

Online Pesantren: Architecture, Opportunities and Challenges

A. Zaki Mubarak

Center of Pesantren and Madrasa Study “Trenma”,
STAI Tasikmalaya, Institut Agama Islam Cipasung

Abstract Online pesantren is an alternative traditional Islamic institution in 21st century. It leads pesantren to open in virtual world becoming new entity of electronic educational ecosystem. Objective: this study aims to find online pesantren architecture without ignoring its character conceptually and practically. The process of knowledge transfer, value transfer and cultivating tradition are tried to construct in internet of thing system. Society 5.0 as future concept of human life must be inserted by value of pesantren inside. Method: library research by grounded research was conducted by comparing and analyzing some primer books. Result: Online pesantren architecture consist of two main idea: internet architecture including modul and adopted pesantren virtual system and content architecture that consist of curriculum and material design, blended learning, and certification. The opportunity and challenge were found to strengthen online pesantren as a possibility although it conceptually needs deepest study to reconstruct definition, theory and practice of pesantren. Waiting society value artificial intelligent development will be a next solution to possible advance online pesantren.

Keywords: online pesantren, virtual world, transfer of knowledge, pesantren architecture, pesantren opportunities and challenges

Corresponding author:

A. Zaki Mubarak,
zaki@iaic.ac.id

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1. Pendahuluan

Pesantren is Indonesian indigenous Islamic traditional institution. It came from various educational traditions related to Hinduism and specific Nusantara ancient habit. It is regarding terminologies, attitudes, habits, values and characters. Speaking pesantren could not detach from Nusantara tradition as area and Hinduism as the content of previous religion. Both constructed the specific institution called sastru.

According to pesantren history, its terminology comes from sastru. Sastru is the name of Hinduism students. Adding by prefix “Pe” and suffix “an” as the abstract noun construction, sastru becomes “pasantrian”. In Indonesia tradition, even in Arabic, word “ian” will be reduced by “en” as well as kabupatian to be kabupaten. In Arabic word, it was called tashgir.

From pesantren’s name, public will predict that historical sastru as Hinduism terminology lead various interpretation. Some will perceive that Hinduism tradition have

been influenced pesantren as an institution, some will not. Moreover, it is a fact that Islamic spreading over Indonesia used cultural

approach in which previous tradition will, like or dislike, influence fundamentally. It was avowed by historian and Nahdlatul Ulama (NU) as bigger Islamic organization. NU becomes become first pesantren affiliation on mass organization in Indonesia.

Nevertheless, pesantren's history is not one hundred percent from Hinduism. Pesantren came from Nusantara tradition as basic philosophy and character. Many names derived from Nusantara terminologies such as Kyai, Nyai, Kobong, and so forth. Hinduism and Nusantara tradition was integrated to be an culture and it became first approach led by Wali (most influenced Islamic disseminator over Nusantara) to spread Islam rapidly. They used local tradition and its language to facilitate people understanding Islam easier. They were success to change people belief on Hinduism to Islam. People perceive that Islam has better religion and some similarities inside. The religious conversion is not hard by using cultural approach and becoming better approach compared by Islamic conversion trough war in Islamic empire in 500's year.

The acculturation process needs long time. At least, there are three steps to change Islamic tradition in Nusantara at that time: (1) following cultural habit, (2) inserting Islamic values on Culture, (3) purifying Islamic values and teaching in institution. Pesantren is one of the third steps as Islamic purification. Teaching as transfer knowledge and values was instituted by adopting local schooling. Replicating Hinduism school made easier transforming from Hinduism tradition to Islamic one.

The impact, pesantren developed as bigger power of civil. Government, colonialism at that time, had not access to interrupt its organization. The pesantren's character was designed like a kingdom. Marriage genealogy is one of blood-relationship authority inside. No everyone had direct access to pesantren even the Dutch. Pesantren developed and transformed to many kinds of character. It looks like a revolution on curriculum, organization, design, framework and civil relationship. Nowadays, pesantren has higher bargaining position on many field in Indonesia nation-state government such as in political party for voting getter, in educational system for pesantren-based schooling, in social for empowering people directly, and so on.

