

# INCUBATION OF HUMAN RESOURCES BLITAR REGENCY BASED ON NFT ARTWORK

Brenda Lydia Ade Vega<sup>1</sup>, Alby Aruna<sup>2</sup>, Eka Putri Surya<sup>3</sup>, Adinda Marcelliantika<sup>4</sup>, Iriaji Iriaji<sup>5</sup>  
University of Malang, Malang<sup>12345</sup>  
brenda.lydiaa@gmail.com<sup>1</sup>

---

## Abstract

PPKD documents as the reference for preserving the Blitar Regency culture has provided modern and latest archival records. However, the archive is still conventional, reinforced by the culture introduction between generations. Interactive patterns that displays visuals are suitable to transfer cultural understanding. Referring to the vision of culture as an investment in future assets, culture smart pattern as a Non-Fungible Token (NFT) digital art registered in a blockchain cryptographic system can accommodate the resolution of cultural archiving, modern culture transfer, and future assets permanent incubation. Through an asset-based community development approach, empowerment of potential-based skills can be developed holistically. Interactive media development uses the ADDIE Model by reflecting on the media as a technology-based learning resource. The media validity is carried out by testing the validity by material and media experts. Data analysis was carried out to identify the increase in the value of pre-test and post-test of human resources through the match-pair test. Hypothesis decision making refers to the guidelines if the significance level (Sig)  $< 0.05$  then  $H_a$  is accepted, and vice versa if the significance level (Sig) is  $0.05$  then  $H_a$  is rejected and  $H_0$  is accepted. Practicality test was carried out to analyse the media practicality which was obtained through acquisition value/ maximum score  $\times 100\%$ . The incubation process of human resources through culture smart pattern as an NFT digital artwork can solve the cultural archiving, transformation of cultural transfer, and realizing culture as a permanent asset for the future of Blitar Regency.

**Keywords:** Incubation, Promotion, Culture, Blitar, Non-Fungible Token

## 1. Introduction

The demographic bonus is a strategic opportunity for Indonesia to accelerate economic development [1], with the support of the availability of human resources of productive age in significant numbers. Indonesia will enjoy the demographic bonus era in 2020-2035 [2]. At that time, the number of productive age population is projected to be at the highest graph in history, reaching 70 percent of the total population of Indonesia which is 297 million people, in the demographic bonus in Indonesia [3] regeneration is closely related to science, technology and information acceleration. Blitar Regency is an area in East Java Province which is geographically located southwest of Surabaya with a distance of 160 km. Blitar Regency has a population of 1,163,789 people and has an average of 20% of the productive sector age (BPS, East Java Province, t.t.). In the productive sector, one of which is the growth and development of regional youth organizations, there are eight alliances, each representing the distribution of students/campuses throughout Indonesia. On average there are 15 members in each alliance, which means this sector has potential with 120 active members of the Blitar City youth forum.

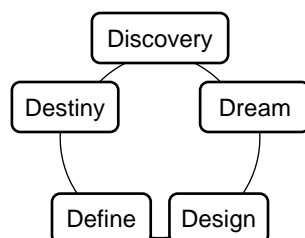
Law of the Republic of Indonesia Number 5 of 2017 concerning the promotion of the culture of the Republic of Indonesia provides a description that culture is an investment to build the nation's future and civilization. Answering the vision of advancing culture based on STEAM (science, technology, engineering, arts, and mathematics) [4]. In [5] the STEAM approach prepares humans or individuals to compete globally. This is because applying the STEAM approach trains individuals in higher-order thinking within the scope of collaborative creativity communication to help realize experiential learning and problem-solving skills based on the assumption that science, technology, engineering, art, and mathematics are interconnected [6].

The Law of the Republic of Indonesia Number 5 of 2017 concerning the promotion of culture has described the diversity of cultural products in Indonesia, there are 10 types, including: manuscripts, languages, customs, rites, oral traditions, traditional knowledge, traditional games, traditional sports, arts, traditional technology. However, to meet the advancement of culture within the scope of the demographic bonus, the problem is certainly part of the main dynamics that cannot be separated from the role of youth. In this regard, it is supported by the challenge of preserving traditional culture which is getting tougher due to the development of an increasingly modern era plus the current of globalization [7]. The development of the times and the trend of globalization have caused many changes in the pattern of people's lives and also influenced the culture of the community itself [8]. The culture of the ancestral area began to be influenced by foreign cultures and gradually abandoned. This is supported by research [9] which describes that regional culture has begun to be marginalized.

Responding to the challenges of advancing culture based on STEAM (science, technology, engineering, arts, and mathematics) and youth optimization problems, designing a cultural pattern design for Blitar Regency based on interactive augmented reality comes with the ABCD (Asset-based community development) method. The youth incubation program in designing creative designs of cultural patterns with 3D augmented reality features worth selling, this program is present as a form of youth incubator in developing skills and empowering the productive sector, especially in the fields of design, animation, and critical thinking with a pattern of promoting culture with a digital system. The target of this incubation program is to create a work related to STEAM-based cultural incubation work based on soft skills manuals and to become a sustainable youth incubator to assist the overall transfer of knowledge in the scope of potential cultural promotion designs in the form of visual creations and non-visual assets.

