Journal of
Information Systems Engineering
and Business Intelligence

Vol.4, No.2, October 2018
Available online at: http://e-journal.unair.ac.id/index.php/JISEBI

How Organizational Culture Affects Information System Success: The Case of an Indonesia IT-Based Company

Siti Mardiana[1)] [*], Jann H Tjakraatmadja[2)], Atik Aprianingsih[3)]

School of Business and Management – Institut Teknologi Bandung
Jl Ganesha 10, Bandung, Indonesia

[1)]smardiana@sbm-itb.ac.id

[2)]jannhidajat@sbm-itb.ac.id

[3)]atik.apri@sbm-itb.ac.id

Article history:

Received 24 July 2018
Revised 29 August 2018
Accepted 12 September 2018
Available online 28 October 2018

Keywords:

DeLone-McLean model
Information system success
OCAI
Organizational culture
SmartPLS3
User acceptance

Abstract

This research aims at exploring the effect of organizational culture, especially clan culture, toward the success of information system implementation. A conceptual model of information system success had been developed by integrating DeLone-McLean model, technology acceptance model (TAM), unified theory of acceptance and use of technology (UTAUT). Competing values model (CVM) is being used for organizational model, as such the assessment for organizational culture is using organizational culture assessment instrument (OCAI). To test the proposed conceptual model, empirical study was conducted at a IT-based company using questionnaire and gave the total of 319 usable data samples. The data analysis is using SmartPLS3 due to the abnormality of data distribution. The OCAI assessment shows that the company has a tendency toward clan culture which is quite unexpected for an IT-based company. However, further analysis shows that the company has successfully mixed clan culture with the less-dominant types of culture to create a conducive culture for the success of information system implementation. This study sheds light on IT implementation for business organizations especially the ones which have clan culture as a dominant culture embedded in their organizations.

I. INTRODUCTION

Companies today are being forced to use information systems to support their day-to-day business operations to reach the highest potential and excellence. However, there are considerable numbers of information systems failure in organizations that entailed in disruption of their business activities. Unfortunately, the report of information systems failures in organizations mostly can only be founded in non-scientific publications. At some organizations and companies, the case of information systems failure is quite prevalent. Since building information systems need variably high investments therefore companies need to be aware of the factors that could affect the success of the information system.

There are some dominant factors affecting information success. One of them is the organizational culture ingrained in the organization [1] [2] [3]. This is not the organizational culture that is dictated by management, rather it is an organizational culture that embedded in the people in organization that "guide and constraint behavior"[4]. Since organizational culture is capable of guiding or constraining certain behavior, some researchers believe that organizational culture is also capable of steering the behavior of employees toward technology implemented in the organization, including information system[5] [6]. This behavior is expressed through employees' perception toward information system whether the information system they use is giving benefit or satisfaction. Even though the relationship between organizational culture and employees' perception toward information system has been

[*] Corresponding author

ISSN 2443-2555 (online) 2598-6333 (print)
doi: http://dx.doi.org/10.20473/jisebi.4.2.84-95

Acknowledged, however the empirical researches for proofing such relationship are still limited. For that reason, this study aims at conducting an empirical research to find the impact of organizational culture toward information system success, especially for a company in Indonesia.

There are some the prominent papers proposing the models for information system success, including [7] [8] [9] [10] [11] [12] [13] however only few have included organizational culture in their models, such as [14] [15]. One of the challenges on integrating organizational culture in the information system success model is that the definition of organizational culture itself quite diverse. Organizational culture might include "organization's customary dress, language, behavior, beliefs, values, assumptions, symbols of status and authority, myths, ceremonies and rituals, and modes of deference and subversion" [16]. Such very broad scope of organizational culture makes it hard to assess. One of organizational frameworks that being used often in information system research is Competing Values Framework (CVF) that is founded by [17] [18]. CVF is organizational culture framework that offers some advantages which are important for information system research, especially in relation with research in information technology and organizational context, that are : 1) enables changing in organizational culture to suite the changing in software process improvement, 2) contains four different types of culture that can be used for analyzing the underlying values, artifacts, and challenges in organization, 3) is suitable for software process improvement research, and 4) equipped with the measurement instruments [19]. Even though not all of four aforementioned advantages are directly corresponded with the topic of this research, however, the similarity of research inquiry can be drawn that is about the relationship of information technology in organization and organizational culture. More important [20] stated that CVF is the most organizational culture used in research and practice. That gives a general conclusion that CVF is the most establish organizational culture framework.

