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Research Article

Village's Digital Capital: Positioning and Implementation Concept

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Abstract

The progress of a region cannot be separated from the development of digitalization. Now, digitalization is very important in development, because it is a capital that interacts with five offline capitals as social capital, economic capital, personal capital, political capital, and cultural capital owned by the community so that it will improved welfare, income, health, and others. Digital village is an idea that is being proclaimed by local government in collaboration with rural government. Punggul village Badung Region and Beraban village Tabanan Region in Bali Province already programmed digital village in their village development. The purpose of this research is to describe how digitalization is applied in services to the community and village development and how to carry out digitalization as a capital carried out by the Punggul and Beraban Village Governments. This research uses qualitative research methods with case study. Data collecting methods uses interview, observation, and documentation. This research result show us about the position interaction between digital capital and five offline capitals in Punggul village and Beraban village the same is in "the third level of digital divide" which internet used driven by and for the increasing offline capital. While the relationship between digital capital and five offline capital, the Punggul village is the ideal type and Beraban village is the third level of ideal scenario. Digitalization in both of villages become a supportive capital in improving villagers welfare.

Keywords: *Digital Village; Digital Capital; Digitalization; Offline Capital*

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INTRODUCTION

In this globalization era, the flow of information access is growing rapidly through the use of internet. This has eliminated geographic, political and cultural barriers in social life. People have been so familiar with the use of internet in their daily lives. Internet seems to be transformed into a basic need and basic requirement of for development today. Data shows that during 2014-2018, there was significant increase in the percentage of the population accessing the internet, where only around 17,1% of population in 2014 to be increased around 39,90% in 2018 (BPS, 2019). The impact of digitalization or the use of internet as an instrument of technological advances has caused many changes in all aspect of human lives, either positive or negative impact. In terms if economy, the study results show that it is estimated around 22,5% of Gross Domestic Product (GDP) globally is a product of digital economy in the forms of digital skills, capital, goods, or services (Knickrehm et al, 2016). The digitalization process has inspired the presence of various social communities, which then became social capital because of the creation of mutual interaction between communities with one another in achieving certain goals (Rosyadi, 2018). The establishment of joint communication between communities could forms a market transactions that are able to connect demand and supply in needs so that it becomes an access to support the economic growth, even in the villages.

The presence of digitalization in rural areas has made many changes for rural communities all around the world. This can be seen from the results of various studies, such as research by Zavratnik, Kos, and Duh (2018) entitled 'Smart Villages : Comprehensive Review of Initiatives and Practices', examines the development of *Digitale Dörfer,* a smart village in Germany that took place between 2015 and 2019. The results showed the presence of digitalization has encouraged various local online markets, news portals and other digital platforms. *BestellBar*, is one of the established online marketplaces and operates over 30 local merchants and 700 registered residents in just 3 months of it's existence. Meanwhile, the local online news portal had around 400 registered users per week. Therefore, this project was considered a success.

Another research related to the effects of digitalization in rural area is entitled *Promoting smartness among local areas in a Southern Italian region: The Smart Basilicata Project* in 2016 revealed the same thing. It is said to have succeeded in increasing active community involvement

in decision making and encouraging public participation through the use of information and communication technology (Salvia et al, 2016). Previously, rural areas in Basilicata experienced a decline in GDP with high unemployment, even the highest in Southern Italy. After implementing digitalization in the Smart Baciliata program for 54 months (2012-2015) the use of technology has encouraged changes in society there.

In China, according to Xiaojuan Zhang's research in 2020 entitled *How Do Smart Villages Become a Way to Achieve Sustainable Development in Rural Areas?* It revealed that the existence of digitalization in rural areas is manifested in a smart village program that takes full advantage of the solutions provided by ICT to promote sustainable development in rural areas based on clarification of the characteristics and needs of rural development. There are five subsystems of the smart village system developed in China, namely the strategic subsystem, social subsystem, economic subsystem, resource and environmental subsystem, and information subsystem (Zhang and Zhang, 2020). Whereas in South Korea, the South Korean government acknowledged the digital divide had occurred since 1984 when the IT Training Center was first launched. Free computer classes have been offered since 1988 in agricultural and rural areas. These efforts have continued with The Digital Divide Act of 2001 with the main target being those in rural and remote areas. Activities are carried out in six main priority areas, namely infrastructure, access to telecommunications, IT learning, content provision for disadvantaged groups, e-life and the global digital divide (Park and Kim, 2014).