## 2. Method

In this community service activity, the ABCD (Asset-based community development) method and approach is used because the method is relevant based on the planned goals and principles. This community service is carried out at the Home base student forum of Blitar State University of Malang (FORMABLIUM), Jl. Bengawan Solo, Pakunden, Sukorejo, Blitar City, East Java with 30 productive youth target communities. The diagram of the ABCD (Asset-based community development) method in community service activities with the theme of Blitar Regency cultural pattern design based on interactive augmented reality as a form of steam-based cultural promotion can be seen in the diagram below:



### Figure 1. Asset Based Community Development (ABCD)

The asset-based community development (ABCD) method is in line with McKnight and Kretzmann in which outlines six principles so that local communities can create a sustainable community empowerment that can be realized in 3 periods of past, present and future life, namely : 1) appreciation or analysis, (2) involvement, 3) positive psychology or it can be said as a good life, 4) positive deviation or can be defined as a deviation that is positive leads to a good state, 5) development from within, and 6) the heliotropic hypothesis is an evolution towards an image with a positive nature. The asset-based community development (ABCD) method is a significant method with concepts and alternatives in community development [10]. For the final measurement of the validity level, use the following formula:

$$V. ah = \frac{TSe}{TSh} \times 100\%$$

Description:

V.ah. : Expert validation  
TSe : Total Empirical Score  
TSh : Total Expected Score

The value data from the pre-test and post-test were analysed through a prerequisite test using Kolmogorov Smirnov with the basis of decision making if the value (Sig.) > 0.05 then the data distribution was normal and if (Sig.) < 0.05 then the data distribution was not normal. The proposed hypothesis is  $H_0$ : there is no significant increase between pre-test and post-test and  $H_a$ : there is a significant increase between pre-test and post-test. Then data analysis and hypothesis decision making use the match pair test which refers to the guidelines if the significance level (Sig) < 0.05 then  $H_a$  is accepted, and vice versa if the significance level (Sig) is 0.05 then  $H_a$  is rejected and  $H_0$  is accepted.

Then the product practicality test was carried out which was measured by five indicators, namely the ease of user interface in using the media, time efficiency, can be used as a tool, durability of the tool, development and maintenance costs. Practicality test measurement uses the following formula:

$$Practicality = \frac{acquisition\ score}{Maximum\ Score} \times 100\%$$

The assessment of the practicality test is based on the level of achievement if 81% - 100% are classified as very practical.

## 3. Finding and Discussion

### 3.1 User Interface and Software Feature Display

The first stage in determining this problem is to create a special group to focus on cultural products with a focus on roadmap design to look at the problem as a unit (not individual) in this process that connects one problem to another problem of cultural promotion. After the first process is over, the next stage is exploring creative ideas and the process of sketching cultural patterns. The third stage in this activity begins with the process of outline images, digitizing markers, digitizing objects that will appear, and the application user interface design process. Regarding the Non-Fungible Token (NFT) digital assets being developed, they are Penataran Temple, Grebek Pancasila, Larung Sesaji, Bung Karno's Tomb, Purnama Seruling Penataran. Next, design a Non-Fungible Token (NFT) application that has the following asset development flow:

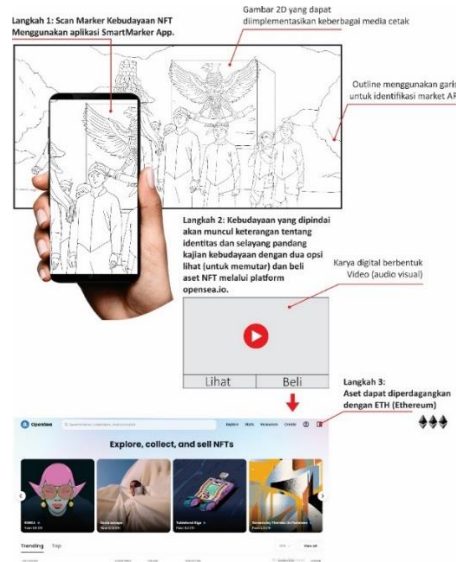


Figure 2. Asset development flow

### 3.2 Data Analysis: Measurement and Testing of Data

Based on empirical scores from material expert validators related to all aspects of interactive audio-visual media as a non-fungible token (NFT) digital art work with blockchain technology, a score of 241 was obtained from an expected score of 250 with a percentage rate of 96.4%. Then the media validation obtained a score of 236 from an expected score of 250 with a percentage level of 94.4%. Based on the results of the material and media validation test, interactive audio-visual as a non-fungible token (NFT) digital art work with blockchain technology is very feasible in every aspect of the media validation test. Based on the results of the Kolmogorov Smirnov prerequisite test, the significance value of 0.00 is less than 0.05 or  $0.00 < 0.05$ , so it can be concluded that the pre-test and post-test data are not normally distributed.

