Management Of Distance Education Degree Program At The Indonesian Dual Mode University

Hendro Prasetyo[*1], Dadang Suherman[2], Waska Warta[3], Ujang Cepi Barlian[4]

[1,2,3,4.]Nusantara Islamic University, West Java, Indonesia
*Corresponding author:
Email : mas.hendro@gmail.com

Abstract.
Indonesia needs much more traditional higher education institutions offering distance education (DE) degree programs. However, there is little in the literature that can be used as reference on how to plan and implement the DE program in the Indonesian context. This study aims to help fill the gap in the knowledge by investigating the management of two DE degree programs at two traditional campus universities in Indonesia. Data were collected through in-depth interviews and document reviews using the collective case study approach. The collected data were then analyzed individually within case and across cases to identify similarities and differences. Evidence shows that the decision to open a DE degree program was based on a careful assessment of its market potentials and its compatibility with the institution's vision and mission. In addition to having clear goal and strategy, the program was also planned, implemented and evaluated in a manner suitable with the unique characteristics of distance education. The results of this study could be used as reference by other universities considering or planning to open a DE degree program.

Keywords: management, distance education, degree program, indonesian university, dual mode university.

I. INTRODUCTION

The teaching-learning process in higher education (HE) can be done through campus-based mode and distance education (DE) mode. In the past, almost all HE institutions only conducted teaching-learning activities in a single mode. Traditional HE institutions used only campus-based mode and distance HE providers used only DE mode. Most of the distance HE providers were also open universities. Distance education is different from open education, while the former is a mode of education, the latter means education without restrictions or prescribed entrance requirements [1]. United Kingdom Open University in England, Anadolu Open University in Turkey, Open Universiteit in Holland, Indira Gandhi National Open University in India, Alama Iqbal Open University in Pakistan, Sukhothai Thammathirat Open University in Thailand and Universitas Terbuka in Indonesia are examples of open distance universities. There are currently more than thirty open distance universities in various parts of the world [2].With exceptions of a few universities in Australia, Canada and Eastern Europe [3], DE mode in the past was only used by open distance universities because its implementation required economies of scale. Production and distribution of self-learning materials in the forms of documents, books, audio/video cassettes, television and radio broadcast programs required big budget, specialization and industrial approach to production. The division of the academic teaching responsibility into two separate phases constitutes the essence of the industrial model of distance education [4].

The first phase is devoted to developing high-quality self-study materials by teams of experts consisting of academics and other professionals. Most course developers do not participate in the second phase of the actual teaching-learning process, which is delivered by lower faculty ranks such as tutors and teaching assistants. Large numbers of students are needed to offset the large capital invested; the cost per student decreases as the number of students increases. It is the reason why some open distance universities are called mega universities for having more than 100,000 students. They are a product of governmental planning set to fulfill national missions, mainly to absorb large numbers of students at a lower cost as compared to traditional campus universities [5].The arrival of the Internet appeared to change this situation radically. With online learning it became much easier for academic staff to produce versions of their campus courses for distance students and to interact with them by e-mail and other web tools. This promise of a direct relationship between distant student and teacher, by-passing all the intermediate processes of traditional distance education (design and printing of documents, recording of audio-visual programs, etc.),

was acknowledged as a major step forward. Traditional campus universities began to offer distance education programs. More and more universities moved from single mode to dual mode provision, catering both on-campus and off-campus students.

This emerging phenomenon of bringing distance education to traditional campus universities is called hybridization [6], convergence [7], or distance education mainstreaming [8]. A survey of 4,717 degree-granting institutions by Seaman, Allen, and Seaman [9] showed that 3,198 (68%) traditional campus-based institutions in the U.S. offer distance education. A similar survey of 249 traditional HE institutions in Europe conducted by Gaebel, et al [10] indicated that 82% of them offer distance learning courses. In India, while there are 15 open universities, more than 100 dual mode universities offer on-campus and distance education [11].Although DE has become mainstream in developed countries, the number of HE institutions that are successful in its implementation is small. The survey by Seaman, Allen, and Seaman [9] indicated that the top 5% of private for-profit institutions in the U.S. enroll 86% of all private for-profit DE students. The large majority of institutions are struggling to get enough students to maintain their survival. It indicates that providing a quality DE program in a traditional HE institution is not easy. Only a few institutions seem able to function in dual-mode in a successful and sustainable way [12]. As stated by Minnaar [13], "a number of ODL (online distance learning) facilities at residential universities have not been successful because of a lack of planning or because of failure to ensure that all the different systems for ODL delivery were in place and functioning".Effective integration of a different population of students, different teaching methods, and new resources of a DE program into a traditional campus university needs careful planning and implementation.

