

Conceptual Framework of Smart *Banjar*: A Synergize of The Micro-enterprise, Microfinance, and The *Banjar* Institution

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ABSTRACT

The *Banjar* government system in Bali is believed to preserve the tradition and culture of the Balinese people. The *Banjar* has existed since the 10th-11th centuries. Affected by the COVID-19 Pandemic, Bali's economy in quarter 1 of 2020 experienced negative growth of -1.14%. Transactions that occur to meet the community's basic needs are not well managed—the community reliance on external. The synergy between micro-enterprise, microfinance, and the *Banjar* is very limited in strengthening the community's economy. Between them, the use of Information Communication Technology (ICT) is deficient. The *Banjar* role needs to be enhanced to maintain the resilience of the Balinese people in the economy. Entrepreneurship can be developed because it has been proven to improve people's welfare. This research aims to develop a framework that allows the synergy of micro-enterprise, microfinance, and the *Banjar* using ICT as an enabler to reduce external parties' reliance on the community's basic needs. The organizational level technology adoption theory is used to develop the conceptual framework. The Technology-Organization-Environment (TOE) framework is considered to have the most relevance in this research. The conceptual framework of Smart *Banjar* defines in the three contexts of the TOE framework. The Advisory board is an environmental context that will form the policies in the Smart *Banjar* framework. The organizational context will synergize micro-enterprise, microfinance, and the *Banjar*. The technological context will support Smart *Banjar* to achieve its goals. It can happen with the existence of ICT infrastructure, ICT services, and ICT literacy with their respective components.

Keywords: *Smart Banjar*, *Micro-enterprise*, *Microfinance*, *The Banjar*, *ICT Adoption Framework*

1. INTRODUCTION

Indonesia is one of the developing countries in the region of Southeast Asia (ASEAN). Indonesia is an archipelago divided into administrative regions totaling 34 provinces [1]. Bali is one of the provinces in Indonesia. Like other provinces, Bali has a government structure from the highest level to the lowest. The governance structure starts from the *Provinsi* (Provincial), *Kabupaten* or *Kota* (Regency or City), *Kecamatan* (District), to the *Desa* or *Kelurahan* (Village). However, Bali is unique in other provinces. There are two types of villages in Bali: the *Desa Adat* (Customary Village) and the *Desa Dinas* (Official Village). Customary Villages and Official Village in Bali have been known for a long time. The village government system has been a Balinese people tradition since the kingdom era [2]. The lowest government level under the Village is the *Banjar* led by *Kelian Banjar* [3], [4]. The *Banjar* has existed since the 10th-11th centuries [5], [6]. The *Banjar* government system is believed to preserve the tradition and culture of the Balinese people.

The Customary Village and *Banjar Adat* have special autonomy rights and can manage their households.

Banjar Adat can manage the tradition, religious and socio-economic activities of the community. In some *Banjar*, especially those in urban areas and tourism areas, it has *Bale Banjar* (a place where people carry out traditional activities) that have expanded their functions for economic activities [4], [7]. Along with these developments, *Banjar* with *Bale Banjar* as a public space continues to perform its primary function as a fortress guarding tradition and socio-cultural society. Thus the effects that occur can provide benefits to the community [6]. With its traditions and culture, Bali has become a world tourism destination with a significant economic impact.

Behind the sparkling tourism of Bali, there are still problems with poverty. The percentage of poor people in Bali in March 2019 is 3.79% [8]. The welfare of the people in Bali is uneven and only focused on specific areas. This situation is exacerbated by the world health disaster, Coronavirus Disease 2019 (COVID-19) pandemic. The COVID-19 pandemic had a severe impact on the tourism sector and the Bali economy. The government said the Bali province was damaged by COVID-19, where all tourist activities stopped. At least 96% of hotels were temporarily closed [9]. For months

the tourism destinations, accommodation, food and beverage providers, and supporting industries were forced to stop operating. Affected by the COVID-19 Pandemic, Bali's economy in the first three months (quarter 1) of 2020 experienced negative growth of -1.14%, which was even lower than the national rate of 2.97%. That means the first negative growth in the last ten years [10]. A survey stated that 66.53% of Balinese people experienced a decrease in income, and 81.82% indicated their savings began to decrease. As many as 50.83% of the Balinese stated that they had difficulty getting food, and 21.01% of them were forced to pile up food at home [9].