In Indonesia, research related to digitalization in rural areas was carried out by Rachmawati (2018) in Sangatta Selatan Village, East Kutai Regency as one of the prototypes for ICT-based village development. The study revealed that the digitalization aspect is directed more towards increasing the capacity of village officials and the community in terms of independent village management and innovation in economic and social activities in the community. In addition, another research was conducted by Dhahir (2018) regarding the implementation of Integrated Broadband Village (IBV) in 3T category villages (Frontier, Disadvantaged, Outermost). The results of the study revealed that community participation in receiving and utilizing IBV facilities in Lutharato Village, South Lamaknen District, East Nusa Tenggara (NTT) was minimal. People are reluctant to use technology because of their limited knowledge

capacity in operationalizing the technology, so that technology does not have an impact on their lives and is instead mostly used by immigrant communities.

Aziiza and Susanto's (2020) research on the smart village development model in rural areas states that in addition to the quantity of technology implementation as a development tool, the status or quality of resources is an important factor that must be considered in building a smart village. Six important components that can influence the smart village development model are government, technology, resources, community life, village services, and tourism. Capital in the village that can be converted into an economic source that involves economic organization, added value, and prosperity in economic terms. So, the implementation of digital infrastructure in rural areas is actually not only about the function of technology that makes people's lives easier, but how the concept and implementation in villages can be applied as development capital to encourage the creation of other capital for the community and village government. In accordance with Bourdie (1986) point of view of The Form of Capital (TFC), he states that a set of energy which can be used individually or exclusively is able to provide energy can be called '*Capital'*.

Digitalization as capital is closely related when viewed from its carrying capacity in improving the socio-economy of communities due to activities, processes and information distribution. So that capital and digitalization of information as a unitary context can be interpreted as a process of transforming goods, services and ideas into valuable commodities in the form of everyday information. That is, it can be said that social-economic capital is supported by the availability of digital information capital (Wuryanta, 2013). Villages that have been constrained by developing local commodities due to limitations in regional accessibilities, can be bridged by developing digitalization as infrastructure capital. In the end, the common challenges such as the high rate of poverty, inequality, and underdevelopment in the village can be overcome by optimizing the village's potential such as abundant agricultural resources and well-preserved customs. The current condition of digital infrastructure in the village has not been properly utilized as a capital for development due to various conditions of problems. The Ministry of Communication data stated that the number of villages that have not been touched by information and communication technology in 2017 is around 40%. This figure shows that most of the villages in Indonesia have actually been reached by the internet network, but the utilization

is not optimal because of poor capacity from the human resources (HR) in the village (Darwis, 2016).

The Digital Village is a program to emphasize the idea of digitalization in the village which is now being implemented by the Indonesian government in order to overcome the problem of poverty in rural areas. According to Rendy (2019) digital village is a program in the villages that applies a government service system, community services, and empowerment based on the use of information technology (IT) with the aim of developing village potential, marketing, and accelerating access to public services. This program has started to be implemented by many villages because it is a manifestation of the mandate of Law Number 6 of 2014 concerning villages, especially regarding the application of information systems as a determining factor for village development. In its concept, the digital village only aims to provide better services to rural communities, especially for administrative and population services. However, in its development, villages that have been touched by digitalization will experience an evolution, where the digitization process will generate a new carrying capacity, namely digital capital, which has the potential to become one of the main foundations of village development which will then determine the direction of village development in the future.

Based on the previous research results, it is known that digitization carried out in rural areas both in Indonesia and in other countries has an impact on rural development. However no one has yet explored the concept that digitalization is a capital that can affect other capitals in the village, it could have an extraordinary impact on the development progress of the village. Therefore, the purpose of this study is to describe how the application of digitalization is in service to the community and village development and to see the position of digitalization as a capital carried out by the Punggul and Beraban Village Governments. The novelty of this research lies in the research locus, term and conceptual development, namely ‘digital capital in rural areas’ which is different from previous research.

