications technology revolution, particularly following the pandemic. Interviewee 6, from University 2 stated: "The internet network is weak due to weak funding and needs development to keep pace with global developments in the field of the communications technology revolution, specifically after the pandemic."

5.1.2.2 Massive IT infrastructure and security focus

Despite the challenges, the university's network software and information security constitute one of the largest infrastructures in the country, and the IT department is focused on supporting data security. Iinterviewee 9, from University 3 said: "The University's network software and information security are among the largest infrastructures in the country, and the university's IT department is working hard to support data security on the university's network."

5.1.2.3 Securing support tools

Funds were specifically allocated to secure a number of support tools, such as the smart board, based on urgent requests from the professors. Iinterviewee 10, from University 3, stated: "We allocated funds to support education and secured a number of support tools such as the smart board based on an urgent request from the professors."

5.1.3 E-Learning budget and procurement limitations

The second sub-category of ‘Funding Challenges and Infrastructure Development’ is ‘E-Learning budget and procurement limitations’. This category focuses on the insufficient allocation of funds dedicated specifically to e-learning initiatives and the impact of relying on external ministry allocations. This sub-category includes the following two themes:

5.1.3.1 Weak E-learning budget

There is a specific weakness in the budget allocated for the e-learning project, hindering the university's ability to provide necessary tools. Interviewee 12, from University 3, said: "The University was unable to provide the tools such as smart boards and others due to the weak funding of the budgets necessary for the e-learning project."

5.1.3.2 Dependence on external funding:

The university's budget for e-learning is constrained by its partial reliance on the Ministry of Finance for its financial allocations. Interviewee 13, from University 3, stated: "In addition to the university's dependence on the Ministry of Finance for part of its allocations."

5.2 Cost of E-Learning Software’

The second category that the research found is ‘Cost of E-Learning Software’ that consists of the following sub-categories.

5.2.1 Strategic investment and external funding

The first sub-category of ‘Cost of E-Learning Software’ is ‘Strategic investment and external funding’. This sub-category outlines the university's calculated, but constrained, efforts to fund specialized software and the necessity of seeking external financial support for development. This category includes the following two themes:

5.2.1.1 Secure software for sensitive colleges

The university provides specific software for secure browsing for certain sensitive colleges, such as the College of Medicine, alongside implementing general platforms like E-Class. Interviewee 2, from University 1, said, "The university has provided software for secure browsing

for some colleges due to their sensitivity, such as the College of Medicine, and has also provided the E-Class platform."

5.2.1.2 Investing in future technology

The university is conducting research and considering investment in Virtual Lab programs to produce better education, actively seeking funding for external grants to support infrastructure and software development. Interviewee 6, from University 2, confirmed that the university is considering investing in scientific research in the field of Virtual Lab for better education: "There is research being conducted by the university on the use of Virtual Lab and it is considering investing in programs that produce better education by seeking funding for external grants to support the infrastructure and software development."

5.2.2 Budgetary obstacles and free software reliance

The second sub-category of 'Cost of E-Learning Software' is 'Budgetary obstacles and free software reliance'. This sub-category details the direct conflict between the cost of required software and the university's budget, leading to the use of free alternatives and a focus on practical demand. It includes the following couple of sub-categories:

5.2.2.1 Cost as an obstacle to purchase

When a specific software is needed, the university faces the obstacle of cost, which often forces the use of free alternatives like BigBlueButton, though necessary purchases (like Zoom) are made when free versions are too limited. Interviewee 7, from University 2, indicated that the purchase of specialized software for e-learning platforms was funded due to the increasing demand for it: "If there is a need to purchase a specific software, we face the obstacle of cost, and the free BigBlueButton software was used, and the Zoom software was purchased due to the limited time in the free version."

5.2.2.2 Literacy as a lack of skills

His institution recognizes that in the current technological revolution, illiteracy is defined as a lack of skills and software technologies, prompting them to provide academic training within available financial resources. Interview 11, from University 3, stated that illiteracy has become a lack of skills and software technologies in the age of the technological revolution: "The

university is trying to provide training for academics on software within the available financial resources."

5.2.3 Platform Limitation and Training Focus

The third sub-category of 'Cost of E-Learning Software' is 'Platform limitation and training focus'. This sub-category describes the specific software platforms adopted for general use and the corresponding focus of the training provided to academics. It consists of the following couple of themes.

