

E-learning and its implications for the future of students and academics - virtual universities as a model-

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Abstract:

This paper aims to show trends and changes in higher education and explain some of the main factors affecting universities in this new era. The concept and trends of universities in higher education institutions are changing, especially with the emergence of new information and communications technology (ICT). Higher education leaders expected virtual universities to grow and serve more diverse students. Virtual universities have new ideas such as organizational structures and cooperation models, new policies, assessment models, new funding models, and new skills on the part of students, faculty, and administrators.

Keywords: E-learning, virtual university, information and communications technology, students, professors.

Jel Classification Codes: I18, I21, I28

ملخص

الغرض من هذه الورقة إظهار اتجاهات وتغيرات الجامعات في التعليم العالي، وشرح بعض العوامل الرئيسية التي تؤثر على الجامعات في العصر الجديد. يتغير مفهوم واتجاهات الجامعات في مؤسسات التعليم العالي، خاصة مع ظهور تكنولوجيا المعلومات والاتصالات الجديدة (ICT)، توقع القائمون على التعليم العالي أن تنمو الجامعات الافتراضية وأن تخدم مجموعة أكثر تنوعًا من الطلاب، فالجامعات الافتراضية لديها أفكار جديدة مثل الهياكل التنظيمية الجديدة، ونماذج التعاون الجديدة، والسياسات الجديدة، ونماذج التقييم الجديدة، ونماذج التمويل الجديدة، والمهارات الجديدة من جانب الطلاب وأعضاء هيئة التدريس والإداريين. الكلمات المفتاحية: التعليم الإلكتروني، الجامعة الافتراضية، تكنولوجيا المعلومات والاتصالات، طلاب، الأساتذة.

I18, I21, I28:Jel تصنيف

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1. INTRODUCTION

Owing to the inherent ease and convenience of online learning, it is progressively gaining prevalence on a global scale, especially for people trying to balance work, family, and other commitments to complete a degree or certificate (Veletsianos,2020,p02).

Many universities also offer distance education courses. Despite the tremendous progress in information technology, there are some changes in teaching methods necessary to create virtual learning environments (Simonson et al., 2019, p19) .

Within this context, in addition to technical issues, it is necessary to establish basic teaching structures, and the use of traditional methods in modern approaches is likely to be detrimental to the success of the program.

New structures and models, support mechanisms for learning resources, and new teaching and pedagogical skills are needed to use the Internet as the primary source of educational content. (Beldarrain,2006,p143).

As a result of the move to e-learning, new teaching methods and more effective technologies can be implemented.

Thanks to the emergence of many ICT communication services that provide learners with new opportunities to learn according to their learning style, pace constraints of time and space have been removed.

The virtual university is considered a new phenomenon that coincides with the return of technology to information, communications, and access to the Internet in one way. (Beilin et., 2021,p402).

Ensuring sufficient time and attention for students and teachers to use and practice these programs will be a key learning objective, in particular ensuring the delivery of lessons by virtual or electronic means.

We pose the following problem: **What are the trends and considerations of virtual universities ?**

Objectives of the study

1. Study the main educational dimensions and categories in virtual universities.

2. Study the perceptions of specialists in virtual education about the educational dimensions and components presented in the new model of the virtual university.

3. Providing a model for implementing educational performance in the virtual university.

2. literature reviews

2.1 Virtual University

Since 1996, Virtual University has implemented a strategic change, emphasizing the learning process over information delivery. Sejzi et.,(2012) The updated model comprises three key elements: **education**, **study skills**, and **collaboration** (Cross& Adam, 2007,p80).

The educational aspect centers on the instructional model, utilizing live satellite broadcasts and online platforms for course delivery. (Liu,2018,p77).

Self-study involves students actively engaging in the learning process, and utilizing resources like books, notes, the Internet, and research. Bulueva et al,(2021)

Collaboration is achieved through group participation in the learning process, facilitated by technology that allows for the formation of virtual groups online and in designated learning centers. The degree of utilization of these three methods may vary. (Jeong et al., 2016,p250)

The factors influencing higher education encompass the educational context, the globalized environment, the prevalence of information in society, interconnected networks, and demographic shifts such as population growth and urbanization. (Alexander,2020,p182).

These elements collaboratively contribute to the escalating enrollment in higher education institutions, emphasizing the enduring significance of lifelong learning. This amalgamation of factors, among others, establishes the contextual framework that distinctly shapes the landscape of higher education. (Gkrimpizi et al., 2023,p700)

The evolving social and technological landscape has ushered in a transformative era for higher education, presenting both newfound opportunities and challenges for institutions.(Johnson ,2005,p11) identifies

four key drivers of change in higher education that have a discernible impact on the adoption of web-based and virtual learning:

- a. Economic shifts, characterized by diminishing budgets and financial resources.
- b. Societal trends reflect a growing demand for convenient, mobile, and flexible learning options.
- c. Employment trends emphasize the necessity for adaptable, multi-tasking professionals equipped with computer literacy.