RESEARCH METHODS

This study used qualitative approaches in the form of case study. This research are focusing on related questions such as why and how can be that phenomenon happened,

especially if the researcher has tiny opportunity to control the events to be investigated and when the focus of this researcs lies on present phenomena in real life context.

This research was conducted in January – June 2019. Punggul Village, Badung Regency and Beraban Village, Tabanan Regency were selected as the research location. The location was selected based on purposive sampling, with the consideration of the Digital Village Development Program that has been implemented by the Village's Government. Punggul Village has become the pioneer in the digital village development, where it has already started in 2017. Meanwhile the Beraban Village has just started the program in 2019. In it's development, many changes occurred after the villages made breakthrough with digitalization. The community inside also got the impact of this digitalization as both subject and object.

This research uses primary and secondary data. The Primary data were collected using in-depth interviews with informants, observation and documentation. The informants in this study were the Village's Headman, Village's Apparatus, and the people of Punggul and Beraban Village. Meanwhile, secondary data were obtained through literature studies. The data analysis technique begins with collecting data, integrating data, member checking, triangulation, and making final conclusion.

RESULTS AND DISCUSSIONS

a. Digital Village and Digital Capital Concept

Based on Law Number 6 of 2014 concerning villages, the definition of a village is a legitimate community unit that has territorial boundaries that are authorized to regulate and administer government affairs, the interests of the local community based on community initiatives, rights of origin, and / or traditional rights that are recognized and respected in the government system of the Unitary State of the Republic of Indonesia. A village as an area inhabited by a number of residents who know each other on the basis of kinship and / or political, social, economic, and security interests which in its growth become a legal community unit based on custom so as to create inner and outer bonds between each of its members,

generally the citizens. Villages mostly live from agriculture, have the right to manage their own households, and are administratively under the district / city government (Nurcholish, 2011).

Village development that is currently being run is more focused on developing village infrastructure which is considered to be the key to accelerating economic growth. In addition, efforts were made to ensure that villages have access to technology and information, as well as prepare their communities to be able to use these technologies. Further, a digital village program was born in several regions in Indonesia, whose foundation can be traced from the 1945 Constitution in Article 28C paragraph (1) and Article 28F, stipulating that everyone has the right to develop themselves through fulfilling their basic needs, the right to education and obtain the benefits of science and technology, art and culture, in order to improve the quality of life and for the welfare of mankind. As well as regulating that everyone has the right to communicate and obtain information to develop their personal and social environment, as well as the right to seek, obtain, own, store, process and convey information using all types of available channels.

Conceptually, digital village program purpose is to make a development area that empowers people with adequate information technology facilities (Priardi, 2011). There are two keywords that are also important elements in the concept of a digital village, which are empowerment of rural communities and information technology. Meanwhile, in the Village Law Number 6 of 2014, it is specifically stated in Article 86 concerning the Information System for Village Development and Rural Areas, it is stated that every village has the right to access information through the development of a village information system carried out by the Regional Government. The development itself includes software, hardware, networks and human resources. The data will be managed by the village government and must be accessible to villagers and all stakeholders, namely data related to village development and rural areas. Technology in a smart village has an important role such as infrastructure's investment, business, and community development. The technology must be efficient, durable, inexpensive, easy to use, and easy to maintain. The use of this technology is not only for optimal resource utilization, but for implementing sustainable village development (Aziiza and Susanto, 2020).

Digital technology consists of software (a computer coding program that provides instructions for how the computer operates) and hardware (physical computer equipment) that works together using digital (binary) coding as well as the infrastructure that supports it. Digital

data are objects that are recorded and transmitted using digital media technology. It includes not only numerical material but also audio and visual data such as films and photographs and detailed text such as blog posts, status updates on social media, online news articles and comments on websites. The digital technology of the last century is based on websites and devices such as desktop computers or laptops. Technological developments such as wireless (Wi -Fi) and broadband internet access and related devices have resulted in computing technology that allows users to connect to the internet in various locations at any time when using their portable mobile devices (Lupton, 2015). Even so, in its use, there are obstacles that become obstacles in optimizing its use.

