

Building Artificial University Model Based on National Ranking Parameters

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Abstract—The increasingly digital pattern of society makes the conditions for changes in governance and implementation significant to be implemented immediately. So that patterns or models of evolution can provide benefits to access to education that is not limited by distance or time. In this study the object universities are Universitas Maarif Hasyim Latif (UMAHA), UMAHA is a private university that is developing under the auspices of the Maarif Education and Social Foundation located in Sidoarjo, Indonesia. The model-making approach used is with the college ranking parameters issued by the Ministry of Research and Higher Education, including Human Resources, Institutions, Student Affairs, Research, and Community Service and Innovation, then the model is made by Artificial or Virtual. From here it is necessary to build an artificial university to progress and facilitate access to education for all humans. The definition of an artificial university is that any systematic effort to change the model of physical activity becomes a truly digital or virtual event that allows users (stakeholders) to interact and transact electronically. In this study the discussion is to build a different artificial or digital-based college with a viewpoint, with the viewpoint of a university ranking instrument determined by the ministry so that it is more in line with the conditions of higher education in Indonesia. Thus, it is clear that Artificial University will be superior when compared to conventional ones. It can be felt that the library can be accessed at night directly from home, assignments are collected through e-mail, campus announcements are accessed without having to go to campus, and so on. Information Technology (IT) which is the backbone of artificial University.

Keywords—*Artificial University; digital University; cyber campus*

I. INTRODUCTION

So far the world of education has been in contact with something digital, but the utilization is only limited to administrative services. The view of the rolling digital campus with the hope that the campus cyber system is not only limited to administrative services, but also extends to the ease of access to learning materials, educational evaluation, access to academic data, lecture schedules, evaluations and learning outcomes that can be accessed at any time. The three main pillars of the digital campus concept are computer, communication (intranet/internet) and content [1–3].

Governance of Higher Education must be able to adjust to the rapid development of time. The flow of data is running so fast that universities that are educational institutions are expected to be a pioneer in the absorption of changes in data flows very well. Private Universities are community-owned higher education institutions that hold higher education based on the academic mandate given by the government and delegate authority to manage resources from the Foundation. To implement quality education and management that account tables, it is necessary to have good and correct governance of private universities [4]. In the current era of competition building higher education governance is very important, both regarding transparency, fairness, accountability, and responsibility. Don't manage an institution, governance problems are abandoned and avoided [5,6]. Building good governance must be done, because, with good governance, higher education can provide an excellent example to the public [6].

Good governance is the dream of all tertiary institutions, especially private universities, which are managed independently and have little government intervention. The form of good governance can be seen from the results of the ranking of universities which are released every year by the Ministry of Research and Technology. In determining the ranking of several parameters used as a basis for evaluating governance, among others: human resources, institutions, student affairs, research and community service and innovation [7]. Each parameter is calculated based on the reporting of each college each year.

Physical activities that require enormous resources to run governance and operational processes. This form of management is a challenge to make fundamental changes, by eliminating all physical activities into virtual or cyber operations. The development of digital technology has disrupted various human activities, not only as a driving force for the economy but also including the fields of science and technology and higher education [8]. Five crucial elements that must be considered and will be carried out by the Ministry of Research, Technology and Higher Education through universities to encourage economic growth and national competitiveness in the Industrial Revolution 4.0 era. Namely: (1) Preparation of more innovative learning systems in universities such as adjusting learning curricula and improving

the ability of students in terms of Information Technology (IT), Operational Technology (OT), Internet of Things (IoT), and Big Data Analytics, integrates physical, digital and human objects to produce competitive and skilled college graduates, especially in the aspect of data literacy, technological literacy and human literacy [9,10]. (2) Reconstruction of institutional policies for higher education that are adaptive and responsive to the 4.0 industrial revolution in developing the required transdisciplinary and study programs. Also, Cyber University programs are being pursued, such as distance learning lecture systems, thereby reducing the intensity of lecturer and student meetings. Cyber University is expected to be a solution for nation children in remote areas to reach quality higher education [11-13]. (3) Preparation of human resources, especially lecturers and researchers and engineers who are responsive, adaptive and reliable to deal with the industrial revolution 4.0. Also, the rejuvenation of infrastructure and construction of educational, research and innovation infrastructure also needs to be carried out to support the quality of education, research, and innovation. (4) Breakthroughs in research and development that help the Industrial Revolution 4.0 and the ecosystem of research and development to improve the quality and quantity of research and development in Universities, R & D Institutions, Non-Ministry Research Institutions, Industry, and Society. (5) Breakthrough innovation and strengthening of innovation systems to improve industrial productivity and enhance technology-based startup companies [14]. The increasingly digital pattern of society makes the conditions for changes in governance and implementation significant to be implemented immediately. So that patterns or models of evolution can provide benefits to access to education that is not limited by distance or time.