However, facing 21st century the pesantren development got some challenges. The fast access of Islamic knowledge becomes pesantren is the one of Islamic institution that has single authority. Google, as a product of 21st century, is supplying millions access to know and understand Islam directly. Some tradition: both local and global, both pesantren paradigm and not, both radicalism and moderation, both straight way and wrong, compete to cultivate their teaching to internet user mindset. Filtration of content is highly ignored caused by easy touching and no distance between content creator and user. No interruption, no filter, no guidance, no standard become a danger Islamic teaching inside. 21st century will construct Islam in one side but deconstruct in other side.

How to solve this problem? The alternative answer is trying to elaborate in this paper. Online pesantren is one of solution to balance internet contents on Islamic teaching and tradition. Islamic knowledge and values based on pesantren could be designed wider by using internet as media. Not only web-based system but also android

based. Its purposes to make easier and simpler system to bring content closely to moslem. Moreover, some opportunities to develop online pesantren as well as some challenges then. It could be explored deeply.

2. Method

This paper is to elaborate online pesantren concept. There are two concepts must be explored theoretically: pesantren and internet of things (IoT). To construct its concept, the research used grounded research method and collected some narrative data from primer literature such as Tradisi Pesantren (Zamakhsari Dhofier) and Bunga Rampai Pesantren (Abdurahman Wahid) for pesantren studies and some books regarding internet. The theories will be constructed to be a practical product namely online pesantren. Some foundational principles whether education or IoT become a basic element to build this product.

The research framework could be figure out as following:

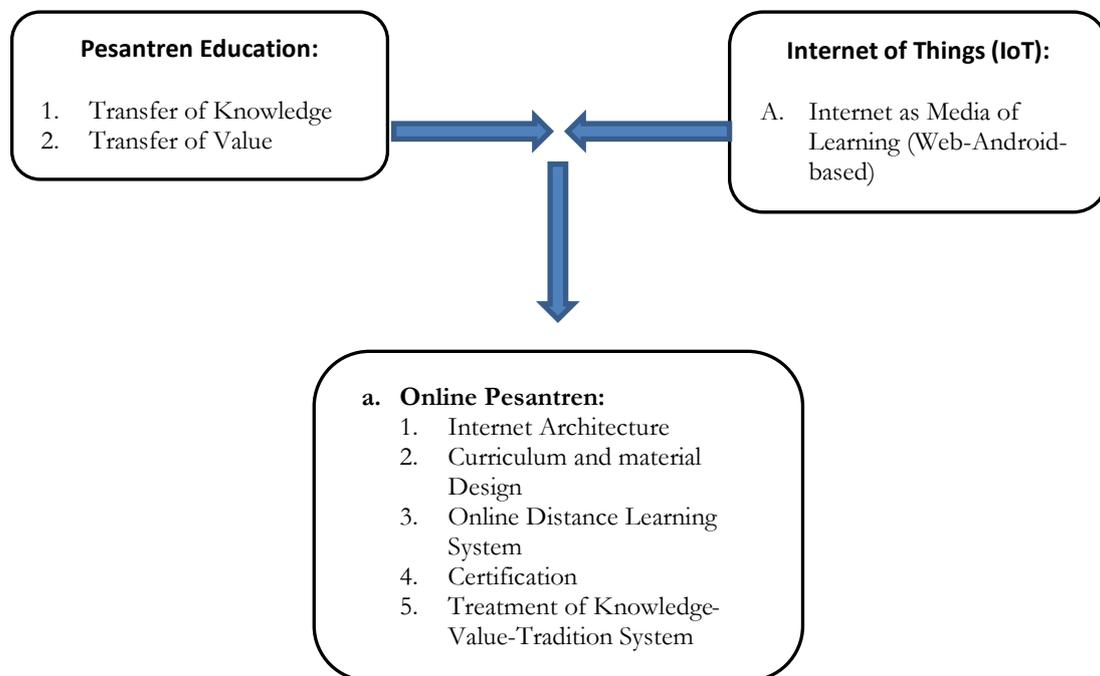


Figure 1. Research Design and Framework

The theory of pesantren content which consist of transfer of value, transfer of knowledge and tradition will be basic content on building internet as pesantren media. The development of internet such as web-based and android-based added by lower artificial intelligent aplication will become fundamental media to spread pesantren tradition. The paper will find the way of internet architecture, curriculum and material development, online distance learning system and certification. To keep the pesantren tradition, the treatment of knowledge, values and tradition will be designed by reality approach leaded by artificial intelligent of internet of things.

