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CYBER ISLAMIC UNIVERSITY: Development of Digital Technology for Learning and Creative Economy at IAIN Syekh Nurjati Cirebon

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Abstract

This article will explore the concept and application of the Cyber Islamic University (CIU), which is a priority program for institutional transformation in distance learning starting in 2021 as part of the transformation of institutes into universities and changes in financial governance from work unit-based financial management to service agency financial management (BLU) at IAIN Syekh Nurjati Cirebon. It is crucial to study the application of CIU as a new model of Higher Education of Islamic Religious (PTKI) which organizes distance education for students, academic development through the use of metaverse technology, and the development of digital entrepreneurship that presents a creative economy for the sustainability of educational services. This study uses a qualitative method by choosing a grounded theory approach to build the main concept of CIU and its application in universities. Data were obtained from unstructured interviews from various statements of informants who were actively involved in CIU's transformation and published on the media or website, then the data were analyzed by coding, concept formation, categorization, and theory formation stages. This research found that the institutional transformation of IAIN Syekh Nurjati Cirebon into Cyber Islamic University is a new model of higher education that organizes distance education for students to increase access to education that is inclusive for everyone. CIU for academic development through the use of metaverse technology to improve the quality of educational services that unite virtual worlds and reality that can be implemented for good values by presenting accessibility, diversity, equality, and humanity. Institutional transformation of the Public Service Agency's financial management can develop digital academic entrepreneurship with a creative economy platform that can increase income, create jobs, and simultaneously promote social inclusion, cultural diversity, and human development to strengthen educational services.

Keywords: *Cyber Islamic University, metaverse technology, distance learning, entrepreneurship, creative economy, business units*

Abstrak

Artikel ini akan mengupas konsep dan penerapan Cyber Islamic University (CIU) yang merupakan program prioritas transformasi kelembagaan dengan pembelajaran jarak jauh mulai tahun 2021 sebagai bagian dari transformasi institut menjadi universitas dan perubahan tata kelola keuangan dari pengelolaan keuangan berbasis Satuan Kerja menjadi pengelolaan keuangan Badan Layanan Umum (BLU) di IAIN Syekh Nurjati Cirebon. Penting untuk mengkaji penerapan CIU sebagai model baru Perguruan Tinggi Keagamaan Islam yang menyelenggarakan pendidikan jarak jauh bagi mahasiswa, pengembangan akademik melalui pemanfaatan teknologi metaverse, dan pengembangan kewirausahaan digital yang menghadirkan ekonomi kreatif untuk keberlangsungan pendidikan. Penelitian ini menggunakan metode kualitatif dengan memilih pendekatan grounded theory untuk membangun konsep utama CIU dan penerapannya di perguruan tinggi. Data diperoleh dari wawancara tidak terstruktur dari berbagai pernyataan informan yang terlibat aktif dalam transformasi CIU dan dipublikasikan di media atau website, kemudian data dianalisis dengan tahapan coding, pembentukan konsep, kategorisasi, dan pembentukan teori. Penelitian ini menemukan bahwa transformasi kelembagaan IAIN Syekh Nurjati Cirebon menjadi Cyber Islamic University merupakan perguruan tinggi model baru yang menyelenggarakan pendidikan jarak jauh bagi mahasiswa untuk meningkatkan akses pendidikan yang inklusif bagi semua orang. CIU untuk pengembangan akademik melalui pemanfaatan teknologi metaverse untuk meningkatkan kualitas layanan pendidikan yang menyatukan dunia maya dan realitas yang dapat diimplementasikan untuk nilai kebaikan dengan menghadirkan aksesibilitas, keragaman, kesetaraan, dan kemanusiaan. Transformasi kelembagaan pengelolaan keuangan Badan Layanan Umum dapat mengembangkan kewirausahaan akademik digital dengan platform ekonomi kreatif yang dapat meningkatkan pendapatan, menciptakan lapangan kerja, dan sekaligus mendorong inklusi sosial, keragaman budaya, dan pengembangan manusia untuk memperkuat layanan pendidikan.

Kata kunci*: Cyber Islamic University, teknologi metaverse, pembelajaran jarak jauh, kewirausahaan, ekonomi kreatif, unit usaha*

INTRODUCTION

IAIN Syekh Nurjati Cirebon is currently in the process of institutional transformation into Cyber Islamic University (CIU) and changing status from Non-Tax State Revenue Work Unit (Satker) to Public Service Agency Financial Management (PK BLU), here to answer the challenge in preparing human resources and service quality improvement in the industrial era 4.0 and society 5.0 era. CIU is the flagship program for accelerating the undergraduate program of Islamic Religious Education for teachers who do not have the opportunity to attend higher education, while they have status as educators in Islamic educational institutions such as Islamic boarding schools and madrasas throughout Indonesia.

CIU's institutional transformation is in accordance with the Decree of the Director General of Islamic Education Number 1175 of 2021 concerning the Appointment of IAIN Syekh Nurjati Cirebon as a Pilot Project for Cyber-Based Islamic Higher Education (Digital University). In 2022, IAIN Syekh Nurjati Cirebon will transform into the Syekh Nurjati Indonesia Cyber Islamic University (UISSI). Meanwhile, the Public Service Agency Financial Management (PK BLU)) is a top priority in budget management to foster campus independence in line with improving

the service quality. Changes in BLU's financial management according to the Decree of the Ministry of Finance of the Republic of Indonesia Number 252/KMK. 05. 2022 concerning the Stipulation of IAIN Syekh Nurjati Cirebon and IAIN Salatiga at the Ministry of Religion as Government Agencies Implementing the Financial Management Pattern for Public Service Bodies.