Traditional universities cannot simply copy the management of their DE programs from that of open distance HE institutions. Unlike single-mode DE providers, dual-mode institutions are not generally established to serve distance education. Regardless of when a traditional university moves to some form of distance provision, the prevailing ethos and institutional arrangements that endure over time are those that relate to the on-campus experience. It is highly unlikely, for example, that the DE program introduced into a traditional university will be resourced at similar levels to those committed to the overall functioning of the on-campus program [14]. Peters [15] also notes that those who introduce a DE program within traditional universities need to deal and come to terms with fixed academic structures and conventions which are normally resistant to change and restrict flexibility. They have to assert themselves when trying to innovate and modernize the teaching-learning system and the mission and the sense of direction of the institution.While distance education mainstreaming has been in progress for more than 20 years, only a handful of traditional universities in Indonesia offer a DE degree program. In Indonesia, degree programs are defined as distance if more than 50% of the courses and/or coursework is done at a distance [16]. Their opening and operations require a Minister's approval. Out of more than 4,500 HE institutions in Indonesia, only nine (0.2%) are registered to provide a DE degree program, they are: Universitas Bina Nusantara, Poltekkes Kaltim, Poltekkes NTT, Universitas Telkom, Universitas Bunda Mulia, Universitas AMIKOM Yogyakarta, Universitas Pelita Harapan, Politeknik Elektronika Negeri Surabaya and Institut LSPR [17].

There has been no research so far which investigates the causes of such low adoption of DE mode among Indonesian HE institutions. One of the causes is probably external to the HE institutions: the strict requirement of having an existing campus-based degree program in the same major as the proposed DE degree program accredited *Unggul* (excellent) [16]. It is the highest grade of accreditation awarded to very few degree programs. The second cause is probably internal to the HE institutions. Among those eligible to open a DE degree program— following Davis' technological acceptance model [18]— the low adoption is caused by the lack of perceived usefulness and ease of use. Percieved usefulness refers to the potential benefits that a DE degree program brings to the institutions (the why). Ease of use refers to viability and competency of the institutions to run a DE degree program (the how). In relation to this, the current study aims to investigate the experience of two of the nine Indonesian dual-mode HE institutions in managing their DE degree programs. Specifically, the study aims to understand why they decided to open a DE degree program and how they plan, implement, and evaluate the program. Results of the study can inform other HE

institutions on the benefits of a DE degree program and how they can implement it, which hopefully may increase adoption.

II.   METHODS

Qualitative method was employed in this study to achieve the research objective of gaining deeper understanding on the reasons of establishing a DE degree program in the traditional campus university and how it is planned, implemented and evaluated to ensure success. Case study was selected as the approach of the study because it is the most suitable when the purpose of the study is understanding "why" and "how" of a phenomenon [19]. Case study allows an in-depth exploration of DE degree program as a bounded system. Creswell [20] recommends case study as a methodology if the problem to be studied relates to developing an in-depth understanding of a case or bounded system.

That DE degree program is a bounded system is posited by Moore and Kearsley [21]: "the distance education system is not a series of separate entities, such as course content, and course design and development, but a system of interrelated components that function together under the auspices of organizational and administrative arrangements".In particular, the approach of this present study is what, according to Stake [22], is called collective case study, which examines two or more cases. Two DE degree programs at two universities are used as the subjects of the study. Using more than one case allows the authors to analyze and compare them in terms of specific and generic properties. It provides insight into an issue to redraw a generalization. Individual cases in themselves are of secondary interest, they play a supportive role to build a general explanation or abstractions. The cases are chosen because it is believed that understanding them will lead to better understanding, and perhaps better theorizing, about a still larger collection of cases.

Participants

The two cases selected are the Master of Informatics Distance Learning program at AMIKOM Yogyakarta University (AMIKOM) and the Bachelor of Informatics Distance Learning program at Telkom University (Tel-U). AMIKOM was a university pilot world model for Private Entrepreneur by UNESCO in 2009. It ranked 33rd in the world according to the World's Universities with Real Impact (WURI) 2021 for the category of Industrial Application and has received more than 80 international awards. AMIKOM has participated in SPADA (Sistem Pembelajaran Daring), the Indonesian online learning system consortium organized by the Ministry of Education and Culture, since its inception in 2014. AMIKOM launched its DE program in 2019 as the first Informatics master's degree distance education program in Indonesia. In September 2021, 217 students were enrolled in the program. Tel-U is a top 10 university in Indonesia according to The World University Rankings 2021 by Times Higher Education. It has implemented university-wide blended learning program since 2018 in which all degree programs were expected to deliver 25% of course materials online. For this, Tel-U in December 2021 was awarded three SPADA Appreciations by the Ministry of Education and Culture on three categories: institutional support for e-learning, the best higher education institution implementing e-learning, and the best learning design produced by the teacher. The DE program was launched by Tel-U almost at the same time of AMIKOM's DE program launching in 2019 and by September 2021 it had 124 students.

