

How Should a Virtual University Be Managed? A Theoretical Approach

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Abstract. *The concept of a virtual university (VU) has grown in popularity among academics. It has been adopted by numerous traditional universities (TU) that got familiar with virtual education since spring 2020, triggered by the pandemic context. Today, university decision-makers should see VU as more than just an anchor, a mechanism to ensure the continuity of the educational process in grave conditions, or a model for distance online education through intense use of information technology (IT). This paper's research shows that a conceptual model of a virtual university (MVU) should be seen as a complex organization with a structure of roles held by people who interact in processes to provide products and services to students, researchers, and other learners in a virtual environment, supported by IT resources. The study aims to highlight management process (MP) on MVU. It analyzes and interprets the MP for an organization, followed by universities. This theoretical approach can address university's tactical management needs from the perspective of transition or adoption of MVU and understanding what it means to manage a VU. The presented way of managing VUs offers unique support for decisions of acceptance within the academic and administrative community in Romania to integrate and offer virtual education.*

Keywords: *management process (MP), virtual university (VU), model of virtual university (MVU), management model of virtual university (MMVU), virtual education (VE)*

Introduction

Management is a fundamental activity in all organized social and economic activities, and it is a driving force in all large, complex organizations that are working to accomplish certain goals. It is known as a social process involving the coordination of human and material resources through the functions of planning, organizing, staffing, leading, and controlling in order to accomplish stated objectives.

A business organization, a government agency, a health service, a military organization, a trade association, an educational institution, and other entities all require management (Mishra, 2020), including an organization of the virtual university (VU) type. The question of how a VU can be managed is addressed through this work.

The virtual university as a horizon of modernization in higher education in the context of contemporary civilization challenges can be considered as providing the modern consumer demands of educational services on accessibility, flexibility, innovation, and orientation to real labor market demands, (Beilin, 2021).

The emergence and sustained growth of VUs in the last twenty years have presented a paradigm shift in the way higher education imparts and acquires knowledge. This paper aims to unravel the complexities of managing a VU, starting with a literature review on VUs, their role in higher education, and the challenges they pose. The main objective is to design a new theoretical approach for a common understanding of a management model regarding virtual universities (MMVU).

The research methodology employed involves a critical review process aligned with theoretical recommendations. The paper embarks on a comprehensive exploration of the management process (MP) essential to VUs, unveiling their organizational structures and distinctive features.

The paper firstly unveils the concept of VUs, defining them as higher-education institutions responsible for designing, developing, and delivering courses in a flexible online environment. A historical perspective highlights the pre-sanitary crisis era, emphasizing the role of VUs in expanding educational access and fostering economic development. In the post-sanitary crisis period, the transformative impact of the pandemic-induced shift to online learning. Through quantitative and qualitative research findings, the paper underscores the challenges and benefits that accompanied the rapid migration to virtual instruction.

Subsequently, the opportunities and needs identified by VUs in both pre- and post-sanitary crisis contexts are presented. The literature synthesis reinforces the argument that VUs not only present opportunities for innovation but are also poised to shape the future landscape of higher education. The main point of the paper then shifts to the management of VUs. Drawing on the previous works, a conceptual model of a virtual university (MVU) is introduced. This MVU is conceptualized as an organization with roles, processes, and technological resources that collectively deliver educational services to students and learners in a virtual environment.

Building on the management processes of traditional universities and organizations, in general, the study presents a framework for comprehending the particular action of managing VUs by breaking down the planning, organizing, leading, and controlling functions. The strategic planning needed for efficient VU management is outlined in the end section. The article stresses the significance of defining mission, vision, and digital identity as well as the need of developing online courses, staff and student support services, and short- and long-term strategic objectives. The following sections of the paper elaborate on the elements introduced herein, starting with a literature review, following with a presentation of the methodology used, then developing the concepts to answer the research question denoted by the title, moving to the discussion of the results and closing with a set of conclusions.

Literature review

Virtual universities are known as higher-education institutions (HEI), or networks of HEIs, responsible for designing, developing, and running courses or programs in a flexible online environment (Richards, 2015; Maslennikova, E.G., 2021).

