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## **Jimpitan in Wonosobo, Central Java: an indigenous institution in the context of sustainable socio-economic development in Indonesia**

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# VI Patterns of Utilization of Institutions / Organizations

The previous chapter provides the qualitative information regarding the utilization of plural available institutions/organizations in four villages based on individual interviews, field observation and the household questionnaires. This chapter presents the quantitative data obtained from the household surveys by spreading the structured questionnaires to the households in four villages in the field research area. The quantitative data obtained during the field research are data over a 12-months period prior to the field survey. Section 6.1 is meant to remind us of the questions of the study that need to be addressed. The questions will determine which variables should be included in the study so that the quantitative analysis could answer the questions. Section 6.2 briefly discusses the data collection, which has been explained in detail in chapter III. Following the selection of the variables, section 6.3 provides the data sets and section 6.4 offers quantitative data analysis.

## 6.1. Main Research Question

What kind of person under what kind of circumstances is using what kind of institution? That is the main question for this study. This question is broken down into three specific objectives as mentioned in the first chapter, namely: what kind of institutions/organizations are available in the research area; what kind of people utilize available institutions/organizations, in particular the indigenous institution *jimpitan*; and what kind of circumstances determine the utilization of the available institutions/organizations? There are two kinds of analysis provided in this study to address the aforementioned questions. First is the qualitative information which is already provided in chapter V. Second is the quantitative analysis which will be provided in this chapter. In the qualitative information in chapter V, it is explained that local people need to consider several things in choosing the institutions/organizations. In this chapter, we try to capture the considerations of the people when choosing institutions/ organizations and translate these into variables, grouped into several blocks.

## 6.2. Data Collection

The collection of the data is through the questions in the structured questionnaires for the household survey. The questionnaires document various factors considered as determinants of socio-economic behavior of the local people in the research area in Wonosobo district. The selection of the sample in the research area for this study covers the geographical location of the Wonosobo District. It is divided into mountain area in the northern part and low-land area in the middle section. It is also to describe the rural and urban area. The research area is deliberately chosen to depict the Leiden Ethnosystems Approach, particularly in the field of ethnological study (FES). The number of the sample is 199 households. These households have 669 household members altogether. The structured household survey was conducted from August to October 2017. The distribution of samples in four villages in terms of geographical and type area is shown in table 6.1.

Name of the village	Type of area	Geographic area of Wonosobo	Total number of samples	
			N	%
Kejajar	Highland/Rural	Northern area	51	25.6
Kalibeber	Lowland/Sub-urban	Central area	50	25.2
Wonosobo Barat	Lowland/Urban	Central area	46	23.1
Sojokerto	Lowland/Rural	Western area	52	26.1
<b>Total number of samples</b>			<b>199</b>	<b>100</b>

Source: Field research (2017)

## 6.3. Data Sets

The variables were divided into seven blocks. The complete description of the variables has been explained in chapter III. To summarize, there are nine variables in the first block of socio-demography, *i.e.*, age (age), gender (gender), education (edu), occupation (occu), household size (nohhmem), marital status (marstat), ethnicity (ethnic), religion (religi), and place of birth (pobirth). There are nine variables in the second block of psycho-social; *ie.* knowledge about *jimpitan* (knowjimp), belief in *jimpitan* (beljimp), opinion on *jimpitan* (opjimp), knowledge about transitional organizations (knowtrans), belief in transitional organizations (beltrans), opinion on transitional organizations (optrans), knowledge about bank (knowbank), belief in bank (belbank), and opinion on bank (opbank). The third block of enabling variables consists of three variables; *ie.* total income (totinc), total expenditure (totexp), and social-economic status (ses). The fourth block of the institutional variables consists of perceived needs (percneed), location of the institutions (locinst), transaction cost of using the service of the institutions (trcoinst), and transportation cost of going to the institutions (adcoinst). The fifth block of the environmental has two variables; they are location of the community (loccom) and location of the house (lochouse). The sixth block of intervening variables includes the impact of government/public promotion

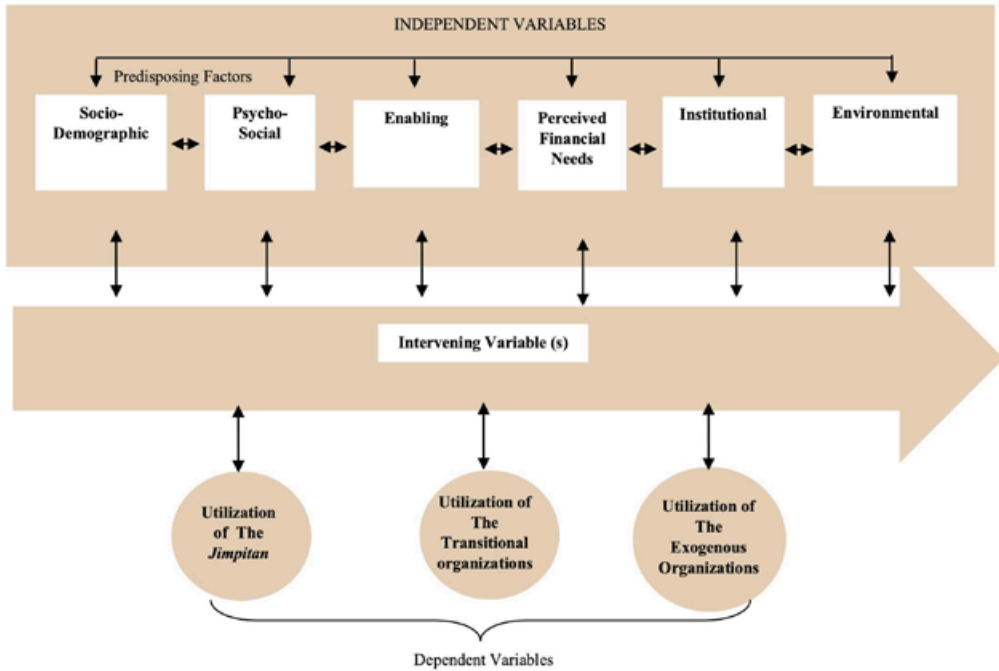


Figure 6.1 Conceptual model of institutions/organizations utilization

on the utilization of the exogenous organizations (gproimb) and private promotion on the utilization of the exogenous organizations (pproimb). The dependent variable is the utilization of plural available institutions/organizations. Figure 6.1 shows the model that emphasizes the interaction between the independent, intervening and dependent variables.