Data Collection and Analysis

Data in this study were collected through two techniques: in-depth interview and document review. Interviews were conducted resembling guided conversations rather than structured queries. Participants were interviewed using interview guides to gather information, but the researchers were flexible to pursue further questions relevant to the purpose of the study. Fourteen interviews were conducted, each with a duration ranging from 27 minutes to 1 hour 26 minutes, totaling 11 hours 34 minutes long. All interviews were done through video conference, recorded, and transcribed in a semi-verbatim manner. The eight participants at AMIKOM and six participants at Tel-U who participated in the study are as follows:

- AMIKOM: Director of the Graduate Programs, Vice Director of the Graduate Programs, Head of the University Quality Assurance Department, Director of the University Planning and Finance, Secretary of the DE program, three students.

•   Tel-U: Vice Dean I of the Faculty of Informatics, Vice Dean II of the Faculty of Informatics, Head of the DE program, three students.

The researchers collected documents such as presentation materials, online publications, planning documents, internal reports, guidelines, manuals, and newsletters for document review. These documents were used to corroborate and augment evidence from the interview. They provide a means of data source triangulation to confirm emerging findings [23]. This qualitative study relied on interview results. Language is the critical factor in the construction of meaning. There is a possibility of misinterpreting the meaning of what participants say and do and the perspective they have on what is going on. To address this issue, the researchers conducted respondent validation by taking data and tentative interpretations back to some participants and asking whether they are plausible.

The collected data were analyzed with the assistance of Atlas.ti, a qualitative data analysis software. Interview transcripts and documents were imported to the application and processed in two stages of coding [24]. In the first stage, pieces of data that might be relevant to the study were tagged. This process is called initial coding and produced a number of tags/codes. The second stage is grouping related codes into categories or code families. This process is called axial coding. Through iterative reading, categories or code families were then linked to the research questions to produce the study report.

III.   RESULTS AND DISCUSSION
A.   RESULTS
1.   Reasons for Opening the DE Program

AMIKOM's vision is to become a leading world university in creative economy based on entrepreneurship. As stated in its mission statement, one of the missions is organizing education in global standards through national, regional, and global partnerships and networks. Tel-U's vision is to become a world class entrepreneur university that actively participates in the development of technology, science and arts based on information technology. As written in the mission statement, its number one mission is organizing and developing education in international standards based on information technology.From their respective strategic planning process, they found the market opportunity of distance education program. AMIKOM realized that there is scarce number of master's programs in areas outside of Java, especially in informatics. There were only two master's programs in informatics among 489 private higher institutions in the provinces of Bali, Nusa Tenggara and Sulawesi. The need for more graduate programs is also reflected, for instance, in the number of HE teachers who have only undergraduate education. The Indonesian Law no. 4 of 2005 requires that HE teachers have at minimum a graduate degree, but by July 2018 according to AMIKOM analysis there were 34,341 HE teachers having only an undergraduate degree. They mostly reside outside of Java and have difficulty continuing education without leaving their place of work. Tel-U found that undergraduate program in informatics is in very high demand and still cannot be matched with the limited supply.

It is apparent in the ratios of applicants to accepted students in informatics undergraduate programs of state universities. Data in 2018 shows they range from 1:11 in Universitas Tadulako in which 1,412 applicants vied for 118 class seats to 1:104 in Universitas Haluoleo where 2,297 applicants vied for only 22 class seats. Both universities assessed these under-served educational markets against their strengths in distance education. They both had been developing competency in online/distance education provision and felt confidence they could organize a DE degree program to serve the markets. They also saw it as an opportunity in line and supportive of their respective vision and mission.In running the DE degree program, AMIKOM and Tel-U have different stressing in the goals to achieve. AMIKOM's goal is mostly towards expanding its geographic reach to get a wider pool to recruit from. Expanding geographic reach has been its strategy, in the past it was done through the establishment of new brick-and-mortar campuses such as AMIKOM Purwokerto and AMIKOM Solo. Now with technology, AMIKOM can expand its geographic reach through distance education provision. Majority of AMIKOM's DE students are from areas outside of Java. Tel-U, however, is more concerned with the goal to improve access, that is to serve those who were not admitted to or are able to or choose not to attend a traditional residential institution. While students are

coming from all parts of Indonesia and some even from abroad, the majority of its DE students are from areas in West Java and Greater Jakarta. They consist of part-time mature students and full-time high school leaver students.

