Harmonious Culture-Based Computer Application Model to Assess Microfinance Institution Performance

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Abstract—**Correct performance assessment is essential to determine the health of microfinance institution. Various tools are used to measure the performance, among others, financial ratio and service. Those tools refer mostly to commercial bank standard that has different market orientation. The research aimed to assess non-financial performance using harmonious culture designed into a computer application model. Exploratory sequential mixed methods research design used to build the model. Data were collected through in-depth interview with the head of microfinance institutions to build instrument survey and then conducted interpretation to build the model. The qualitative study result indicates that non-financial performance in form of risk management and general management had been legitimated by harmonious culture. The quantitative study result found five dimensions of risk management used in building the model. Those dimensions were credit quality, collateral quality, customary rules, traditional leaders, and belief to *karma* law. The dimensions had a significant influence on performance. General management consisted of prayer buildings construction, religious activities, facilities and infrastructures construction, cultural festivals, funerals, wedding ceremony, education, health, art groups, and business groups had influence on performance. The model developed could facilitate the non-financial performance calculation. The non-financial performance assessment model could be developed according to the existing environment. Microfinance institution administrators had a new alternative to assess performance that is easier to understand by the employees.**

Keywords—Harmonious culture; performance; application model; microfinance institution

I. INTRODUCTION

Lembaga Keuangan Mikro (LKM) (microfinance institutions) is oriented to low income customers [1] and plays important role in fighting against poverty [2]. Initially, the microfinance institutions offer financial services to low income community; however, currently it has developed towards the high-income communities. The condition encourages the LKMs to be financially independent [3]. Financial independence needs good financial performance [4] and appropriate financial performance measurement [6-7].

Currently, discussions still occur in microfinance literatures on how to measure performance. For example, Schreiner [9] argued that the board range of service is an important consideration. The board range that served by LKMs has multi interpretation including expenses occurred, the area and depth of services [10-11-12-13-14-15-16-17]. Current performance measurement for LKM is mostly conducted through financial performance [3]. Different opinion stated by Weiss & Montgomery [36] where social performance is more important than financial performance. Dispute on how to measure LKM performance is a gap for the current study to deeply explore the appropriateness of indicators used. This current research used local cultural approach to measure nonfinancial performance designed using computer program. The idea was supported by several previous studies [5]. Local culture tested was harmonious culture that emphasizing on the harmonious relationship between a company with God, human, and natural environment [8].

Harmonious culture in Indonesia is known as THK (*Tri Hita Karana*) culture adopted as organizational culture in tourism industry and has been acknowledged by the WTO as an indicator in hotel performance assessment [17-25]. Harmonious culture employs by microfinance institutions in Bali and gives positive impact on performance [21]. The culture becomes a base in social interaction and is maintained through the existing cultural activities in Bali. Bali is known for its cultural-based tourism as its people believes and preserves the cultural values well. Harmonious cultural activities are effectively comprehended through information technology [18].

The research explored harmonious culture in LKM activities through two stages: conducted qualitative approach to obtain harmonious cultural activities as a measurement for nonfinancial performance and modeling that started with a test through multiple regression before computer application model built.

A. literature review

Result of literatures review explains that there are various problems for company that uses profit or nonprofit in measuring performance. Companies that use profit as performance measurement is the best method [29-26]. Most companies use financial approach as a tool to measure performance [29-26]. There are also companies that subjectively assess nonfinancial performance [28]. Consequently, informal approaches are used to achieve nonfinancial performance [26]. Only few literatures give guidelines on nonfinancial performance assessment in microfinance institution [21-25-27].

Informal approach is used through cultures exist in the microfinance institutions. One of strategies is by building communication with the customers and paying attention to their culture [18-22-23-24]. Organizational culture followed by microfinance institutions stems from local culture in Indonesia called harmonious culture. The culture emphasizes on harmonious relationship between the microfinance institutions and God (*parahyangan*) as the creator of universe through various religious and customary activities. Other two harmonious relationships are relationship between the microfinance institutions and the employees, customers, and natural environment. The harmonious culture has become organizational culture in the microfinance institutions and has a significant impact on company performance [21-8-37-25] and it is used as strategy to win the competition with commercial banks.