The variables are either nominal or ordinal. The variables gender, occupation, marital status, ethnicity, religion, and place of birth, social-economic status, perceived needs, location of the community and location of the house are nominal. The other variables such as age, household size, education, knowledge about *jimpitan*, belief in *jimpitan*, opinion on *jimpitan*, knowledge about transitional organizations, belief in transitional organizations, opinion on transitional organizations, knowledge about bank, belief in bank, and opinion on bank, total income, total expenditure, location of the institutions, transaction cost of using the service of the institutions, transportation cost of going to the institutions, the impact of government/public promotion on the utilization of the exogenous organizations, and private promotion on the utilization of the exogenous organizations are ordinal. The dependent variable is nominal: the utilization of the indigenous/traditional institutions of *jimpitan*; of transitional organizations of the cooperative and UPK; and of exogenous organizations of bank.

## 6.4. Quantitative Data Analysis

In this section, the quantitative data analysis will be described in detail. The quantitative analysis using Random Forest resulted in two kinds of analysis. First, the variables importance individually, as described in 6.4.1. However, before conducting the Random Forest, one needs to see the relationship between the independent variables. We do this by calculating the chi-square and Cramer's V tests. Second, the average importance of each block, provided in 6.4.2., to see which group of individual variables (block) influences the utilization of institutions/organizations.

### 6.4.1. The Description of the Separate Relationships Between Each Independent Variables and the Dependent Variable

Generally, the results obtained from the quantitative analysis of the data collected during the household survey in the research area show that the number of households who utilize the exogenous organizations of bank is higher than the number of households who utilize the indigenous institution *jimpitan* (Fig. 6.1). The number of utilization of the institutions/ organizations in the research area are respectively 32.2% (n=64), 30.6% (n=61), and 37.2% (n=74) for the traditional/indigenous institutions, transitional organizations and exogenous organizations (chi-sq: 1.397, p-value: 0.532). It shows a balance distribution of the utilization within the institutions/organizations. The table below shows the distribution in the four villages over the dependent variable of the institutions/organization's utilization. It indicates the most important institutions/ organizations preferences of the respondents in the four villages. In terms of the village, generally, the respondents from Kejajar are using more traditional/indigenous institutions than exogenous organizations of bank. This is in contrast with the respondents from Sojokerto. They prefer to utilise the exogenous organizations of bank, just like the respondents from Wonosobo Barat, while for the respondents from Kalibeber mostly prefer to utilize the transitional organizations. Among all villages, the respondents that were selected randomly to represent different characteristics, choose different institutions when they needed help (chi-sq test;  $p \leq 0.001$ , Cramer's V = 0.5123).

**Table 6.2 The distribution of the four villages over the dependent variable of utilization of the available institutions/organizations**

Village variable	Utilization of the available institutions/organizations							
	Indigenous		Transitional		Modern		Total	
Village Name	N	%	N	%	N	%	N	%
Kejajar	41	80.4	2	3.9	8	15.7	51	100
Kalibeber	9	18.0	31	62.0	10	20.0	50	100
Wonosobo Barat	1	2.2	16	34.8	29	63.0	46	100
Sojokerto	13	25.0	12	23.1	27	51.9	52	100
<b>Total</b>	<b>64</b>	<b>32.2</b>	<b>61</b>	<b>30.6</b>	<b>74</b>	<b>37.2</b>	<b>199</b>	<b>100</b>

Source: Computation from the fieldwork research (2017)

The model shown in figure 6.1. is the base (conceptual model). However, the statistical framework was rather different from the conceptual model. Due to the limitation of the variables collected that represented each block, and also because of the uneven number of the variables between the blocks, the variables are rearranged over blocks according to figure 6.2. The arrows located in between the blocks show the correlations between variables, and the arrows pointing to the utilization of institutions/organizations depict the effect of the variables on the utilization of institutions/organizations. The seven blocks of independent variables in the conceptual model (Fig. 6.1.) are now represented by only four blocks in the statistical framework (Fig. 6.2.). The socio-demographic block is the only block which remained the same. The psycho-social block now also includes the perceived needs (*percneed*) variables. The enabling variables (Fig. 6.1.) now become the economic variables with one additional variable of the increasing price impact on utilization of the plural available institutions/organizations, that was appointed to represent the intervening variable beforehand. The economic block shows the economic factors within their household that influence the local people in their utilization of institutions/organizations (the enabling variables): the total income, total expenditure, and social-economic status; and from outside of their community (the intervening variables): the increasing price impact (*priceimp*). Three location variables represent environmental and institutional variables, namely: the nearest institutions (*nearinst*), the location of the community and the location of the house. There are some variables that are not included in the analysis: (a) variables in the institutional block (block 5 in fig. 6.1.). Those variables do not explain much about the utilization of the plural available institutions/organizations. (b) variables in the intervening block (block 7 in fig. 6.1.). Most of the respondents did not know or were not well-informed about these two variables (public and private promotion), so the variables were not plausible to affect the utilization of the institutions/organizations for the respondents.