3. Trends

In a general sense, there are noteworthy trends associated with the evolution of virtual universities, encompassing educational, artistic, and legal dimensions within the context of culture, and society. (Altbach et al., 2019,p117)

3.1 Attitudes towards students and lecturers

The core principle inherent in virtual universities resides in delivering services that empower students to participate in flexible learning modalities, concurrently facilitating the seamless integration of state-of-the-art educational technologies for university staff. (Papaioannou et al.,2023,p535) This highlights the paramount importance of cultivating positive attitudes among students and lecturers, fostering an environment that encourages adaptability and support within the domain of virtual education. (Wei,2023,p19)

3.2 Attitudes towards the learning environment

The shift to online learning presents challenges for both faculty and institutions. Colleges need technical support, quality control courses, institutional rewards, and administrative oversight. (Ahmad et al.,2023,p105) Faculty members are also interested in exploring research opportunities arising from interactive online learning communities to enhance student engagement. (Petare & Shamim,2023,p5915)

3.3 Lifelong learning

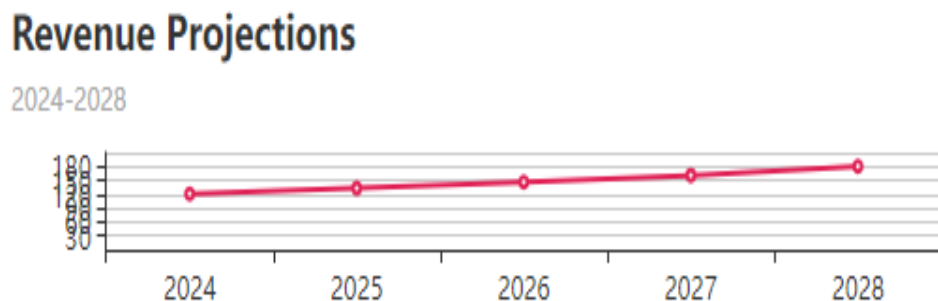
Global shifts in employment and heightened competition demand lifelong learning. The 21st century, characterized by rapid globalization and

a knowledge-based economy, necessitates continuous skill enhancement due to evolving job specifications and technological advancements. (Lim et., 2024,p69) The virtual university, with innovative programs, offers a solution by enabling students to independently acquire knowledge and practical skills. (Hernandez-de-Menendez et al., 2019,p715)

3.4 Support for industry

Virtual universities are integral to the growth of professional and industrial educational programs, significantly impacting the Online University Education market. (Alenezi et al., 2023,p03) Projections anticipate a substantial revenue increase, reaching US\$120.70 billion by 2024, with an impressive annual growth rate of 10.55% (CAGR 2024-2028), projecting a market volume of US\$180.30 billion by 2028. The user base is expected to expand to 46.5 million by 2028, reflecting a significant increase in user penetration from 0.4% in 2024 to an estimated 0.6% by 2028. With an estimated average revenue per user (ARPU) of US\$3.84k, the sector holds considerable potential for revenue generation (Statista ,2024).

Fig.1. Revenue Projections and User Growth



Source: Statista. (2024, february ,14th).

On a global scale, the United States is poised to lead in revenue, reaching US\$82.30 billion by 2024, and user penetration, with a predicted rate of 2.3%. This underscores the substantial growth opportunities in the Online University Education market worldwide, with the United States driving revenue and user penetration. (Zhang etal.,2022,p600)

The increasing global demand for online university education is

evident, with countries like the United States and the United Kingdom at the forefront of delivering high-quality digital learning. (Gyambrah,2007,p59)

3.5 Policy considerations

Key policy considerations arise for Virtual Universities (Kylama, 2005,p02):

- i. **Governance:** Introduces a new model with authority vested in the Virtual University Steering Group. (Marginson& Considine,2000,p190).
- ii. **Operations and Services:** Demands a common portal and specialized support for virtual courses. (Aoki & Pogroszewski,1998,p05).
- iii. **Consulting Services:** The Virtual University Portal provides a variety of study and skill services. (Gladieux & Swail,1999,p25)
- iv. **Teacher Support:** The portal offers guidance for online courses and technological tools. (Baranda& Velasco,2020,p40).
- v. **Study Opportunities:** Agreements allow students to credit studies from other institutions.(González et al., 2013,p325)
- vi. **Lecturer Skills:** Essential ICT skills, backed by training services and technology centers. (Faloye & Obateru,2021)
- vii. **Continuous Education:** Critical amid demographic and employment changes. (Román et al., 2019,p35)
- viii. **Adult Education:** Crucial for meeting the needs of the adult population and labor market demands.(Deggs et al., 2011,p90)