II. RESEARCH METHOD

The research used exploratory sequential design [38]. Questionnaires made based on interview result with the head of LKMs with previous notice through a letter. Duration of interview was 50 minutes, on average, with materials referred to [21] research. Data were compared to the theories [39] and coding was conducted using Miles and Huberman [40]. Result of qualitative research could be used to build nonfinancial performance questionnaire consisted of twenty five indicators

and they had been tested for the validity and reliability to 30 LKMs. The number of research sample was 100 of 1405 LKMs recorded in Regional Development Bank of Bali in 2016. Sampling was conducted based on Slovin formula with error rate of 10% (Umar, 1998). Quantitative analysis used multiple regression analysis, as follows:

$$Y_1 = \beta_1 X_1 + \beta_2 X_2 + \beta_3 X_3 + \beta_4 X_4 + \beta_5 X_5 + \beta_6 X_6 + \beta_7 X_7 + \beta_8 X_8 + \beta_9 X_9 + \beta_{10} X_{10} + \beta_{11} X_{11} + \beta_{12} X12 + \beta_{13} X_{13} + \beta_{14} X_{14} + \beta_{15} X_{15} + \beta_{16} X_{16} + \beta_{17} X_{17} + \beta_{18} X_{18} + \beta_{19} X_{19} + \beta_{20} X_{20} + \beta_{21} X_{21} + \beta_{22} X_{22} + \beta_{23} X_{23} + \beta_{24} X_{24} + \beta_{25} X_{25} + e_1 \qquad (1)$$

Where:

Y = nonfinancial performance; X_1 = religious activities; X_2 = prayer buildings construction; X_3 = funeral; X_4 = wedding ceremony; X_5 = education, ; X_6 = health; X_7 = art groups; X_8 = business groups; X_9 = facilities and infrastructures construction; X_{10} = cultural festivals; X_{11} = joint prayer; $X12$ = religious lecture; X_{13} = worship to the God of money; X_{14} = religious tour; X_{15} = *Dharma gita;* X_{16} = spiritual leaders training; X_{17} = meeting with the traditional villages; X_{18} = meeting with the supervisory body; X_{19} = business ethics training; X_{20} = business assistance; X_{21} = meeting (*sangkepan*) at the *banjar*; X_{22} = gifts to the customers; X_{23} = visiting sick customers; X_{24} = visiting customers who died; X_{25} = performance incentives; β (1,2,3,4,5…25); = partial regression coefficient; e_1 = level of stochastic disturbance.

The results of quantitative test were made as computer application program.

III. RESULT AND DISCUSSION

Level of education of LPDs head was 85% held bachelor's degree, 10% held master's degree, and 5% graduated from senior high school. Based on educational qualification, it indicates that LPDs head had the ability to run the company to a better direction since the ability to understand the work depended on the achieved level of education. Quantitative test results from twenty-five indicators from general management and risk management can be explained in Table 1 and Table 2.

Table 1 explains that the ten indicator dimensions had a significant influence on nonfinancial performance. It was proven by the significant value of the ten financial management indicators that were lower than 0.05. The result of simultaneous test obtained that religious activities, prayer buildings construction, funeral, wedding ceremony, education, health, art groups, business groups, facilities and infrastructures construction, cultural festivals simultaneously had a significant influence on nonfinancial performance. Table 2 explains that the fifteen indicators of risk management had a significant influence on nonfinancial performance. The condition can be seen from the significant values that were lower than 0.05. The result of simultaneous test of fifteen risk management indicators obtained that joint prayer, religious lecture, worship to the God of money, religious tour, *Dharma gita,* spiritual leaders training, meeting with the traditional villages, meeting with the supervisory body, business ethics training, business assistance, meeting (*sangkepan*) at the *banjar*, gifts to the customers, visiting sick customers, visiting customers who

died, and performance incentives simultaneously had a significant influence on nonfinancial performance.

The analysis result had been explained in Table 1 and Table 2. It followed by the development of computer application as displayed on Fig. 1. In the figure, all indicators from cultural-based general management and risk management were the content of the application program. The LKMs' management filled the amount of expenses occurred from each indicator. The end result would be performance based on categories made, which was from very good to bad.

Table I. Result of general management indicators test with nonfinancial performance variables

| Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	*Std. Error*	*Beta*		
(Constant)	3.406	1.389		2.451	0.015
X1	0.172	0.078	0.180	2.178	0.031
X2	0.432	0.093	0.472	4.632	0.000
X3	0.416	0.097	0.219	2.210	0.000
X4	0.352	0.088	0.480	4.178	0.029
X5	0.272	0.098	0.280	2.778	0.021
X6	0.170	0.077	0.181	2.177	0.030
X7	0.431	0.092	0.473	4.631	0.000
X8	0.415	0.096	0.218	2.211	0.000
X9	0.351	0.087	0.481	4.179	0.028
X10	0.271	0.097	0.281	2.779	0.022

Source: Processed data, 2018

Table II. Result of Risk Management Indicators Test with nonfinancial performance variables