2. The DE Program Strategy

Porter [25] posits that an organization's long-term competitive advantage can be achieved based on one of three generic strategies:

- Cost leadership strategy based on achieving a lower cost position than the competition, e.g., low-cost tuition and tuition discounting.
- Differentiation strategy in which the product is viewed as unique, e.g., DE program uniqueness in design, customer service, or institutional reputation and branding.
- Focus strategy in which the institution targets a specific type of customers, e.g. specific students or student needs rather than competing in the mass market.

According to Porter's categorization, AMIKOM adopts the cost leadership strategy. In brochures, website, social media and other marketing communication tools, low tuition fee is one of the features of the DE program that is prominently advertised. It costs only two-thirds of the cost of attending the blended online master's degree in informatics of Tel-U. Its location in Yogyakarta, large student body, low-cost discipline, and income streams from its businesses help AMIKOM create the cost advantage. By contrast, Tel-U is more geared towards differentiation strategy. The state-owned telecommunication giant Telkom is a household name in Indonesia. Tel-U carries the name, which makes it easier to advertise. In its communications, Tel-U conveys its image for excellence as the top private university in Indonesia that has been granted many international recognitions, awards, and accreditations. For the premium offering, Tel-U charges a tuition fee for the DE program which is not cheap. Although it costs only a half of the cost of the regular degree program, it is almost as the same cost as the regular informatics undergraduate degree program of AMIKOM.

Setting up a DE program unit in a traditional university is an innovation. There are two approaches to select when creating innovation: closed or open innovation [26]. Closed innovation is done without involving external partners, whereas open innovation is conducted with one or more external partners through acquisition, strategic alliance, or joint venture. Both AMIKOM and Tel-U established partnerships with external parties to set-up and operate the remote study centers. AMIKOM's remote study centers in Makassar and South Tangerang are jointly operated with Dipa University and Time Excelindo, respectively. Tel-U's remote DE center in Makassar is jointly operated with SMK Telkom Makassar. The establishment of a remote study center in partnership with other institutions is one of the Government's requirements for opening the program. They are made available to serve distant students with facility for tutorial, exams, and other academic and non-academic services. Apart from the remote study centers, AMIKOM and Tel-U conduct all the DE degree program operations by themselves. This approach to innovation is in contrast with that of some universities in Indonesia which offer blended learning degree programs in partnership with a digital company specialized in providing infrastructure for e-learning. They basically outsource the technology part to a third party while focusing on the academic aspects of the program.

3. Planning of the DE Program

Under the current regulation, a DE degree program cannot be established by a traditional university without it having a pre-existing residential degree program of the same major [16]. Therefore, resources for its establishment such as faculty, technology infrastructure, expertise, and experience are mostly drawn from the residential program. Policies and processes are also adjusted from the existing system. Its organizing unit is embedded into the existing Faculty or School. AMIKOM and Tel-U have different approaches to the leadership of their DE degree program unit. AMIKOM did not appoint a dedicated leader for the DE program, it is directly led by the Director of the Graduate Programs. The centralized and strong leadership helps to ensure adequate attention and resources are given to the DE program. Tel-U has a dedicated head of the DE program who has been leading its planning and operations from the beginning. It helps to make it a distinct and autonomous entity within the larger organization structure.Before the DE program opening, five teachers were recruited from among the AMIKOM faculty members who had experience and skills to teach

at a distance. Tutors were recruited from the informatics undergraduate program teachers and the remote study center partners. They took a special tutor training program to be certified. It was the same with Tel-U, except that the tutors who had been trained were not subsequently employed due to small number of students. The role of tutor was played by the teacher.It was only in the first semester of 2021/2022 that tutors were recruited through an open recruitment. In addition to academic staff, professionals who assist in the development of learning materials were also recruited.While the student outcomes are the same between on-campus and DE programs, their curriculums are slightly different, particularly in teaching and assessment methods.