The results of the statistics test on the match pair test show that the significance value is 0.000, meaning less than 0.05 or  $0.000 < 0.05$ , then  $H_a$  is accepted. This means that there is a significant increase between the pre-test and post-test results after the implementation of human resource incubation in the City of Blitar based on interactive audio-visual as a non-fungible token (NFT) digital art work with blockchain technology.

Table 1. Statics Test

Test Statistics <sup>a</sup>	
	Post Test - Pre Test
Z	-19.375 <sup>b</sup>
Asymp. Sig. (2-tailed)	.000
a. Wilcoxon Signed Ranks Test	
b. Based on negative ranks.	

Furthermore, based on the results of the analysis of the results of filling out the media practicality questionnaire by students, the overall results obtained are 91.31%. When referring to the level of achievement of practicality values, the practicality of media by students is at a very practical level.

#### 4. Conclusions and Suggestions

The development of this media can accommodate all processes and the main target of activities, this process also supports asset inventory from upstream to downstream with the title of edusosioprenurship.

#### 5. References

- [1] S. Dewi, D. Listyowati, and B. E. Napitupulu, "BONUS DEMOGRAFI DI INDONESIA : SUATU ANUGERAH ATAU PETAKA," *J. Inf. Syst. Appl. Manag. Account. Res.*, vol. 2, no. 3, Art. no. 3, Aug. 2018.
- [2] N. Falikhah, "BONUS DEMOGRAFI PELUANG DAN TANTANGAN BAGI INDONESIA," *Alhadharah J. Ilmu Dakwah*, vol. 16, no. 32, Art. no. 32, Dec. 2017, doi: 10.18592/alhadharah.v16i32.1992.
- [3] M. Subandowo, "Peradaban dan Produktivitas dalam Perspektif Bonus Demografi serta Generasi Y dan Z," *SOSIOHUMANIKA*, vol. 10, no. 2, Art. no. 2, Dec. 2017, doi: 10.2121/sosiohumanika.v10i2.920.
- [4] A. Aruna, N. F. P. Ishlah, L. Inayah, and A. R. Prasetyo, "Educational Game Design 'Napak Tilas Panji Asmorobangun' in 'Wayang Beber' Story," *EDUTECH J. Educ. Technol.*, vol. 5, no. 1, pp. 1–25, Sep. 2021, doi: 10.29062/edu.v5i1.268.
- [5] N. K. R. Yuliani, Sumiyati, W. Hanim, and W. Hanim, "STUDI LITERATUR PENDEKATAN PEMBELAJARAN STEAM MENYONGSONG ERA SOCIETY 5.0," *Pros. Semin. DAN Diskusi Pendidik. DASAR*, Oct. 2020, Accessed: Jul. 13, 2021. [Online]. Available: <http://journal.unj.ac.id/unj/index.php/psdspd/article/view/17767>
- [6] A. R. Prasetyo, A. Aruna, N. F. P. Ishlah, and J. Sayono, "Incubation and Optimization of Visual Assets of Micro-Start-Ups Through Asset-Based Community Development Design Training," vol. 4, no. 4, p. 16, 2021.
- [7] A. a. G. Arimbawa, S. Sumarwahyudi, A. Aruna, N. F. P. Ishlah, L. Inayah, and U. A. Fitriya, "Strengthening the Tempe Souvenir Packaging Design in Sanan Village, Malang," *KnE Soc. Sci.*, pp. 70–76, Aug. 2022, doi: 10.18502/kss.v7i13.11646.
- [8] A. Aruna, A. G. R. Arimbawa, U. A. Fitriya, and N. F. P. Ishlah, "SCULPTURE AND CARVING ART VIRTUAL MODULE BASED ON 3D AUGMENTED REALITY," *ISOLEC Proc.*, vol. 5, no. 1, Art. no. 1, Nov. 2021.
- [9] A. Irhandyaningsih, "Pelestarian Kesenian Tradisional sebagai Upaya dalam Menumbuhkan Kecintaan Budaya Lokal di Masyarakat Jurang Blimbing Tembalang," *Anuva J. Kaji. Budaya Perpust. Dan Inf.*, vol. 2, no. 1, pp. 19–27, Jun. 2018, doi: 10.14710/anuva.2.1.19-27.
- [10] P. F. Nuryananda and B.- Prabowo, "BRICKONOMIC: PEMBANGUNAN KAPASITAS EKONOMI DESA TEGAREN BERDASAR ASET LOKAL LOKAL," *J. Bisnis Indones.*, vol. 11, no. 01, Art. no. 01, Oct. 2020, Accessed: Jul. 16, 2021. [Online]. Available: <http://www.ejournal.upnjatim.ac.id/index.php/jbi/article/view/1968>