3. Pesantren: The Basic Components and Its Functions

According to Dhofier Pesantren has five components: mosque, dormitory, kyai, santri and yellow book (kutub at thurats). The components consist of three kinds of part:

facilities, subject and object. The three becomes integrated part to run pesantren tradition on learning process. The process is not just transferring knowledge but also transferring value. The combination knowledge and value construct pesantren tradition such as wirid (praying divine words repeatedly), mujahadah (training to fast, to solve problem, no money inside, etc.). The dual process come from the interaction among facilities, subject and object.

Facilities must be there of two components mosque and dormitory. Pesantren is designed 24 hours educational system so that completing locus for study and stay is principally needed. Subject of learning consist of two roles, kyai as a teacher and santri as a student. The relation of learning subject is absolutely different. The different role produces many kinds of values such as berkah (added value) takdim (honour) and kualat (accursed). The object is material designed and written by Islamic scholars in middle century (500 – 1500 years). The media of writing is yellow paper that function as appropriate media for long time reading. In pesantren tradition, reading yellow book could be more than two hours. It is no problem, because yellow book is good for eyes.

Above components has been changing in pesantren tradition. Yellow book (YB) as the fundamental material design was changed. Formerly, pesantren keep after YB as single authority of material. It imagines the holistic Islamic knowledge. The white paper, as contradiction of YB, does not have authority to interpret Islam in Pesantren and alumnus. The YB is “the holly book” for describing Islam at all. However, by revolution of pesantren types (see Mubarak, 2018) there are paradigm shift. YB was reputed as most difficult material for beginner. YB is hard to understand and need long time to master, so that many revivalists change this tradition through white paper.

White Book (WB) is actually a resume from YB. The language is easy to understand even translated to Indonesia or local language. The beginner students are easy to master the curriculum serviced. But, by using WB the nurturance effect of YB is lose. The concept of Takdim or honour among santri to kyai, or among santri to kutub at turats is ignore. The difficult process of YB produce takdim as a specific value of pesantren tradition. Santri will feel happy if reaching understanding of YB. The longtime process and seriously effort made them to honour Kyai or ustadz. So, when opening book, they always remember their kyai as teacher and even pray for author by hadroh (praying to the deceased).

Kyai or ustadz (teacher in Arabic) are fundamental part in pesantren. The brand of pesantren relatively refers to kyai themselves. The kyai’s knowledge discipline will refers the character of pesantren leaded. If kyai graduated from “Arabic Grammaticus teaching pesantren” so the brand pesantren is Arabic grammatical studies pesantren. The single power for pesantren is handled by kyai. However, the impact as kyai passed away, the pesantren will pass away too, because the central figure is a weakness of traditional pesantren system.

Santri or students of pesantren is unique. According to tradition and history, the majority of santri comes from lower economy status. In colonial era, the higher lower economy status chooses modern school, Nederland school, as first choice. Pesantren is marginal schooling for people. The lower economy has direct access to pesantren and pesantren is very open for everyone. Because of cost and tradition, poor people choose

pesantren for learning and its impact for spreading Islamic tradition to lower-middle economy status society.

4. Online: The Basic Principle and Architecture

Online is new product of 21st century. By this system, everything can be informed to the public rapidly. Four pillars of online: cheaper, faster, simpler and accessible. These pillars make everyone feel invited to the new world, new paradigm and new way. By tagline the world in your hand, people enter the virtual life easily and happily. This world leads people connect each other by simpler, cheaper, faster, real time and accessible. It is good for life.

Start-up company such as traveloka, Gojek, Tokopedia, Shopee, etc. prove us that virtual world is prospective to future. They surely enhance from local start-up becoming Unicorn even decacorn. In education field, Ruang Guru show us that students do not need visit paid extra learning system but they are invited to click and learn directly. Some parents are happy to hear this information, because most of extra study made them worry about children's safety. Learning at home by using application is the solution and parents can control their activities in learning.

