



## **Balinese Rural Women During the Pandemic Covid 19: From Zero to Hero (A Reflection on Household Livelihood Strategies in Bali Without Tourism)**

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### **Abstract**

For most people, Balinese women are identical to the beauty of Balinese dances. What actually happens is that Balinese women have three burdens that must be carried out in their daily life: economic workers, especially the informal sector, cultural guardians, as well as family caregivers. The Covid-19 pandemic has proven that Balinese women are capable of being the saviors of the family economy. This study examined the work participation of rural women in the informal sector that is influenced by access to livelihood capitals. It was conducted using a mixed method that involved data processing with *Partial Least Structure* approach and qualitative models (depth interview). This research was conducted in

Gianyar Regency, Bali in 7 sub-districts with 399 respondents. The results of the quantitative research showed that physical-facility capital and social institutions did not have a significant effect. Human resource capital, natural resource capital, and finance had a significant effect on the rural female labor participation. The implication of this research is that a wider role is needed for rural women in economic decision making and village resource management to achieve inclusive rural economic development

### **Keywords**

Balinese rural women, work participation, informal sector, livelihood access, Pandemic Impact

### **Resumen**

Para la mayoría de las personas, las mujeres balinesas son idénticas a la belleza de las danzas balinesas. Lo que en realidad sucede es que las mujeres balinesas tienen tres cargas que deben llevar a cabo en su vida diaria: trabajadoras económicas, especialmente del sector informal, guardianas culturales, así como cuidadoras familiares. La pandemia del Covid-19 ha demostrado que las mujeres balinesas son capaces de ser las salvadoras de la economía familiar. Este estudio examinó la participación laboral de las mujeres rurales en el sector informal que está influenciada por el acceso a capitales de medios de vida. Se llevó a cabo utilizando un método mixto que involucró el procesamiento de datos con el enfoque de estructura mínima parcial y modelos cualitativos (entrevista en profundidad). Esta investigación se realizó en Gianyar Bali, en 7 subdistritos con 399 encuestados. Los resultados de la investigación cuantitativa mostraron que el capital de instalaciones físicas y las instituciones sociales no tuvieron un efecto significativo. El capital de recursos humanos, el capital de recursos naturales y las finanzas tuvieron un efecto significativo en la participación laboral femenina rural. La implicación de esta investigación es que se necesita un papel más amplio para las mujeres rurales en la toma de decisiones económicas y la gestión de los recursos de la aldea para lograr un desarrollo económico rural inclusivo.

Palabras clave: mujeres rurales balinesas, participación laboral, sector informal, acceso a medios de vida, impacto de la pandemia

### **Introduction**

The Covid-19 pandemic has caused a decline in household welfare and increased the number of unemployed in Indonesia. For instance, the economic performance of Bali province that highly depends on tourism, was still contracting in the fourth quarter of 2020. For this reason, the number of unemployed and poor people has significantly increased. The Open Unemployment Rate (TPT) increased from 1.57% in August 2019 to 5.63% in August 2020. This condition was attributed to the policy limiting activities to prevent the spread of the pandemic.

The agricultural sector significantly contributes to employment in Bali Province, shifting dominance from the trade sector with a share of 22.51% of the total working population. The percentage of poor people in September 2020 was 196.92 thousand people (4.45%). This was a significant increase compared to March 2020 with 165.19 thousand people (3.78%) and September 2019 with 156.91 thousand people (3.61%). In 2020, there was an economic contraction of 9.31% (yoy) in Bali province, a negative trend compared to 2019. The pandemic has forced various countries to implement travel restriction policies since March 2020, significantly decreasing tourist visits. The decline in Bali's economic growth has increased the urge for women participation in the workforce (which most of them as informal sector worker), to maximize their access to livelihood capitals, including human resources, natural resources, finance, physical facilities, and social institutions.

There has been a debate about the existence of the informal sector in several countries, particularly in Indonesia. The informal sector is considered a savior in times of crisis such as in the current Covid-19 pandemic because of its ability to absorb the labor force with less high education, limited skills, and ease of doing business for newcomers (Parizeau K, 2015; Poffenberger, 2014; World Bank, 2010). Several experts, however, remind the weakness of the informal sector which actually maintains poverty in rural areas, especially among women. The informal sector is very vulnerable to the exploitation of cheap labor. The backwardness and powerlessness of the informal sector is a condition for the progress of the formal sector (Chen, 2012).

The scientific study debate is also reflected in the empirical data in Indonesia. The high participation of women as informal workers in Indonesia does not reflect their guaranteed welfare. The importance of the contribution of working women in the informal sector in rural areas to increase their family income during a pandemic crisis like this current one goes against women's limitations in accessing economic assets. The increasing demands for life necessities and domestic duties are a burden for most women. Even in some regions in Indonesia, women have an additional duty, namely the guardianship of traditions, as experienced by rural women in Bali Province. Several empirical studies on the conditions of informal working women in Bali, with so many demands as breadwinners as well as guardians of tradition, were revealed in previous studies, (Dewi,2012); (Saskara,2012); (Sari M.Komala, 2012).

Even though the income is low, it does not reduce women's willingness to work in the informal sector because rural women in Indonesia, especially in Bali Province, are bound to take care of their families and are bound by obligations as members of traditional villages. Rural women in Bali Province must be responsible for allocating their time to making and preparing the religious ceremony materials (*Upakara*), which directly influences their decision to work full time. The *upakara*, which is made regularly in Bali, is only able to be specially prepared by Balinese women. The process starts from purchasing materials that are mostly from nature, processing and preparing them with special skills, to offering them in sacred ceremonies. Rural women in Bali must be able to become working women, family

nurses as well as guardians of Balinese traditions, Creese H (2008).