The social digital gap shows the link between social weakness and lack of access to digital technology. The four dimensions of barriers to access to digital technology include (Lupton, 2015): (a) Lack of basic digital experience caused by low interest and anxiety about the use of technology or the design of complex technological elements, (b) Lack of access to technology, such as doesn't have any digital devices or any connection to the internet, (c) Lack of digital skills due to low levels of use or ignorance of new versions of technology; and (d) Lack of significant use opportunities due to time constraints and competition for access in domestic or workplace settings.

In addition, people with lower levels of income and education in using digital technology are also different from those with higher levels. The more understanding of its use, digital technology will be very beneficial for lives. People can use digital technology to strengthen their culture, economic model and social status (Lupton, 2015). Therefore, digital can be said as a capital that can support the other capitals.

New ways of using digital technology are changing the way we think about the 'space' of online interactions and experiences. The use of digital devices also tends to obscure the spatial boundaries of its users. Social life is configured through and with digital technology (Lupton, 2015). The interaction between digital capital and the five other capitals (Social, Economic, Personal, Political and Cultural), showed inequality in the online experience (The second level of digital divide) and how this new capital contributes to the creation of the third digital level, as inequality in restoring social benefits from using the internet. Interaction helps individuals to transform resources obtained from the digital world and turn them into social resource.

Individuals need a positive interrelation between digital capital and social, political, economic, personal, and cultural. This interaction also helps individuals to convert digital resources into social resources and take full advantage of the benefits offered by the internet. The emergence of new media creates gaps, inequality of access (The first level of digital divide), usage (The second level of digital divide) and the results generated online and valuable in social terms (The third level of digital divide) (Ragnedda , 2018).

Digital capital is the accumulation of digital competences (information, communication, safety, content creation and problem solving) and digital technology. The person's level of digital capital has affects the quality of the internet experience (The second level of digital divide) which in turn can be "transformed" into other forms of capital (economic, social, cultural, personal and political) in the social sphere, thus affecting the third level of digital divide (Ragnedda, 2018).

The benefits from using the internet are based during and after the online experience. Digital capital converts offline activities into digital activities (online time spent, searching for information and knowledge, resources and skills acquired, types of activities, etc.) and in turn such online activities are converted become an externally observable social resource (better job, better salary, better social network, knowledge, etc.). Digital capitals are closely linked to previous capitals and depend on them to transfer into the online experiences, then turning them into social resources. At the same time, the interaction between digital capital and five capitals allows people to use them online first and then reinvest their processes in the social sphere, producing measurable individual outcomes (e.g. welfare, income, health) (Ragnedda, 2018).

Four scenarios that can be obtained from the relationship between digital capital and capital in the offline world (Ragnedda, 2018) include:

- "*Best Case Scenario*", which is an ownership of five offline capitals plus high-level digital capital. This will imply not only a better and more satisfying experience using the Internet (The second level of digital divide), but also the ability to transform this satisfying digital experience into something valuable in the real world (The third level of digital divide).
- "*Worst Case Scenario*", represented by an individual with a low level of five capital levels and a low level of digital capital. In this case, the existing socio-economic disadvantaged

position will be further strengthened because it is completely or partially excluded from the social and digital realm.

- "*Third ideal type scenario*" is represented by individuals with a low level of digital capital and a high level of five offline capitals. This could be the case for citizens with high levels of education, strong socioeconomic position, high levels of social and political capital, but not interested or unable (lack of skills / time / digital literacy / motivation and the goal of joining the online world) using the Internet. In the scenario, their relevant social position may not be further strengthened or may even worsen their social status.

- "*Fourth ideal type scenario*", is the combination of people with low levels of five capitals and high digital capitals. In this scenario, individuals can use their digital capital to enhance their digital experience and turn it into another capital, such as economic capital.

The Law Number 6 of 2014 concerning Villages marked the start of the distribution of village funds. The allocation of village funds by the Government is more focused on poverty alleviation and overcoming inequality between villages, by creating independent and sustainable villages. ICT-related activities supported by village funds include procurement, construction and maintenance of information and communication infrastructure, development of digital application systems, ICT coaching and training and others. It can be said that the relationship between sociological theory and reality that occurs is in the form of digital-conventional sociology, which according to Lupton (2015), offline social reality is not separate from virtual reality (online).