The VU provides virtual education, a form of non-face-to-face education originating in distance education that uses multimedia technologies (digital tools, virtual spaces, and platforms) to cover various educational levels and, finally, to increase human life value and freedom of choice regarding lifelong education (Cajahuanca-Loli, et al., 2023).

The need for a VU before the sanitary crisis

VUs provided opportunities to expand the educational access and increase the economic development of the institution (Sejzi A.A., 2009). Some researchers believe that these VUs have innovated with new ideas such as new organizational structures, new collaboration models, new delivery modes, new policies, new funding models, and new skills for the students and faculty staff. *The main opportunities brought by a VU:*

- VU enhances management in the planning, organization, and delivery to students of programs, curricula, and courses relevant to the development of human resources;

- VU offers students support for services, such as evaluation of current knowledge and abilities, guidance on academic plans and quality, and learning records (Sejzi A.A., 2012);
- VU facilitates creation of networks for lifelong learning that satisfies the new educational demands of the twenty-first century and offers a potential remedy for the need of expanding higher education's reach (Safieddine F., 2017);
- VU appears to be a suitable educational model for the creation and delivery of technical and technological programs that are essential to the current higher education supply.

The need for a VU after the sanitary crisis

Some researchers considered a success the pandemic-related virtualization of academic activities occurred in numerous universities around the globe. The isolation of the population forced universities around the world, including those in Romania, to switch from conventional instruction to online activities. Or, to put it another way, for roughly two years, universities went virtual.

Through quantitative and qualitative research on the effects of online learning during the pandemic, it was made clear that there were issues brought on by the rising migration to online learning, but there were also numerous benefits that online learning offered to higher education (Fernández-Batanero J. M., 2022; Dima et al., 2022; Zina, 2022).

These studies have made it clear that a *VU is actually needed because*:

- VU might present opportunities for the higher education system, spark potential for innovation, and help raise the standard of higher education with permanent access to online interactive learning communities (Batanero J.M., 2022);
- Universities are advised to increase their investment in online education platforms and enhance faculty development programs because online learning is the future of higher education (El Firdoussi, 2020).

Thus, the opportunities offered by a VU and the needs pointing to such a university remain relevant, and it is appropriate to examine and support the management of such a university form with information from the specialized literature.

The analysis of methodological and scientific literature has revealed that research on the management of virtual universities has been limited, with only certain aspects explored. One such aspect, as highlighted by (García-Peñalvo, F. J., 2020), is the notion that traditional universities seeking to integrate online teaching, learning, and evaluation processes cannot simply duplicate their organizational structures. Instead, they must blend traditional procedures with new virtual educational processes. Furthermore, the research suggests that an important strategy is to build a digital brand, creating a virtual identity to enhance the attractiveness of the university both internally and externally through three key elements: image design, a web portal, and social media presence. Additionally, it is argued that any university aiming to adopt virtual education should include in its institutional strategic plan a strategy specifically tailored to this form of education, aligning with the institution's global policy.

In a report on virtual universities by (Richards, 2015), it is asserted that a VU is essentially a business – an organization. Thus, it is essential to establish a delivery strategy for the services provided to interested parties, complemented by a quality assurance strategy. The author suggests that for managing such a university, consideration must also be given to the existence of a control system, identified as systems for proctoring examinations and other assessments.

The literature review highlights researchers' perspectives on the necessity of such virtual universities and recommends several aspects for decision-makers in traditional universities considering the adoption of online education. Understanding how to manage such a university and

which aspects deserve consideration is deemed crucial for scientific advancement and represents our focus.

Methodology

Our research focuses on the management process within VUs, emphasizing its significance in comparison to traditional universities. The analysis encompasses the general organizational management function, the management of a traditional university, and, crucially, the distinctive aspects involved in managing a VU. Specifically, the following questions are the primary focus of the research for this paper:

1. Why is a VU necessary?
2. What's involved in managing a VU as an organization?

It conducted a comprehensive narrative assessment of the existing body of research on the management of organizations and universities to address these questions (Demiris G., 2019). This involved a critical examination of academic contributions, theories, and practical insights within the scope of VU management through a review process in alignment with theoretical recommendations (Grant M. J., 2009). This approach ensured a systematic evaluation of the literature, allowing for the extraction of valuable insights and the identification of gaps in knowledge.