The uniqueness and heavy burden of rural women in Bali makes this study use a livelihood perspective, namely viewing the labor participation of rural women not only from their limitations but also from exploring all the self-potential that women have as members of traditional villages. The potential that women have to carry out all their business in economic activities so as to achieve the goal of increasing and sustaining income (livelihood strategy). As an effort to fill the gap in the debate regarding the role of the informal sector for employment, the use of the five livelihood assets is also more relevant in reflecting on the condition of rural women in Bali Province, particularly in Gianyar Regency.

This study is inspired by empirical conditions in Bali Province, specifically the Gianyar Regency, where most female workers in the informal sector are unpaid. Theoretical and empirical studies show the vulnerability of female informal workers that threatens their welfare. The low socio-economic status of women working in the informal sector is caused by the under-valued awards to their contributions. This is mainly the case in social institutions, such as preserving Balinese culture in traditional villages, the main potential for developing cultural tourism. Moreover, the gender empowerment index (IDG) in the Gianyar Regency is still below the average compared to Bali Province. Therefore, the role of women in making economic and political decisions still needs to be improved. Their creativity in the informal sector is an economic potential that needs to be optimized. Additionally, the creativity and entrepreneurial spirit of Balinese women show the need to be allocated more time between supplementing family income, taking care of the family, and preparing for ceremonies in customary village areas.

### **Livelihood Strategies**

The livelihood strategy approach can be used as an alternative approach that can provide a comprehensive analysis of the labor participation of rural women in the informal sector in this study, Khan (2018). Livelihood strategy approach can be used especially for research in rural areas. Baiquni in Wijayanti (2016) defines livelihood strategy as a form of activity that uses assets (natural, physical, human resource, financial and social capital) to increase family income. The use of these assets is mediated by institutions, social order and social networks.

Previous studies identified various forms of livelihood strategies, including Khan, MA (2008), Baiquni (2007), Nilson W. (2012), Salleh M. Suhaidi (2013), Dorward (2001), Berloff and Medona (2013), Erikson (2009), and Hao (2008). The strategies are based on assets, activities, capabilities, and external influences, such as institutions faced by individuals in the household. The livelihood strategies include extensification, intensification, migration, and plural activity to off-farm. This study uses livelihood strategies proposed by White (1991) in Baiquni (2007), specifically accumulation, consolidation, and survival.

The livelihood strategy approach has not been examined in previous studies related to the work participation of rural women in the informal sector. Since this approach requires

quantitative and qualitative methods, the understanding of rural women informal workers in the Gianyar Regency is comprehensive, specifically concerning their sustainability during a pandemic. The dependence of the regional economy of the Gianyar Regency on the tourism industry sector makes this approach critical.

Amid limited assets, rural women try to help to fulfill household expenses for physical and spiritual needs (*upakara*). Previous studies that examined livelihood strategies, such as Berloff & Modena (2013), Eriksen, Julie (2009), Su, Fang and Sang Hai (2012), and Khan, Moh Asif (2008), and Nielsen (2013), used household as a subject where women are only complemented. Furthermore, variables consisting of natural resources, social capital, and finance were used as determinants of income diversification of a livelihood strategy to improve life quality.

### **Material and Methods**

This study aims to identify and analyze the influence of the five livelihood assets on the labor participation of rural women in Gianyar Regency, Bali Province. Similar to Bali, Gianyar Regency is the heart of tourism destinations in this province. The development of Balinese tourism began in Ubud Village, Ubud Sub-district, in 1930 (Pichard, 2004). The village has become a popular destination for quality tourists from all over the world. The existence of Ubud is supported by various villages with a unique potential in different aspects of art and culture. Gianyar, a regency with high artistic potential and creativity, is the center of Balinese artists, from dance to carving and sculpture. The creativity of the population provides various job opportunities to rural women. As community institutions in rural areas, traditional villages provide both direct and indirect access to work participation. These five assets owned by rural women are closely related to the existence of traditional village institutions that exist only in Bali.

The research was conducted by distributing questionnaires to 399 women between July and October 2020, in Gianyar Regency, Bali Province. The results of data analysis provided input for strengthening the role of women in traditional village institutions, respecting the role of women in cultural preservation, and ensuring the sustainability of job opportunities in the informal sector that are better than current conditions, namely only as a savior in times of crisis and making households just survive.

Based on the problem formulation, this study uses mixed method. The first one involves analyzing five variables thought to affect the decisions of female workers in the informal sector based on the concept of livelihood strategies. Five variables of livelihood capital that affect a person economic activities and work participation include human resources, natural resources, finance, physical facilities, and social institutions.

The indicators that reflect these variables are used to determine the ability of women to use their access to the five livelihood capitals to increase work participation in the informal sector, proxied by the working hours. According to the Indonesia Central Statistics Agency (2021), workers are divided into three, including full-time, semi-unemployed, and part-time. In this study, work participation is also indicated by

the length of the respondent's work experience in the informal sector. Partial Least Square (PLS) is used to analyze the relationship between variables.

The variables and indicators used in this study are as follows. Labor participation (Y) was measured based on the length of work of the respondents as informal sector workers, the respondents' perception of working permanently, temporarily and underemployment. The access to Human Resource Capital (X<sub>1</sub>) was reflected in respondent's formal education and work motivation. The access to Natural Resource Capital (X<sub>2</sub>) was reflected in respondents' perceptions of access to village land use for household economic purpose and access to free clean water belonging to the village. Access to Financial Capital (X<sub>3</sub>) was reflected in respondents' access to borrowing credit, having savings, income, and non-labor income from family and land ownership. Capital access to physical facilities (X<sub>4</sub>) was measured by using digital-based smartphone utilization indicators, motorized vehicle access (respondent mobility), and traditional market access. Access to social institutional capital (X<sub>5</sub>) was measured by using the respondent's status in customary village institutions, and financial assistance that respondents received from customary villages.