IAIN Syekh Nurjati Cirebon has the strength as a tertiary institution entrusted by the Ministry of Religion of the Republic of Indonesia to transform into a CIU in fully online learning by presenting the Study Program of Distance Education (PJJ, Pendidikan Jarak Jauh) of Islamic Religious Education with a fully online learning model starting from the registration process to graduate student. It is hoped that this flagship program will position IAIN Syekh Nurjati Cirebon as the first Higher Education of Islamic Religious (PTKI) in Indonesia to be fully held online. Higher education institutions that have a platform as Cyber Islamic University have organized lectures for students who take a four-year bachelor's degree with full educational scholarships and have developed rapidly in 2021 and 2022.

The main goal of this program is to complete undergraduate education for teachers in positions who have not yet completed undergraduate education. The rest can go to the community component more broadly. The potential students for the PJJ PAI Study Program come from teachers who have not yet completed their bachelor's degree, consisting of 4,478 Madrasah PAI Teachers who have not graduated, 10,042 MI Class Teachers, 12,545 RA/PIAUD Class Teachers, 24,657 PAI Teachers in Schools. people (Directorate General of Islamic Education, 2022).

In cyber university planning, special attention is needed to market needs to make decisions about support for academic programs and which programs will lose resources (Lee & Im, 2006), including an analysis of the success of cyber universities related to the academic satisfaction index in the form of success. individuality in students (Bae & Woo, 2019) and the alignment of the university with the workplace, and the need for students to lead their own studies in achieving academic success (Lee & Jeon, 2020). To fulfill these goals, cyber universities should consider designing mobile interfaces for the convenience of students in academic activities (Joo et al., 2014), having an academic library that can globally meet the needs of academic education and continuous learning (Kunneke, 2004), and even having learning flow for students for self-efficacy (self-efficacy) at university (Kim, 2020).

Meanwhile, cyber university governance should have scaling of cyber services for management offered to universities to reduce significant public costs on administrative staff, increase the efficiency of scientific and educational processes through the complete elimination of corruption, university integration, cyber stimulation for scientists and professors with creating products that suit the needs of the market (Hahanov & Chumachenko, 2015). Cyber universities must develop a "Smart Cyber University" (CyUni) platform that fulfills the following characteristics: there are regulations governing the use of digital space, monitoring of scientific processes and cyber education that is accurate and active, making automatic actions on actuators operationally, solving independent cybernetics to manage finances and human resources, and eliminate the use of paper from the production process (Hahanov & Chumachenko, 2015).

In the transformation of financial governance, IAIN Syekh Nurjati Cirebon has the authority to implement the Public Service Agency Financial Management (PK BLU) pattern. This financial governance enables universities to manage finances flexibly by

utilizing various assets, as well as building business units that can generate income. For the development of the academic field to be accelerated in improving the quality of service for students, lecturers, and education staff, the implementation of the quality of academic programs is in accordance with existing needs. So, PK BLU aims to improve academic services by fulfilling operational needs to produce graduates who are increasingly qualified and competitive in the global industry (Whynsr ed., 2022).

Public Service Agency financial management (PK BLU) has flexibility with the authority to manage cash, investment, goods management, surplus and deficit, and remuneration. Mechanisms for the procurement of goods and services have also become looser by delegating the arrangements to BLU leaders. Some of this flexibility is intended so that service delivery at BLU can be as agile as similar services carried out by business entities in general and provide excellent service without being constrained by obstacles that usually occur in government work units in general. BLU can develop an entrepreneurial spirit for lecturers, education staff, and students to bring economic independence to tertiary institutions.

The entrepreneurial dimension for realizing economic independence in tertiary institutions can begin with the role of universities in supporting local economic development through their contribution to local industrial innovation processes that are undergoing a process of adaptation to market and technological changes in developing products, services, and production processes (Lester & Sotarauta, 2007). Several models have been developed to build university, industry, and government relations such as the triple helix innovation model, the quadruple helix innovation system relationship that presents a public perspective based on media, culture, and civil society, and the relationship between the natural environment of society for the production of knowledge and innovation through the quintuple helix model (Carayannis & Campbell, 2011). University research can serve as a locus in the "laboratory" of knowledge-intensive network transitions (Etzkowitz & Leydesdorff, 2000).

The creative economy also characterizes the international higher education sector through special education, research, and entrepreneurship. University programs such as the creative economy academic model can be created to foster a creative economy that is developed from the concept of spillover of higher education related to innovation and growth applied to arts, culture, and creativity (Lazzaro, 2021). Cyber ecosystems can provide services for humans without causing environmental damage (Hahanov et al., 2016). Cyber university ecosystems can develop campus entrepreneurship by placing information and communication technology clusters to reinvent regional or local economies through digital entrepreneurship (Denney et al., 2021) and entrepreneurial ecosystems in building digital entrepreneurship on campus (Wurth et al., 2022), so that the existence of digital technology causes rapid transformation in business or society (Van Veldhoven & Vanthienen, 2022). In other words, virtual world entrepreneurship education can have a positive moderating effect on the relationship between attitudes and intentions in building an entrepreneurial spirit on campus (Tseng et al., 2022)

This article will explore the concept and application of cyber education which is a flagship program based on digital technology through distance learning starting in 2021 as part of the institutional transformation from institute to university and changes in financial governance from work unit (Satker)-based financial management to PK BLU at IAIN Syekh Nurjati Cirebon. The next section will describe: first, CIU as a new model of Higher Education of Islamic Religious which organizes distance education for

students; second, CIU for academic development through the use of metaverse technology for digital higher education services; and third, CIU for the development of digital entrepreneurship that presents a creative economy for the sustainability of academic services at IAIN Syekh Nurjati Cirebon.