4 Virtual university tasks

The mission of the virtual university is experiencing a nuanced transformation (Moore& Benson,2012,p14) :

- i. Shifting its identity from the university emblematic of the industrial age to one reflective of the information age.
- ii. Transitioning structurally from a brick-based institution to an electronic components-based educational entity.
- iii. Reconfiguring spatial dynamics, moving away from traditional physical enclosures to the connectivity facilitated by wires.
- iv. Evolving pedagogically from reliance on human masters to an integration

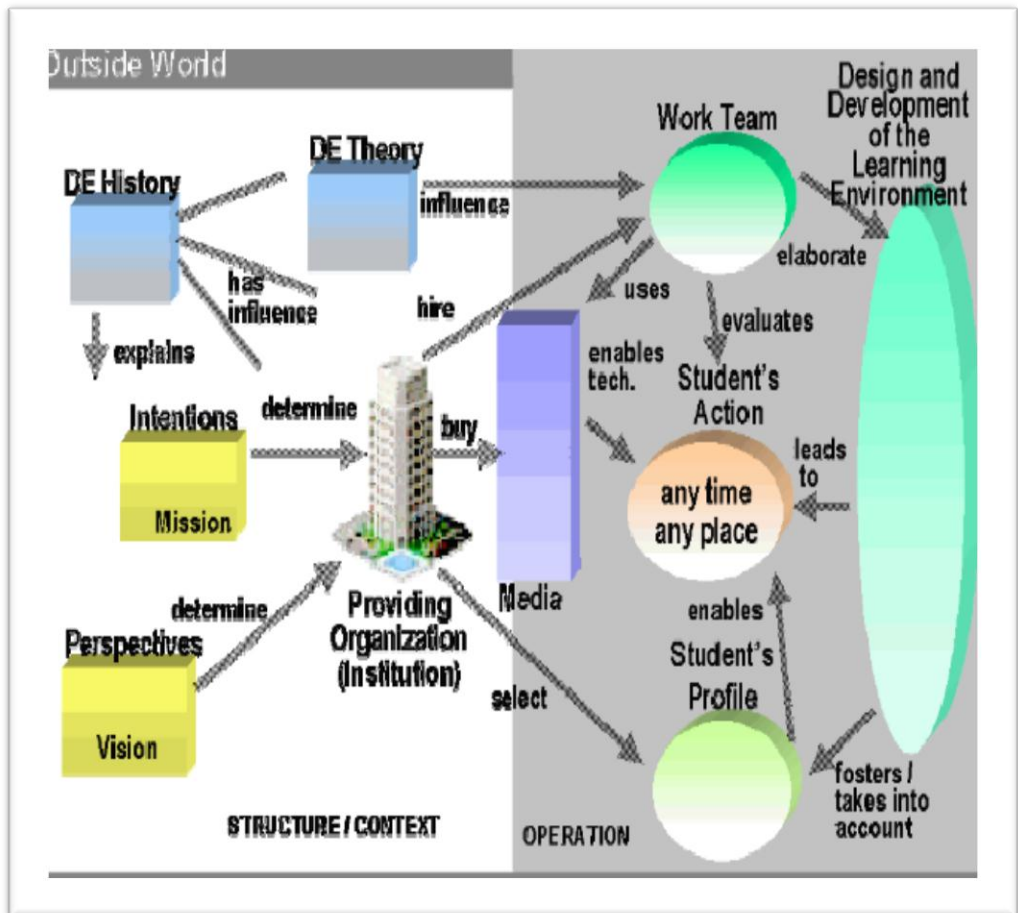
of digital masters.

- v. Transforming the medium of academic resources from hardcover books to electronic books

5A model of a Virtual university

Figure 01 represents a model of a virtual university, which identifies several important elements of a virtual university. The presented model helps to analyze important facts and their relationships in a virtual university. It enhances the decision-making process.

Fig.2. A model of the virtual university



Source: (Stein,2000,p05).

The model emphasizes crucial elements, with a collaborative staff shaping

the learning environment. It highlights the significance of intentional instructional design, community input, and customization of learning activities based on essential skills. Central to the model is student work, overseen and verified by the instructional team. Effective communication is pivotal, requiring support services for software, servers, and student computer management, with cost-effective solutions like email guiding decision-making.