This research aims to determine the effect of the variables of Access to Human Resource Capital (X<sub>1</sub>), Access to Natural Resource Capital (X<sub>2</sub>), Access to Financial Capital (X<sub>3</sub>), Access to Physical Capital (X<sub>4</sub>), and Access to Institutional Social Capital (X<sub>5</sub>) on Labor Participation (Y). To analyze the research data, Partial Least Square (PLS) quantitative analysis technique was used. Data management was carried out with SmartPLS ver 3 software, and through three stages of analysis: (1) Model Specification, (2) Outer Model Evaluation, (3) Inner Model Evaluation.

The first stage, the Outer Model testing in PLS, aimed to determine the validity and reliability of each indicator in explaining exogenous and endogenous variables, (Haenlein ,2017). The outer model test results included convergent validity, discriminant validity, and construct reliability tests. The second stage was the inner modal test which aimed to determine the ability of exogenous variables to explain the variance of endogenous variables. This test was done by analyzing the values of R<sup>2</sup> and Q<sup>2</sup>. The formulation of the outer capital equation and the structural model was then carried out.

Nilson (2012) and (Jaka & Shava, 2018) explained that in the livelihoods approach, the context of vulnerability, such as crises, causes changes in behavior and the ability to use livelihood assets to meet personal needs and increasing income. The livelihood strategy approach in this study aimed to analyze descriptively how women as informal workers anticipate the vulnerabilities faced, specifically, in the Covid-19 pandemic crisis.

## **Results**

Regarding the main occupation, 54.6% are self-employed, distributed in all sub-districts. However, the most self-employed respondents are in the Tegallalang Sub-district and the least in the Payangan. Agricultural and non-agricultural workers are 33.08%, the most and least coming from Payangan and Tegallalang

sub-districts. Respondents with self-employment status paid for by temporary workers or unpaid family workers were 6.3%, mostly located in the sub-districts of Ubud, Tegallalang, Sukawati, Gianyar, and Blahbatuh. The remaining 6% are unpaid house workers in Ubud, Tegallalang, Payangan, and Blahbatuh.

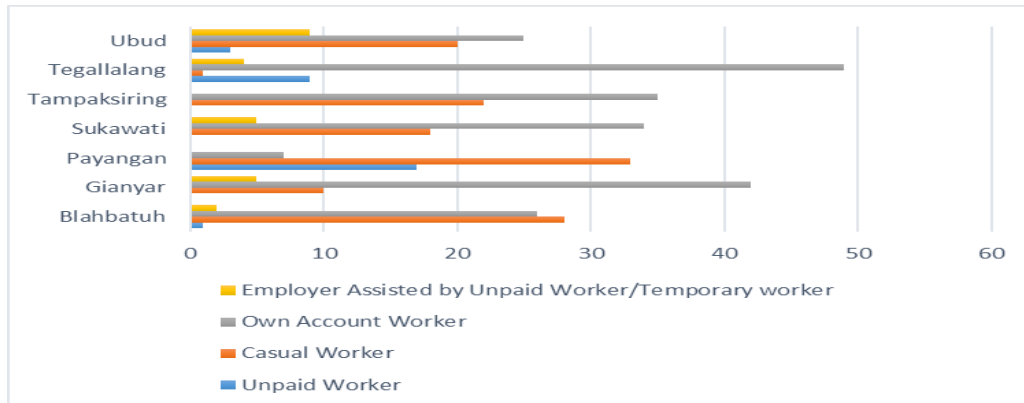


Figure 1. Figure of Respondent's Main Employment Status  
Source: Primary Data (2020)

This data is supported by the existence of the Gianyar Regency as a center for the development of small industries and household crafts in Bali Province. In 2017, there were 75,224 micros, small and medium enterprises in Gianyar Regency. The three leading regional sectors include agriculture, tourism, and the development of small industries and household crafts (MSMEs). The 75,224 MSMEs engaged in various sectors, including agricultural industry with 33,892 (45.05%), non-agricultural (crafts) 21,757 (28.92%), trade 17,143 (22.80%), and the service sector 2,432 units (3.23%).

Based on the economic sector, the unpaid workers include trading in the family, helping their husbands in the fields, and participating in the household handicraft industry. Free and nonagricultural workers include construction workers in the Ubud area (Respondents of Tampaksiring Sub-district), laborers for making upakara (offering), incense dyeing workers (Respondents of Gianyar Sub-district), villa garden workers, mushroom business workers (Ubud Sub-district), market workers, dishwashing workers (Sukawati Sub-district), vegetable garden workers (Payangan Sub-district).



Figure 2. Variety of Rural Women Informal Workers in Gianyar Regency  
Source: Primary Data (2020)

Most self-employed respondents work as traders in traditional markets or their own homes in kiosks, grocery stores. Specifically, they trade ready-made foods, such as Balinese porridge, side dishes (chicken *betutu*, satay wrap, chips), traditional cakes (*sumsum* porridge), and various self-produced food. Furthermore, they sell ceremonial tools such as *janur*, fruit, flowers, *sampian*, *canang*, and *jaje begina*. Informal jobs in the service sector include spa freelance (on-call therapist) and rent bike (motorcycle rental). Other services include tailors for clothes and a beauty salon (Sukawati Sub-district).