Tourism in Bali relies on Village and *Banjar* as the foremost fortress in preserving the culture and tradition that currently the object of tourism. The role of Village and *Banjar* that impact tourism development should positively affect Bali people's welfare. As the lowest governance structure and indigenous community, the *Banjar's* role needs to be enhanced to maintain the Balinese people's resilience in the economy. The *Banjar* government can collaborate with financial institutions to ensure sustainability and improve the Balinese people's economy. According to the Bali Provincial Regulation Number 4 the Year 2019 regarding Customary Villages (*Desa Adat*), *Labda Pacingkremen Desa Adat*, referred to as LPD, is a Village Credit Institution owned by Customary Village which is domiciled in Customary Village.

Currently, there are Village Credit Institutions (Lembaga Perkreditasi Desa or LPD) and *Koperasi* as microfinance institutions in Bali. LPD, as a microfinance institution, is a unique business entity. LPD only exists in Bali and is managed based on Balinese cultural philosophy [11]. If viewed from the history of the formation and principles of the LPD and *Koperasi*, the microfinance institution should resolve the community's economic problems. The existence and role of LPD's are needed in forming micro and small enterprises to boost the economy of the rural community [12]. However, many people are still lacking and even classified as poor because they do not have access to these financial institutions. That is because programs in the *Banjar* government have lack integration with existing programs in microfinance institutions. The program's integration can carry the concept of "Smart Village" with a more appropriate structure, namely "Smart *Banjar*".

Innovation by developing the concept of "Smart *Banjar*" can increase the capacity and role of the *Banjar*. The increase is to be able to ensure the economic sustainability of the community. In this digital era, innovation with the support of technology can be integrated with Balinese culture [13]. *Banjar* can manage citizen data with more valuable such as the purchasing power of each citizen. The data can be integrated with microfinance institutions so that economic turnover

occurs as expected. Every residents' house, which consists of several people, must have its primary and secondary needs. Those needs should be fulfilled by residents who have appropriate business activities (microenterprises). The reality is that the supply and demand relationship is not yet fully formed. Transactions spread outside the *Banjar* environment and even the village environment. Likewise, with money circulating in the transaction. If a micro-financial institution (LPD and *Koperasi*) is involved in managing this transaction, the transaction profits can be returned to the citizens in the form of share-profits or dividends. A synergy between *Banjar*, Microenterprise, and Microfinance is needed to make this happen.

The synergy between *Banjar*, microenterprise, and microfinance can be done by developing a framework. The Framework involves technology, in this case, Information Communication Technology (ICT). Application of ICT to maximize the performance function of each element. This research will develop an ICT adoption framework in the Smart *Banjar* concept. That concept by synergizing the existing microenterprise, microfinance, and the *Banjar* itself.

2. LITERATURE REVIEW

Smart *Banjar* is a technological innovation concept that has never existed. Developing the Smart *Banjar* concept will involve various entities, community groups, and even various stakeholders and related organizations. Technological innovation is neither a single event nor even a small number of discrete events. Technological innovation involves a rich embroidery of events: many activities, many decisions, and many bits of behaviour on the part of individuals and social units, most of whom are not even self-consciously aware of being part of such a process [14].

TPB, TAM, and UTAUT theories are the most frequently used models or frameworks. However, these theories analyze the technology adoption process at the individual level [15], [16]. At the organizational level, the technology adoption process has three theories: DOI, TOE, and IT [15]. DOI and TOE are technology adoption theories at the firm level [16]. The ICT adoption theories are mapped in table 1 below.