LITERATURE REVIEW

The research topics on Cyber Islamic Universities, digital technology, e-learning, and the creative economy will be explored as an important part of building a theoretical framework for the institutional transformation of Islamic religious tertiary institutions from institutes to universities with excellent cyber-based programs and financial management from Satker to BLU. The meeting point of the research topic under study lies in the cyber campus model with the main characteristics of distance learning and academic digital entrepreneurship by developing a creative economy.

The study of distance learning has received much attention from writers, especially distance learning during the COVID-19 pandemic (Mishra et al., 2021; Tibingana-Ahimbisibwe et al., 2022). Likewise the development of various online-based features, including the use of features through a concentration lens in the distribution of student enrollment between institutions (Carvalhaes et al., 2022), the development of features for remote conferencing tools in higher education (Fujs et al., 2022), and learning patterns analytics (LA) for the learning design (LD) methodology that focuses on the implementation of LD in the context of online distance learning in virtual learning environments (Holmes et al., 2019).

Distance education shows that there are advantages and problems so it requires effort, flexibility, and self-regulated student satisfaction for distance education in the future (Turan et al., 2022). Distance education should offer a strategy to overcome disruptions to online education (Krishnaswami et al., 2022; Stuart & Lowenthal, 2022) and have an effect on social literacy skills or other skills (Tarchi et al., 2022; Alsubaie, 2022). Online meetings, virtual conferences, and communication of professional knowledge have an important role in online distance education for educational continuity (Chang et al., 2022). Even K-12 distance education in Saudi Arabia is culturally and ethnographically developed (Aladsani et al., 2022). Other forms of development can also be in the form of course themes such as science material developed with augmented reality-based applications (Çetin & Türkan, 2022).

The presence of a cyber campus has an important role in enriching the structure and culture of the university to ensure quality assurance of teaching, research, and administrative management using actual innovative technologies. Digital campuses at cyber universities can change the perspective of the social and physical environment by providing access anytime and anywhere to university facilities, study, research, and industry engagement properly (Moşteanu, 2021). The direction of establishing digital competency systems, innovative technologies, and forms of intelligent education integration, and the application of competencies through the use of quality technology that is oriented towards student practice in the context of global economic digitalization (Sheremetyevo et al., 2020).

In the development of cyber campuses, promotion of digitization in the creative economy through collaborative governance between universities, public and private sectors in the quadruple helix model to consolidate synergies and accelerate the process of value chain coordination, talent attraction, experimentation, and innovation (Unceta et al., 2021). Another development is in the form of a CyUni cloud service system with

IoT technology for active monitoring and management of digital scientific and educational processes (Abdullayev et al., 2015). In developing a digital campus that develops a creative economy, synergy is needed between higher education, creative industries, and regional creative economic growth, because the campus has a role as a 'third space' for the transfer of creative and cultural knowledge into the economy (Comunian et al., 2015).

The creative economy is one of the fastest-growing sectors in the global economy, providing revenue growth, new jobs, and export earnings. Cyber campuses can condition this aspect of creativity that promotes inclusive social progress and empowers people to take responsibility for their own economic, social, and personal development and encourage innovation, which makes a significant contribution to sustainable growth. In the end, the cyber campus will have economic independence with the growth of an entrepreneurial spirit in lecturers and students who are involved in the development of a creative economy that can increase income and excellent service.

In the creative economy, the role of digital technology skills is related to creative skills within and outside the creative industries. (Communian et al. 2017). The digital economy has a diverse and unpredictable impact on society (Eisenmann 2016) because digitalization can flow which has an impact on economic well-being (Pangestu & Dewi, 2017). Universities can develop a creative digital economy and emphasize the important cross between artistic skills and STEM skills (Popkova & Gulzat, 2019).

Conceptually, the creative economy consists of fields such as publishing, advertising, architecture, design, arts, crafts, fashion, television, film, software, music, toys, and others. The creative economy fields are grouped under different lists suggested by scholars and the government. Universities can develop the existence of creative individuals and the economic environment within them (Kačerauskas, 2020). This creative economy can change and develop over time as society builds institutions to encourage social entrepreneurship and social innovation (Gouvea et al., 2021). The creative economy is not overly dependent on natural resources, which means that its negative impact on the climate is relatively weak compared to other industries. The growth of the creative industry can be hampered by scarcity and improper use of resources so the role of local governments is to support creative economic growth (Fazlagic & Skikiewicz, 2019).

METHODS

The method used in this research is qualitative with a grounded theory approach. Grounded theory is a qualitative research method that uses a set of systematic procedures to inductively develop a theory about a phenomenon or a scientific paradigm that tries to construct or reconstruct a theory of facts that occur in the field based on empirical data (Creswell & Creswell, 2003; Mills et al., 2006). The theory construction or reconstruction is obtained through inductive analysis of a set of data obtained based on field observations. This approach starts from a statement that is still vague and finally produces a theory that is collected from various data (Creswell & Poth, 2016). Construction will be carried out on the CIU concept which is a phenomenon in institutional transformation at IAIN Syekh Nurjati Cirebon.