The respondents assisted by temporary workers/unpaid families have handicraft businesses such as *togog*, sculpture (Sub-district Tampaksiring), silver handicrafts (Sub-district Sukawati), bag and pandan mat handicrafts (Sub-district Gianyar). Most of the respondents worked as stone-diggers. Although excavation activities in Gianyar Regency are prohibited, some Gianyar residents still depend on this sector for their livelihood. The added value generated is not necessarily proportional to the impact on the environment. The types of excavation include rock, taro soil, brush stone, and clay, including soil for the brick industry. The results of this excavation are widely used for the construction of Balinese-style buildings and temples. Moreover, most women work as laborers to transport construction materials, such as sand and other building materials.

The tourism sector also provides opportunities for respondents to work. Some of the works in the Ubud Sub-district include direct interaction with tourists as a nanny for babies and children in foreign families, renting two-wheeled vehicles for backpack tourists, selling dance performance tickets, to becoming a spa therapist.

### **PLS Model Specifications**

Based on the test result of the latent variables model in this research, the variables are categorized into two groups: exogenous and endogenous variables, Haenlein (2004). The exogenous variables are Access to Human Resource Capital (X1), Access to Natural Resource Capital (X2), Access to Financial Capital (X3), Access to Physical Capital (X4), Access to Institutional Social Capital (X5). The endogenous variable was the labor participation of working women in villages of Gianyar Regency (Y). The Human Resource (X1) exogenous variable is reflected in three indicators; the Natural Resource exogenous variable is reflected in two indicators; the exogenous Access to Financial Capital (X3) variable is reflected in four indicators; the Access to physical facilities (X4) exogenous variable is reflected in three indicators; and the institutional access for Social Capital (X5) exogenous variable is reflected in two indicators. The exogenous variable of women's labor participation (Y) is reflected in four indicators. Therefore, the total labor participation model of rural working women in the informal sector in Gianyar Regency in this research is reflected in five exogenous variables, one endogenous variable, and 18



reflective indicators.

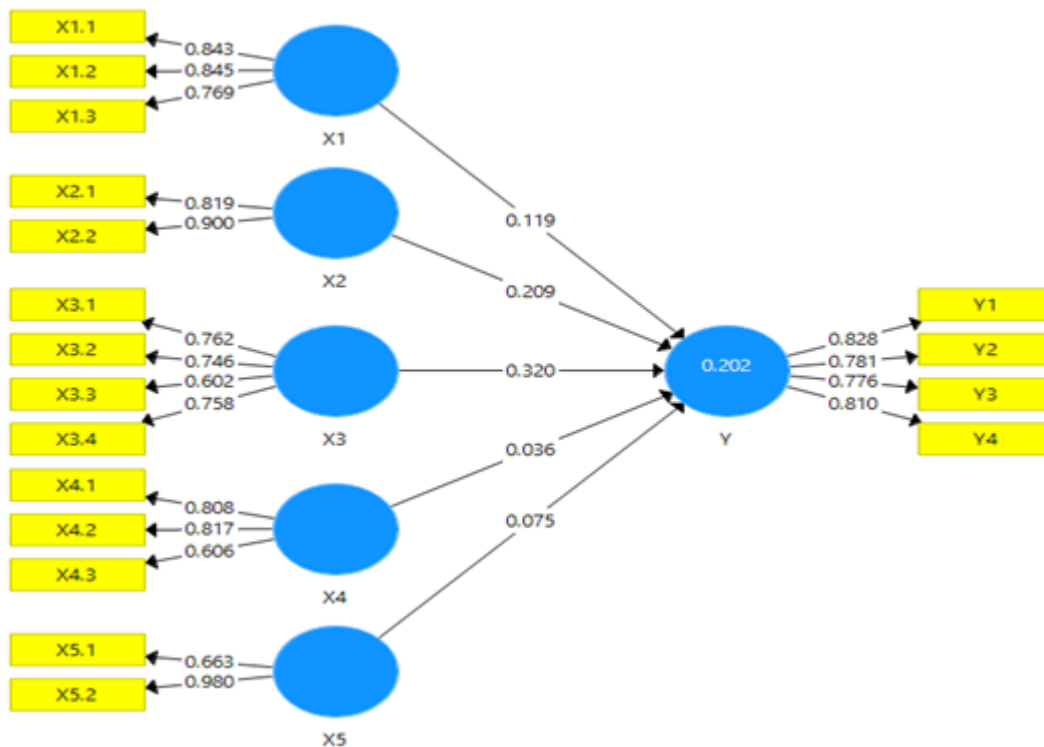


Figure 3. Visualization of the PLS Model of Rural Female Labor Participation in Informal Sector (Case Study in Gianyar Regency)  
 Source: Primary Data Management Result (2020)

The Outer Model testing in PLS aimed to determine the validity and reliability of each indicator in explaining exogenous and endogenous variables. The outer model test results included convergent validity, discriminant validity, and construct reliability tests, Gaskin et al (2014). The following shows the results of these tests on the variables of access to Human Resource Capital (X1), access to Natural Resource Capital (X2), access to Financial Capital (X3), access to Physical Capital (X4), institutional access to Social Capital (X5), and Labor Participation (Y).

The results of the convergent validity test on the variables of Human Resource Capital (X1), Natural Resource Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y) with a reflective measurement model resulted in the loading factor value of the indicators which was more than 0.500, which implies that the indicators of the variables have met the convergent validity.

### Discriminant Validity Test

The discriminant validity test using the cross-loading value resulted in the loading factor in the column of each variable (bold printed) which is the highest value compared to the cross-loading value of other variables so that the indicators of Human Resource Capital (X1), Natural Capital Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y) variables

met the discriminant validity.