Digitalization that has been built in Punggul Village and Beraban Village, Bali, illustrates how to understand digital capital using the framework of offline capitals (Ragnedda, 2018). Offline capital owned by rural community affects access and use of the internet which can produce digital capital, later it will strengthen offline capital which can improve the welfare of rural communities.

b. Punggul Village's Digital Capital

The relationship between digital capital and capital in the offline world in Punggul Village are considered as the "Best Scenario", with five strong offline capitals and high digital

capital where people have a satisfying experience in using the internet - the second level of digital divide. The offline capital includes the social and cultural capital of the people of Punggul Village, which is very well known for its strong customs. This also reflected in their daily lives which are very solid with Balinese traditions, where they are accustomed to doing activities together, mentioned as dynamics of *Seka* (groups). According to Putra (2009), seka is an organizational system that lives and develops in Balinese society, formally in the form of residents who are members of a banjar or village, but informally it can be in the form of smaller or larger community groups. Almost all Balinese activities involving tradition and religion involve many people. The strength of the Balinese people lies in the dynamics of the *Seka*.

Economic capital is marked by the lack of poor people in Punggul Village. In the Village Develop Index (*Indeks Desa Membangun*), there are no villages in Bali that are categorized as underdeveloped or very underdeveloped villages. Meanwhile, the personal capital owned by the people of Punggul Village is strong and had willingness to be better. Political capital is depicted by high awareness of participating in political activities inside the Village. In addition, the people of Punggul Village have the ability to transform this satisfying digital experience into something concrete and valuable in the offline world. This is in line with Woolcock and Narayan (2000) which shows that various developments come from various types and combinations of community and state capacities to function. In a society or community with good governance and high social capital, citizens and society had their mutual connection. Strengthening government institutions and strengthening the social capital of the community are the important keys in village development to gain the social welfare. Punggul Village has succeeded to become a *pilot project* for Smart Village in Indonesia, where they won first place in the Provincial Level Village competition in 2018 and became a Digital Village.

The first level of digital divide in Punggul Village is a gap in access to digitization and a gap in the community abillities to obtain and use information technology. Punggul Village started from increasing the human resources of the village apparatus and providing infrastructure, starting from providing internet connections, laptops and other supporting facilities. After that, they design and build administrative service applications to facilitate village's administration services and other village's administrations. Punggul village builds a network, installs free Wi-Fi in each *Banjar*, including monitoring cameras (CCTV) at 32 points

all around the village to maintain security. After several hotspots have been installed in destined areas, villagers can enjoy free Wi-Fi service with an average of 1.5 TB quota per month.

The second level of digital divide shows that after becoming a Digital Village, Punggul has become a reference in village public services around Bali today. If residents want to administer documents such a domicile certificate, they could just use the application in their phone and chose their necessity. Then, they went village office, the document will ready in less than 5 minutes and without queuing. The speed and ease of service to villagers is the main ideology that Punggul Village made in order to improve the welfare of the village community, which can be seen in Table 1.

Table 1. Punggul Village Digital Innovation

No	Digitalization	Benefit
1.	Free Wi-Fi	Public can enjoy Wi-Fi services for free and can be used to access various things related to education, health and other information. It increase knowledge and technological literacy.
2.	CCTV in 32 point around the Village	Maintaining security of the Punggul Village area for 24 hours.
3.	Village's Resident Administration Information System	With Residen's National Number and Identification Card, all resident's data base are recorded in order to gain population cencus.
4.	Village's Administration System (namely *SIADEK*)	Offers convenience in online-based administration and correspondence services. The motto of the innovation of this system is "done before 5 minutes", meaning that for various administrative purposes is very easy to access and take shortest time by simply entering a NIK or scanning a fingerprint.
5.	Integrated Geographical Information System (namely *SIGADIS*)	Make it easier to collect data for both village officials and residents, including migrants outside village.

