

The Role of Government and Digitalization (ICT) in Fostering Equitable Growth at the Coastal Village of Badung, Bali

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Abstract

Inclusive growth has received little attention from various sectors and, if not addressed, it can reduce the economy and cause problems and inequality. This study aims to uncover the contribution of the government and the application of digitalization (ICT) in encouraging equitable distribution and inclusive growth in the coastal villages of Badung Regency, Bali. A quantitative research design with 200 respondents was used as the research sample in coastal villages. Data were collected using structured interview methods, observations, and questionnaires, and were further analyzed using the structural equation Modelling partial least squares (SEM-PLS) approach. The analysis revealed that the role of government and digitalization is significant in building and promoting inclusive growth in coastal villages. Digitalization benefits significantly influence a government's role in fostering inclusive growth. Therefore, to encourage more inclusive and long-term growth in Badung Regency coastal villages, the government's role must be combined with digitalization. The role of government integration with digitalization at the village or regional level has not been widely reported. The government's role is combined with digitalization to reduce inequality. These findings will help the government formulate policies related to the equitable distribution of inclusive growth in coastal villages by integrating government roles and digitalization.

Keywords: *Government contribution, use of digitalization, inclusive growth, coastal villages, alleviation of inequality.*

Introduction

The government has taken a big step toward achieving economic growth in its control areas, such as by making growth more inclusive in rural areas [1,2]. Governments worldwide face several significant issues and difficulties. These include rising government spending, demands, and responsive public services; differences in public access, income, and opportunities; calls for accountability and transparency; low public trust in government; and people's relatively high needs in an economy where many things must move quickly and precisely [3,4]. Moreover, because the government has goals, people are slowly starting to want things related to digital transformation, such as services in different areas [5–7]. Hanna [8], said that the government could use the digital revolution to meet the needs of society by creating a safe and responsive public sector, letting more people take part in service delivery and policymaking [9,10], making service delivery more accountable and giving people more of a say [11–13].

The government must pay attention to rural areas, including coastal areas, that drive the economy [14–16]. Adequate infrastructure is needed to support inclusive rural development and to become the driving force of the regional economy. In its application, the government must be an interaction shaper for business actors and a component of the digital transformation ecosystem in society [13,17]. The government's role is strategic in realizing this goal by formulating policies and regulations to create an appropriate environment. Shibata [18] and Sun & Tang [19] state that it is important for investors to use digital technology and data to help target industrial change. Sectoral policies and incentives with government activities are critical for reaching an agreement on the possibilities for digital transformation [20–24].

Innovations in the economy, environment, and tourism have been carried out Adnyana [25], especially in Bali Province, including the use of digitalization to increase economic growth, and the benefits have been felt. However, inclusive growth is yet to yield significant results. This is due to the uneven distribution of development and the resulting economic inequalities and disparities between groups of people, which results in economic growth and productivity being classified as slowing down. This inequality has been felt in various regions, but the best path to resolution has yet to be found. Numerous inclusive growth studies have addressed issues related to poverty and inequality [12,26,27], electronic empowerment [28], access to markets and technologies [29], gender perspectives [30,31], and living outside the safety net [32]. Nevertheless, relatively good results are yet to be obtained [33].

Reviewing these problems, the community still experiences economic inequality, particularly in coastal areas. Furthermore, research on the role of government, integration, and digitalization is yet to be widely reported concerning its impact on inclusive growth. This study aims to analyze the contribution of the government and digitalization (ICT) in fostering equitable growth in the coastal village of Badung Regency in Bali. This research can provide an overview and inform the formulation of policies for governments in related sectors to minimize economic inequality and increase sustainable community-based economic growth.

Research Method

This investigation employed a quantitative research approach utilizing structural equation modeling with a partial least squares method [34]. The research was conducted by conducting observations, in-depth and structured interviews, and distributing questionnaires to respondents containing questions related to the research variables assessed on a Likert scale ranging from very bad (score 1), bad (score 2), average (score 3), good (score 4), and very good (score 5) [35]. This study involved 13,730 people in a study population consisting of 17 villages in the coastal village of Badung Regency. A systematic sampling method was used to collect impervious villages. Sample determination was performed using a proportional purposive sample, which included 200 respondents as research samples [36]. Primary data encompass the views and opinions of households residing in coastal villages, while secondary data comprise various economic indicators such as Gross Regional Domestic Product (GRDP), per capita income, poverty levels, and open unemployment rates, among others.