This study uses Random Forest to figure out the importance of the variables in predicting the utilization of the institutions/organizations. The importance is assessed by calculating the accuracy of the prediction by a set of decision trees (the Random Forest) based on all independent variables minus the variable of concern. The difference in accuracy is called the importance of the variable. The importance value is similar to the partial regression coefficient in multiple regression (Cutler *et al.*, 2011). The independent variables which have importance value more than zero are called non-zero attributes. It is a variable that has a significant power to predict the dependent variable. The higher the importance value, the larger the predictive power of the variable. Random Forest is chosen because the number of the independent variables is large compared to number of respondents (Strobl *et al.*, 2009; Musters *et al.*, 2018). Random Forest can deal with predictor/independent and dependent variables that are ordinal as well as nominal (Cutler *et al.*, 2011).

However, before the Random Forest, the correlation test between the independent variables is conducted. When the value of the correlation between two independent variables is too high one needs to consider which of the two variables should be included in the analysis. The consequence of including the high correlated variables in the analysis is the difficulty in assessing the separate influence of those two variables on the dependent variables (Gujarati 2004). Table 6.3. below shows the correlation. The area above the diagonal line shows the

value of Cramer’s V, meanwhile the area below the diagonal line depicts the p-value. One asterisk means significance below 0.05, two asterisks mean significance below 0.01, and three asterisks is a sign for significance below 0.001.

The table below shows that the respondent’s utilization over institutions/organizations (GOFIN) has significant correlation with almost all independent variables except with gender ‘gender’, place of birth ‘pobirth’, religion ‘religi’, and ethnic ‘ethnic’ (these four independent variables have Cramer’s V value less than 0.150 with the dependent variable). Three independent variables that have significant p-value less than 0.01 (two asterisk signs, with ‘gofin’) are age ‘age’, knowledge of *jimpitan* ‘knowjimp’, and knowledge of exogenous organizations ‘knowbank’ (their Cramer’s V value is under 0.200). The other variables with three asterisk signs (Cramer’s V value more than 0.300) are, in descending order, total income ‘totinc’ (0.475), location of the house ‘lohouse’ (0.441) and location of the community ‘loccom’ (0.418).

Regarding correlation between independent variables, the place of birth ‘pobirth’, as expected, does not posit any significant correlation with other variables, except with ethnicity ‘ethnic’. This is plausible since ethnicity is sometimes associated with birthplace (cf. Sibarani, 2013; Lampe, 2010). Five pairs of variables that indicate high significant correlation value above 0.600: (a) age ‘age’ and ethnicity ‘ethnic’ (0.617); (b) religion ‘religi’ and ethnicity ‘ethnic’ (0.645); (c) belief in *jimpitan* ‘beljimp’ and knowledge about *jimpitan* ‘knowjimp’ (0.601); (d) opinion on transitional organizations ‘optrans’ and belief in transitional organizations ‘beltrans’(0.622); and (e) nearest institutions ‘nearestst’ and location of the community ‘loccom’(0.676). For (a), the correlation is statistically proven,

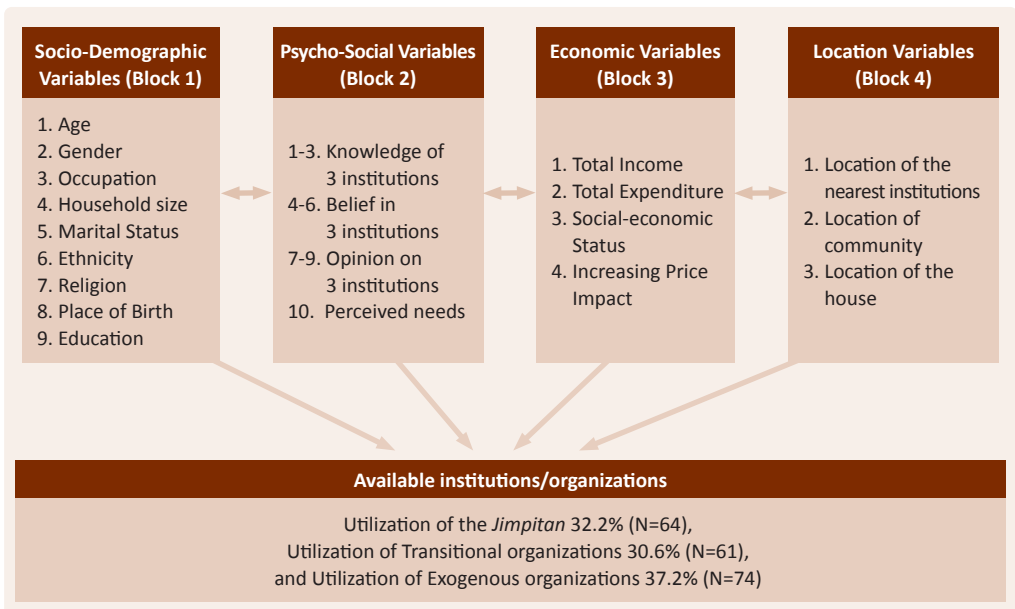


Figure 6.2 Statistical Model of Analysis of Institutions/Organizations Utilization

however, in practice they are not correlated. Age and ethnicity are two things that one has no control over. For (b) religion, somehow, it is expected to have a correlation with ethnicity, for instance most of the Javanese people are Muslims, and it could be that Javanese people who lives in Bali are Muslims. For (c) and (d), it is expected that when one who has knowledge about particular institutions tends to believe in those institutions (Ojong 2017; van der Crujisen *et al.* 2021), and when one who has belief in particular institutions will have a positive opinion on these institutions.

There are four variables that have significant correlation with almost all variables: (a) belief in *jimpitan* 'beljimp'; (b) total income of household 'totinc'; (c) location of community 'loccom'; and (d) location of the house 'lochouse'.