The initial curriculums of both DE programs were prepared with assistance of DE experts. Syllabus and lesson plan were prepared based on the curriculum. Unique to the DE program is the complete production of course materials in text and multimedia before the first day begins. Both AMIKOM and Tel-U have studios with equipment and personnel to run the multimedia production. Teachers in the DE program in addition to being an instructor also play the role of instructional designers who design, develop, and deliver learning and assessment materials. It is a tough task for most teachers since they are not formally trained in instructional design. Tel-U has a course content creator certification program apart from the certification to teach online to equip teachers with instructional design skills.DE degree program needs a big initial up-front investment in IT infrastructure and course development. Recurring costs include teaching, assessing and administering students online. The cost of developing e-learning materials varies greatly depending on the sophistication of the media employed. The more rich-media in the form of video or animation is used, the more expensive it becomes. In AMIKOM and Tel-U, the costs of setting-up and running the DE degree program are not specifically calculated and tracked. The tasks of preparing the infrastructure, producing learning materials, assigning the academic staff and providing utilities are performed involving many different units in the university and the costs incurred are not assigned to the program. Whether the DE program is making or losing money is not their concern at the moment. There is no special financial planning for the DE degree program, either. It is done through the regular budget mechanism in which the DE degree program is treated like any other degree programs at the university.

4. Implementation of the DE Program

Student admission is the first step of implementation. To get adequate students attending the program, marketing activities should be performed. Since both DE programs started small, the marketing was not started aggressively but followed the usual process of reaching the sources of potential students. For AMIKOM, it was done through networks of alumni and partner institutions. AMIKOM's large number of alumni and its active involvement in the Indonesian association of informatics and computer HE institutions (APTIKOM), greatly help the approach. As for Tel-U, it started the marketing with the low hanging fruit, which is those graduating from Telkom Vocational Schools (SMK Telkom). They are 11 Telkom schools in Indonesia which could become its captive market. Both institutions use their well-known brands to convey the image of quality.Before starting the study, new students undergo an orientation program. AMIKOM and Tel-U conducted the orientation program to inform them about the university and details of the DE degree program, introducing the faculty, and getting to know each other. AMIKOM goes even further by presenting examples of alumni and seniors who have been successful. They serve as a source of motivation and inspiration. The orientation in both DE degree programs is done fully online through video conference.

Teaching and learning in DE mode is done under the philosophy of education known as student-centered learning, which strongly promotes active learning, collaboration, mastery of course material, and student control over the learning process [27]. It is different from the traditional teacher-centered model in which teachers and the textbook are the primary sources of course content. Teachers lecture and demonstrate, students listen and take notes, and then repeat the same information back to the teachers on exams. However, how the student-centered philosophy is adopted may vary from one individual DE program to another. At AMIKOM, each semester consists of 14 weeks of course teaching activity and 2 weeks of mid-term and end-term evaluations. Synchronous virtual classroom instructions are held from Monday to Friday on 3.10 – 4.50 p.m. and Saturday on 1.00–2.40 p.m. Teachers perform the instruction in 6 of the 14 classroom sessions, while the remaining 8 are done by tutors. Attendance in the virtual classrooms is mandatory to students.

Attendance less than 80% in a particular course may result in the student's failing the course. At Tel-U, synchronous instructions are limited to 3-4 times of the course sessions in a semester and student's attendance is not required since the instructions are recorded and uploaded to the learning management system for those who could not attend. Students are not evaluated based on attendance but on the completion of course activities. In this regard, Tel-U has applied the student-centered philosophy to a greater extent than AMIKOM.

Student evaluation is done to measure what the student knows or can do as a result of learning. The evaluation methods are defined as part of the course instructional design and based on the course's learning objectives. In DE degree program in which the teacher and students do not meet, performing reliable evaluation is more difficult than in a traditional campus-based class [28]. AMIKOM and Tel-U have a number of methods of student evaluation. The first method is gathering the students in a physical test facility at the remote study center or the main campus to sit proctored online exams. This method demands much effort for both the program administrator and the students. Under the current Pandemic situation, it is not possible, either. Another method is online proctored test whereby students take the exams at home within the same scheduled time. However, the method of preference in both DE programs is assigning a take-home test or a project to students.

5.   Evaluation of the DE Program

Evaluation for the DE program is done for different parts or aspects of the program. Annual student satisfaction survey is administered to measure how satisfied students are with the quality and availability of university facilities and services. Students perform end of course evaluation to assess teacher's performance in delivering the course. Teacher satisfaction survey is administered yearly to determine the satisfaction level of teachers. Those surveys provide valuable feedback which can be used to improve the DE program. In both universities, major curriculum review and update are conducted at least once every four years. The AMIKOM curriculum of 2017 and Tel-U curriculum of 2016 have been replaced with the new 2021 and 2020 curriculums.