No	Digitalization	Benefit
6.	Village Government Information System (namely *SIPEMDES*)	Contains village's medium-term development plan that will be implemented in the work plan and also included the Village Budget
7.	Punggul Village official Website	Full information about Punggul Village and current news that just happened.
8.	Punggul Village official Youtube channel	Displaying content related to the activities of the Punggul Village community
9.	Finger Print BPJS	A fingerprint scanner for *BPJS* member purposes

Source: Interview Result from Punggul Village's Government, 2019

The third level of digital divide is how rural communities can use digital to increase offline capital. Apart from digitalization, Punggul Village also build it's residents literacy. Residents who have graduated from school and have not yet worked will receive training facilities in cooperation with a company until they can finally work. In addition, village funds are also used to support training for new graduates from high school who are not yet working. The training provided includes IT practice like hardwares and softwares. Punggul Village also made a MoU with company, so when the training has finished, graduates will be ready to join the company.

Despite the various digitalizations carried out in Punggul Village, they still maintain local cultural customs. Punggul Village has vision to become a village whose people are 'technologically literate' but still preserve Balinese language, script and literature. This is proven by the Punggul Village government collaborating with Balinese Language Instructors in Punggul to organize Balinese script (writing) competitions on computers for children. In addition, the village government also held a training program to write Balinese characters on a laptop using the Bali Simbar font. This supports the governor's regulation regarding the preservation of Balinese script, with the aim of instilling a love for Balinese script since childhood.

With the Digitalization program, Punggul Village had an external and internal strength about the development inside. External strength are the synergy between the Village Government and the private sector who are willing to work together, to build facilities and infrastructure

supporting. Based on the results of an interview with Mr. Galuh, as a private party whom partnered with the Punggul Village Government, the reason why he wants to participate in the digital village development are after he saw the strong will and desire of the Village Government where they wanted to create an efficient bureaucratic system based on technology and digital 'literate' rural communities.

The internal strength comes from the use of the internet to make any villagers needs, or purposes a lot easier. This is quite different from the study results of Rachmawati (2018), which revealed that community participation is minimal in the use of digital facilities. Community participation in Punggul Village is actually very good in supporting village development through digitization. This can be seen from the participation of the community in every village program related to digitalization, from children to adults. These conditions shows similarity with the study results of Salvia et al (2016), where in rural Basicilata, Italy, it is said that they have succeeded in increasing active community involvement in decision making and encouraging public participation through the use of information and communication technology, so it can encourages changes inside the society. In addition to community participation, the development of digitalization in Punggul Village is in line with what the South Korean Government has done in reducing the digital divide by conducting IT training for the community (Park and Kim, 2014).

Yusuf et al (2019) research shows that the importance of digital technology in improving services inside village is based on the community's need for the internet. Digital form are making more effective and efficient for residents administration services. Punggul Village is able to understand the obstacles and potentials, through innovation that appears from the needs of the community. Punggul Village is able to take advantage of the sophistication of information technology to facilitate services to its community. Unemployment and poverty rates are very low in the village because the village government is present to solve every resident’s probelm. This combination of these various methods (online and offline) that causes Punggul Village to currently only have 18 residents who are classified as poor. This is in line with the 2016 World Development Report (WDR) entitled Digital Dividends, and provides examples of the various ways in which the use of digital technology can be utilized to reduce poverty, increase income and empower citizens (World Bank, 2016). In addition, this is in accordance with the results of research by Dyah, Lilik and Ahmad (2019) where an area such as a district / city that is rich in

digital and economies continues to increase, resulting in decrease of poverty. The research results of Yaron Katz (2019), concluded that digital technology plays a significant role in reducing the socio-economic gap in society. Based on above, it can be said that digital development carried out in conjunction with appropriate policies contributes to poverty alleviation (Wahyunengseh, et al, 2020).