- (a) Belief in *jimpitan* 'beljimp' has high significant phi-value ( $< 0.001$ ) with other variables of: opinion on *jimpitan* 'opjimp' (0.553), opinion on transitional organizations 'optrans' (0.388), belief in exogenous organizations 'belbank' (0.232), opinion on bank 'opbank' (0.314). These psycho-social variables influence each other due to the cognitive process of a decision. In practical terms, the respondents who choose particular institutions tend to believe in those institutions/organizations and have a positive opinion about the institutions/organizations. Belief in *jimpitan* 'beljimp' also has high significant correlation to total income 'totinc' (0.318), social-economic status 'ses' (0.311), increasing price impact 'priceimp' (0.309), location of the community 'loccom' (0.577), location of the house 'lochouse' (0.223), and nearest institutions 'nearinst' (0.568).
- (b) total income of household 'totinc' has significant phi-value less than 0.001 with other 13 independent variables of: gender (0.156), age (0.323), marstat (0.297), occu (0.277), edu (0.339), beljimp (0.318), knowtrans (0.389), beltrans (0.389), totexp (0.512), ses (0.458), loccom (0.473), lochouse (0.499), nearinst (0.358). Total income with total expenditure, occupation, and social-economic status are correlated, in which the higher the income the higher the expenditure. The better the occupation the better the income. The higher the income, the richer status they get in society. So, these variables will have the same pattern of movement. Total income and gender have only a weak correlation; however, according to the field research, one respondent gave data about the salary they received in the farming, in which the women accept a salary lower than the men (see chapter IV).
- (c) location of community 'loccom' has significant phi-value less than 0.001 with other 16 independent variables of: occu (0.331), edu (0.277), knowjimp (0.325), beljimp (0.577), opjimp (0.584), beltrans (0.411), optrans (0.459), knowbank (0.209), belbank (0.233), percneed (0.295), totinc (0.473), totexp (0.395), ses (0.274), priceimp (0.255), lochouse (0.408), nearinst (0.676). There could be an indirect relationship between these variables. Location of community could determine what kind of occupation and education are available. For instance, in urban areas, there are more kinds of job and education facilities compared to rural areas, and it affects the total income and the total expenditure of the respondents.
- (d) location of the house 'lochouse' has significant phi-value less than 0.001 with other six independent variables of: beljimp (0.223), totinc (0.499), totexp (0.409), priceimp (0.248), loccom (0.408), and nearinst (0.250). Respondents who reside in mountain areas usually have an occupation that deals with the mountain. This indirectly affects the income and expenditure of the respondents.

**Table 6.3. Cramer's V values and significance of Chi-Square**

CORRELATION	GOFIN	NOHMEM	GENDER	AGE	MARSTAT	OCCU	POBIRTH	RELIGI	ETHNIC	EDU	KNOWJIMP	BELJIMP	OPJIMP	KNOWTRANS
GOFIN		0,303	0,143	0,351	0,346	0,342	0,081	0,152	0,118	0,312	0,193	0,269	0,247	0,24
NOHMEM	***		0,274	0,305	0,282	0,215	0,202	0,139	0,153	0,242	0,261	0,256	0,204	0,205
GENDER		*		0,218	0,456	0,315	0,046	0,121	0,132	0,12	0,139	0,316	0,314	0,063
AGE	**				0,322	0,25	0,299	0,188	0,617	0,557	0,243	0,314	0,248	0,569
MARSTAT	***		***			0,220	0,112	0,074	0,043	0,316	0,21	0,224	0,152	0,188
OCCU	***		*				0,244	0,297	0,299	0,33	0,223	0,266	0,272	0,157
POBIRTH								0,185	0,281	0,147	0,105	0,115	0,109	0,121
RELIGI									0,645	0,215	0,107	0,145	0,119	0,07
ETHNIC				**			*	***		0,143	0,107	0,143	0,041	0,105
EDU	***			***	*	**					0,207	0,239	0,154	0,535
KNOWJIMP	**	*								*		0,601	0,383	0,161
BELJIMP	***	*	***	**	*	*				***	***		0,553	0,179
OPJIMP	***		***								***	***		0,193
KNOWTRANS	***			**						***	*	*	*	
BELTRANS	***		*							**	***	***	**	***
OPTRANS	***		***								***	***	*	**
KNOWBANK	**										***	*		**
BELBANK	***	***	*		**						**	***	**	
OPBANK	***	*	***		*						**	***	*	**
PERCNEED	***											**	***	
TOTINC	***			***	***	***				***		***	**	***
TOTEXP	***	***			***					**			*	***
SES	***			**	*					**		***	*	*
PRICEIMP	***	***	*		**	*					***	***		
LOCCOM	***		***			***		**		***	***	***	***	**
LOHOUSE	***			*						*	*	**		**
NEARINST	***		***			**		*		**	***	***	***	