At the moment, however, in both DE programs there is no evaluation on the quality of course materials designed and produced by the teachers. The teacher evaluation by students does not include evaluation on the teacher's performance in designing and producing course materials.External evaluation is conducted by certification and accrediting agencies or external quality review agencies. The oversight of quality assurance in Indonesian HE institutions is mainly performed by the National Accreditation Body for Higher Education (BAN-PT) and increasingly also in cooperation with the independent discipline-specific accreditation organizations (LAM-PT). The BAN-PT has adjusted its accreditation instrument (BAN-PT, 2018a) and evaluation matrix (BAN-PT, 2018b) to accommodate the uniqueness of DE degree programs when evaluating them. The internal QA systems of both DE programs have incorporated the accreditation instrument and evaluation matrix of BAN-PT.

B.   DISCUSSION

When asked about the reasons for opening the DE program, both AMIKOM and Tel-U clearly mentioned the market potentials and compatibility of the program with their mission and vision. It confirms the advice of many scholars that when deciding whether to open a DE program, it is important to first conduct a needs assessment. The HE institution needs to identify an academic area that can be effectively delivered at a distance to a group of potential students that finds clear value in the program being offered [29]. It should define market niches that might be available and what students in those niches need and expect. As Simonson et al [27] put it, "It is far better to spend $100,000 on a market analysis to learn that a market is not there than to assume it is, discover the hard way that it is not, and make a high-dollar mistake" (p. 304).The DE degree program should also be motivated and informed by the institutional mission and vision and anchored in some way to its strengths. It is not an objective in itself but as a strategy for achieving other objectives such as improved access, reach, quality, efficiency and customer satisfaction [30]. It is important for the HE institution to have clear objectives and goal. Poorly defined or misplaced objectives and goal can lead to failure.Both AMIKOM and Tel-U have a clearly defined strategy in their DE degree

program offerings. As noted by Fornaciari et al (1999), in order for the DE degree program to make economic sense and provide a sustainable competitive advantage, it must exist as an integral part of the HE institution's strategic configuration. It should be consistent with the HE institution's chosen strategy and supported by its distinctive competencies, structure, processes, and systems that form its overall configuration. Sustainable competitive advantage comes from the DE program's unique positioning in the competitive market.

As with the innovation strategy, the HE institution can choose whether to go it alone and in partnership with other institutions. Both AMIKOM and Tel-U organize their DE programs almost entirely with their own resources. However, the alternate strategy of partnership may be more appropriate to other HE institutions. Rovai [31] stated that DE partnerships allow universities to take advantage of opportunities too great to tackle on their own, to spread risk, and to capitalize on each other's branding. Successful DE programs are carefully and systematically planned. The common advice in the literature is to start with existing structures and processes and develop a system that works (Madden, 2016). Both AMIKOM and Tel-U started small by offering only one DE degree program built on the existing resources and capabilities. This conservative approach can reduce risk and allows for gradual improvements and careful future expansions. Among the first steps in DE planning is ensuring the infrastructure for distance learning is ready and operational. However, experts in distance learning unanimously believe that the success of DE programs rests with the effectiveness of the instruction, not with the sophistication of technology [32]. Easton [33] stated there are two discrete roles of the DE instructor: course designer/content expert and interaction facilitator. The DE instructor can either play the role of course designer/content expert or interaction facilitator who steps into a course that is already developed or both. It is important for the DE program to adequately prepare faculty members to be effective instructors by equipping them with necessary skills to be successful in the new roles. The certification programs in online teaching and online course development conducted by Tel-U are a good example for this. To further continually improve the skills, Schmidt et al [34] propose the development of informal networks and contacts. Networking helps instructors get involved in informal groups to discuss specifics related to distance teaching. It provides a medium for discussing challenges and finding solutions, thereby co-creating ideas and new knowledge to improve teaching.

Both AMIKOM and Tel-U do not separate out the costs of DE and campus-based programs. Therefore, they don't know the real costs of running the DE program and whether (or when) it becomes profitable. It is the common practice among dual-mode institutions with small-scale DE programs operated by individual departments [35]. For them, it is not worth budgeting for the DE separately. Costing the two modes separately is impractical due to overlapping activities. Although it is relatively easy to separate out the direct variable costs of the two modes such as course materials development costs by establishing separate budget lines for the different activities, it is much more difficult to partition the costs of overheads such as supervisory, building and equipment, and other support costs necessary to keep the DE program functioning.The actual method of teaching-learning at a distance is where AMIKOM and Tel-U differ the most. The daily scheduled virtual classrooms at AMIKOM enable students to participate in a class in real-time, making the experience close to a physical in-class experience. They offer the possibility for teachers and students to actively engage in both the knowledge transmission and co-creation. Distance students often experience feelings of isolation and little sense of belonging or connection with the university, which may result in delayed completion of degrees, withdrawal from courses, or a complete dropout from a program [36]. More face-to-face contact, albeit virtually, promotes positive relationships between teachers and students and builds a sense of community, which contribute to greater students' academic success. This method is called the "high touch" approach [37]. However, although student success may be higher, it does not offer much scalability since additional classes will need additional teachers.