In addition, the use of information technology in the digital villages could be able to encourage transparency from the village government such as public services, the use and expenditure of village government funds and the village achievements during a certain period of time. Generally, if the Village Government could achieve that, they would mostly be able to improve people's welfare, bureaucracy, maximize public services, and foster residents satisfaction and trust in the village government (Rozi and Listiawan, 2017). The achievements of digitization made in Punggul Village are in line with the results of research by Aziiza and Susanto (2020) where the important components that influence the development of smart villages are : government, technology, resources, community life, village services and tourism. The declining poverty rate is also the impact of digitalization in villages, such as what happened in rural Basicilata Italy which tries to reduce unemployment in its region (Salvia et al, 2016).

c. Beraban Village's Digital Capital

The scenario obtained from the relationship between digital capital and offline capital in Beraban Village, Tabanan Regency is included in the "third ideal type scenario", represented by a group (in this case, the village government) that has a low level of digital capital and the high level of five capitals. This assessment can be seen based on the advantages of the tourism sector in the Beraban Village area itself, where the village has the right to the Tanah Lot tourist destination and it's Agung Temple, which has been the spotlight of Bali for decades. The existence of Tanah Lot has made Beraban Village a tourist attraction that is not only visited by tourists, but also entered by investors who wants invest in building tourist facilities and infrastructure. It is not surprising that the Beraban Village Income (*APBDes*) has been the highest in Bali since several years ago, even with the inclusion of village funds, it does not have a big effect on village income which is already many times larger. Therefore, based on the strong economic conditions, the high education level of the villagers, and the tourism daily-lives

management, Beraban Village has not been too interested in developing digitalization of the internet to support the administration and life of the residents.

However, this condition did not last long. With the constant discourse of village digitalization from the central government, especially through the vision of the president and the village ministry's program, development of disadvantaged areas and transmigration, many villages are interested in developing village digitization, and Beraban Village is one of them. Beraban Village's interest in utilizing the internet and digitizing it into the village administration system is based on the need for a fast, accurate and precise data collection system in managing aspects of population and tourism which are growing every year in Beraban Village. If only rely on offline data collection and management, it will be a waste of time and maximize losses or miscalculations, which will be crucial considering that the mobilization in this era is very fast and dynamic.

Therefore, since 2018, Beraban Village Government has explored any cooperation with the village ministry, disadvantaged region development and transmigration to participate in developing digitalization in its village. The digitalization innovation in Beraban Village are described in Table 2.

Table 2. Beraban Village Digital Innovation

No	Digitalization	Benefit
1.	Beraban Village Official Website	Containing complete information and updated news about Beraban village.
2.	Beraban Village Social Media	Using Instagram account of *@InfoBeraban* and Youtube channel to share every activities or documentation inside the village.

No	Digitalization	Benefit
3	Village's Official Application "*I Luh Mantul Debest*" (*Desa Beraban* Smart City)	Is an application system developed by Beraban Village. Consists of 2 subsystems, named "I Luh Mantul" and "Debest". The "I Luh Mantul" page is the official service page used by the village government to provide services in terms of health, education, compensation, tourism, and government. Meanwhile, the sub information page of "Debest" is a sub that focuses on correspondence management services, permit requests, location maps, and village-related data such as IDM and IKM development data. In this sub, there are also digital-based services, mostly about the internet, websites, and CCTV in the village.

Sources: Secondary Data (Processed), 2019

In early 2019 the village government officially launched the Desa Beraban website which can provide sufficiently detailed information regarding the profile, location and condition of Beraban Village in general. It can be said to be the beginning of digitization in Beraban. Village's digitalization development has also penetrated the social media, where Beraban village has begun to introduce itself to internet users through 2 popular applications, which are Instagram with the *@Info Beraban* account and Youtube with the *Beraban TV* channel account. In village administration, Beraban village collaborates with an IT development company to create "I Luh Mantul Debest" application program, which stands for *Desa Beraban Smart City* project. This application program is to support village policies that lead to the development of Smart Village, which is based on data collection and online citizen services using the official village government application.

According to Mr. I Wayan Sukariana, Head of (*Perbekel*) Beraban Village, stated that "The development of the IT website '*Desa Beraban Smart City*' is actually an extension of the *Prodeskel* system provided by the Ministry of Home Affairs for each village. If *prodeskel* can only be accessed by relevant village officials who have authority, this website is intended for all groups, villagers, village officials or tourists. The goal is to be able to see Beraban Village as a whole through online, including the current village programs. This is a form of the seriousness of the village government in serving its citizens while presenting technological developments that can be enjoyed by all residents of Beraban Village".