5.2.3.1 Limited Platform Use

The platforms used for organizing classroom management in e-learning are primarily limited to Moodle, supplemented by some multimedia software. Interviewees 2 and 6 indicated that the platforms for organizing classroom management in e-learning were limited to Moodle, with some software provided in the field of Multimedia.

5.2.3.2 Training centered on Moodle

Training for e-learning is almost entirely focused on the Moodle platform, though the university has also provided access to multimedia programs. Interviewee 6 stated that "the training on e-learning is almost limited on the Moodle platform, and the university has provided multimedia programs."

6. Discussion of Findings

This study sought to assess the application of the Value for Money principle in Palestinian universities. The findings revealed that the accumulated financial deficits within Palestinian universities are largely attributable to the absence of a clear national funding policy for higher education since its inception. The researchers interpreted this result within the broader context of ongoing financial and political crises faced by the Palestinian people due to occupation. These challenges have hindered university investment opportunities and self-generated revenues, and government allocations to higher education institutions remain insufficient. This aligns with Al-Far (2019), who highlighted that financial and material obstacles significantly limit the implementation of quality management systems.

The results further indicated a critical need for education systems to recover without repeating the early mistakes made during the emergency phase of the COVID-19 pandemic.

Tondeur et al (2002) emphasized the importance of technological tools in knowledge acquisition and dissemination, while Al-Omari (2016) highlighted the necessity of developing digital programs and communication networks to support educational quality. Similarly, Earle (2002) pointed out the obstacles to e-learning, particularly in terms of effective leadership, technical support, and adequate training.

Despite weak infrastructure and unreliable networks, the study found that e-learning departments have proactively developed strategic plans to support e-learning initiatives. However, the lack of adequate funding and the compounded financial crisis remain significant barriers. Earle (2002) also emphasized the importance of strengthening university infrastructure, which inherently requires financial investment. Yilzante et al. (2011) stressed that institutions are accountable to stakeholders for the optimal use of resources.

The findings also highlighted the pivotal role of e-learning departments in establishing foundational systems that allow universities to keep pace with global advancements while adhering to standards that ensure output quality. The study by Kivistö & Pekkola (2017) provided a relevant framework, introducing quality assurance standards in higher education for the continuous evaluation of cost-effectiveness and administrative quality.

Regarding e-learning software, the findings showed that, due to financial limitations, universities primarily utilized free or open-source platforms such as E-Class and Moodle to manage online classrooms and content design. During the early stages of the COVID-19 pandemic, some universities subscribed to Zoom to facilitate synchronous learning; however, once the emergency phase ended, many were forced to discontinue their subscriptions due to financial constraints and returned to relying on free tools.

With respect to information security as an indicator of output quality, the findings stressed the need to enhance digital security measures to address increasing cyber threats. The researchers explained that information systems are vulnerable to breaches, making data security a critical issue that extends beyond the education sector. As noted by Al-Kafi (2009), hacking involves unauthorized access to data, which undermines security protocols and poses serious risks.

The findings also revealed that universities face major challenges in funding both technical and organizational mechanisms necessary to prevent unauthorized access. The researchers concluded that cyber breaches represent one of the greatest threats to the credibility of

educational outputs. This is supported by Al-Khudari (2020), who emphasized the importance of institutional awareness and preparedness to counter cyberattacks.

Finally, regarding financial support for the development of physical resources, the researchers attributed the limited progress in educational technology to the accumulated financial deficits burdening higher education institutions.

6.1 Challenges in Meeting the "Value for Money" Quality Standard

Palestinian universities have faced a persistent financial deficit largely due to the reduction in international aid to the Palestinian government. This financial strain has indirectly impacted all sectors of society, including universities, which rely partially on government funding for their budgets. The situation has been exacerbated by the limited number of scientific studies addressing issues related to increasing university funding and the insufficient budgets allocated to training in educational technologies.

6.2 Recommendation

In light of the study results, the researcher urges Palestinian universities to seek alternative financial resources to support investment and enhance self-financed productivity, particularly to improve the infrastructure that supports e-learning and allocate dedicated budgets to strengthen information security systems and network protection is also essential.

One potential avenue for financial sustainability in Palestinian universities is promoting the culture of waqf (Islamic endowments), which could encompass real estate and income-generating projects. Economic and productive institutions have both a moral and financial responsibility toward educational institutions. Therefore, universities should capitalize on this commitment by clearly outlining the regulations and procedures for accepting donations and grants.

E-learning management centers should also establish policies that ensure the availability of financial credits and explore partnerships with insurance companies to insure equipment against unforeseen incidents.

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