Scholarly sources such as academic journals, conference proceedings, and reputable books provided the data for the narrative assessment. The selection criteria prioritized recent and relevant contributions to ensure the applicability of the findings to the contemporary landscape of virtual education.

In addition to conducting a literature review, this research employed research methods and interpretive analysis. For this analysis, a qualitative research method was utilized, incorporating focus group analysis as a tool to discover, clarify, and highlight experts opinions regarding dimensions of MVU: People (P), Process (Pr.), Structure (S), Services and Products (S&P), and ITC–Resources (TR) and their specific components.

Within the focus group, the opinions of five experts, 3 men and 2 women, with management knowledge and teaching experience at a Romanian state university were considered. The meeting between the focus group moderator – the researcher – and the experts began with an introduction to the discussion topic and an explanation of how the meeting would proceed. The experts were exposed to three phases of the process. The first stage was introductory, aiming to understand the conceptual notions identified through exploratory research in the specialized literature and to elicit opinions on the VU concept and resulting conceptual dimensions.

The next stage involved presenting a list of specific elements for each conceptual dimension of the VU, followed by analysis and discussions among focus group participants, leading to consensus on the five theoretical dimensions that best characterize MVU. Additionally, after several rounds of discussion that aimed to add, delete, or modify components, consensus was reached on the most relevant component elements that characterize the five dimensions of the VU. For example, for the People dimension, components such as academic and administrative boards, didactic and research staff, and administrative staff (technical and supportive) were selected. The remaining components describing MVU dimensions are integral to the conceptual management model of the VU, which is presented in Table 3 and serves as a foundational framework for understanding and evaluating the management process within a VU.

Towards the management of a VU

Beginning with the theories identified within the literature, according to which "a VU is a model of a real university in the virtual space that offers all of its services through the internet but adheres to the same organizational structure as a traditional university" (Georgieva G., 2003) and that "a VU has a similar organizational structure to a traditional university, with the exception that the physical campus is replaced with a sophisticated ICT infrastructure" (Richards, 2015), it is possible to conclude that a VU can be seen first of all as an organization.

Along with these, a conceptual model of a virtual university (MVU) was defined as an organization with a structure of roles occupied by people who are interacting in processes to deliver products and services to students, researchers, or other learners within a virtual environment. ITC (information technology and communication) resources support this organization (Comşa V., 2022a; Comşa V., 2022b).

Clarification and conceptual analysis of what the management of an organization in general and of a university understands lay the foundation for what the management of a VU represents.

Organization Management

Despite its initial use in commerce, the term "management" has significantly broadened its scope, encompassing leadership, administration, and management across various human endeavors such as education.

The act of directly managing an organization to make sure it meets its goals is called management as a process. This includes all of the planning, organizing, motivating, and controlling actions undertaken by the leading system (Kapur, 2022; Verzea I., 2005), as shown in Figure 1.

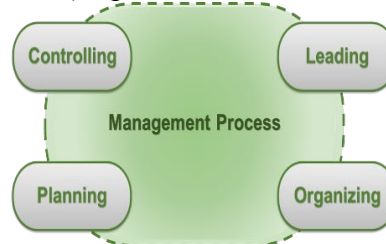


Figure 1. The management process (MP) of an organization or the functions of the managerial process

Source: Authors' own construction.

Organizations' management process (MP) consists of a set of tasks and activities used by managers to advance an organization and produce results over time (Terry, 1972; Prasad, 2021), actions summarized in Table 1.

Table 1. Analysis on how the management process affects an organization

Planning	- is the first task a manager performs, and it involves setting general organizational goals as well as specific goals for each organization; - is a method of planning for change by establishing future courses of action that is logical and systematic in its prediction of the future of an organization. - Through the planning process, the manager aims to manage the organization efficiently and effectively.
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Organizing	- is the process of gathering resources, structuring tasks, and making decisions in order to achieve organizational goals; - entails determining which tasks to perform, how to categorize them, who will perform these duties, their relative levels of authority, and who will make decisions about the work; - the distribution of responsibilities and resources necessary to carry out the tasks, creating the management system.
Motivating/ Leading/ Directing	- is the process of integrating people into the organization to secure their cooperation in achieving organizational goals; - is a process through which employees are motivated to make an effective and efficient contribution to the realization of organizational goals and are encouraged to engage in productive activities through incentives.
Controlling	- is about making sure that performance doesn't stray from standards or goals and entails three steps: setting performance standards, assessing actual performance against those standards, and taking corrective action when necessary; in other words, it involves measuring, evaluating, and comparing results with expected objectives and introducing corrective measures.