Moreover, data digitalization become most popular in the 21st century. IoT is the new monster to control human life. People organize daily activities on their hand and publish in real time. Social media is a new social control for throughout live system. The computerization of company and autonomous robotic program are the new way to actualize human life being. Germany called this era by "fourth industry revolution" meanwhile USA called "internet of things" and China named "internet plus". Japan in 2016 conducted bigger program namely "Society 5.0" that reorganize all life aspects integrating to internet through artificial intelligent. This program will emerge new paradigm of life and government should be ready to change through smart city and full autonomous machinery.

To apply Society 5.0 as Japan projected, every aspect of life must be integrated in internet. It needs new architecture of internet that support Society 5.0 project. Principally, the architecture could consist of life system such as economy, social, politics, culture, national security and education. All life components should be there in big data (cloud) and it will be a main source to organize artificial intelligent (AI) on it. Everyone is invited to create contents in cloud then its big data will help AI to conclude the life solution autonomously.

Surely, Society 5.0 is together future project. Everyone is connected and accessible to everything life such banking, hospitality, transportation, work, human relationship and so forth. The first step is how to build big data as main source to AI. The architecture of containing Cloud will be different based on startup purposes. The various data in internet will enrich each other to build the big data. So, how about the data of pesantren?

This is our problem. Education in general has millions of sources, but pesantren in specific has not. It need support from some part to contains internet in pesantren studies. Many Islamic studies were contained to virtual but the source and teaching is varied. It was perceived any paradigm war of Islamic denominations. The difference of

Islamic understanding including political interest, local tradition, fiqh distinction, practical-religious oriented becomes a gap among moslem. They compete to cultivate their belief to internet user and make networking as virtual affiliation. It is good for unity but bad for Islamic standardization regarding Islamic traditionalist role by pesantren. Pesantren is relatively a loser in this area and others are the winner.

To organize the content of pesantren in internet, online pesantren is the solution. The real pesantren is best way to build human character, because it is regarding human real life. However, IoT is a fact that was followed by most people around the world. It is lost out as if pesantren do not use virtual media as an alternative area of teaching. Surely, it will find some challenges and protest from real pesantren, but it must be ensured that online pesantren is an alternative media not main or core of pesantren education system as like we know so far.

So, the online pesantren architecture will be different on real version. The terminology “pesantren” should be saved by blended or hybrid system between online system and offline. The pesantren process including transfer of knowledge, transfer of value and tradition could be applied on online and offline system. Internet was located as media of transferring knowledge and it should be enriched by offline on transferring value and tradition.

5. Online Pesantren: Curriculum and Material Design

The first architecture of online pesantren is curriculum. The whole of pesantren curriculum must be designed completely, from general pesantren (for public) and specific pesantren (for santri only). The curriculum will lead pesantren to transform to be a different entity comparing real pesantren. The content is expected similar but the way is frequently different. Whole system in real pesantren is tried to exit in online pesantren trough dual system online and offline.

Online Pesantren (OP) is public pesantren, so it must be divided into two users: public and specific santri. To access OP, every user must log in because of registration. Admin (OP receptionist) will register and welcome user to be santri. Both public santri (*'am*) and specific santri (*khos*) are called OP santri with different treatment. *'am* is general santri as a reader, a learners, a commentator, a discussion participant and of course as a student of OP by “sit in” class.

Khos is special santri. They come to website or android based to be santri. Admin as administrator report to Kyai and teachers for their existence. Every visit to website is computed as a class meeting. The system record the attendance as virtual present. Santri welcome to register all identity and chose *santri khos* as user account. The treatment will lead new comer to pass every grade ordered. No time to limit to learn in every grade, it depends on the santri khos attendance and graduate the level. The more learning, the quick graduate gotten. All new comer start from beginning level to test the level of knowledge of whole pesantren material design. If santri has better level, they have to pass lower level to ensure that he or she get the certification.