Table 1. Mapping of ICT Adoption Theories

No.	Framework Name	Authors (Year)	Unit of Analysis		Level of Relevance		
			Individual Level	Organizational Level	Low	Moderate	High
1	Theory of Planned Behavior (TPB)	Ajzen (1985, 1991)	✓		✓		
2	Technology Acceptance The model (TAM)	Davis, Bogozzi and Warshaw (1989)	✓			✓	
3	TAM2	Vankatesh and Davis (2000)	✓			✓	
4	TAM3	Vankatesh and Bala (2008)	✓			✓	
5	Unified Theory of Acceptance and Use of Technology (UTAUT)	Vankatesh, Morris, Davis and Davis (2003)	✓		✓		
6	Diffusion of Innovation (DOI)	Rogers (1995)		✓	✓		
7	Technology-Organization-Environment (TOE)	Tornatzky and Fleischer (1990)		✓			✓
8	Institutional Theory (IT)	Scott and Christensen (1995)		✓	✓		

Can be seen in table 1 above, a mapping of existing ICT adoption theories. Unit of analysis is used to determine the level of use of the theory. Whether at the individual or organizational level. Furthermore, the level of relevance is made into three levels starting from low, moderate, and high. Based on the mapping, it can be concluded that a unit of analysis is needed at the organizational level for the development of a conceptual framework, and the level of relevance is high. Therefore, Technology-Organization-Environment (TOE) is the ICT adoption theory that has been used.

In this research, the basic theory that is the basis for developing the framework is TOE. TOE framework is a theory of technology adoption developed by Tornatzky and Fleischer in 1990. In the TOE framework, there are three key contexts. The first is the technological context. According to [17], the technological context represents the existing technology and the alignment of the latest technologies relevant to the organization (i.e., internal and external technologies) [15]. The second is the organizational context. According to [17], organizational context relates to the size and range of the organization (i.e., scope, size, and managerial structure) [15]. The third is the environmental context. According to [17], the environmental context of an area in which a company does business (i.e., industry, competitors, and government regulation) [15].

The TOE framework is a generic theory which only mentions several dimensions that influence technology adoption. The TOE framework can be adapted without

specifying the factors for each dimension. Researchers can choose the factors from each dimension according to the innovation's characteristics and the organization itself [18]. The Smart *Banjar* concept involves a fairly complex internal and external organizational structure. This is because *Banjar* is a traditional or customary community at the same time as an official structure. Several reasons are the justification for this research to use TOE as a basic framework: 1. The Smart *Banjar* concept involves the *Banjar* structure, Microenterprise, and Microfinance to work together. Therefore, TOE is a suitable framework for applying a technological innovation that involves internal and external organizations; 2. The TOE framework has been used in various studies related to Smart Village, Smart Rural, and Smart City. The TOE framework is also used to analyze the readiness to adopt new technologies that require synergy between the community, government, and professionals who manage these innovations; 3. The context of technology, organization, and environment is considered comprehensive to cover all Smart *Banjar* concept elements.

3. METHOD

This research presents a critical review of the literature. The systematic literature review aims to justify and broad observations about what researchers have produced in recent years. The systematic literature review is directed according to the topic discussed and will answer the research questions as well as the objectives of this study.

With the systematic literature review, it is hoped that the reader more clearly sees the existing research gap. Thus, researchers will get the legitimacy of the contributions made in this study to the body of knowledge. A systematic literature review is carried out by exploring three aspects or elements based on the problem statements.

Searching for aspects or elements is carried out by searching for research articles in various databases. These databases include the IEEE, Ebscohost, Google Scholar, and ScienceDirect. Based on the search results, 28 studies related to aspects or elements of the Smart *Banjar* Concept were obtained. Below are the keywords and phrases used in searches.