Model	Unstandardized Coefficients		Standardized Coefficients	t	Sig.
	B	*Std. Error*	*Beta*		
(Constant)	3.466	1.380		2.441	0.011
X11	0.170	0.075	0.180	2.178	0.031
X12	0.432	0.093	0.472	4.632	0.000
X13	0.416	0.097	0.219	2.210	0.000
X14	0.352	0.088	0.480	4.178	0.029
X15	0.272	0.098	0.280	2.778	0.021
X16	0.170	0.077	0.181	2.177	0.030
X17	0.431	0.092	0.473	4.631	0.000
X18	0.415	0.096	0.218	2.211	0.000
X19	0.351	0.087	0.481	4.179	0.000
X20	0.461	0.057	0.211	2.233	0.002
X21	0.351	0.046	0.421	4.179	0.032
X22	0.241	0.096	0.541	2.769	0.012
X23	0.431	0.067	0.251	4,229	0.002
X24	0.421	0.037	0.331	4.119	0.002
X25	0.281	0.087	0.481	4.569	0.000

Source: Processed data, 2018

Figure 1. Computer application model
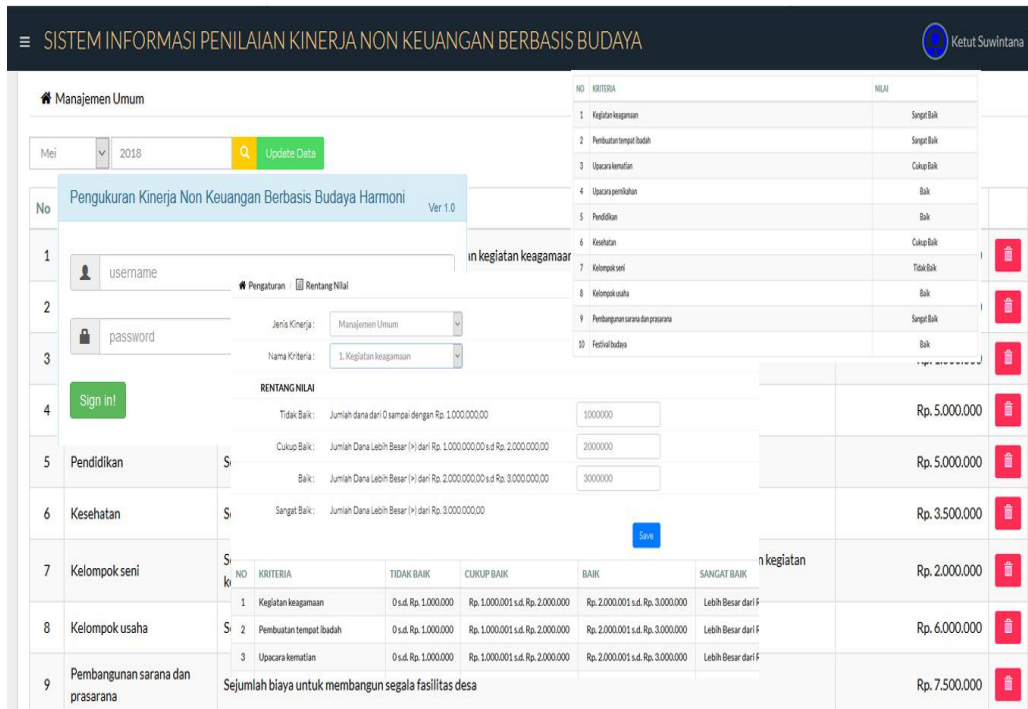
The qualitative result obtained that nonfinancial performance both in general management and risk management had been executed based on harmonious culture implemented daily as an organizational culture. The existing culture facilitated the interpretation of nonfinancial performance activities [19-20]. Culture is the result of human activity replication thus it will continue to develop according to human civilization development. Microfinance institutions that close to rural communities in Indonesia should have cultural-oriented performance measurement since it will simplify the understanding of nonfinancial management activities of a company. Culture could give comfort and it could develop as performance measurement for small enterprises [19-20-21-25].

Cultural activities consisted of 25 indicators as bases for performance assessment had a significant influence both partially and simultaneously. The research results explain that culture played important role in shaping both employee behavior and company [30]. Organizational culture is formed from local culture, employees, company's leader, and national culture [31-32]. Cultural activities are crucial to determine the success of microfinance institutions due to its service range that involves underprivileged communities; therefore it is unfair for them to have the same treatment as the commercial banks. The research result gives confidence to the LKMs management that what have been given to the community receive acknowledgement in form of company performance.

Technology is vital to support productivity [33]. The opinion is a base for computer application development from harmonious culture-based performance assessment. The use of computer application gives more accuracy to calculate performance and it could reduce error risk in determining performance [34]. Easiness for the company management to input application in which data were sourced from their own culture is an encouragement to use the application more effectively [35]. Technology of a model becomes an innovation to serve small scale communities as well as a strategy to promote the company that whatever they delivered to the communities are well recorded using a computer.

IV. CONCLUSION

General management and risk management activities in microfinance institutions had been experienced local cultural acculturation in performance building and received strong support from the communities or customers through their own cultural activities. The implementation of harmonious culture was found in the activities of microfinance institution management, which was a new indicator in performance building and very useful in financial management science. The strengthening of harmonious culture into a computer program gives a new touch in servicing the communities that is based on culture.

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