Programs that's are in the application, such as:

a. Education, with: (1) "1 Bachelor per Household". The aim is to provide scholarships in form of stimulation funds to high school graduates or equivalent to continue their studies at both public and private tertiary institutions, with the amount of stimulation funds given is IDR 500,000 per person per month for 4 years, (2) Free Early Childhood education program, where the village government bears the cost of early childhood education for villagers aged 3 -6 years which includes building fees, tuition fees, student magazines, and textbooks.

b. Healthcare, with programs such as: (1) *Doctor on Call*, Where each resident would receives a fund for the services of a doctor who is called to the house with a frequency of 1 time per 1 month, (2) *Emergency Transport*, to escort sick residents to the nearest hospital. Delivery cars and drivers are prepared and financed by the village government of Beraban, and (3) Hospitalization compensation, To ease the burden on families whose family members are hospitalized, both public and private, the Beraban Village Government provides a grant of IDR 1,000,000 per household once a month to the patient's family.

c. Social, where the village government provides death compensation to villagers who passed away by providing cash assistance funds of IDR 4,000,000 (four million rupiah) per corpse per household.

d. Religion, by providing direct cash assistance to temples to carry out religious activities amounting up to IDR 20,000,000 (twenty million rupiah) per temple per year.

e. Tourism, with water rides and tracking tours to explore other tourism potentials besides Tanah Lot in Beraban Village.

In a fairly short period of time, Beraban Village, through all its advantages, both from an economic, social and cultural perspective, wanted to catch up with the aspects of village digitization. The willingness of the village government in digitization is based on the needs of better public services, guarantee the residents welfare, social inequalities detections, and smart government implementation based on financial transparency and public accountability. This concept is in accordance with the opinion of Lupton (2015) which explains that digital technology uses software that is tasked with carrying out pre-programmed activities

automatically, quickly, and easily. So it can be said that the interaction between digital capital and the five offline capitals has reached "the third level of digital divide" or the third ideal type scenario with the village government which has a low level of digital capital and a high level of five other capitals. This finding is in accordance with the scenario theory of the relationship between digital (online) capital and real world (offline) capital proposed by Ragnedda (2018), where the third ideal type scenario is represented by individuals with low levels of digital capital and high levels of five other capitals.

Beraban Village has the advantages as mentioned by Aziiza and Susanto (2020), one of the important components that affect the development of a smart village, one of which is tourism. In contrast to Punggul Village, Beraban Village actually understands the importance of digitalization in the village, in order to support tourism in the near future.

CONCLUSION

Based on the studies results, it can be concluded that digitalization could become a capital to support the village's development. This Digital Capital increases other capitals so it can improves communities welfare. The result show that the position of the interaction between Digital Capital and five other 'offline' capitals (social, economic, personal political and cultural) in both village has reached the "third level of digital devide", where internet use is driven by and driven for the increase of offline capital.

Based on scenario above, Punggul Village is included in the '*Best Scenario*' while Beraban Village is included in '*third ideal type scenario*'. Digital Capital in Punggul Village has impact in poverty reduction, where only 18 residents are classified as 'poor'. In addition, the uses of information technology in the application of digital village are able to encourage the Village's Government transparency on basis spending such as public services, *village funds* (Dana Desa) expenditure and village's goals. Whereas in Beraban Village, the Village Government's willingness to apply digitalization in it's village proves to be encouraged the public services, communities welfare, social inequalities detections and the implementation of smart government based on financial transparency and public accountability.

Currently, there have been many digitalization developments in various villages, but there's not many that are able to change the digital capital they have to support and encouraged the other 5 capitals. Author's suggestions are, Village Government should analyze which part of digitalization that can support the village development and improves communites welfare. Village governments also need to know how digital capital relates to offline capital in their villages so that they can determine the best interventions that can be done. In the end, village development's using information technology should be able to become a facility and as a medium in order to improve the quality of village development and increase the quality of human development in the village, so that it is hoped that the level of community welfare, reduction in poverty and inequality in the village is expected to be achieved.

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