The research data collection instrument is the researcher himself. The data collected can be in the form of interview transcripts, conversations, interview notes, public documents, diaries and journals of respondents, and reflective notes of researchers (Creswell & Creswell, 2003). In grounded theory, data collection is carried

out using interviews with unstructured questions. In particular, these interview notes are meant to be statements of informants (Minister of Religion, Director General of Islamic Education, Rector, etc.) that have been published in the media (Lay & To, 2015) on activities or events that specifically discuss transformation CIU institutions or distance education, or BLU, so that data is obtained from print media, electronic media, or institutional websites (Ministry of Religion, IAIN Syekh Nurjati Cirebon, and others). The informant's statement notes are only related to the context or topics that are appropriate to the issues discussed, such as CIU and BLU. Data collection was also carried out by observing the development of CIU's institutional transformation to see the process and to capture causality. Researchers will question "why did this CIU institutional transformation occur?", "What are the consequences arising from this institutional transformation?", and "What are the stages of conditions, plans, and programs that have been established, and the consequences of this transformation are taking place now?".

The data analysis technique was carried out in the following four stages: first, the coding or open coding stage to identify keywords from all the data collected, such as cyber university, BLU, distance education, metaverse technology, creative economy, and others; second, the stage of concept formation or axial coding to collect codes with the same content that allows data to be grouped into categories that are interconnected and concepts are formed; third, the stage of categorization or selective coding with the aim of grouping concepts that are formed and then selected which have something to do with the formation of theories for research problems, such as the CIU concept, entrepreneurship theory, creative economy theory, and others; and fourth, the theory formation stage to explain the subject under study by strengthening existing theories and literature studies (theoretical notes) (Glaser, 2007).

RESULTS AND DISCUSSION

1. Cyber Islamic University and Distance Education Platform

The Study Program of Distance Education in Islamic Religious Education (PJJ PAI) is a lecture program that is in line with today's technological developments and carries the principle of openness for education for all people throughout Indonesia and abroad. Graduates of this program have job prospects that are in line with the very rapid development of digital technology in the field of education and have qualified skills to become professional teachers in the field of Islamic Religious Education who can present solutions and recommendations for online learning. This is of course inseparable from the learning process which is supported by sophisticated technology, thereby increasing the quality of learning. Distance education such as e-learning has developed and met the needs of many students (Kyeong, 2013).

Of course, this fact cannot be separated from the priority programs and innovations in higher education which are the policies of the Minister of Religion of the Republic of Indonesia, K.H. Yaqut Qolil Qaumas, by presenting educational services for all. The presence of this Cyber Islamic University, also emphasized by the Director General of Islamic Education, Muhammad Ali Ramdhani, that our enthusiasm is to fulfill constitutional promises, namely to ensure that no citizen is left unserved to study at an Islamic religious university. Likewise, the Director of Higher Education of Islamic Religious, Suyitno also emphasized that the presence of Cyber Islamic Universities is a demand of the times and a strategic step that must be taken by the Ministry of Religion of the Republic of Indonesia to respond to the needs in the field. This is because there

are still 86 thousand of teachers who have not yet graduated because they cannot leave their teaching duties at madrasas or schools.

The Islamic Religious Education Distance Education Study Program at IAIN Syekh Nurjati Cirebon begins in 2021 and accepts 200 people from 26 provinces in Indonesia with 500 prospective students who have registered, and in 2022 has accepted 2000 students from a total of 7197 applicants. All students are given scholarships while studying through the LPDP program (Basori, 2022). This Distance Education will also be developed in various fields of study from study programs that organize offline learning with superior accreditation, both undergraduate, master, to doctoral education levels to respond to societal needs and developments in digital technology that are influencing the current global industry (Khoeron, 2022).

Even though the majority of new students in this Study Program are mostly teachers who have taught at schools, madrasas, and Islamic boarding schools, the students have technical constraints, most of whom have worked full-time as teachers. They face psychological pressure trying to balance work and study as well as internet network constraints in their respective areas, especially students in underdeveloped, frontier, and outermost areas with slow internet network conditions. This fact allows cyber universities to run systems that can be implemented in a mobile environment, which is less limited by time and place than lecture halls, and on PCs. Today's mobile campuses enable attendance management, post inquiries, send messages, and monitor academic calendars, so students are usually observed attending online courses and posting messages on bulletin boards on the go or whenever available (Han & Han, 2014)

At cyber universities, indicators of student academic continuity include the presence of offline study rooms, the location of study support facilities, and the level of university support for the program (Lee & Yoel, 2015), such as online courses which are fully provided to students (Costley et al., 2017), blended learning known as cross and mixed-mode learning which combines online and face-to-face pedagogical methods (Gaol & Hutagalung, 2020), and each student has a personal affiliation with other members of the cyber university with parameters of academic integration for competency development (Choi & Kim, 2018) so that academic dishonesty must be eliminated because it can reduce the quality of education (Costley, 2017, 2019)

To improve the quality of learning, cyber universities can prepare instructional designs that make it easier for students to understand learning such as tutorial-lecture videos (Costley et al., 2017), develop models for metric evaluation for students, lecturers, departments, and types of education that focus on making cyber services for accurate monitoring and management of resources and production processes to achieve the required product quality (Hahanov & Chumachenko, 2015).

The lecture system at universities underwent a transformation from face-to-face to online learning during the Covid-19 pandemic which emphasized the importance of digital technology in lectures (Rapanta et al., 2020), such as learning from home through media using digital technology (Pannen, 2021. The acceleration of digital transformation has led to changes in many aspects of life including the way of teaching and learning on campus due to the pandemic (Rospigliosi, 2020; Jaelani & Hanim, 2020). At cyber universities, learning requires improvisation to improve the media used in delivering lecture material through making online videos, online modules, and other media (Lange & Costley, 2020).