Source: Authors' own contribution.

Management of the traditional university

Universities are known as a particular kind of organizational structure that engages in rather unique activities and has particular management requirements. Their primary goals include producing and disseminating information (via research and teaching), meeting the needs of communities, and promoting education, culture, socio-economic advancement, and higher living standards throughout society (Wagner E., 2011; Lazzeretti L., 2006).

The management of traditional universities implies, as in the case of organizations, going through the same functions of the management process in order to attain their objectives and achieve the set goals and targets to reach, as detailed in Table 2.

Table 2. Analysis on how the management process affects a traditional university

Planning	This function refers to the set of processes through which the general objectives of the university are established and the means necessary to achieve them by observing some essential stages: - defining the broad goals for higher education, which include teaching activities, the development of administrative and teaching personnel, economic and financial activities, relationships between the university and families, and relationships between the institution and the community; - developing guidelines to direct the manager's thinking as they elaborate on decision-making about educational activities and processes: learning, teaching, evaluation, and research; - dimensioning and structuring of the technical, material, human, financial, informational, and knowledge resources required (Petrescu, 1998).
Organizing	This function assumes: - establishing all the actions that draw in and commit people, technological, and financial resources in order to support the mission and primary planned objectives;

	- constructing the ideal organizational structure for carrying out particular administrative and instructional tasks; determining the position and function of university staff on two levels: ▪ procedural refers to the highlighting, ordering, and training of intellectual and physical work processes. Examples of these activities include setting specific goals for the fields of didactic activities (teaching, learning, practical applications, and evaluation), scientific research, training, continuous improvement, cooperation for the exchange of scientific and social activities, and ensuring the quality of life for students (Petrescu, 1998); ▪ structurally, the formal organization within a university is the organizational structure that supports the procedural organization of a university, reporting from its mission and general objectives. The position, the function, the compartment, the hierarchical level, and the organizational structure are its constituent parts (Nicolaescu O., 2007); It is regulated and legislated by referring to: the organization of the educational process (depending on the field, profile, and specialization); the university is structured by faculties; they include several departments; the research structure and related activities. (M.E., 2023)
Leading	This function consists of finding an optimal combination between the individual and collective actions that take place within the university. The manager of a university must: - maintain effective communication inside the university at all levels, from the decision-making structure to the level of each individual in a group, in order to inspire and ensure mutual information about the manner in which actions are carried out as well as the university's results; - to spread the university's judgments made at all levels (Petrescu, 1998).
Controlling	This function ensures: - the systematic verification of all activities and economic processes in the university; - measuring the quantitative and qualitative results of specific tasks in order to identify the correspondence between the principles and objectives pursued; - adopting corrective measures and monitoring the effects; - ensuring efficient activities throughout the institution; - control includes checks, evaluations, and examinations of activities related to academic and scientific pursuits, university ethics, social protection, postgraduate education, interuniversity collaboration, and financial, administrative, employee, and student protection (Nicolaescu O., 2007).

(Source: Authors' own contribution).

Results and discussions

Management of the VU

Combining the MVU with the main actions of the MP (planning, organizing, leading and controlling), taking into consideration all their aspects, and superimposing these foundations, it resulted in a conceptual management model regarding virtual universities (MMUV).

An interpretation of what the management of a virtual university can mean is schematically depicted in Figure 2.