The DE program at Tel-U, on the other hand, is a "high tech" approach. It relies more on asynchronous instructions in which every student can study at their own pace and add their responses and questions to the course discussion at any time. It is more scalable since the teaching is self-directed and automated. Additional clasess do not necessarily require additional teachers. However, it may result in the students' feelings of alienation if not supported with adequate "human touch". Finding the right balance

between "high tech" and "high touch" approaches to the DE program is key to its success [32].Evaluation is an essential component of program improvement and long-term success. Good evaluation can reveal what is effective and what is not. Evaluation of the DE program has been done by both universities in a comprehensive manner, involving the students, faculty and management. It covers aspects of university services as well as teaching performance of the instructors. What remains to be done is evaluation of course materials. In the DE program where students largely depend on the modules given to them for studying, the importance of quality course materials could not be overstated [21]. The success of teaching and learning depends largely on the quality of course materials. It is more so in the case of Tel-U which puts more emphasis on independent student learning. Since the evaluation of online course materials need assistance of experts specializing in instructional design who understand the pedagogy of distance education, AMIKOM and Tel-U need to employ them when doing such an evaluation.

IV.   CONCLUSION

The findings of this study confirm much prior research. The DE degree programs studied are still in early stages, therefore it cannot be assumed that they provide best practices. While results of this study could be used as reference by Indonesian higher institutions considering or planning to open a DE degree program, the authors cannot assure transferability of the results in other educational settings. The degree of transferability is a direct function of the similarity between the setting of this research and those in which the results are expected to be transferable [38].

V.   ACKNOWLEDGMENTS

REFERENCES

[1]   Holmberg, The evolution, principles and practices of distance education, vol. 11, Oldenburg: Bis, 2005.

[2]   S. Guri-Rosenblit, *Distance higher education in the digital era: challenges and prospects*. Distance Education in China, vol. 6, 2016, pp. 16–25.

[3]   S. Guri-Rosenblit, Distance and campus universities: Tensions and interactions. Oxford: Pergamon Press/ International Association of Universities, 1999.

[4]   Keegan (ed), Otto Peters on Distance Education: The Industrialization of Teaching and Learning, London: Routledge, 2013, pp. 107-127.

[5]   J. Daniel, Mega-Universities and Knowledge Media: Technology Strategies for Higher Education, London, Kogan Page, 1996.

[6]   P. Cookson, *The Hybridization of Higher Education: Cross-National Perspectives*, International Review of Research in Open and Distance Learning, vol. 2, no. 2, 2002, pp. 1-4.

[7]   A.R. Trindade, H. Carmo, J. Bidarra. Current Developments and Best Practice in Open and Distance Learning. *International Review of Research in Open and Distributed Learning*, vol. 1, no. 1, pp. 1–25, 2000.

[8]   Tait and R. Mills (Eds.), The Convergence of Distance and Conventional Education: Patterns of Flexibility for the Individual Learner, London: Routledge, 1999.

[9]   J.E. Seaman, I.E. Allen, J. Seaman, Grade Increase: Tracking Distance Education in the United States, Babson Survey Research Group, 2016.

[10]   M. Gaebel, V. Kupriyanova, R. Morais, E. Colucci, E-learning in European higher education institutions. Belgium: European University Association, 2014.

[11]   O. Zawacki-Richter and A. Qayyum, Eds., Open and Distance Education in Asia, Africa and the Middle East: National Perspectives in a Digital Age. Singapore: Springer Singapore, 2019.

[12]   J. Daniel, *Dual-mode universities in higher education: Way station or final destination?* Open Learning: The Journal of Open, Distance and e-Learning, vol. 27, no. 1, 2012, pp. 89–95.

[13]   Minnaar, *Challenges for successful planning of open and distance learning (ODL): A template analysis*, The International Review of Research in Open and Distributed Learning, vol. 14, no. 3, 2013, pp.81-108.

[14]   King, *Distance education and dual-mode universities: an Australian perspective*, Open Learning: **The Journal of Open, Distance and e-Learning,** vol. 27, no. 1, 2012, pp. 9-22.

[15]   O. Peters**,** Distance education in transition: New trends and challenges (2nd ed.). Oldenburg: Bibliotheks-und Informationssytems der Universitat Oldenburg, 2002.