The results of the discriminant validity test using the AVE root value were that the AVE root value (bold printed) was greater than the correlation value between among variables, so that the variables of Access to Human Resource Capital (X1), Natural Resource Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y) met discriminant validity. Hair et.al (2014) state that the AVE value that is greater than 0.50 indicates that the variable is able to explain more than half of the variance of the indicator. Below are the results of construct reliability tests on the variables of Human Resource Capital (X1), Natural Resource Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y).

The results of the reliability test using the Composite Reliability value and the Cronbachs Alpha value revealed that the test result value met the test criteria of more than 0.60 (> 0.60), which means that each variable of Human Resource Capital (X1), Natural Resource Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y) met the construct reliability. Inner model testing was conducted to determine the ability of exogenous variables to explain the variance of endogenous variables. The inner model test results included the coefficient of determination (R-square). Below are the results of these tests on the variables of Human Resource Capital (X1), Natural Resource Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y). The test was carried out with two values, namely Coefficient of determination (R<sup>2</sup>) and the value of Cross Validated Redundancy (Q<sup>2</sup>).

Table 1. Inner Model Test Result

<b>Variables</b>	<b>R Square</b>	<b>R Square Adjusted</b>
Labor Participation	0.202	0.191
Q Square = 1 - (1 - R <sup>2</sup> ) Q Square = 1 - (1 - 0.202) Q Square = 0.202		

Source: Research Data Management (2020) - PLS Appendix (Overview)

The value of R<sup>2</sup> is 0.20 which, according to Hair et.al (2014: 113), means that the combination of the effects of exogenous variables on endogenous variables is classified as weak. This indicates that there are still many indicators that have not been included in this research model. In accordance with the livelihood approach, there are still many variables and indicators beyond the five livelihood assets that are external (beyond the ability and personal access of working women) that will create a bigger combined effect. The addition of other external variables (government policies, economic growth and other variables from the demand side of labor) which are other aspects of the livelihood approach can be further developed in further research.

The 0.202 (Q<sup>2</sup>) value indicates > 0 value, which means that the observed

values have been reconstructed properly so that the model has predictive relevance. The value of  $Q^2 < 0$  indicates the absence of predictive relevance. The  $Q^2$  value is used to see the relative effect of the structural model on the observation measurement for the latent dependent variable (endogeneous latent variable). This  $Q^2$  value does not indicate predication quality (Hair et.al, 2014)

**Conversion of Path Diagrams into Equation**

The equation of path in the structural model is divided into two parts, namely the measurement model (outer model) and the structural model (inner model). The measurement model explains the relationship between indicators and latent variables, while the structural model equation explains the relationship between latent variables.

In this section, the relationship equation between indicators and latent variables will be formed, namely the variables of Human Resource Capital (X1), Natural Resource Capital (X2), Financial Capital (X3), Physical Capital (X4), Social Capital (X5), and Labor Participation (Y).

Table 2. Measurement Model Equation

<b>Variables</b>	<b>Indicator</b>	<b>Loading Factor</b>	<b>Outer Model Equation</b>
Access to Human Resource Capital	X1.1	0.843	$X1.1 = 0.843 X1$
	X1.2	0.845	$X1.2 = 0.845 X1$
	X1.3	0.769	$X1.3 = 0.769 X1$
Access to Natural Resource Capital	X2.1	0.819	$X2.1 = 0.819 X2$
	X2.2	0.900	$X2.2 = 0.900 X2$
Access to Finance Capital	X3.1	0.762	$X3.1 = 0.762 X3$
	X3.2	0.746	$X3.2 = 0.746 X3$
	X3.3	0.602	$X3.3 = 0.602 X3$
	X3.4	0.758	$X3.4 = 0.758 X3$
Access to physical Capital	X4.1	0.808	$X4.1 = 0.808 X4$
	X4.2	0.817	$X4.2 = 0.817 X4$
	X4.3	0.606	$X4.3 = 0.606 X4$
Access to Social Institution Capital	X5.1	0.663	$X5.1 = 0.663 X5$
	X5.2	0.980	$X5.2 = 0.980 X5$
Labor Participation	Y1	0.828	$Y1 = 0.828 Y$
	Y2	0.781	$Y2 = 0.781 Y$
	Y3	0.776	$Y3 = 0.776 Y$
	Y4	0.810	$Y4 = 0.810 Y$

Source: Research Data Management (2020) - PLS (Outer Loadings) Appendix

The equation result of measurement model for the Human Resource Capital Access variable (X1) was that the highest loading factor was the X1.2 indicator, namely formal education (0.845), then the X1.1 indicator, namely work motivation

(0.843) followed by the quality of health (0.769). Work motivation was the indicator that best reflected the respondents' access to human resource. The equation result of measurement model for Natural Resource access variables was the highest loading factor for the X2.2 indicator, namely access to clean water (0.900). The loading factor for the access to village land use for economic purposes X2.1 was (0.819). The results of the measurement model equation for financial capital access variables were the highest loading factor, namely non-labor income X3.1 (0.762), labor income X3.4 (0.758). The savings indicator reflected access to financial capital X3.2 (0.746), and the X3.3 indicator, namely credit, was 0.602.

The measurement model equation result for physical facility access variable was the highest loading factor, namely the indicator of mobile phone use X4.2 (0.817), then the indicator of ease of mobility using private or public vehicles X4.1 (0.808). Indicator of access to traditional markets X4.3 reflected access to physical facilities (0.606).

The measurement model equation result for the access to social capital institutions variable indicated the highest loading factor, namely the indicator of the frequency of obtaining financial assistance from customary villages in the capacity as a wife, X5.2, namely (0.980). The next indicator was the position of the respondents in the traditional village institution, namely X5.1 (0.663).