Several problems began to arise when online learning became a real challenge with students having difficulties understanding the material due to a lack of a good learning attitude, self-discipline, and a tendency for learning that is suitable for offline learning (Bao, 2020). This is also encouraged by the existence of the essence of cyber socialization which influences the process of education and development (Shapoval, et al., 2021). Nevertheless, cyber universities have cyber threats and security incidents targeting vulnerable people and systems globally (Pranggono & Arabo, 2021). Cyber universities should have cyber security which can be started from the main strategic objectives in the form of prevention of cyber threats, and enrichment of maturity, and awareness of individual cyber security (AlDaajeh et al., 2022). Likewise, there is mitigation of cyber hazards in individual behavior and knowledge about cyber hazards (Zwilling et al., 2022).

For example, it has defined 3 strategies to achieve its mission which can be described below:

Table 1.Strategy of Thai Cyber University

No	Strategy	Objectives	Approach
1	Creating cooperation in the management of learning between local and international tertiary institutions	Delivers efficient and cost-effective education management by sharing personnel, educational resources and courseware	Establish academic partnerships with existing universities to develop distance education curricula and prepare educational delivery through Thailand's information network system
			Provide budget for courseware development, both bachelor's and master's programs, for use in distance education through Thailand's information network system
			Supports the production of shareable courseware for sharing between universities
			Provide a budget for the creation of Diploma programs to expand subjects that are important and necessary in the development of human resources in each field
			Participate in international networks on distance education through information network systems
			Support the provision of educational resources for sharing on the Thai Library Network (Thailis)
			Develop a distance education system through the Learning Management System and distribute it to every educational institution
			Create educational media web portals and courseware to share educational resources between universities
2	Providing distance education through Thailand's information network system	To deal with the increasing number of high school students	Develop information technology infrastructure (teleconference room) to support distance education
		Expand educational opportunities by providing more educational channels and models	Develop computer servers and equipment to support operations
		To support continuing education for the general public through distance education through the Thai	Collaborating with universities in distance learning through an information network system, using the resources owned by each university to get the maximum benefit
			Collaborating with private companies and related

		information network system Approach	telecommunications network suppliers to reduce the costs of learning management and student learning costs
3	Research and development of quality guidelines and quality assurance systems for distance education through the Thai information network system	To improve the quality of distance education through Thailand's information network system	Create a research project to develop distance education standards through the Thai information network system at all levels guarantee standards for the academic standing of institutions providing distance education, course standards in distance education through the Thai information network system, course set standards for each subject, and teaching methods and advice on interactions between instructors and learners
		Guarantee the quality of distance education through an information network system	Develop educational staff at all levels so that they are able to become leaders and be able to face the dynamic changes in the world of education and higher education
			Instill distance education skills through the Thai information network system to education personnel at all levels so that they can effectively manage distance education through the Thai information network system

Source: Modified from Sombuntham & Theeraroungchaisri (2006)

UIC, which provides cyber education, can develop digital services by carrying out 3 main areas to design and evaluate its website. First, technology that includes the design of a navigation system that focuses on site maps, easy accessibility (2 or 3 languages on the website), and accommodates access by portable devices (Mobile sites); second, pedagogy which includes a clear separation of internal and external primary information sources, supporting information sources must add social media icons to allow users to share learning with each other, the quality of the design with the color of each module must be harmonious and well mixed, and the expansion of cooperation by informing simultaneously news or courses; and third, accessibility indicating that the website is user-friendly (easy to access), easier access to information with a content structure that is designed to be easily accessible, information is grouped according to the scope of content or frequency and interests of TCU users, the website is designed to accommodate access by portable devices (mobile site), and the registration system needs to be improved by providing access without registration (Open Access), user statistics displaying domestic site information that can be used, and the search box is easy to see and has a compatible format for users (Khlaisang, 2015).

2. Cyber Islamic University and Metaverse Technologies for Digital Services in Higher Education

In the context of university evolution, higher education has gone through three generations: medieval universities, research universities (Humboldt-type universities), and finally high-tech, science- and technology-based entrepreneurial universities (Wissema, 2009). Currently, the existing phenomenon shows the evolution of academics and higher education in the 4th generation of universities, which can be called online and digital universities (Figure 1). Largely due to the COVID-19 pandemic, which launched a digital revolution in academia and higher education (Strielkowski, 2022).

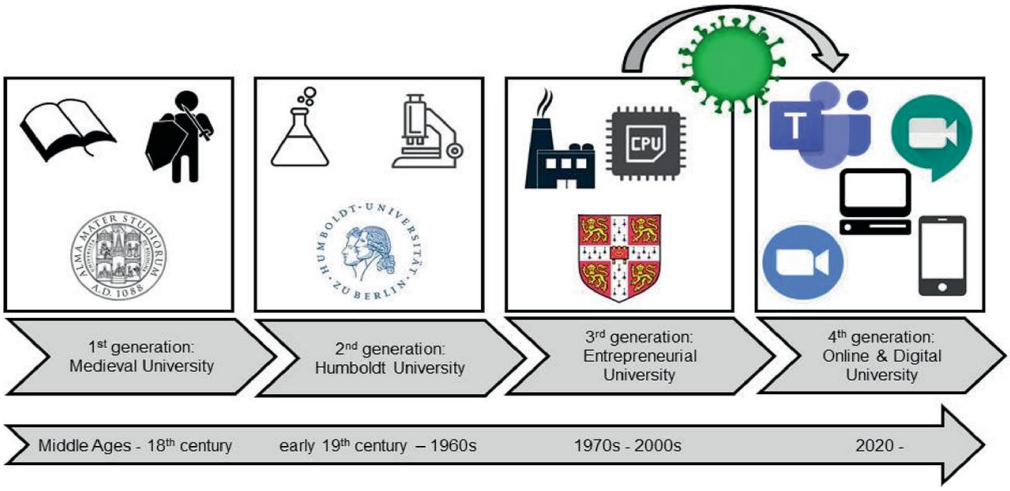

Figure 1. Evolution of academia and higher education

The demand for higher education on a global scale has affected all education systems and countries around the world due to the economic downturn and the rise of digital education (Strielkowski et al., 2020; Williamson, 2019). The current digital upheaval in the education sector is motivated by rising costs, increasing competitiveness, and increasing expectations, so organizations need to prepare for the future by using new technology and data to change processes and modernize systems (Strielkowski, 2022).