This study focused on government factors (X_1), which were indicated by three indicators: regulations ($X_{1.1}$), services ($X_{1.2}$), and empowerment ($X_{1.3}$). Telecommunications networks ($Y_{1.1}$), the usage of mobile phones ($Y_{1.2}$), Internet access ($Y_{1.3}$), and computer programs ($Y_{1.4}$) are some of the variables in the use of digitization (ICT) (Y_1). The variables for inclusive growth (Y_2) include less poverty ($Y_{2.1}$), more money per person ($Y_{2.2}$), less unemployment ($Y_{2.3}$), and equality between men and women ($Y_{2.4}$). A hypothesis was developed based on these factors, and it stated that: 1) the government's role positively influences the use of digitalization (ICT) in the coastal villages of Badung Regency; 2) government spending and the use of digitalization (ICT) positively impact inclusive growth in coastal villages of Badung Regency; and 3) the government's efforts positively influence the inclusive growth of villages through digitalization (ICT) in coastal villages.

In the final stage, the questionnaire results were obtained through data analysis by testing the classical assumptions and hypotheses and interpreting the results. The hypothesis test used a 95% confidence level with a probability of $p < 0.05$. The structural equations in this research model are as follows [34,37]:

$$Y_1 = \beta_1 X_1 + \beta_2 X_2 + \mu_1 \dots\dots\dots (1)$$

$$Y_2 = \beta_3 X_1 + \beta_4 X_2 + \beta_5 Y_1 + \mu_2 \dots\dots\dots (2)$$

$$Y_3 = \beta_6 X_1 + \beta_7 X_2 + \beta_8 Y_1 + \beta_9 Y_2 + \mu_3 \dots\dots\dots (3)$$

Description: X_1 = role of government; Y_1 = ICT Utilization; Y_2 = Inclusive Growth; β_1, \dots, β_9 = path coefficient; μ_1, μ_2, μ_3 = *inner residual* (error model)

Results and Discussion

Validity and reliability testing

This study's validity and reliability tests used convergent and discriminant validity criteria. Based on the partial most minor square result, the entire indicator had a loading factor of > 0.50 with a significance level of 0.05. This indicates that the indicators of the variables of the role of government, the use of digitalization, and inclusive growth have proven to be valid in determining the construct in each variable. Furthermore, the validity evaluation using Root Variance Extraction (AVE) met the requirement of > 0.50 ; thus, the validity of the discriminant was met in this study. Finally, reliability testing showed Cronbach's alpha and composite reliability values > 0.70 . Thus, the instrument was deemed reliable. Suppose that all research data have been proven to be valid and trustworthy. The process of determining whether the model is correct and testing hypotheses can proceed. Table 1 shows the results of the validity and reliability tests.

Table 1. Validity and reliability testing

Constructs	Cronbach Alpha	Composite Reliability	Average Variance Extracted (AVE)
X_1 (The Role of Government)	0.622	0.794	0.564
Y_1 (ICT Utilisation)	0.789	0.863	0.612
Y_2 (Inclusive Growth)	0.834	0.890	0.668

Inner Model Evaluation

The inner model test consists of two main aspects: evaluating the model's suitability (*goodness of fit*), and evaluating the influence of exogenous variables on endogenous variables through hypothesis testing. The results showed that the constructed value in the use of digitization (ICT) obtained an *R-square* value of 0.403 (between 0.34-0.66), which indicates a moderate structural model, while the variable inclusive growth obtained an *R-square* value of 0.744 (between 0.67 - 1). This finding suggests an effective structural model. In addition, the value of Q^2 , or the Stone Geiser *Q-Square* test, as shown in Equation 4, is determined using the *Nilai R-Square*.

$$Q^2 = 1 - [(1 - 0.403)(1 - 0.744)] = 1 - 0.153 = 0.847 \dots\dots\dots (4)$$

Based on the Q^2 calculation of 0.847, differences in how the government works and how people use information and communications technology (ICT) account for 84.7% of the difference in inclusive growth in the coastal villages of Badung Regency. The rest can be explained by things not a part of this study.