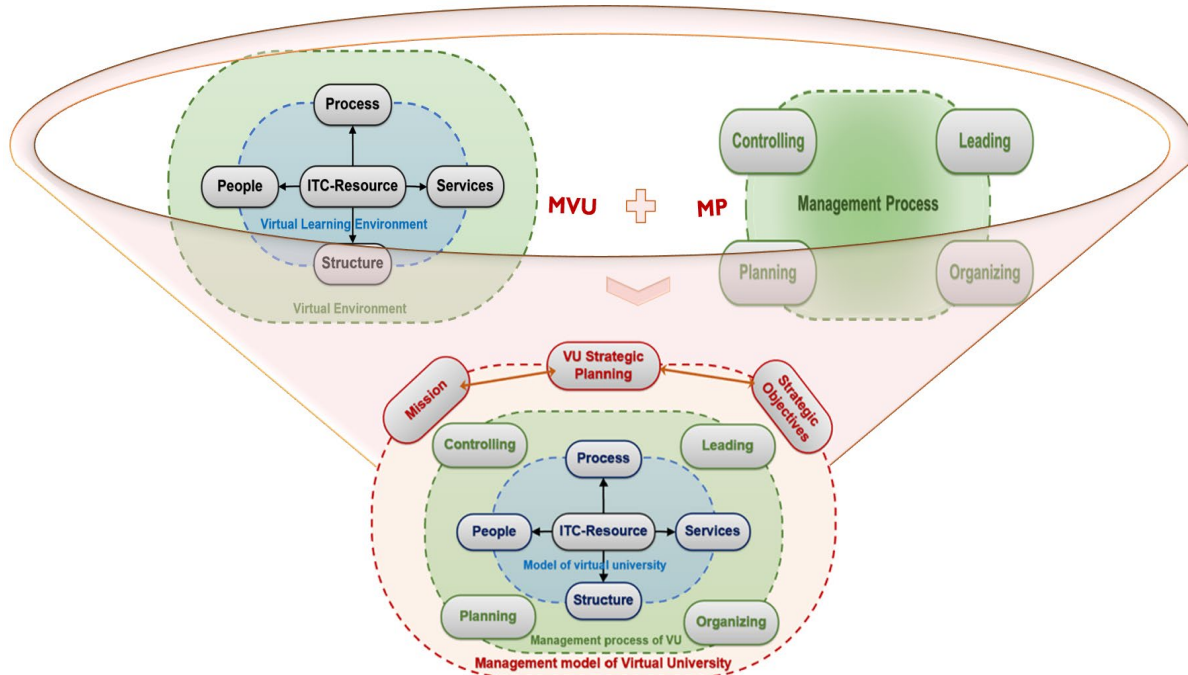


Figure 2. Conceptual management model regarding virtual university

Source: Authors' own construction.

Therefore, in order to manage a VU-type, one must adhere to the same procedures, policies, or functions as in the case of an organization or traditional university, without omitting the observance of a strategic plan that directs its own staff (academic and administrative) and the students.

Strategic planning for VU supports:

- the need to define VU's mission and vision and construct its virtual identity; the need to create an image model, a web portal, and applications to facilitate communication, interaction, and collaboration.
- the need to develop short- and long-term strategic objectives, which will include quality assurance of VU processes and activities related to teaching, learning, evaluation, and communication.
- the need to design and develop electronic (online) courses and programs that take into account information technology, course types, assessment systems, resources, and costs; the method of conducting the activity: synchronous or asynchronous.
- the need for a strategy regarding support services for learners and employees, specifically academic and administrative staff.

The VU's strategic planning serves as a foundation for operational plans at the university level, plans at the level of academic and administrative departments, and plans at the level of faculties, identifying the roles that the virtual education process can play in its overall development.

The same four management functions that govern an organization, or a traditional university, also govern a VU. This calls for adhering to the same decision-making process while

taking into account the special qualities and main objective of this kind of university that offers virtual education: fully online (distance) programs and blended courses.