The highest loading factor based on the measurement model equation result for the Labor Participation (Y) variable was the Y1 indicator (0.828), namely the respondents' perception of working full time so that this indicator was the most dominant indicator in the formation of the dimensions of the Labor Participation variable (Y). The next indicator that reflected the labor participation variable was Y4, length of work (0.810), the respondents' perception indicator working part-time Y2 (0.781), and the respondents' perception indicator working underemployed, Y3 (0.776).

In this section, the equation of the relationship among the latent variables will be formed, namely the variables of Access to Human Capital (X1), Natural Resources Capital (X2), Financial Capital (X3), Physical Capital (X4), Institutional Social Capital (X5), and Labor Participation (Y). The results of data management are shown in table 3.

Table3. Structural Model Equation

Influence	Path Coefficient	Inner Model Equation
X1 -> Y	0.119	$Y = 0.119 X1 + 0.209 X2 + 0.320 X3 + 0.036 X4 + 0.075 X5$
X2 -> Y	0.209	
X3 -> Y	0.320	
X4 -> Y	0.036	
X5 -> Y	0.075	

The results of the structural equation model showed that there was a positive influence among the variables of Access to Human Capital (X1), Access to Human Resources Capital (X2), Access to Financial Capital (X3), Access to Physical Capital (X4), Institutional Access to Social Capital (X5) on Labor Participation (Y).

To find out how the five livelihood capitals influenced the labor participation of rural women in the informal sector, based on the empirical data used in this study, the hypothesis proposed can be tested. The following shows the results of hypothesis testing based on the path coefficient value and the T-Statistical / P-value.

Table 4. Hypothesis Testing Results

Hypothesis	Influence	Path Coefficient	T Statistics	P Values	Note
1	X1 -> Y	0.119	2.307	0.022	Significant
2	X2 -> Y	0.209	4.456	0.000	Significant
3	X3 -> Y	0.320	7.606	0.000	Significant
4	X4 -> Y	0.036	0.799	0.425	Insignificant
5	X5 -> Y	0.075	1.225	0.221	Insignificant

Source: Research Data Management (2020) - PLS Appendix (Direct and Indirect Effects)

The results of hypothesis testing are presented as follows:

**H1: Access to Human Resource Capital (X1) affects the Labor Participation (Y)**

The hypothesis about the effect of the Human Resource Capital Access (X1) variable on the Labor Participation (Y) variable revealed a path coefficient of 0.119 with a statistical t value of 2.307 ( $t > 1.960$ ) and a p-value of 0.022 ( $p < 0.05$ ); thus, the Human Resource Capital Access variable (X1) has a significant positive effect on the Labor Participation (Y) variable. These results indicate that the higher access given to women to improve their formal education increased their work motivation so that they did not only work due to limited abilities and improving the quality of health services will have an effect on respondents' higher labor participation (Y) (hypothesis is accepted). These results were consistent with the research conducted by Ras Amanda (2019), and Mia Komala Sari and Sudibia (2012).

**H2: Access to Natural Resource Capital (X2) affects the Labor Participation (Y)**

The hypothesis about the effect of access to the Natural Resource Capital (X2) variable on the Labor Participation variable (Y) revealed a path coefficient of 0.209 with a statistical t value of 4.456 ( $t > 1.960$ ) and a p-value of 0.000 ( $p < 0.05$ ), which implied that the Natural Resource Capital (X2) variable has a significant positive effect on the Labor Participation (Y) variable. These results indicate that the increased access given to women to clean water and utilizing village land for economic purposes had an effect on the respondents' higher Labor Participation (Y). These results indicate that the hypothesis was accepted.

**H3: Access to Financial Capital (X3) affects the Labor Participation (Y)**

The hypothesis about the effect of Financial Capital (X3) variable on the Labor

Participation (Y) variable revealed a path coefficient of 0.320 with a statistical t value of 7.606 ( $t > 1.960$ ) and a p-value of 0.000 ( $p < 0.05$ ), which implies that the Financial Capital (X3) variable had a significant positive effect on the Labor Participation (Y) variable. These results indicate that the increase in non-labor income, access to finance (credit and savings), and income affected the increase in respondents' labor participation. These results indicate that the hypothesis was accepted.

#### **H4: Access to Physical Capital (X4) affects the Labor Participation (Y)**

The hypothesis about the effect of Physical Capital variable (X4) on the Labor Participation (Y) variable revealed a path coefficient of 0.036 with a statistical t value of 0.799 ( $t < 1.960$ ) and a p-value of 0.425 ( $p > 0.05$ ), which implies that the Physical Capital (X4) variable has a positive but insignificant effect on the Labor Participation (Y) variable; this means that the higher access to internet-based mobile use, ease of mobility, and ease of access to traditional markets, affected the increase in Labor Participation (Y). However, the research results based on the empirical data did not prove this positive relationship. These results indicate that the hypothesis was rejected. The empirical data regarding the inequality of smartphone use among women caused the effect of this physical facility capital to be insignificant. This condition was in accordance with the results of the BPS survey (Susenas, 2018).

#### **H5: Social Capital Institutional Access (X5) affects the Labor Participation (Y)**

The hypothesis about the effect of the social capital institutional access (X5) variable on the labor participation (Y) variable revealed a path coefficient of 0.075 with a statistical t value of 1.225 ( $t < 1.960$ ) and a p-value of 0.221 ( $p > 0.05$ ), which means that the Social Capital institutional access (X5) variable had a positive but insignificant effect on the Labor Participation (Y) variable. These results can be interpreted that the increasing financial assistance received by respondents, and the increasing role of respondents in customary village institutions, increased the respondent's labor participation. However, the research results based on the empirical data were not successful in proving this positive relationship significantly. These results indicate that the hypothesis was rejected. The insignificance between activities in the villages and labor participation was in accordance with the research results by Creese (2004), Rhoads (2012), and Ras Amanda (2019). Women were only limited to having a role in preparing ceremonies, all of which were done sincerely, but they were not given an opportunity to be strategic decision makers related to village management.