II. RESEARCH METHODS

Building an artificial university model is done by describing the objects of private universities with independent operational management. In this study the object Universitas Maarif Hasyim Latif (UMAHA), UMAHA is a private university that is developing under the auspices of the Maarif Education and Social Foundation located in Sidoarjo, Indonesia. The model-making approach used is with the college ranking parameters issued by the Ministry of Research, Technology and Higher Education, including Human Resources, Institutions, Student Affairs, Research, and Community Service and Innovation [7,9]. Then the model is made by Artificial or Virtual.

III. RESULTS AND DISCUSSION

In the context of a digital campus, these resources are manifested in the form of information systems (IS). Such as IS academic, human resources, IS assets, IS educational administration, IS finance, student affairs, IS library, IS planning for IS alumni, and other IS that need to be developed for the benefit of all parties. All IS is integrated into the form of a digital campus database. In addition to system integration, the campus must also be equipped with facilities and infrastructure related to ICT and all its infrastructure connected to the internet with adequate bandwidth. System integration in University management can be grouped into two parts, namely

the academic and administrative fields as supporting the implementation of education. With system integration supported by ICT and all its infrastructure, resources in PT management can be realized in digital form so that it can be accessed and transacted online anywhere for 24 hours [15].

Universitas Maarif Hasyim Latif determine the components with consideration of resource capabilities that are easily coordinated and synergize in data. These components can be explained as follows: Education Management Information System (LANGITAN). UMAHA has used a cloud-based information system, the system has been comprehensive and has a network of universities under the auspices of the Nahdlatul Ulama. E-Learning. UMAHA has used e-learning learning methods in several subjects while getting online grants from the ministry. E-Library. UMAHA has made a library concept that is not physical and has a list of thousands of electronic books that can be accessed for free. E-Book. The obligation to publish scientific works in the form of books for all lecturers in the form of e-books so that they can be connected with e-library. Big Data UMAHA. All good human resources and other resources are designed to be stored in the database as a form of big data models so that there are no more stored data. Journal Management. Through coordination of the publication and digital archiving department UMAHA has managed approximately 20 journals as a forum for the publication of scientific works in the form of articles for lecturers and students. International Affairs. UMAHA has collaborated with more than 100 domestic universities and 70 foreign universities, so that digital access from abroad can be more easily accepted. Testing Center. Has facilities to conduct and manage evaluation processes with CAT (Computer Assisted Test) media. Training Center and English Laboratory. Manage the practice of English in the smartphone of every student and lecturer. Business Services. Having a stock exchange that is integrated with the learning model. Artificial laboratory science, technology and health. Professional Training, Continuing Education, Digital Literacy Services, E-QnA, E-Financial Management, E-Tracer Study and Alumni.

In the Universitas Maarif Hasyim Latif model object, the main components of management synchronized with the college ranking parameters can be shown in figure 1.



Fig. 1. Model of artificial university.

The opinion expressed by Mahmud on the study of creating a digital school or campus explained that the need to build a digital campus was very important with several considerations including the development of technology in an increasingly modern era [15]. The condition of technological developments and application of developments in the modern era has also been carried out in Universitas Maarif Hasyim Latif with the use of Wi-Fi as a means of data transfer so as to facilitate the process of implementing campus digitalization [16].

Facilitating learning communities at a distance requires a new approach to the practice of managing the teaching and learning process. Effective faculty start with a completely new mindset about where technology fits into the equation. Rather than struggling to make up for qualities distance programs are perceived to lack when compared to traditional classrooms, faculty members who are most successful with distance technologies see them as actually providing some qualitative advantages. In addition to managing the delivery of the content to their courses, faculty teaching at a distance must learn to manage a new set of variables, which determine the extent to which their courses are effective, including: metaphor, meaning, culture, roles, time, awareness, and collaboration. Learning and practicing the skills to manage these dimensions is the key challenge for faculty development [13,17–19].

The Academic Information System is specifically designed to meet the needs of Universities who want computerized education services to improve performance, service quality, competitiveness and the quality of the Human Resources they produce. The resulting e-academic system architecture design is limited to only web-based academic information systems that are applied online that are connected to the internet that can be accessed at any time without being limited by space and time, so that it can assist in obtaining academic information [20]. While the design of digital campuses in the form of Universitas Maarif Hasyim Latif has applied the expected rules in the ranking institution of higher education by the relevant ministries.