Figure 6.1 Conceptual model of institutions/organizations utilization

Chapter VI Patterns of Utilization of Institutions / Organizations

BELTRANS	OPTRANS	KNOWBANK	BELBANK	OPBANK	PERCNEED	TOTINC	TOTEXP	SES	PRICEIMP	LOCCOM	LOCHOUSE	NEARINST
0,41	0,328	0,176	0,353	0,34	0,373	0,475	0,376	0,367	0,31	0,418	0,441	0,28
0,167	0,168	0,184	0,325	0,32	0,194	0,229	0,29	0,259	0,318	0,212	0,224	0,204
0,228	0,365	0,083	0,21	0,39	0,115	0,156	0,119	0,166	0,194	0,453	0,1	0,337
0,306	0,213	0,205	0,275	0,306	0,255	0,323	0,286	0,434	0,264	0,238	0,397	0,302
0,157	0,18	0,118	0,255	0,296	0,226	0,297	0,244	0,303	0,266	0,195	0,27	0,166
0,215	0,203	0,236	0,212	0,207	0,233	0,277	0,216	0,25	0,283	0,331	0,16	0,362
0,175	0,139	0,076	0,121	0,119	0,128	0,167	0,206	0,126	0,065	0,124	0,17	0,12
0,117	0,166	0,065	0,135	0,141	0,157	0,219	0,191	0,149	0,138	0,211	0,08	0,228
0,116	0,101	0,042	0,108	0,113	0,089	0,181	0,196	0,267	0,101	0,14	0,095	0,141
0,251	0,138	0,179	0,092	0,135	0,149	0,339	0,26	0,286	0,173	0,277	0,317	0,284
0,231	0,265	0,242	0,24	0,22	0,113	0,172	0,143	0,107	0,233	0,325	0,164	0,32
0,324	0,388	0,185	0,232	0,314	0,215	0,318	0,19	0,311	0,309	0,577	0,223	0,568
0,311	0,398	0,129	0,195	0,222	0,278	0,265	0,221	0,184	0,165	0,584	0,184	0,584
0,536	0,243	0,223	0,148	0,247	0,202	0,389	0,323	0,202	0,124	0,214	0,385	0,104
	0,622	0,104	0,19	0,158	0,211	0,351	0,297	0,149	0,213	0,411	0,223	0,357
***		0,104	0,281	0,318	0,233	0,271	0,225	0,139	0,143	0,459	0,12	0,416
			0,386	0,193	0,16	0,236	0,229	0,117	0,078	0,209	0,188	0,147
*	***	***		0,504	0,177	0,238	0,282	0,147	0,214	0,233	0,237	0,217
	**	**	***		0,22	0,215	0,212	0,191	0,234	0,195	0,293	0,153
*	**			*		0,233	0,186	0,225	0,232	0,295	0,253	0,249
***	**		*		*		0,512	0,458	0,274	0,473	0,499	0,358
***	*	*	***			***		0,346	0,249	0,395	0,409	0,243
				*	**	***	***		0,162	0,234	0,322	0,204
**			**	***	**	**	*			0,255	0,248	0,179
***	***	***	**	*	***	***	***	**	***		0,408	0,676
*		**	***	**	**	***	***	*	***	***		0,25
***	***		**		**	***	*	*	*	***	***	

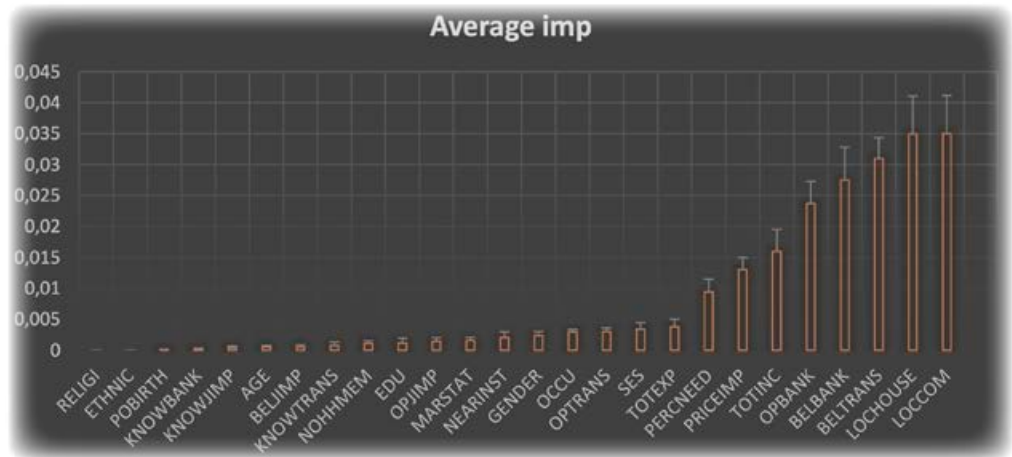


Figure 6.3 The Importance Value of all 26 Variables

According to the results of Cramer’s V test above, there is no pair of variables that have a high value of Cramer’s V that depicts a very high correlation (> 0.8). Therefore, all 26 independent variables are included in Random Forest.

Figure 6.3 shows the relative importance value of the variables. These values are the average value of 10 times the Random Forest result. These are intended to see whether the result is consistent over time. Out of 10 runs of Random Forest, it consistently shows that the predictive power of the result is 77%. According to the importance value provided in the table 6.4 below, 22 variables out of 26 variables are included in non-zero attributes, indicated with an asterisk (\*).

The ten variables with the highest importance are, in descending order, the location of the community (*loccom*), the location of the house (*lohouse*), the beliefs in transitional organizations (*beltrans*), the beliefs in exogenous organizations (*belbank*), the opinion on exogenous organizations (*opbank*), the total income (*totinc*), the increasing price impact (*priceimp*), perceived needs (*percneed*), total expenditure (*totexp*), and social-economic status (*ses*). Of those 10 variables two variables are in the location block, four in the psycho-social block, and four in the economic block. The location of the community is divided into rural and urban, meanwhile, the location of the house is classified into mountain, plain, and coastal area. The location is an important factor for determining the choice made by the respondent about the utilization of available institutions/organizations. This is also due to the availability of the institution in their area. Most of the respondents who were interviewed reside in the rural area (103 out of 199). The numbers of banks available in the urban area is higher than in the rural area, which enables the people who live in an urban area to make use of many options of the exogenous organizations which provide different benefits: from the local bank *i.e.*, Bank Pasar and BPD Jateng, the local government-owned bank, to the national-level private or government-owned bank Bank Mandiri, bank BRI, and bank BNI 46. This research found that respondents who live in the rural area are most likely to use *jimpitan*, whereas they