6 Research method

▪ **Methodology**

The study was carried out based on a descriptive-analytical approach that involves studying phenomena as they are and then analyzing and interpreting them to establish their relationship with other phenomena. This method is based on a set of research methods that require the collection, classifying, processing, and analysis of data in such a way as to extract their meaning and make results or generalizations about the problem addressed by the study.

▪ **Participants:**

A questionnaire was applied to (30) male and female ITC Engineering at the University of Medea interested in e-learning.

▪ **Data collection and measurement**

Data was collected through a questionnaire with open and closed questions, carefully designed and tested for validity. Targeting IT administrators on a Likert scale from (Strongly agree =5, Agree=4, Neutral=3, Disagree=2, and Strongly disagree=1), the questionnaire measured their agreement on statements regarding E-learning and its implications for the future of students and academics.

▪ **Stability measurement and the questionnaire is valid:**

To assess the stability and validity of the questionnaire, the reliability was tested using Cronbach's Alpha coefficient. This coefficient ranges between zero and one, with zero indicating no data consistency and one indicating complete consistency. The validation of the questionnaire was confirmed

through the Cronbach's Alpha test, ensuring the tool's stability. The corresponding table illustrates these findings.

Table 1. Shows the value of the Kronbach alpha for the questionnaire

Alpha de Cronbach	Number of elements
,868	10

Source: Based on SPSS.19 output

▪ Data analysis

The completed questionnaires underwent editing for completeness and consistency. The quantitative data collected were analyzed using descriptive statistics through SPSS.19, presenting percentages, means, standard deviations, and frequencies. The analysis focused on various aspects of e-management and e-learning.:

Table 1. Statements of the first axis: ITC Engineering' attitudes about the effects of E-learning and its implications for the future of students and academics

Phrase	Average	Ecart type	Direction
E-learning has broadened my access to educational materials, regardless of where I am located.	3.73	1,258	Agree
The flexibility of E-learning has enabled me to better organize my study schedule.	4.03	1,066	Agree
E-learning has allowed me to customize my learning experience to suit my preferences.	4.27	,785	Strongly Agree
The integration of technology in education, as evident in E-learning, has improved my digital proficiency.	3.80	1,157	
E-learning has connected me with	3.13	1,456	Agree

students and educators worldwide, expanding my cultural awareness.			
The integration of technology in education, as evident in E-learning, has improved my digital proficiency.	3.07	1.437	neutral
E-learning has connected me with students and educators worldwide, expanding my cultural awareness.	3.60	1.303	Agree
Assessments conducted through E-learning have proven to be both demanding and equitable.	3.63	1.229	Agree
E-learning has motivated me to pursue ongoing learning experiences beyond traditional academic settings	3.43	1.431	Agree
E-learning has raised concerns regarding the fairness of assessments, including issues related to cheating or plagiarism	3.20	1.324	neutral
I am confident that E-learning will play a substantial role in shaping the future of education for both students and academics.	3.59	856.	Agree

Source: Based on SPSS.19 output

Comment: In the table above, we note that the ITC Engineering in the study agree that E-learning satisfies their expectations of the effects it has implications for the future of students and academics.

Discussion

E-learning has emerged as a significant force in education, bringing about profound implications for both students and academics. Students benefit from increased accessibility and inclusivity, as E-learning overcomes geographical barriers and extends educational opportunities to those in remote areas or with physical disabilities. In response, educators are prompted to design courses that prioritize inclusivity and cater to

diverse learning styles.(Al Rawashdeh et al,2021) The flexibility and personalized nature of E-learning allows students to control the pace of their learning, prompting educators to adjust their teaching methods by incorporating interactive content and diverse assessment approaches. (Haleem et al.,2022) The emphasis on technological literacy among students also requires educators to integrate relevant tools into their teaching. E-learning facilitates global collaboration by connecting students and educators from different parts of the world. (Ong& Quek,2023). This prompts educators to engage in international collaborations and design courses that expose students to various cultural perspectives.

E-learning encourages continuous learning and professional development, empowering students to acquire new skills throughout their careers. Educators must also embrace a lifelong learning mindset, staying informed about advancements in their fields.(Vold ,2023) However, challenges, particularly in ensuring assessment integrity, emerge in the E-learning landscape, requiring educators to explore secure assessment methods.

CONCLUSION

The virtual university paradoxically presents itself as a more "realistic" and less "virtual" institution than its traditional counterpart. This transformation goes beyond technological systems, involving standardization of data types and communication protocols. It penetrates to the core of the university, questioning established categories, identities, roles, and responsibilities. This penetration reaches the core of the university, prompting scrutiny of established categories, identities, roles, and responsibilities.

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