The needs of students who are currently living in the digital environment and market era will become the most important so as to give birth to a cyber university. The term "cyberspace" can be defined as "a networked information space, composed of bits and bytes, zeros and ones (0/1), but which, from the inside of the computer to the screen, reaches us in the form of known languages: spoken, Maya, sound and all its mixtures. So cyberspace is just a metaphorical way of naming the internet, the network of networks." (Mill, 2018: Castells, 2019; Carius, 2020).

IAIN Syekh Nurjati Cirebon will transform into CIU, namely a university as a virtual world. The university as an expression of its identity involving human and non-human actors designates a place in cyberspace. The relationship between lecturers and students will be mediated by technological devices and only possible interactions between human and non-human actors. In fact, without an internet signal, without the functioning of all the electronic devices necessary to build relationships between people, classes, lectures, manuals, and scientific weeks, nothing will happen. The formation of this network of human and non-human actors (actor-network theory) will result in a cyber university being generated (Bueger & Stockbruegger, 2017). The cyber university is like the concept of a "cyberplace" or "place" of discussion and appropriation of knowledge, this concept of research and development of ideas, when transferred as a whole to cyberspace, raises reflections on the physical importance of the university. (Welmann, 2001).

While the term cyber university can be explained by the concept of network society which illustrates the role of the university in the process of construction and dissemination of knowledge. Universities are the main agents for the dissemination of social innovation because one generation after another, young people go through these stages knowing new ways of thinking, administering, acting, and communicating, and

getting used to them. Changes in the way university knowledge is built and managed during the COVID-19 pandemic indicate that educational innovation is being adapted across universities (Carius, 2020; Strielkowski, 2022).

An efficient educational model is always related to the vision of society in the form of a university as a virtual place (Müller & Souza, 2020). Cyberspace expands the possibilities for relationships between all involved, both human and non-human actors. In a networked society, several processes at the global level take place in networks such as communication, economy, social relations, and, of course, education (Castells, 2019). The concept of a networked society places the networked education model as a priority so that the concept of networked education is a process of socialization and development of autonomy aimed at social integration and involving the acquisition of knowledge, skills, and values (de Oliveira & Cremonini, 2019). Therefore, the cyber university is involved in this network, and based on the in-depth uploading process, the university is definitely placed in the virtual space as one of the gears of this educational network.

The development of cyber universities in higher education can take advantage of metaverse technology. The term metaverse means a digital universe or a collection that has many elements in the 3D or three-dimensional world and is designed to combine the real world and the digital world. Metaverse is a virtual space where people from all over the world can gather and communicate using virtual and augmented reality technology (Duan et al., 2021) so that online learning can be done more interestingly, can interact, listen to the material, and even walk around the room class itself, as if it were in the campus room. The tools that can be used are augmented reality glasses, virtual reality headsets, smartphone applications, and others (Huggett, 2020).

Metaverse technology can be developed through tools and disciplines such as 3d engine, GPU engine, CPU engine, 5G/6G network high Network Infrastructure, Generative Content/NFTs (Apes, Punks, etc), Extensible Game Systems (LOOT), DAOs (YGG), Pay-to-Earn (Axie), Chains and Services (Flow, Forte), Generative AI Content (Latitude), Mass Social Experiences (RecRoom, Roblox, Manticore, Mod.io), Cloud(Facebook, xCloud, Stadia), VR/AR (Oculus, t5), Spatial Computing (Unity) (Yang et al., 2022). The technological capabilities of this metaverse will become a new era of technology that replaces the internet.

Metaverse technology can provide support for online learning by not eliminating the learning experience on campus and facilitating more proper distance learning without the need for a special room. Students only need to be connected to the internet and use the specified supporting equipment. Metaverse can also provide a space for work and study that can facilitate lecturers, education staff, and students to be able to join virtual offices or classes that have been created by the university and facilitate students to study in more sophisticated virtual classrooms.

Metaverse technology can be harnessed for social good. This can be applied to CIU as part of educational values in the midst of technological computing in human life. Representative applications that reflect the metaverse for social good, namely: first, accessibility. Metaverse can provide great accessibility to serve the social needs of different geographic locations at lower cost and higher security; second, diversity. Metaverse has unlimited extension space and seamless scenery transformation, which can effectively achieve diversity to meet the needs of different people; third, equality. Spiritual pursuits for people, but in fact, there are many factors that affect equality, such as race, gender, disability, and property. In the metaverse, everyone can control a

customized avatar and use their powers to build a just and sustainable society; and fourth, humanity. In society, humanity appreciates various spiritual and cultural phenomena left behind by previous generations as the legacy of mankind. Metaverse can be an excellent approach for cultural communication and protection as a digital restoration of cultural heritage (Duan et al., 2021).

3. Cyber Islamic University, Digital Entrepreneurship Development, and Creative Economy for Academic Service Sustainability

PK BLU is a new paradigm that is expected to provide the right direction for public sector financial managers towards an entrepreneurial government that is public service oriented, namely government agencies may create profits, but still prioritize the quality of service to the community. Government officials must be able to become entrepreneurs in managing state finances, the mindset to just spend the budget must be thrown away and replaced with what performance can be done to improve public services. In the Republic of Indonesia Law Number 1 of 2004, article 68 and article 69, it is stated that government agencies whose main tasks and functions are to provide services to the community, including educational services provided by universities or other forms of tertiary institutions can implement a flexible financial management pattern by highlight productivity, efficiency, and effectiveness.