Table 6.4. Importance Value of 26 Variables

Block	Variable	Importance	Sign
1	Nohhmem	0,001153	*
	Gender	0,002353	*
	Age	0,000564	*
	Marstat	0,001575	*
	Occu	0,002967	*
	Pobirth	0,000274	
	Religi	0	
	Ethnic	0	
	Edu	0,001208	*
2	Knowjimp	0,000419	*
	Beljimp	0,000570	*
	Opjimp	0,001463	*
	Knowtrans	0,000764	*
	Beltrans	0,030975	*
	Optrans	0,003025	*
	Knowbank	0,000181	*
	Belbank	0,027526	*
	Opbank	0,023740	*
3	Percneed	0,009479	*
	Totinc	0,015997	*
	Totexp	0,003803	*
	Ses	0,003403	*
	Priceimp	0,013047	*
4	Loccom	0,034992	*
	Lochouse	0,034899	*
	Nearinst	0,002068	*

Source: Computation from the data set (2021)

who live in the urban area most likely prefer the commercial bank. The rural research area is described as a place quite distant from the center of the town. The rural area in this study is represented by Kejajar, which is located up in the mountain area, and Sojokerto, which is located down to the west border of Wonosobo district, plain area. Although the rural bank of BRI has its branch bank at the level of the sub-district, the respondents who reside in a rural area are still more comfortable to have loans from *jimpitan*, since the access to *jimpitan* is easier compared to the modern commercial banks or to transitional organizations.

Referring to the qualitative analysis provided in Chapter V, the location factors of rural, semi-urban/rural and urban area indicate, particularly for *jimpitan* utilization, that there are different kinds of utilization of *jimpitan*. People in the rural area more likely utilize

*jimpitan* for basic needs fulfilment. In dusun Sojokerto and Bangon of Sojokerto, for example, the loan offered from *jimpitan* is used for household needs of the members. This utilization is a bit similar to the semi-rural area of Kejajar where people employ the *jimpitan* for the sake of the poor such as widows and orphans. Having said this, we can distinguish one creative way to harness the money from *jimpitan* in dusun Kejajar of Kejajar village, which is to buy the cattle to fulfill the annually religious Islamic sacrifice ceremony (*Eid al Adha*). The people in the semi-urban area of Kalibeber village use the money from *jimpitan* to support annual events such as the commemoration of Independence Day, or religious ceremonies eg. *Khotmil Quran* (event of finishing reading Al Quran in a day), or *Eid al Fitr* (religious Islamic event after a month of Ramadhan fasting). Meanwhile people in the urban area, for example in dusun Ngedok of Wonosobo Barat, utilize it for secondary needs of making the uniform clothes for the women's members of *arisan*. People in dusun Sumberan Utara of Wonosobo Barat utilized it to rebuild the house that burned down just when the field research was conducted (Illustration 4.5.). It can be concluded that in urban areas, the utilization of the indigenous institution *Jimpitan* is more to the society's needs, while in rural areas it is for individual needs. Nevertheless, people in urban and rural areas do agree that the impact of *jimpitan* could be harnessed either by individuals or by society as a whole.

Two aspects of culture, according to Matsumoto (2000) are (a) objective elements; the physical manifestations of culture, and (b) subjective elements; the intangible aspects such as social norms, customs, attitudes, and values. The latter is differentiated in two ways, (i) by the domain which refers to socio-psychological traits as products of culture, eg. attitudes, values, beliefs, opinions, norms, customs and rituals; and (ii) by the dimension which refers to things which influence behavior and describes aspects of cultural variability. The high importance value of subjective elements of psycho-social factors (*beltrans*, *belbank*, *opbank*, *percneed*) shows that the choice made by the respondents is influenced by their psycho-social factors. The belief in and opinion about exogenous organizations of the commercial banks (*belbank* and *opbank*) exhibit a coherent outcome where the respondents who have much belief in and positive opinion about banks tend to utilize exogenous banking organizations. The rationale beyond the mutually beneficial cooperative behavior they exhibit, as aptly put by the research of Uphoff (2000), is the result of the norms, attitudes, beliefs and opinion/values that constitutes their cognitive part of social capital. The perceived need for satisfaction with financial services '*percneed*' measures the cognitive aspects which relate to the systems of knowledge, belief and opinion. It assesses people's knowledge, belief and opinion specifically concerning their experiences with financial services. The factors measured in system level relate to the official components of the financial services.

In this research, the perceived need factor is measured by five categories. They are social responsibility, financial support, health care, education, other. Those five categories have been designed along with society's condition. Most of the respondents who reported to utilize the *jimpitan* perceived their needs as financial needs, either to buy staple food, to take a loan from *jimpitan*, but mostly to meet the daily needs (*pers. comm*). As a staple food and primary need, the need for rice should be immediately fulfilled. Therefore, at

the beginning of the development of *jimpitan*, its purpose was to overcome the shortage of rice. It was mainly allocated for disabled people, widows with many children, those suffering long-standing illnesses, although since then the rice was mostly replaced by money. This *jimpitan* was mostly organised by PKK women's group (Imelda and Marthini 2001; Mukherjee 1999). Nowadays, when *jimpitan* is collected and shared for loans, for example, like in Sojokerto, people tend to take the loans to repair or renovate their homes or to pay the school fees of their children. Even in Ngedok, Wonosobo Barat, they use the money to buy uniforms for their small PKK women's group to be used whenever they have a regular meeting or to finance their vacation. As Kendall (2010) writes that most of the poor people do most of their saving through informal financial institutions, whose significant advantages, unlike in the formal one, are the short distance they might have to go to reach it and the modest cost they would be charged.