Table 3 summarizes how to manage a VU effectively, considering the five dimensions of the MVU and their component elements, based on unanimous decisions from a focus group of five experts (presented in the Methodology section)

Table 3. Interpretation of the decision-making process related to the VU conceptual model:

The functions of the managerial process regarding MVU			
Planning	Organizing	Leading/ Directing	Controlling
It refers to establishing goals and anticipated achievements, as well as basic policies and objectives. Specifically, describing preparatory activities with direct participation in virtual education and administrative duties for each unique MVU component as:	It includes gathering operations related to the structural and procedural organization of the VU's components with the participation of resources (human, financial, and informational) in order to meet the VU's goals and mission with relation to:	It involves giving assignments, assisting VU employees to carry out assignments, interpreting organizational policies, and informing workers of how well they are performing. The management staff of VU utilizes different sources of influence to motivate others to take action in various areas, regarding:	It includes all actions taken to ensure that virtual education operations are carried out in a way that is consistent with planned operations, including conducting performance reviews and taking appropriate measures to reduce inefficiencies. In VU, control functions include: quality control; administrative control; institutional rewards, inspections and assessments, related to:
VU's Processes, which involve:			
- teaching, learning, and research; - evaluation and assessment; - interaction, cooperation, and communication; - design and development of electronic (online) courses; - support systems (delivery systems, records keeping, electronic backup, and quality procedures for electronic courses and programs).			
People, which refers to:			
- academic and administration board; - didactic and research staff; - the administrative staff (technical and supportive staff).			
ITC resources, which involve:			
- information technology (IT) infrastructure that includes the components, tools, and services that store and facilitate communication between human resources. It also includes the technical aspects of course delivery, including the interface students use to access their course materials and interact with faculty and other students (student and university staff); - information exchange over the internet; - electronic banking facility: Online Payment System; - software programs (electronic applications which provide support in educational and administrative activities) and operating systems; - e-learning platforms.			

Structure, which aims at:
- establishing roles and responsibilities of all management teams, academic (didactic and research) staff, administrative support teams; - the relationships within the VU structure, established by and depending directly on the technological resources; they refer to the relationships that are established not only between professors but also between them and students, as well as with administrative staff, and these can be called internal virtual relationships and external virtual relationships; - ensuring the functioning of the VU.
Services and products, which refer to:
- Students' services: administrative services, academic services, and support services; - Staff services: support services, technical support services; - Products: online didactic materials and online education programs, which need to ensure certain content (by course design and delivery) and fit a pedagogical model (by curriculum design).

Source: Authors' own contribution.

The Process component, alongside educational aspects, involves collaboration with partners from various academic backgrounds, industries, and societies. It also aims to foster national partnerships between relevant departments in HEIs, establish internal decision-making structures, and facilitate partnerships between universities to coordinate diverse projects effectively.

The organizational and relationship Structure not only establishes roles and responsibilities within the academic community team operating in virtual environments but also focuses on developing information and educational interactions among students, faculty, technical staff, and support personnel, all contributing to their cognitive development.

The People component encompasses the individuals engaged in fulfilling the mission of the VU, including researchers, tutors, counselors, and members from other universities such as students, researchers, or teaching staff.

The most important services specific to VUs are as follows:

- **Student Services:** These ensure continuous access to the virtual classroom, teaching materials, online assessments, tutoring, discussion forums, counseling, career development services, a virtual bookstore, and online conferences. Enhancements in this area could involve personalized learning pathways, AI-driven tutoring systems, and interactive virtual labs to enrich the student experience.
- **Supplementary Services:** These encompass online admission procedures, comprehensive presentations of the online educational offerings, ongoing virtual counseling, access to course catalogs and schedules, a virtual library with extensive resources, online facilities management, technical support, fee payment services, campus facility access, and supportive staff assistance. Improvements may involve seamless integration of these services, user-friendly interfaces, and AI-powered chatbots for instant support.
- **Technological Resources:** This category includes tools and platforms for storing, processing, transmitting, converting, duplicating, or receiving electronic information, along with ensuring reliable internet connections and software applications tailored for managing online educational activities. Upgrades here could involve adopting cutting-edge technologies such as blockchain for secure data management, augmented reality for immersive learning experiences, and advanced analytics for personalized feedback and assessment.

By enhancing these services and resources, virtual universities can significantly elevate the quality of education delivery and the overall learning experience for students in the digital age. Since learning occurs in an electronic virtual environment, tasks and activities related to ITC administration heavily influence the decision-making process. This informational resource is essential to the management process at MVU because of the technologies needed to manage and transform information, make information possible to create, manipulate, and store, and promote collaboration, interaction, and communication between academic and administrative staff and students in all virtual administrative and learning spaces.