To strengthen the governance of the Higher Education Public Service Agency (PTN BLU), IAIN Syekh Nurjati Cirebon can implement a strategy to realize the flexibility of BLU assets. First, the exclusion of the procurement of goods and services (PBJ) from general government PBJ regulations (PNBP, pure rupiah and grants), so that assets are more quickly used to provide services to the community; secondly, KSO or operational cooperation aims to provide faster assets for the fulfillment of services at BLU in the form of equipment and machinery whose rate of technological development is very rapid and must be updated in a short time with the latest tools; third, cooperation between the government and business entities (PPP) with the aim of being more secure with the government and assisting in the procurement of assets; fourth, business units can develop services as financial support to public services by taking into account analysis of technical, financial and legal aspects in order to gain profit; and fifth, BLU implements a buy-in installment system that aims to procure assets quickly, but remains balanced with other needs so that the allocation of funds continues to run in various urgent directions.

This BLU financial management transformation can provide broad space and opportunities for business development on owned business assets. The business center as a place for business activities at the university can develop its various businesses in accordance with the business plan it has made while also focusing on improving services. Lecturers and students can also carry out their business activities through the business center. The university also has a Faculty of Islamic Economics and Business (FEBI) which focuses on developing Islamic economics and business, especially digital technology in the halal industry which can make a broad contribution to society supported by competent and prospective human resources in the field of entrepreneurship and creative economy (Jaelani, 2017; Jaelani et al., 2021; Arwani et al., 2022).

Several studies have shown that there is a relationship between higher education, entrepreneurship, and the creative economy as part of the dimensions and dynamics of the areas of interest in higher education policies regarding cooperation or collaboration

between individuals and networks from various sectors involved in teaching, curriculum and policy development, research, and knowledge exchange. The role of this collaboration can foster innovation, creative and cultural clusters, sector development, and employability of graduates, as well as their wider contribution to economic development and regeneration (Gilmore & Comunian, 2016).

Building a CIU at IAIN Syekh Nurjati Cirebon requires policies that prioritize cooperation from various sectors and networks for the development of digital entrepreneurship and the creative economy for business continuity and economic independence needed to improve services. For these interests, there are two main dimensions that connect higher education institutions and the cultural and creative sector, namely creative human capital and knowledge development (Gilmore & Comunian, 2016). The policy aspects can be directed in accordance with the direction of cooperation that is built, namely first, cultural policies that involve explicit support and development of the creative and cultural sector; second, higher education policies for skills and curriculum development, fee structures, and broader participation; and third, employment policies and economic development related to labor regulation and business support.

CIU, like other tertiary institutions, can organize higher education as the main producer of talent and skills that produce the creative industry sector. The paradigm of higher education must be changed not only to have the main goal of developing narrow expertise in the scientific field, but also to cultivate and develop creative talent, and produce graduates with deep specialization and, increasingly, the ability to work in multidisciplinary scientific teams. These creative talents will innovate new products, processes, and business models to drive the creative economy of tomorrow.

The cyber platform at the university that will be developed can accelerate the realization of academic digital entrepreneurship if there is a leadership policy intervention regarding creative industries on campus. Creativity and creative talent developed through higher education can be started from curriculum design which is expected to contribute to realizing campus economic independence in the future. The pattern of higher education relations with the cultural and creative industries that are part of higher education policies will become more formal, more focused, and more calculating (Ashton, 2018), so their development will be easier because they become priority programs in higher education.

One model of the academic creative economy that can be developed at CIU, namely implementing the three main functions of the university, and relative activities, as well as the output of the creative economy university program (Jaelani, 2014; Jaelani, 2019a). Within the regional ecosystem, the university operates and interacts with various other stakeholders (economics, society, politics, science, and culture) as a reflection of the multidimensional complexity of cultural and creative intersections (Figure 2) (Jaelani, 2019; Lazzaro, 2021).