Table 2. Keywords and Phrases

Concepts	Keyword or Phrases
The <i>Banjar</i>	traditional <i>Bale Banjar</i> adat, <i>Bale Banjar</i> , socio-cultural existence, <i>Banjar</i> suka duka, customary sanctions, sanksi adat
Micro Enterprise	IT adoption of microenterprise, microenterprise, micro-enterprise, micro-entrepreneurs, small business, rural micro-enterprises, micro enterprise
Micro Finance	micro finance, rural credit institution, microfinance, village credit union, village credit institution, microfinance management
The <i>Banjar</i> and Micro Enterprise	micro-business, economic contribution, local communities, <i>Bale Banjar</i> , economics
Micro Enterprise and Micro Finance	micro-enterprises, microfinance, microcredit, microenterprise performance, BUMDesa, microcredit schemes
Micro Finance and The <i>Banjar</i>	harmonious culture, financial performance, micro finance institution, cultural harmony, village credit institution, LPD Function
Sources: Gantini and Hanan, 2016; Sawitri and Nugrahandika, 2017; Suwardani et al, 2018; Kurniawati, 2018; Widnyana, 2019; Winiasih et al, 2019; Khan et al, 2016; Huang et al, 2019; Anwar et al, 2019; Räisänen and Tuovinen, 2020; Sandberg and Håkansson 2020; Harefa, 2016; Agbola et al, 2017; Sadiartha, 2017; Sundarianingsih et al, 2018; Purnamawati and Adnyani, 2020; Leavell, 2010; Sari and Sri, 2017; Suryawati et al, 2018; Hameed et al, 2017; Tammili et al, 2017; Atmaja et al, 2018; Suprpto et al, 2019; Mustapa et al, 2019; Astawa et al, 2016; Astawa et al, 2016a; Sudemen and Anggriyani, 2017; Junaedi et al, 2019.	

The search for research publications on the topics was carried out in the 2016-2020 range. The number of studies conducted on each topic and its intersect vary widely. The quality and substance of the relationship between previous research and the research that carried out are the basis for selecting the research used as a reference. Below is the suitability of the topics (aspects or elements) of the 28 reviewed research.

Table 3. Suitability of the Topics

Authors	Concepts					
	A	B	C	D	E	F
Gantini and Hanan, 2016	✓					
Sawitri and Nugrahandika, 2017	✓					
Suwardani et al., 2018	✓					
Kurniawati, 2018	✓					
Widnyana, 2019	✓					
Winiasih et al., 2019	✓					
Khan et al., 2016		✓				
Huang et al., 2019		✓				
Anwar et al., 2019		✓				
Räisänen and Tuovinen, 2020		✓				
Sandberg and Håkansson 2020		✓				
Harefa, 2016			✓			
Agbola et al., 2017			✓			
Sadiartha, 2017			✓			
Sundarianingsih et al, 2018			✓			
Purnamawati and Adnyani, 2020			✓			
Leavell, 2010	✓	✓		✓		
Sari and Sri, 2017	✓	✓		✓		
Suryawati et al., 2018	✓	✓		✓		
Hameed et al., 2017		✓	✓		✓	
Tammili et al., 2017		✓	✓		✓	
Atmaja et al., 2018		✓	✓		✓	
Suprpto et al., 2019		✓	✓		✓	

Authors	Concepts					
	A	B	C	D	E	F
Mustapa et al., 2019		✓	✓		✓	
Astawa et al., 2016	✓		✓			✓
Astawa et al., 2016a	✓		✓			✓
Sudemen and Anggriyani, 2017	✓		✓			✓
Junaedi et al., 2019	✓		✓			✓

Concepts:
A: The *Banjar*
B: Micro Enterprise
C: Micro Finance
D: The *Banjar* and Micro Enterprise
E: Micro Enterprise and Micro Finance
F: Micro Finance and The *Banjar*

Those three aspects or elements are researched and studied. The search was carried out more deeply in the research that intersected with the topics of The *Banjar* and Micro Enterprise (B&ME), Micro Enterprise and Micro Finance (ME&MF), and also Micro Finance and The *Banjar* (B&MF). A search has been carried out, so it has been found that no research (very limited) intersects the three topics directly. It is the novelty of this research to form the synergy of Microenterprise, Microfinance, and The *Banjar* into a Smart *Banjar* Concept. Below are the areas of the systematic literature review on the Smart *Banjar* Concept.