[16]   Kementerian Pendidikan dan Kebudayaan (Ministry of Education and Culture), Permendikbud No. 7 Tahun 2020 Tentang Pendirian, Perubahan, Pembubaran Perguruan Tinggi Negeri, Dan Pendirian, Perubahan, Pencabutan Izin Perguruan Tinggi Swasta (Regulation no. 7 Year 2020 on the Establishment, Change, Dissolution of State Higher Education Institutions and the Establishment, Change, License Cancellation of Private Higher Education Institutions*)*, 2020, available at https://lldikti13.kemdikbud.go.id/2020/01/29/peraturan-menteri-pendidikan-dan-kebudayaan-republik-indonesia-nomor-7-tahun-2020-tentang-pendirian-perubahan-pembubaran-perguruan-tinggi-negeri-dan-pendirian-perubahan-pencabutan-izin-perguruan/

[17]   Ministry of Education and Culture of the Republic of Indonesia, Pangkalan Data Pendidikan Tinggi (PD Dikti) database, [online] available: https://pddikti.kemdikbud.go.id/search/PJJ, retrieved on December 25th, 2021.

[18]   F.D. Davis, *Perceived usefulness, perceived ease of use, and user acceptance of information technology*. MIS Quarterly, vol. 13, no. 3, 1989, pp. 319-340.

[19]   R. Yin, Case Study Research and Applications, Design and Methods (6th ed), London, United Kingdom: Sage Publications, 2018.

[20]   J. Creswell, Qualitative Inquiry and Research Design: Choosing Among Five Approaches (2nd ed). Thousand Oaks, CA: Sage Publications, Inc, 2007.

[21]   M.G. Moore and G. Kearsley, Distance education: A systems view of online learning, Cengage Learning, 2011, p.2.

[22]   R.E. Stake, *Case studies*, in N.K. Denzin and Y.S. Lincoln (eds), Handbook of Qualitative Research (3rd ed*)*, Thousand Oaks, CA: Sage Publications Inc, 2005, pp. 443–466.

[23]   S.B. Merriam, Qualitative research : a guide to design and implementation, Jossey Bass, San Francisco, CA, 2009.

[24]   J. Saldana, The Coding Manual for Qualitative Researchers, Los Angeles, CA: Sage Publications, 2009.

[25]   M.E. Porter, *Industry structure and competitive strategy: Keys to profitability*. **Financial Analysts Journal**, vol. 36, no. 4, 1980, pp. 30-41.

[26]   H. Chesbrough, Open business models: How to thrive in the new innovation landscape. Boston, MA: Harvard Business School Press, 2006.

[27]   M. Simonson, S. Smaldino, S. Zvacek, Teaching and Learning at a Distance: Foundations of Distance Education (6th ed.), Information Age Publishing, Charlotte: North Carolina, 2015.

[28]   S.D. Arnold, *Assessing student learning online*, in Digital systems for open access to formal and informal learning, Springer, Cham, 2014, pp. 83-100.

[29]   Monolescu, C. Schifter & L. Greenwood (eds), The distance education evolution: Issues and case studies. Information Science Pub, 2004.

[30]   T.W. Smith, *Distance education is a strategy: What is the objective?*, **American Journal of Distance Education**, vol. 12, no. 2, 1998, pp.63-72.

[31]   P. Rovai*, A practical framework for evaluating online distance education programs,* The Internet and Higher Education, vol. 6, no. 2, 2003, pp. 109–124.

[32]   D.R. Spitzer. *Don't forget the high-touch with the high-tech in distance learning*. Educational Technology, vol 41, no. 2, 2001, pp. 51-55.

[33]   S.S. Easton, *Clarifying the instructor's role in online distance learning*. Communication Education, vol. 52, no. 2, 2003, pp. 87-105.

[34]   S.W. Schmidt, C.M. Tschida, & E.M. Hodge, *How faculty learn to teach online: What administrators need to know*, **Online Journal of Distance Learning Administration**, vol. 19, no. 1, 2016, pp. 1-10.

[35]   Rumble, *Financial management of distance learning in dual-mode institutions*, Open Learning: **The Journal of Open, Distance and e-Learning,** vol. 27, no. 1, 2012, , pp. 37–51.

[36]   E. Gammie, B. Gammie, F. Duncan*, Operating a distance learning module within an undergraduate work placement: some reflections*. Education + Training, vol. 44, no. 1, 2002, pp. 11–22.

[37]   N.H. Allen, *Lessons learned on the road to the virtual university*. Continuing Higher Education Review, vol. 65, 2001, pp. 60-76.

[38]   Y.S. Lincoln & E.G. Guba, Naturalistic Inquiry. Beverly Hills, CA: Sage Publication, 1985.