Direct influence testing

The direct effect of constructs on other constructs was evaluated through path coefficients accompanied by *t*-statistics and *p*-values. The results are expressed as having a direct effect if the *p-value* is 0.05, with $t_{count} > 1.96$, and the relationship direction is positive. We discovered that the results of a significant relationship test using *t*-statistics met the assumption of > 1.96 with a *p-value* of 0.000 (< 0.05) in this study. Hence, government policies have a significant and positive effect on inclusive growth. This means that the better the government does its job, the more inclusive the growth will be in the village. Furthermore, the positive and significant application of digitalization (ICT) to inclusive growth indicates that the more intensive digitalization is, the more inclusive

growth in coastal villages in Badung Regency is also experiencing enhancement. Table 2 shows the results of direct linkage testing between the constructs.

Table 2. Testing for direct influence between constructs

Variable	Original Sample	Standard Deviation	t-statistics	p-value	Information
$X_1 \rightarrow Y_1$	0.434	0.088	4.927	0.000*	Significant
$X_1 \rightarrow Y_2$	0.253	0.065	3.882	0.000*	Significant
$Y_1 \rightarrow Y_2$	0.274	0.076	3.629	0.000*	Significant

Information: X_1 = Government Role, Y_1 = ICT Utilization, Y_2 = Inclusive Growth; *significant at the 5% level

Indirect influence testing

Indirect influence testing was used to determine how constructs affect other variables in a way that is not obvious. In this study, we obtained a statistical t-value of > 1.96 with a probability of 0.000 (< 0.05). This shows how the government works in coastal villages in Badung Regency, which has a significant indirect effect on inclusive growth through digitalization (ICT). More equitable growth is likely to occur as government involvement in managing coastal settlements through digitalization grows. The indirect effects are listed in Table 3.

Table 3. The indirect influence between constructs with mediation variables

Variable	Mediation	Original Sample	Standard Deviation	t-statistics	p-value	Information
$X_1 \rightarrow Y_2$	Y_1	0.248	0.054	4.628	0.000*	$X_1 \rightarrow Y_2$

Information: X_1 = Government Role, Y_1 = ICT Utilization, Y_2 = Inclusive Growth, *significant at the 5% level.

The role of the government in using digitalization in coastal villages, Badung Regency

The impact and significant influence of the government on the use of ICT in coastal communities in Badung Regency suggest that the more effective the government is in a region, the more it will help increase the use of digitalization. One of the indicators (latent variables), especially the indicators of service, empowerment, and regulation, shows the government's policies best. According to our research, it is imperative for the government to provide public services to facilitate digitalization among rural communities, particularly in coastal villages. The better the government's public services, empowerment, and regulation reflect the government's role, the more significant the impact on the rural community's use of digitalization.

The provision of ICT infrastructure and facilities through government initiatives serves as a vital catalyst in bridging the gap through e-governance, which is pivotal in achieving success [15]. The digital transformation ecosystem approaches high regulatory [8], and service and empowerment indicators that can be put into practice by managers of village-owned businesses will be highly helpful in boosting the use of digitalization by village residents, especially in the coastal regions of Badung Regency. It can be observed from the viewpoint of the respondents that they hold a considerable importance for the government's function, as evidenced by the high values assigned to all the external influencing variables [38].

In the seaside town of Badung Regency, this shows how the government's independent involvement in digitalization affects things. Furthermore, government efforts to provide public services, such as infrastructure, are needed to develop villages and BUMDEs. Currently, the government has built digital ICT (Internet) facilities that communities need at the village level. ICT facilities such as the Internet are very useful for supporting the performance of village information systems. Mr. I Made Karyana Yadnya, the Mekel in Pecatu Villages (August 5, 2021) stated:

"... It is stated that in accordance with the socialization carried out by Wabup Suiasa, the Badung Regency Government will conduct a pilot project to expand the Internet network to households. in the South Kuta area, consisting of six villages and Jimbaran Village, for a pilot project. "

The entry of Internet networks into households is beneficial in various fields of everyday life [13]. Among other things, this is caused by the following: a) Make communication more accessible, for example, by using social networking sites such as Facebook and Twitter, as well as other forms of communication. b) social promotion is familiar to households, such as social fundraising using search engines such as Google and Yahoo. c) The health sector can affect patterns of household life; for example, knowing various kinds of disease information can lead to therapy and preventive drugs [39,40]. (d) The economic field of Internet facilities has changed the market paradigm. The promotion of goods for marketing and order is directly accessed. Buying and selling transactions are conducted to increase revenue. e) In the field of education, for example, children with PAUD use zooms to show the activities shown by the teacher. Elementary, middle, high school, and college students study using zooms from home [8,18].