This research project came about because there wasn't a theoretical or practical tool to help academic leaders decide whether to use virtual education. More specifically, there wasn't a model of a virtual university (MVU) or clear management instructions.

The conceptual model of management for virtual universities is designed with the purpose of testing and validating it in future work through a quantitative research method using a questionnaire to capture undetected data such as participants' opinions and unobservable large population data. The questionnaire will be addressed to a representative sample consisting of members of the academic community (teaching staff, administrative staff, and students) from within five major university centers in Romania: Iasi, Bucharest, Cluj-Napoca, and Timisoara.

The research aims to determine the level of readiness of the academic community in these university centers regarding the adoption of an MVU. The research will focus on measuring the extent to which decisions are made or managerial actions are undertaken regarding the provision of virtual education at the level of a traditional university in accordance with the concise dimensions of the MVU and its sub-dimensions or components that characterize them.

Conclusions

The current paper explores how to effectively manage virtual universities (VUs). The paper demonstrated the crucial role of VUs in expanding education access, particularly in times of crises such as the pandemic. Highlighting and analyzing the decision-making process specific to a VU outlines a new approach to management regarding MVU, which should guide the management team of a traditional university when it is interested in finding out how ready it is to integrate an online approach. This work introduced a theoretical framework, a conceptual Management Model for Virtual Universities (MMVU), to guide VU management in such situations.

MMUV emphasizes strategic planning, organizational structure, leadership, and control. Strategic planning involves setting goals and ensuring quality, while organizational structure fosters collaboration. Leadership motivates and supports staff, and control mechanisms maintain standards.

The approach contributes valuable insights to the evolving landscape of higher education, particularly in the context of virtual and online learning environments, providing a holistic exploration of management processes within VUs.

Today, it should view virtual universities (VUs) as an educational phenomenon of the information and digital age, primarily focusing on the creation and transmission of knowledge for educational purposes. Through the use of new information technology, virtual education expands and improves communication options and has the potential to dramatically increase human capacity for knowledge creation in any field.

References

- Batanero, J.M. (2022, Volume 8, Issue 8, e10139). Online education in higher education: emerging solutions in crisis times. *Heliyon*, p. <https://doi.org/10.1016/j.heliyon.2022.e10139>.
- Beilin, M. S. (2021). Virtual University As a Horizon of Higher Education Modernization. *KnE Social Sciences*, 5(2), 399–408. <https://doi.org/10.18502/kss.v5i2.8382>.
- Cajahuanca-Loli, M. D., Palacios-Sánchez, J. M., Ponce-Yactayo, D. L., Medina-Urbe, J. C., Ura-Coyla, M. U. & Chicana-Becerra, R. A. (2023). Strategic management of virtual education for quality of learning in university students, Covid-19, Peru. *Journal of Survey in Fisheries Sciences*, pp. 10(3S) 2320-2334.
- Comşa, V., Verzea, I. (2022). Management challenges for the romanian HEI's in transitioning towards a model of virtual university. *The 18th Romanian Textiles and Leather Conference, CORTEP'2022, 17-19 Noiembrie 2022, Iasi, Romania,, Open Access, Sciendo, DOI: https://doi.org/10.2478/9788367405133(https://sciendo.com/chapter/9788367405133/10.2478/9788367405133-toc)*.
- Comşa, V., Verzea, I. (2022). Contribution to a new model of virtual university. *The 18th International Scientific Conference eLearning and Software for Education Bucharest*.
- Demiris, G., D. P. (2019). Defining and analyzing the problem. *Building an Evidence Base*(<https://doi.org/10.1016/B978-0-12-814449-7.00003-X>), Pages 27-39.
- Dima, A. M., Busu, M., & Vargas, V. M. (2022). The mediating role of students' ability to adapt to online activities on the relationship between perceived university culture and academic performance. *Oeconomia Copernicana*, 13(4), 1253-1281.
- Wagner, E., H. A. (2011). The process of change in university management: From the "Ivory tower" to entrepreneurialism. *Transylvanian Review of Administrative Sciences* 7(33):124-149.
- El Firdoussi, S. E. (2020). Assessing distance learning in higher education during the COVID-19 pandemic. *Education Research International* (13), pp. 1-13.
- García-Peñalvo, F. J. (2020). Reference model for virtual education at face-to-face universities. *Campus Virtuales* 9 (1), 41-56, (2020), pp. 41-56.
- Georgieva, G., G. T. (2003). A Model of a Virtual University – some problems during its development,. *International Conference on Computer Systems and Technologies - CompSysTech'*.
- Grant, M. J., A. B. (2009). A typology of reviews: An analysis of 14 review types and associated methodologies. *Health Inform. Libraries J.*, 26, pp. 91-108.
- Fernández-Batanero, J.M., M. M.-R.-C. (2022). Online education in higher education: emerging solutions in crisis times. *Heliyon Volume 8, Issue 8, e10139*,(doi: 10.1016/j.heliyon.2022.e10139.).
- Kapur, R. (2022). Implementing Managerial Functions: Fundamental in Leading to overall Functioning of the Organizations in an Efficient Manner. *ResearchGate Business Administration Organizations*(https://www.researchgate.net/publication/359045569_Implementing_Managerial_Functions_Fundamental_in_Leading_to_overall_Functioning_of_the_Organizations_in_an_Efficient_Manner, (Accesed: 22 May 2023)).
- Lazzeretti, L., T. E. (2006). Governance Shifts in Higher Education: a crossnational comparison. *European Educational Research Journal. Vol. 5, No.1, pp. 18–37*.
- M.E. (2023). *LEGE Nr. 199- Legea învățământului superior*. MONITORUL OFICIAL AL ROMÂNIEI, PARTEA I, Nr. 614/5.VII.2023.