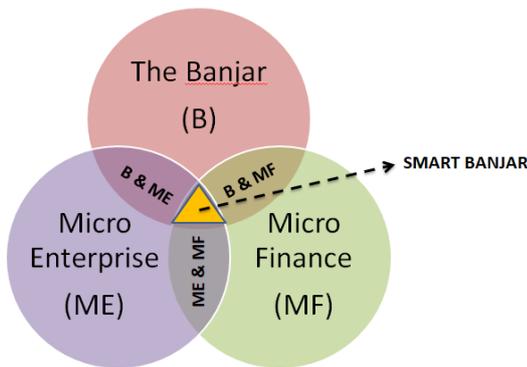


Figure 1 Systematic Literature Review Areas

4. RESULT AND DISCUSSION

Banjar is a social structure as well as a government structure that only exists in Bali. Although only in Bali, this local wisdom is well known in foreign countries. The *Banjar* is believed to be an ancestral heritage that can maintain traditions and adapt from time to time. *Banjar's* continuity and the people's empowerment can be done by carrying out a smart concept. Currently, existing research tends to develop Smart City and Smart Village. However,

no research has developed the Smart *Banjar* concept. Smart City's concept can be applied on a smaller or larger scale, provided a community must be served [19]. According to [19], the application of a smart concept can be started from the smallest scope, namely Smart Village, then Smart District, Smart City, up to the largest scope, namely the Country. Based on this, it is deemed necessary to initiate the development of a smart concept to serve the smallest social community in Bali, namely *Banjar*. The conceptual framework of Smart *Banjar* will be explained in three contexts as follows.

4.1. Technology Context

The synergy of the *Banjar*, Microenterprise, and Microfinance elements will be realized effectively and efficiently with ICT adoption support. Essential services and local economic potential-based services can be developed and optimize with ICT services. In order for these services to run optimally, it is necessary to develop an ICT infrastructure from the user and service provider levels. The ICT mastery for the community as users and service providers as operators need to be improved continuously. The components required are the internet network and electrical reliability. Based on this, ICT literacy is important for successfully adopting ICT in the Smart *Banjar* concept. The components needed are internet users, ICT used, digital device ownership, and strategic guidelines. The overall elements above are the technological context of Smart *Banjar* Version 1.0.

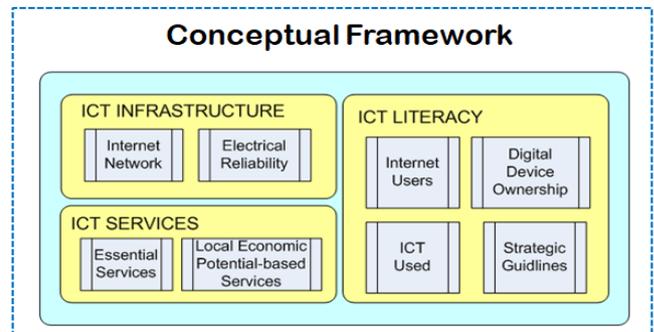


Figure 2 Technology Context of The Smart *Banjar* Version 1.0

4.2. Organization Context

The *Banjar* institutions at the government level are under the village government. The policies needed to collaborate between *Banjar* can be carried out directly at the village level. Accordingly, the organizational context of Smart Rural's concept adapted and adjusted to Smart *Banjar's* concept. In one village there are several *Banjar*. The village government will oversee several *Banjar* in their area. Within a *Banjar*, various community-owned businesses (including village-owned or *Banjar*-owned) are classified as microenterprises. Microfinance will support the funding, in this case, LPD or village-owned cooperatives, *Banjar*, or community. All of these elements will work together to fulfill daily needs and

improve community welfare. The overall elements above are the organizational context of the Smart *Banjar* Version 1.0.