In more detail, digitalization for internal villages, among others, regulates village administration using various application programs that suit the community's needs [41,42]. The second is the use of digitalization for external villages, which is usually related to the construction of portals or marketplaces. As seen in the Village Head and Head of BUMDes Gentha Persada Tibubeneng Village, Badung Regency, the government's role is a positive indicator of ICT use in BUMDes businesses. One can observe their ingenuity and resourcefulness in partnering with Bali Province ICT volunteers to devise tourism information systems, enhance human resources, and establish village internet connectivity [1,2,43]. The government, comprising the Head of Kutuh Village, the Head of LPD, the Chairman of BUMDes, and community members from Pandawa Beach, plays an essential role in allocating village funds to BUMDes capital to construct beach attractions.

To enhance the performance of BUMDes, it is recommended that local workers be integrated into the growth of tourism, which supports local transportation, such as by collaborating with Grab online, and that the development of MSMEs in tourist destinations be promoted. These measures have the potential to achieve innovative outcomes that could result in a profit of Rp 13 billion and turnover of IDR 34 billion in 2018. This research is in line with research conducted in China, which shows an increase in inclusive economic growth due to an increase in industrial structure, digitalization, and corporate innovation, including government with three complete models: Internet integration or the use of digitalization with industry, the use of digitalization with environmental governance, and digitalization innovation with the role of government [17,44]. In contrast to the research of Rakibul and Khalid (2014), who found that the role of the government in the use of digitalization (ICT) is still lacking and significant for SMEs operations, as well as an essential determining factor in SMEs applying ICT in rural areas [1,10,45].

The role of the government in fostering equitable growth at the coastal village of Badung Regency

The government's policy has a significant impact on the coastal regions of Badung Regency and is essential for inclusive growth. The concepts of services, empowerment, and regulation most clearly reflect the government's role in promoting inclusive growth. Inclusive growth is typically demonstrated by increases in per capita income, open unemployment, and gender equality. Strong regulation, service provision, and empowerment measures are necessary to achieve these results, and they require the involvement of both national and local governments as well as village governments. These indicators are critical for boosting inclusive growth in the village. If village managers and BUMDes in the coastal regions of Badung Regency can effectively apply them, this is evident from the high importance given to the construct of the government's involvement by respondents, as indicated by the high value of all external loading variables and the average assessment of the construct's indicators [34]. In the coastal community of Badung Regency, the present scenario clearly illustrates the significant influence of the government's autonomous role on comprehensive development, which encompasses all sectors of society.

Efforts to reduce poverty through inclusive growth are the primary goal [32,41]. To achieve inclusive growth, it is imperative to focus on three crucial components: the maximization of economic opportunities for all levels of society, the provision of social safety nets for all segments of society, and the guarantee of equitable access to employment prospects [46]. The two main pillars of inclusive development, institutions, and governance are

interdependent [47–49]. This study examined Prasetya [47], Papua New Guinea's attempts to fight poverty are significantly affected by the government's participation in public investment and access to commercial financing. Furthermore, good governance has contributed to inclusive growth in African countries. The role of governance in economic growth depends on income levels, so the government has a significant role in increasing inclusive economic growth in a region [21,50].

Digitalization is fostering equitable growth in the coastal village of Badung Regency

In the coastal districts of Badung Regency, the implementation of digitalization (ICT) has been found to have a significant impact and is considered essential for inclusive growth. The widespread use of computer applications, access to the Internet, and telecommunications networks serves as a testament to the ubiquity of digitalization (ICT) in the area. On the other hand, inclusive growth is primarily evidenced by a reduction in poverty rates, an increase in per capita income, a decrease in open unemployment, and the achievement of gender equality [30,31]. The results of this study reveal that the implementation of digitalization, specifically in the form of computer applications, Internet access, and telecommunications networks, by managers of Badung Regency's coastal villages can significantly enhance the inclusive growth of these communities [51,52].