Every santri khos will be tested the process of transfer of knowledge, value and tradition by the system. the evaluation consists of containing material design including: *quran, hadits, aqeeda, akhlaq, fiqh, ushul fiqh, sejarah and Arabic*. The architecture of curriculum and material design model is as follows:

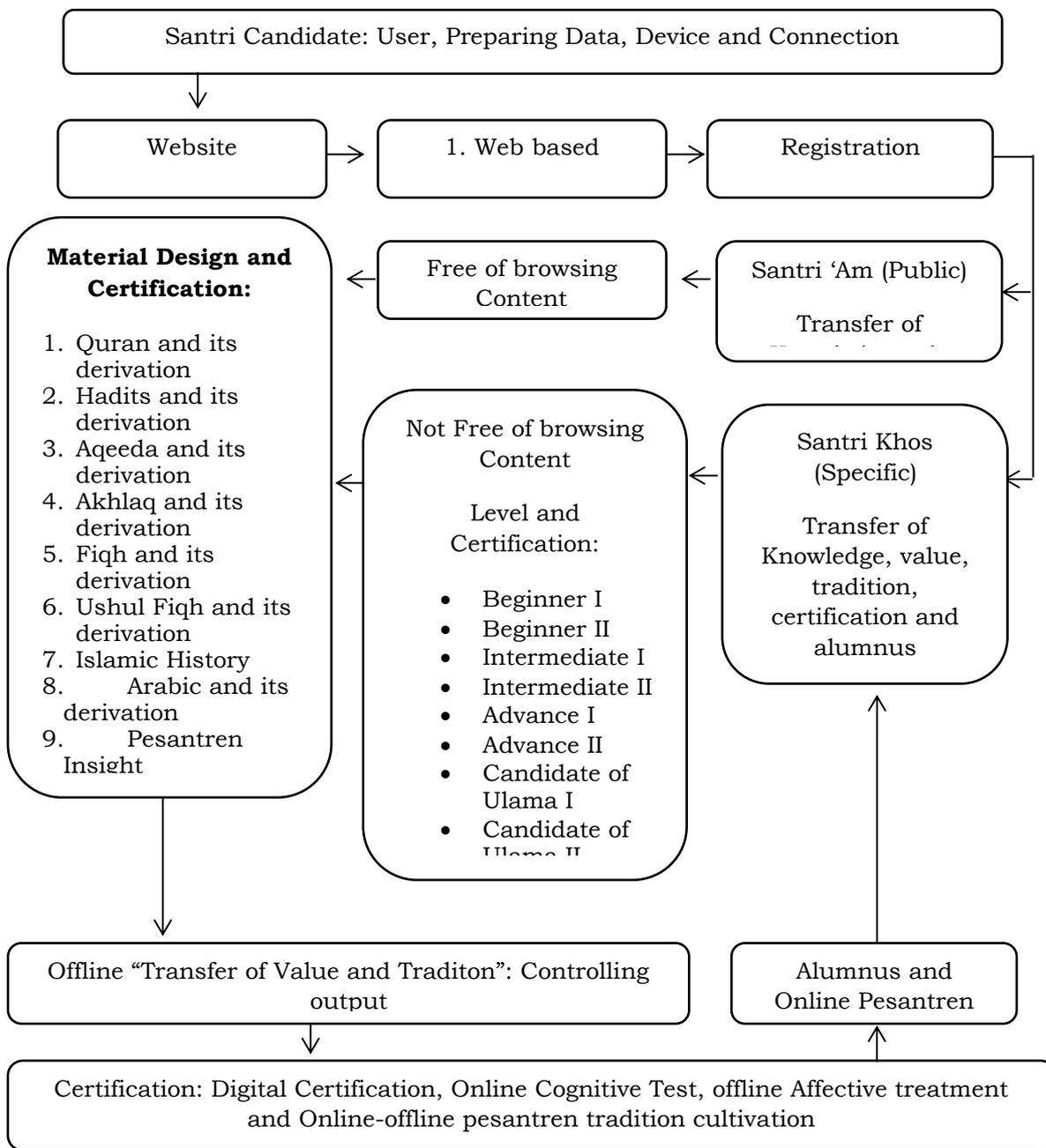


Figure 2. Architecture of Curriculum and Material Design

6. Online Distance Learning System and Certification

The best choice of learning in virtual system is blended learning. There are two choices regarding model of learning: full online learning system and blended learning system or hybrid learning system. full online is designed to full process by using *computer-based instruction*. The real learning is ignored to construct system that student interacts all

process by computerized interface. No limit to practice and visit but hard to control. It is suitable for process of transfer of knowledge.