#### **Female Informal Workers, Savior of the household economy in Bali**

Poffenberger and Zurbuchen (1980) established that rural households in Bali adopted microeconomic niches (informal sector) in 1978 during modernization. Women in Sukawati Subdistrict in Gianyar Regency, Bali, work as informal workers in various economic sectors. To fulfill basic needs while at the same time keeping

in the yadnya ceremony, Balinese women do two to three types of work simultaneously. These include being a sharecropper, food seller, and construction workers, which falls in the agricultural, trading, and construction sectors.

The Gianyar Regency Manpower Office shows that 9942 and 225 workers were temporarily and permanently laid off in April 2020 (Bali Post, 2020). This is attributed to the fact that most of the workforce is absorbed by the tertiary sector in the regency. The tertiary sector, specifically tourism that has declined due to the Covid-19 pandemic, has made workers lose their jobs. The downturn in the tourism sector indirectly affects the welfare of women informal workers. This is because most of the users of their services are consumed by the formal sector workers.

In 2018, the economic growth of the Gianyar Regency and Bali province was 6.01% and 6.35%, respectively. Gianyar's economic growth is in third place in Bali, behind Badung Regency and Denpasar City. This regency has an economic contribution of 11.31% to Bali Province (BPS, 2019: 20). The pandemic crisis caused the decline of the Gianyar Regency's economic growth, specifically by - 8.38% in 2020 (BI, 2021).

During the COVID-19 pandemic, the agricultural sector absorbed temporary workers due to layoffs and migrant workers. The paralysis of the accommodation sector due to the pandemic has forced formal workers to shift from tourism to the agricultural sector.

Covid-19 pandemic began hitting Indonesia in early March 2020 when the first case was reported. The pandemic halted the activities in most economic sectors, specifically the tourism industry. Dependence on this sector significantly affects the formal workforce in Bali Province, specifically Gianyar Regency. Among the workers affected by this post-pandemic, significantly are tour guides. For instance, around 6000 tour guides who are members of the Indonesian Tour Guide Association (HPI) Bali were forced to work in the informal sector as culinary sellers to construction workers, Nusa Bali (2020: 10).

The areas with the highest layoffs include Bali-Nusa Tenggara and Banten with 39.9% and 24.8%, respectively. Apart from layoffs, some workers in Bali experienced a decrease in income of more than 50%. Some of the businesses driven by the tourism sector include travel agency activities, transportation, hotels, restaurants and restaurants, regional arts and culture, folk craft industries, and entertainment and recreation areas. Regarding layoffs without severance pay, Bali Province is the highest in Indonesia at 35.3% (Ngadi, Meliana, & Purba, 2020),

Empirical conditions showed that formal workers affected by layoffs turn to the informal sector for survival. This is in with Bappenas (2009), which showed that the high number of formal workers laid off during the crisis, coupled with the difficulty of finding work in the formal sector, has increased the supply of workers in the informal sector.

Baiquni (2008), (Jaka et al., 2021); (Nazneen, 2010), stated that a crisis stimulates changes in household responses to survival, consolidation, and accumulation in consumption and production. Several indicators of consumption

response described in the following sub-chapters include consumptive expenditure, Education and Health Expenditure, work participation pattern (diversification or specialization), income level, household savings, and work participation. According to Baiquni (2008: 109), the second response is production, characterized by various tendencies to use resources and costs to increase or decrease household production. Some of the indicators used to show the response of household production in a crisis include additional labor, capital input, sales of household products to the market, investment in the purchase of land, and other production equipment.

The motivation to survive is the reason respondents turned to the informal sector workers during the pandemic. Women in the informal sector in rural areas have been saviors to households that largely depend on tourism. For instance, the respondents in Sukawati Sub-district stated that:

*"My husband and son, who have been employees at a restaurant in Ubud since Covid-19, are not working. They did not receive severance pay and were only promised to be called back when their condition had recovered. Now they work in the fields to keep them busy. Thanks to God Hyang Widhi, I keep working, therefore we can keep eating and socialize."*

(Mrs. Wid, 50. Construction Workers, Sukawati Sub-district)

The downturn in the household economy in Gianyar Regency due to the economic crisis was caused by a large dependence on the tourism sector that began with mass tourism development in 1966 (Hotel Bali Beach, Sanur). Annually, 1000 ha of land is converted for various purposes, such as tourism and settlement. Agricultural land became increasingly narrow, leading to reduced production. The 1998 monetary crisis and the 2002 Bali bombings have not raised public awareness regarding the vulnerability of income sustainability when prioritizing the tourism sector alone. During the monetary crisis, the Balinese economy was saved because of non-rice agricultural production, such as cloves and cocoa, which increased production (Mantra, 1998).

The current prolonged pandemic crisis has forced households to respect the agricultural sector, which has only been a political discourse but has been marginalized in public policy. The agricultural sector is considered unprofitable and only conducted by informal workers with limited skills, and education has now become a survival strategy for many households in the Gianyar Regency.

To survive during the pandemic, the respondents extensively used agricultural land. Some used abandoned land to grow vegetables to trading and consumption and selling agricultural and livestock products as a response to household survival production. Moreover, raising cows, ducks, chickens, and catfish were increasingly carried out for survival. The land owned is also more appreciated by planting ritual materials that are the daily necessities for Hindu communities throughout the Bali province. The vulnerability experienced by respondents from survival households makes them unable to invest both in production technology and investment in the purchase of land and other equipment.