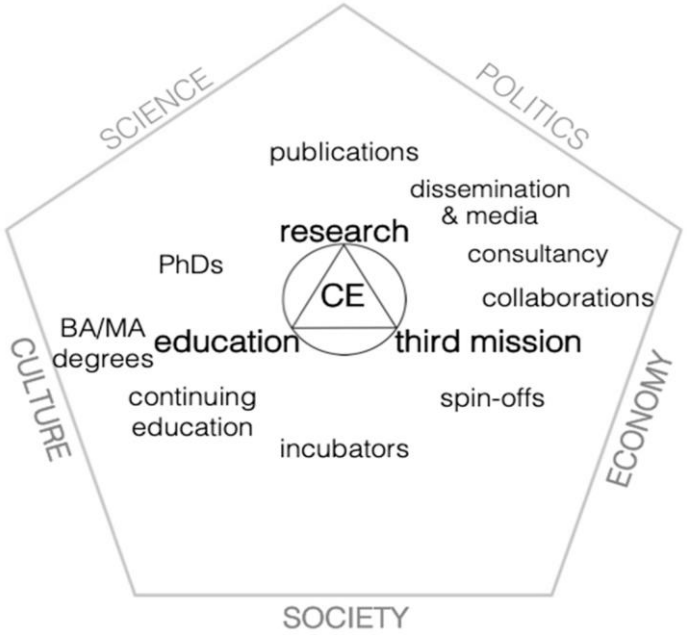

Figure 2. Mission and activities in the academic creative economy

Thus, the creative economy is a horizontal concept that develops based on creative assets that have the potential to generate economic growth and development, CIU can focus on the development of cyber education in the form of distance education that integrates the development of the creative economy on campus. This dimension of the creative economy has many advantages, including: first, the creative economy can stimulate income generation, job creation, and export profits, while promoting social inclusion, cultural diversity, and human development; secondly, the creative economy includes economic, cultural and social aspects that interact with technological, intellectual property and tourism destinations; third, the creative economy works together with a range of knowledge-based economic activities, with an additional dimension of development and interconnection at the macro and micro levels for the economy in general; fourth, the creative economy as a viable development option that demands politically innovative and multidisciplinary answers in addition to inter-ministerial policy action, and fifth, at the center of the creative economy there is a creative industry or the creative industry is at the center of the creative economy." (UNCTAD, 2010; Guilherme, 2017).

Based on the results of the previous discussion, the authors can formulate future directions from the institutional transformation of IAIN Syekh Nurjati Cirebon into Cyber Islamic University with a flagship program in the form of Distance Education (PJJ) and institutional transformation of financial governance into Financial Management of the Public Service Agency (PK BLU) which is described below.

IAIN Syekh Nurjati Cirebon's vision is an "Excellent Cyber Islamic University for All in 2030." In this vision, the term "Cyber Islamic University" means implementing cyber-based good university governance, providing distance education in academic, professional, and vocational education, conducting education, research, and community service through digital academic access, and utilizing artificial intelligence and big data through educational platforms to strengthen quality management and university governance. The term "Excellent" implies increasing quality culture and being at the forefront of implementing cyber-based education, increasing the

competence of lecturers and students as well as their output in research, community service, and scientific publications, the realization of an academic ecosystem through digital technology that integrates 9 accreditation criteria, and increasing entrepreneurial competence for campus independence and the welfare of the academic community. Meanwhile, "For All in 2030" means the contribution of the university in the life of society and the nation as shown by the quality of education and superior competence of graduates in realizing the 17 SDGs (Sustainable Development Goals) until 2030, the contribution of research results and service to society that is disseminated in various scientific publications that benefit everyone, and the realization of an attitude of religious moderation in all aspects of community and national life that presents the values of tolerance and togetherness in the campus environment and its surroundings.

To realize this vision, the mission of the university is to realize future education with cyber-based governance to improve and sustain quality and services, increase access, relevance, quantity, and quality of education to produce human resources and graduates who are creative and professional and improve the quality of research and community service with a global mindset to generate added economic value, develop collaboration, and improve quality public services. To strengthen this mission, values are set that guide the implementation of higher education, abbreviated as "SIBER" with the meaning: S stands for "Sustainability", I means "Innovative", B means "Be Sincere", E means "Environmental harmony", and R means "Resilience".

To achieve this vision and mission, the following work programs have been formulated: first, strengthening governance by building a metaverse campus for learning and promoting the On-Flex education model; second, building academic structures and systems in academic, professional, and vocational education with professional management that supports distance education; third, realizing the sophistication of infrastructure that adopts artificial intelligence and big data technology in education, research, and community service; fourth, realizing cyber university as a trendsetter in the development of knowledge integration that presents religious moderation for all; fifth, creating a university with a sustainable outlook with transformative graduates facing the world of work and global challenges; and sixth, strengthening cooperation with the business world and expanding communication networks that support underprivileged students and improving services in education.

To realize the work program that has been formulated, the strategy for achieving it is: first, innovation in futuristic education by strengthening lecturer competencies and developing educational models with digital platforms; second, the development and innovation of academic quality management in types of academic, professional and vocational education that provide broad services through distance education for all; third, building an educational platform based on artificial intelligence and big data through university smart campuses in the development of learning, research and community service; fourth, developing scientific integration that is realized in the curriculum and institutions or units at the university which guarantees the realization of a spirit of religious moderation in all circles; fifth, preparing university programs that are integrated with efforts to realize sustainable development goals that produce graduates who are competitive in the world of work; and sixth, increasing cooperation with the business world for the development of academic entrepreneurship, innovation, and the application of technology to increase productivity that supports inclusive education for all.

CONCLUSSION

The results of the study confirm that the institutional transformation of IAIN Syekh Nurjati Cirebon into Cyber Islamic University as a new model of Islamic Religious Higher Education which organizes distance education for students can increase access to inclusive education for everyone, even though in the early stages it only organizes Islamic religious education for Religion teachers Muslims who have worked in schools, madrasas, or Islamic boarding schools. The digital transformation that has been applied to the implementation of online learning can make an important contribution to broad access for people who have a need to pursue higher education, including those from disadvantaged, outermost, and frontier areas in Indonesia.

Cyber Islamic University for academic development through the use of metaverse technology for digital services in higher education can improve the quality of academic services by immersing metaverse technology in the implementation of education that unites virtual and real worlds. The concept of community networking that is applied to various fields through the network education model can facilitate access, understanding, and transfer of knowledge, skills, and values through learning carried out, including distance education. Metaverse technology can also be implemented in many fields that have good values for humans in the midst of digital technology computing that can bring accessibility, diversity, equality, and humanity.

The institutional transformation of IAIN Syekh Nurjati Cirebon's financial management from work unit-based financial management to public service agency financial management can be an integral part of Cyber Islamic University which develops digital academic entrepreneurship by presenting a creative economy for the sustainability of academic services. This creative economic dimension can generate economic growth and development through income generation, job creation, and at the same time promote social inclusion, cultural diversity, and human development which can strengthen academic services through the development of business units at IAIN Syekh Nurjati Cirebon.

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