Blended learning is virtual and real learning integration. Santri has two main activities: virtual for process of transfer of knowledge and real for process of transfer of value. Its blended learning is constructed to cultivate pesantren tradition. The material design is tested by certification. All subject (8 subjects) must be passed by santri through the system. If santri are finding trouble in one or more subject and its contents, they have to learn more by the system and try to pass the exam.

The process of certification consists of two: controlling transfer of knowledge and transferring of value. Before printing certificate of achievement, offline meeting must be conducted to ensure transferring of value occurred. Online pesantren admin (team) held offline meeting including *tawasul*, *ziarah*, *ijazah*, etc as the pesantren tradition. The test of cognitive is quite on system and added by offline meeting as the end of process. After online and offline process, the certificate of achievement (per level) could be printed.

7. The Opportunity and Challenge of Online Pesantren

Actually, online pesantren is made to enlarge pesantren tradition over the people. The limited access to specific pesantren is one of exclusive system problem. Visiting pesantren perceived as piety attitude, high religious achiever and genealogical community. Online pesantren offers the inclusive system that led public to register and learn pesantren tradition. It is a new form of dakwah in millennial age. Most people keep hand phone as new tradition of human life. It evenly controls people's daily activities. If online pesantren inclusively open to public, they can access pesantren tradition easily.

The opportunity of online pesantren put on unlimited access to public and wider and limitless process of pesantren. The facilities that should be presented in real life is change to virtual infrastructure. It sounds cheaper. Building one hardware and software is the first step to construct the architecture. Collecting material from some pesantren is best choice to enrich in creating content. Preparing internet hardware and audio-visual device must be prepared to firstly build. It is relatively cheaper than building real infrastructure.

The challenge of online pesantren is much. Beside pesantren conceptual terminology problem, reducing pesantren components is problematic. The mosque for instance as the main site to learn is ignored and changed by real device. The device could not give some value to cultivate tradition or at least to give new positive value inside. The value and tradition is lose. Moreover, the relationship among santri-santri, santri-kyai, society around-santri have not occurred. The exist value in real pesantren could not earn by using internet of things media. The recent artificial intelligent to manipulate its value have not been designed. It needs time to wait until the engineer find duplication of society life into virtual world.

8. Conclusion and Recommendation

The online pesantren is a possibility. The architecture of internet of things possibly kyai to move real pesantren knowledge, value and tradition in virtual world. The curriculum and material design are absolutely easy to construct in digital as transfer of knowledge process. However, the process of transfer of value and tradition must be

conducted in offline system by using blended (hybrid) learning system. Santri will find some the similar value on offline system.

The opportunity and challenge are part of online pesantren risk. The wider touch through internet device will be an accessible Islamic institution and unlimited process to learn Islam as a traditional teaching program. Moreover, the internet architecture to duplicate pesantren component is a possibility especially waiting society value artificial intelligent at future. This effort is to try enriching pesantren tradition big data in internet with future goals is implementing Society 5.0 life system by pesantren teaching inside.

Some weaknesses are found to build online pesantren conceptually. Established definition of pesantren component become theoretical problem. Then, pesantren aims not only transfer of knowledge as modern schooling emerged but also cultivate value and tradition. It is hard to implement by using online pesantren only. Hybrid learning is solution but the indicator of success must be tested. Cultivating value needs long time and not instant. Blended learning offered in this paper is not enough to solve complicated problem based on pesantren unique purposes. But it is a possibility to apply.

Finally, I recommend the next writer to find best solution in solving online pesantren challenge. They are not only in conceptual, but also in practical. I recommend to apply online pesantren first then we will find some challenges to be solved. The world order is always change, so paradigm shift of pesantren activist is must.

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