The findings of the study indicate that respondents possess a strong perception of the constructs of external loading variables and inclusive growth of the village, as evidenced by their high ratings of these constructs. Moreover, the results suggest that the construct of ICT utilization is strongly perceived by respondents, as demonstrated by their high ratings of this construct. These findings are indicative of the actual impact of independent digitalization (ICT) use on inclusive growth in the beach village of Badung Regency. This research is in line with Koralagama et al. (2017), who asserted that technology can bridge the gender gap by increasing the interest of girls and women in digitalization. Additionally, data from the OECD and Sub-Saharan Africa demonstrate that digitalization has a major impact on economic growth in both regions of the nation. He concludes his research by suggesting that governments in sub-Saharan Africa should spend more on ICT and other infrastructure to benefit from digitalization and achieve considerable economic development for the entire population [21].

Solomon & van Klyton (2020) a different perspective was put forth, suggesting that the influence of individual ICT utilization has a noteworthy and favorable impact on inclusive growth. However, digitalization in businesses and governments appears to have a negligible effect. Sun & Tang (2022) recent research finds that the application and use of digitalization (ICT) in a region contributes significantly to promoting sustainable economic growth through increased loans from financial institutions, the amount of savings by the population, and the amount of consumption by the population. Furthermore, the widespread use of digitalization is the most effective way to promote inclusive economic growth. The use of digitalization in villages has a positive and significant correlation with the quality of rural economic development through digital village development. Digital village development accelerates the inclusive growth of villages and improves the quality of rural areas by implementing digital industry entrepreneurship activities in an integrated, independent, and sustainable manner [54].

Digitalization mediation of the role of the government in fostering equitable growth at the coastal village of Badung Regency

Government policies indirectly impact inclusive growth in coastal communities in the Badung Regency. In coastal communities in Badung Regency, the effect of government involvement in inclusive growth is moderated by the use of digitalization (ICT). The government's involvement in the use of digitalization (ICT) has had a significant impact on inclusive growth in the coastal communities of Badung Regency. Furthermore, the relationship between the government's contribution to inclusive growth in these communities and the use of digitalization (ICT) is partially mediated [13,55].

The use of Information and Communication Technology (ICT) in the government's role in promoting inclusive growth in coastal communities of Badung Regency has been identified as "partial mediation" in the mediation model. The government's indirect impact on inclusive growth in these communities highlights the critical role that digitalization plays in enabling the government to influence the growth of these communities. Suppose that the government plays an effective and efficient role. In that case, ICT usage will rise in the community, resulting in more inclusive growth for coastal communities in Badung Regency due to rising ICT usage.

The relationship between government influence and inclusive growth in the coastal villages of Badung Regency necessitates the intervention of digitalization, also known as information and communication technology (ICT), to facilitate the government's role in fostering inclusive growth in these areas. A Japanese study revealed a similar point, in that digitalization could improve working conditions and contribute to a more stable form of economic growth. In addition, the existence of digitalization and its application in a region contributes significantly to reducing the digital divide, intensifying work, and increasing the level of workplace supervision so that digitalization-based social compromises can increase inclusive growth [18].

Conclusion and Recommendation

Inclusive growth is crucial for supporting community welfare, especially in rural areas. These results demonstrate the importance of government participation and the use of information and communication technology to foster and enhance inclusive growth, particularly in the coastal village of Bali's Badung Regency. Service, empowerment, and regulation indicators demonstrate how several facets of the government's function concurrently impact inclusive growth. Indicators of digitalization include computer applications, Internet access, and telecommunications networks. Inclusive growth indicators include a drop in poverty, increase in income per person, drop in unemployment, and equal rights for men and women. Thus, the interaction between the role of the government and the use of digitalization needs to be encouraged in coastal villages, Badung Regency, to increase inclusive growth. These findings will help the government formulate policies related to the equitable distribution of inclusive growth in coastal villages by integrating government roles and digitalization. Further research is needed to identify other factors that influence inclusive growth, based on local wisdom.

Acknowledgments: The authors would like to thank PT. Mega Science Indonesia has assisted in the inspection and improvement of manuscripts and proofreading, making it worthy of publication.

Author contributions: N.W.M: development of concepts and ideas; data processing; manuscript preparation M.S.U: supervisors, data processing, validation, and data collecting; manuscript finalization; I.A.N.S.: literature search, concept and technique formulation, data collecting, and finalization of the manuscript; A.A.I.N.M.: validation, preparation and evaluation of the paper, and finalization of the manuscript

Conflict of interest: the authors declare no conflict of interest.

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