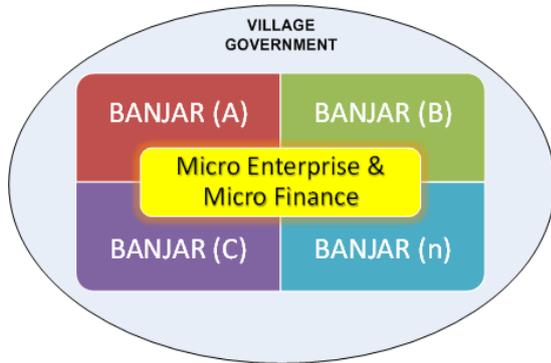


Figure 3 Organization Context of The Smart *Banjar* Version 1.0

4.3. Environment Context

The advisory board is the environmental context of the Smart *Banjar* 1.0. The advisory board is an institution formed to minimize obstacles in implementing Smart *Banjar*. The advisory board will collaborate and provide the necessary support. The advisory board is an external environment that plays a role in giving advice.

The advisory board consists of: 1. Village deliberation agency (VDA) is a parliamentary institution at the village level. This institution is a representation of the villagers as a liaison in conveying aspirations. VDA will ensure that the implementation of village development runs well and democratically; 2. Central & local government is a government agency at every level. The role of this institution is in the related regulations and policies; 3. Customary institutions are institutions at the Village and *Banjar* levels. The role of this institution is to adjust related regulations and policies to suit local wisdom and support the Smart *Banjar* concept; 4. The non-government organization is an institution that assists in monitoring and implementing the Smart *Banjar* concept; 5. Research institutions are institutions that can review the sustainability of the application of the Smart *Banjar* concept. These institutions can develop related programs and provide information and knowledge to support the successful application of sustainable concepts; 6. Educational institutions are institutions that will assist in the development of quality human resources.

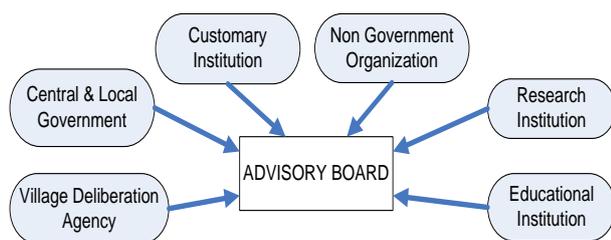


Figure 4 Environment Context of The Smart *Banjar* 1.0

5. CONCLUSION

A systematic literature review has been carried out. Although the Smart *Banjar* concept is a concept that has never existed, it can fundamentally refer to the Smart Village and Smart Rural concepts in Indonesia. In terms of social and governmental structures, *Banjar* is under the village. The Smart *Banjar* concept version 1.0 adapts the research [19]–[23]. In this Smart *Banjar* concept, ICT adoption is part of the concept. TOE is a technology adoption framework used as the basis for developing a framework in this research. The Smart *Banjar* concept version 1.0 has three contexts. The first is the technological context. In the context of technology, there are three entities. The first entity is ICT Infrastructure which has two components, namely Internet Network and Electrical Reliability. The second entity is ICT Services, which has two components: Essential Services and Local Economic Potential-based Services. The third entity is ICT Literacy, which has four components: Internet Users, ICT Used, Digital Device Ownership, and Strategic Guidelines. In the organizational context, there is a Village Government that covers all *Banjar* within its jurisdiction. The microenterprises and microfinance in each *Banjar* and Village work together to achieve the Smart *Banjar* goal. In the context of the environment, an Advisory Board is formed, which will play an active role in formulating policies that will encourage good governance. The advisory board consists of village deliberation agencies, central & local governments, customary institutions, non-government organizations, research institutions, and educational institutions.

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