IV. CONCLUSION

The development of information technology (IT) and communication or ICT (information communication technology) era today has a significant role in the lives of humans and organizations, including educational institutions, such as schools from the elementary to tertiary level. ICT in educational institutions, especially tertiary institutions is no longer an option but has become an absolute necessity that must be owned and used to improve the quality of the process of governance and governance. From here it is necessary to build an artificial university to progress and facilitate access to education for all humans. The definition of an artificial university is that any systematic effort to change the model of physical activity becomes a truly digital or virtual event that allows users (stakeholders) to interact and transact electronically. Thus, it is clear that Artificial University will be superior when compared to conventional ones. It can be felt that the library can be accessed at night directly from home, assignments are collected through e-mail, campus

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REFERENCES

- [1] W. Dewabroto, "Strategi Pembelajaran Era Digital Usulan Skenario Dalam Menyambut Transformasi UPH sebagai Kampus Digital", *J. Pendidik. dan Kebud.*, vol. 11, 2005.
- [2] J. S. Kuswardani, "Arsitektur Sistem Informasi Untuk Institusi Perguruan Tinggi di Indonesia, in *Prosiding Konferensi Nasional Teknologi Informasi & Komunikasi untuk Indonesia*", 2006.
- [3] D. Kurniadi, "Perancangan Arsitektur Sistem E-academic dengan Konsep Kampus Digital Menggunakan Unified Software Development Process (USDP) (Studi Kasus: AMIK Garut)", *Wawasan Ilm.*, vol. 5, pp. 1–16, 2014.
- [4] R.S. Sadjad, "Good University Governance, 2004.
- [5] J.J.F. Forest, "Teaching and Learning in Higher Education," in *International Handbook Of Higher Education*, Springer, 2007, pp. 347–375.
- [6] M. Nasir, "Tata Kelola Sangat Penting Bagi Perguruan Tinggi, Jangan Dihindari," *Laman Direktorat Kelembagaan IPTEK & DIKTI*, 22-Mar-2017. [Online]. Retrieved from: <http://kelembagaan.ristekdikti.go.id/index.php/2017/03/22/tata-kelola-sangat-penting-bagi-perguruan-tinggi-jangan-dihindari/>. [Accessed: 30-Oct-2018].
- [7] *Kementrian Riset Teknologi dan Pendidikan Tinggi, Hasil Klusterisasi Perguruan Tinggi Non Vokasi 2018*, Jakarta, 2018.
- [8] W. Hidayat and M. Nasir, "5 Kebijakan Pendidikan Tinggi untuk Hadapi Era Digital," <http://www.digination.id>, 2018. [Online]. Available: <http://www.digination.id/read/01785/5-kebijakan-pendidikan-tinggi-untuk-hadapi-era-digital>. [Accessed: 30-Oct-2018].
- [9] Hazemi, Reza, Stephen Hailes, and Steve Wilbur, eds, "The Digital University: Reinventing the Academy", Springer Science & Business Media, 2012.
- [10] A. H. Poole, "Now is the Future Now? The Urgency of Digital Curation in the Digital Humanities," *DHQ Digit. Humanit. Q.*, vol. 7, no. 2, 2013.
- [11] A. Margaryan, A. Littlejohn, and G. Vojt, "Are Digital Natives A Myth Or Reality? University Students' Use Of Digital Technologies," *Comput. Educ.*, vol. 56, no. 2, pp. 429–440, 2011.
- [12] N. Selwyn, "Digital Technology and The Contemporary University: Degrees of Digitization," Routledge, 2014.
- [13] L. Kimball, "Managing Distance Learning: New Challenges for Faculty," in *The Digital University—Building a Learning Community*, Springer, 2002, pp. 27–40.
- [14] K. Mossberger, C.J. Tolbert, and R.S. McNeal, "Digital Citizenship: The Internet, Society, and Participation," MIT Press, 2007.
- [15] M.E. Mahmud, "Mewujudkan Sekolah atau Kampus Digital," vol. 5, 2011.
- [16] R. Rahim et. al., "Prototype File Transfer Protocol Application for LAN and Wi-Fi Communication," *Int. J. Eng. Technol.*, vol. 7, no. 2.13, pp. 345–347, 2018.
- [17] A. Elser, "The Web Learning Fieldbook: Using the World Wide Web to Build Workplace Learning Environments," *Tech. Commun.*, vol. 48, no. 4, p. 495, 2001.
- [18] P. Senge, "The Fifth Discipline: The Art and Practice of the Learning Organization," New York: Doubleday, 1990.
- [19] T. Bates, "Technology, Open Learn," *Distance Educ.* Routledge London, 1995.
- [20] D. Kurniadi, "Perancangan Arsitektur Sistem E-academic dengan Konsep Kampus Digital Menggunakan Unified Software Development Process (USDP)," *J. Wawasan Ilm.*, vol. 5, no. 10, 2014.