The total income 'totinc', total expenditure 'totexp', social-economic status 'ses' influence the utilization of available institutions/organizations. The respondents who reported having a monthly income less than IDR 500,000 (more or less 29 euros) are the ones who choose more to go to the *jimpitan*. In Sojokerto, it is known that to obtain funds from the saving and loan program of *jimpitan*, the local people need no massive amount of money to pay the interest rate. Therefore, the respondents feel safer to get assistance from *jimpitan* rather than from another source of finance, *ie.* the local banks which require paying a higher interest rate. Moreover, in several sub-villages in Kalibeber, they (particularly the elderly and the orphanage) get it at no cost since it is given in the form of aid. The respondents who reported having a monthly income between IDR 2,500,000 (more or less 145 Euro) and IDR 3,000,000 (more or less 174 Euro) none of them choose to go to the indigenous institution *Jimpitan*, all of them choose the modern institution of commercial banks. Income and expenditure are two variables which measure the enabling factor, a factor which will allow or impede someone to possess something. As aptly put by Beard (2007), most of the community development efforts acquire households to contribute or to give resources to accept goods and services, thereupon their socio-economic status usually mediates the participation from households. According to Marsh (2003) and Djankov *et al.* (2008), the decision of going to the modern commercial bank to get a loan will not be made by the poor, since they possess inadequate material to be used by them as collateral; they are also reluctant to take the risks. They consider that the costs of getting a loan exceed the benefits. Those reasons are associated with the socio-economic status of a household, *eg.* the higher the income, the more they have the money or assets which can be used as collateral.

In this study, the education (*edu*) and knowledge of institutions (*knowjimp* and *knowtrans*) are also included in non-zero attributes, although they have little importance value. Even the knowledge of exogenous banking organizations 'knowbank' is not included in non-zero attributes, despite many studies showing that those variables are significant factors in credit demand (*see* Djankov (2008), Nwaru *et al.* (2011) and Ferede (2012)). Four variables that have no predictive power over the utilization of available institutions/organizations are place of birth 'pobirth', ethnicity 'ethnic', religion 'religi', and knowledge about exogenous organizations 'knowbank'. This finding is similar to the study of Ferrara

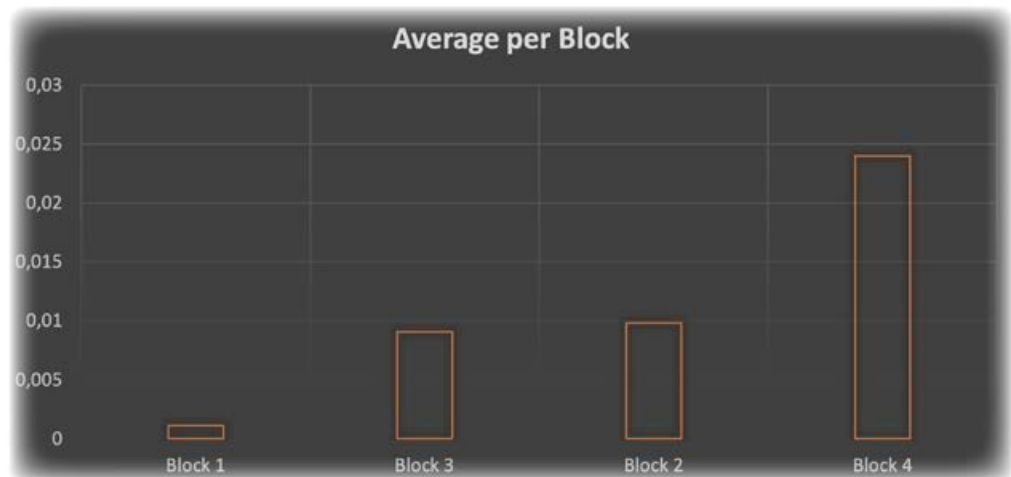


Figure 6.4 Average Importance Value

(1996) in Ghana, for ethnicity and place of birth, that concludes both have no effect on formal institutions such as banks and professional moneylenders. However, this is opposite to the finding that ethnicity influences the loan demand in informal institutions. Khoi *et al.* (2013) and Linh *et al.* (2018) conclude that ethnic groups have access to formal small loans. For religion, the study of Cao *et al.* (2019) suggests the opposite: that religion is important in informal credit trade in China as law enforcement. As Moahid *et al.* (2020) also suggest, in Afghanistan religion is an important determinant for informal loans but not for formal loans.

#### 6.4.2. The Average Importance of Each Block

After the explanation of importance of each variable toward available institutions/ organizations, this section will explain the importance of each block toward available institutions/organizations. The summary of the result of the importance of each block is shown in figure 6.4 below.

Based on the figure above, the average importance value per block is as follows:

1. Block one of the socio-demographic variables contains nine variables (household size, age, gender, education, place of birth, occupation, marital status, ethnic background, and religion), while two of them are not included in non-zero attributes (ethnic background and religion), and it has an average importance value of 0.001094
2. Block three of the economic variables contains four variables (total income, total expenditure, social-economic status, and increasing price impact) and has an average importance value of 0.009062

3. Block two of psycho-social variables contains ten variables (knowledge of *jimpitan*, knowledge of transitional institution, knowledge of bank, belief in *jimpitan*, belief in transitional institution, belief in bank, opinion on *jimpitan*, opinion on transitional institution, opinion on bank, and perceived needs) and has an average importance value of 0.009814
4. Block four of location variables contains three variables (location of the house, location of the community, and of the nearest institutions) and has an average importance value of 0.023986.

To see which block significantly influences the utilization of available institutions/ organizations, the permutation test is used, a nonparametric approach. The test is conducted by taking a fixed number of variables equal to the number in that block randomly out of all variables (*i.e.*, for block one, nine out of 26 variables; for block two, ten out of 26 variables; for block three, four out of 26 variables; and for block four, three out of 26 variables), calculate the average, and repeat this 1000 times to get the distribution of the random average. The above found average (Fig. 6.4) is significantly different from the random average, if it lies above the 95% of the distribution of the random average. The test is an exact one-sided test. Table 6.5. shows the result of the permutation test. The block that has the asterisk sign shows an average importance above 95% of the random distribution of the average.