Table 5. Comparison of Household Strategies

Differentiator	Livelihood Strategy		
	Survival	Consolidation	Accumulation
Livelihood Capital Access	Excellent in access to social capital	Excellent in access to HR capital	Excellent in access to Natural Resources Capital, Finance, and physical facilities
Work motivation	Part time (61%), informal trap (14,6%)	Part time (66,1%), Survival & Steppingstone (20,8%)	Part time (70,9%), informal trap (1,8%)
Income	Most of them earn IDR 500,000 to IDR 1 million, do not have passive income	Most of them earn more than IDR 1 million to IDR 2 million. Have non-labor income from the family. Do not have passive income yet.	Most have incomes of more than IDR 3 million. Have passive income
Ability to use internet access	Most have not used internet access for business	Able to take advantage of internet access, but not optimally for profit	Create a simple marketplace to expand your business
Main job status	Most are self-employed and workers	Most are self-employed and workers	Most are self-employed and freelancers
Consumption response during the pandemic crisis	Reduce consumption, meet subsistence needs by borrowing	Diversify income, save money, attract savings to meet primary and secondary needs	Diversify income, attract savings
Production response during the pandemic crisis	working in another household, selling self-made ceremonial tools	Trying to increase income by utilizing the ability to access the internet	Adding human resource input to carry out house repairs, prepare ceremonies. Establish a simple marketplace to expand the economic business. Selling assets to help pay workers salaries.

Source: Primary Data (2020)

Another accumulated household production response is increasing the use of inputs. During the pandemic, the respondents have much free time to increase

investment in their production equipment. The lack of foreign tourists promotes improvements to their homestays, made using labor input from survival households.

The responses made from survival, consolidation, and accumulation households closely relate to the character of women informal workers. Specifically, this is the work motivation of rural women from three types of households, including survival, consolidation, and accumulation. According to Gallaway (2001), women chose the informal sector due to time. Furthermore, female workers in the informal sector still prioritize their responsibilities to the family, focusing more on time allocation. Apart from taking care of the household, the respondents also prepare *upakara*. All activities in preparing for *upakara* are carried out sincerely as a fulfillment of obligations as Balinese women. This is in line with Sriasih (2005), which stated that Balinese women conduct ritual activities with pleasure. They are accustomed to working hard and harmonize domestic and public roles.

The existence of customary village institutions makes women workers in rural areas choose to be informal workers. The obligation to prepare *upakara* that every woman must carry out needs to be fulfilled to obtain rights as village members. The rights granted relate to the right to use the land where the house is occupied, the right to use microfinance institutions belongs to the customary village (LPD and cooperatives), including special benefits during a crisis or death. According to Becker's (1975) new home economic concept, preparing *upakara* in traditional villages and families has an economic value. Preparing *upakara* provides utilities to households in the form of land and other facilities. This is in line with Gunther and Launov (2012), which stated that an informal sector is an option in certain countries compared to compulsion.

Regarding the socioeconomic status, respondents from survival households are very vulnerable with low access to formal education than the other two households. The discontinuity of human capital access has trapped respondents in informal jobs, which rely solely on physical labor. The flexibility of the time promotes respondents to make all the *upakara* materials and be more intensely involved in traditional social activities than those working in the formal sector with limited time. According to Parker (2003), the heavy burden of *upakara* limits married women's education and career choices, specifically in households that do not have elderly members (*krama wredha*).

Empirical evidence shows that the *upakara* responsibility imposed on rural women has become the savior of the respondent's household during the pandemic. These responsibilities provided skills with economic value during a crisis. Before the pandemic crisis, most of the respondents' households depended heavily on the glittering tourism industry. When workers in the tourism sector were laid off, their skills in ceremonies offered a survival alternative. Selling ceremonial tools is a strategy used by women to exchange goods and services.

Inequality in livelihood assets, which causes local wealth inequality (Gautam and Andersen, 2016), was minimized by respondents in three different livelihood

strategies. Those with accumulated and consolidated households buy ritual tools produced by survival households and pay daily labor services to replace preparing rituals in traditional villages (*ngupahin*). Even with access to technology can provide additional income by employing other women in the *upakara* making business.

The burden of preparing for the *upakara* that causes conflict for women formal and public workers (Saskara, 2010) has become a very strategic and sustainable job opportunity for women informal workers, specifically in rural areas. The decline in the tourism industry has made many women in rural areas appreciate their expertise in preparing *upakara* in the form of material (money) by selling making *upakara* services individually or in groups. This is one of the jobs that do not include informal work (Poffenberger, 1980). However, it has been categorized in the creative industry since the early 2000s, becoming an alternative job for women in Bali (Bawa et al., 2012; Apriliani, 2019).

### **Conclusion**

The access to human resource capital, natural resource capital, and financial capital has a significant effect on rural women's labor participation in the informal sector, Gianyar Regency, Bali Province. The access to physical facilities for capital does not have a significant effect due to the low access to digital-based smartphone use among working women in the informal sector. The access to social institutional capital does not have a significant effect because women's time allocation for social activities reduced women's labor participation. The sustainability of women's business in rural informal sector in Gianyar Regency after the pandemic, caused by adherence to the tradition of carrying out ceremonies, is a strategic key to determine women's empowerment strategies. The support for women's labor participation in the informal sector is very important, given the difficulty in recovering the economy of Bali, which has been relying on the tourism sector, after the pandemic.

This crisis has proven the contribution of rural women informal workers in saving the household economy to survive due to the slump in Bali's tourism sector. Their sustainability needs to be supported by providing a conducive space for women empowerment. Support from the government, academia and the private sector to improve women access to education, information, health, and business financing should be widely promoted. The time allocation by women for the sustainability of Balinese culture in traditional villages is important for their empowerment.

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