- Maslennikova, E.G., G. E. (2021). Virtual Universities in the Educational Space: The Relationship between Development Strategies and Models. *Webology, Special Issue on Current Trends in Management and Information Technology, Volume 18, Campus Virtuales 9 (1)*, 41-56.
- Mishra, D. R. (2020). *Management Principles And Application, B.COM (H) – Core 7- Semester III (Online)* (Available from: https://ddceutkal.ac.in/Downloads/UG_SLM/Commerce/Core_7.pdf (Accessed: 10 April 2023) ed.). UTKAL UNIVERSITY Directorate of Distance & Continuing Education Bhubaneswar.
- Nicolaescu, O., (2007). *Strategia universității – Metodologie și studii de caz*. București: Editura Economică, ”, ISBN 978-973-709-356-1,.
- Petrescu, I. (1998). *Tratat de management universitar*. Brașov: Editura Lux Libris.
- Prasad, K. N. (2021). *Management principles & application notes/ Unit1/Introduction to management/Evolution of management*. <https://www.dynamictutorialsandservices.org/2021/04/management-principles-application-notes-unit1.html>, Accessed: 23 April 2023: CBCB Pattern.
- Richards, G. (2015). *A Guide to Virtual Universities for Policy-Makers*. http://oasis.col.org/bitstream/handle/11599/1723/2015_Richards_Virtual-Universities-Policy-Makers.pdf, Accessed: 2024-02-10: ISBN 978-1-894975-742.
- Safieddine, F., R. I. (2017). E-universities: reflective analysis into technological trends. Budapest, Hungary: 15th IADIS International Conference e-Society.
- Sejzi, A.A., B. A. (2009). An investigation of virtual universities in developed and developing countries: importance and necessity. *The proceeding of Educational postgraduate research seminar (Edupres), Universiti Teknologi Malaysia, 1*, pp. 84-93.
- Sejzi, A.A., B. A. (2012). The Phenomenon of Virtual University in New Age: Trends and Changes. *Procedia - Social and Behavioral Sciences* 56 (DOI:10.1016/j.sbspro.2012.09.689).
- Terry, G. R. (1972). *Principles of Management*. R.D. Irwin.
- Verzea, I., G. L. (2005). *Management general* (ISBN 973-730-064-5 ed.). Iași: Editura ”Performantica”.
- Zina, A. A. (2022). Perception of E-learning during the health crisis of COVID-19:case of algerian university teachers. *J. Inf. Technol. Manag.* 13 (2), 154–172.*J.M*, 10.22059/JITM.2021.80360.