Block	95%	N	Mean	sign. (above 95%)
Block 1	0,013497	9	0,001094	
Block 3	0,017877	4	0,009062	
Block 2	0,012797	10	0,009814	
Block 4	0,020554	3	0,023986	*

Source: Computation from the data set (2021)

It can be concluded that only the location block/variables altogether significantly influence the utilization of plural available institutions/organizations. The location block describes that the consideration of respondents when they are in need of emergency or immediate aid is the nearest institutions/organizations. It depicts that, according to the respondents, there is availability of easy physical access to the available institutions/organizations. The closer the distance also means the lower the cost that the respondents need to take out of their pocket. It can also be concluded that the closeness is not only about the physical distance but also the interpersonal relationships and familiarity. This is the advantage of the nearest available institutions/organizations that the risk of default loans due to wrong customers selection is minimal because all members of the savings and loans already know each other. This describes the importance of the network of local people that reside in the same community/location.

Truong *et al.* (2020) note that urban and rural people have different preferences for institutions. Closeness to home or workplace is one of many factors that are considered

important in the study of Aregbeyen (2011) about the customer's choice of financial institutions that included 1750 respondents in six metropolitan cities in Nigeria, as well as the study of Abbam *et al.* (2015) that is based on 509 respondents in Ghana. Location is one factor out of four that determines if people use the bank. It weighs 25% of the consideration of utilizing the service from the exogenous banking organizations, while the other three weigh 35% for service efficiency, 28% for customer service, and 12% for competitive rates (Inganga *et al.* 2014). However, studies done by Gyeltshen (2008) about formal and informal credit in Bhutan, and by Barslund and Trap (2008) in Vietnam, conclude the opposite: that distance to the credit source is not an important factor in the utilization of institutions/organizations. The local development pattern is driven by the choices of economic actors that strengthened through social interactions and which are subject to institutional arrangement and geographical environment (van Duinen *et al.* 2015).

## Conclusion

This chapter is dedicated to describing the quantitative analysis based on structured household questionnaires for explaining the utilization of institutions/organizations. It reveals that the distribution of the utilization of available institutions/organizations for 199 respondents is 37.2% for the exogenous organizations, 32.2% for *jimpitan*, and 30.6% for transitional organizations. It reveals the most important institutions/organizations that the respondents choose to go to in time of need. In Keajar, the utilization of *jimpitan* is higher than the other two available institutions/organizations. In Wonosobo Barat, the utilization of the exogenous banking organizations is higher compared to other institutions. In Kalibeber also Sojokerto, the utilization rate of transitional organizations is higher than both modern and indigenous institutions. In the conceptual framework, the variables that are considered to have an influence on the utilization of institutions/organizations are divided into seven blocks. For statistical purposes, the variables were reorganized into four blocks. The conceptual model is appropriate for inventory of variables into same grouping, however, regarding the predictability, the statistical framework needs to be slightly different. The reorganizations are: (a) the single variable of perceived needs in block four is merged into the psycho-social variables in block two. This is intended to derive the average importance value. (b) the variables of location of the institutions/organizations, the administration cost, and the transportation cost in block five are deleted. Those variables do not give much information about the utilization of the institutions/organizations. (c) the variables of public and private promotion in block seven are also dropped from the block due to the respondents' answers. Most of the respondents do not know about the public and private promotion, so the questions of the impact of public and private promotion are irrelevant, and (d) two new variables were entered into the statistical framework, namely: the nearest institutions/organizations (*nearinst*) in block four and the increasing price impact (*priceimp*) in block three.

Random Forest, the statistical test that is used in this study, comes out with the importance value of individual variables. The higher the importance value, the higher the predictive power of a variable. This study ran Random Forest 10 times and it resulted in 22

out of 26 variables having non-zero average importance. 10 variables that have the highest importance value depict that the utilization of the available institutions/organizations is influenced by factors of the location of the community (*loccom*), the location of the house (*lochouse*), the belief in transitional organizations (*beltrans*), the belief in exogenous banking organizations (*belbank*), the opinion on exogenous banking organizations (*opbank*), the total income (*totinc*), the increasing price impact (*priceimp*), perceived needs (*percneed*), total expenditure (*totexp*), and social-economic status (*ses*). In terms of blocks, the results obtained from the permutation test, block four, location variables, is the only block that has an average importance value that is significantly higher than expected under randomization of the variables. It shows that the close connection the respondents have to their families or neighbors, or the close proximity, are of crucial importance when they really need immediate help.

To answer the question of ‘what kind of person under what kind of circumstances is using what kind of institutions/organizations’: people who graduated from primary school, reside in rural areas, have no income or less than IDR 500,000, considered themselves as poor, and need immediate cash for basic needs tend to prefer indigenous institutions of *jimpitan*. People who live in an urban area, have an income of more than IDR 500,000, considered themselves as having an ‘average’ social economic status, and need money for business expansion or housing reparation will choose transitional or exogenous banking organizations. Generally, the emergency money is the decisive effect of choosing the available institutions/organizations. To conclude, the utilization of available institutions/organizations in the research area of four villages in Wonosobo district is influenced by various factors as shown in the non-zero attributes, in which in terms of blocks, the location is the factor that significantly determines the utilization of institutions/organizations. It shows that the place where the respondents reside is important because it forms community, in terms of physical location, and also personal relationships, a shared value and feeling.

To complete the analysis, there are probably some variables that should be included in the further study, namely: the variables that represent financial accessibility such as transportation cost and administration cost for all institutions/organizations; the variables that represent disturbance or enabler from outside the community such as aid from the government, crisis, and so forth.