II. LITERATURE REVIEW

A. The proposed information system success model

It has been acknowledged in the information system research that DeLone-McLean model [7] [8] is the most information system success model being used in information system research[21]. Since DeLone-McLean model is considered as an established model therefore this study is taking DeLone-McLean model as the base for the proposed conceptual model. Even though DeLone-McLean model is relatively robust model, however there are some theoretical flaws about the model. For example [8] them selves stated that the behavior aspect in their model "are notoriously difficult to measure". To overcome this particular problem, technology acceptance model (TAM) is integrated into the proposed model because TAM is proven to be a good model for explaining behavioral aspect of user in relation with technology. However [22] stated that TAM can only explain up to 40% of the variance in behavioral intention while its counterpart, unified theory of acceptance and use of technology (UTAUT), can explain up to 70% [23].UTAUT is another popular technology acceptance model in information system research [24]. UTAUT is filling some "gaps" that left by TAM, such as the role of social influence and the presence of moderator variables. In UTAUT, the moderator variables are gender, age, experience, and voluntariness of use. The similarities between TAM and UTAUT are that both models predict behavioral intention and use of the technology. Since UTAUT is capable of explaining higher variance in behavioral intention, therefore integrating UTAUT into DeLone-McLean model gives the expectation that the model will have higher predicting power.

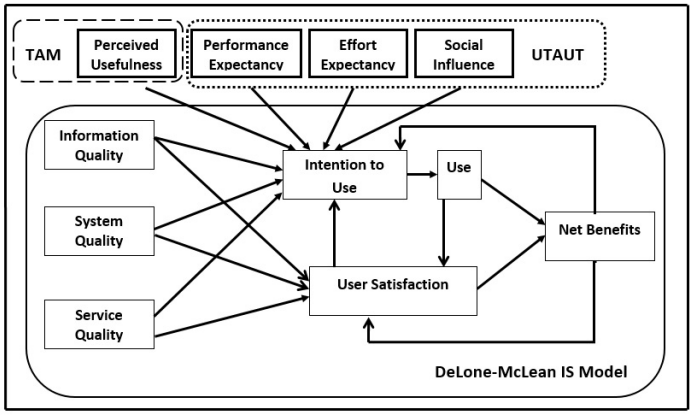

Fig. 1 The integration of TAM and UTAUT into Delone-McLean model [25]

B. The revision of [25]'s information system success model

The realization of integrating TAM and UTAUT into DeLone-McLean model had been published in [25]. Themodel is shown in Fig 1. However, the model in the aforementioned publication needs some revisions based on a rigorous literature review process. There are some changes on the model that need to be applied.

Thereverse relationships (as part of reciprocal relationship) will not be tested in this study because such relationships are better to be assessed in a longitudinal study [26] while this study is cross-sectional. Those relationships are User satisfaction → Intention to use, Net benefits → User satisfaction, and Net benefits → Intention to Use. As a consequence, those relationships will be removed from the model.

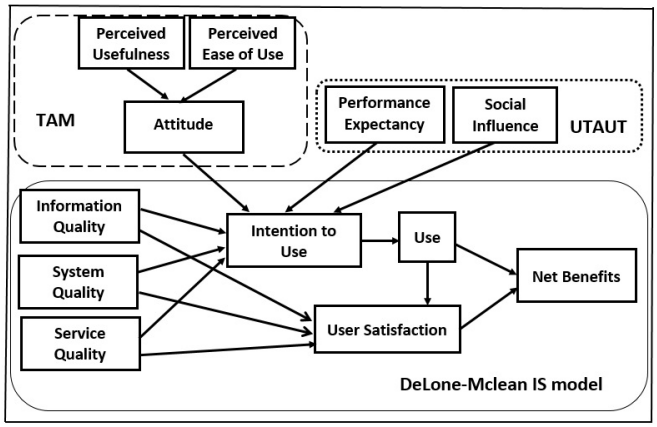

Fig. 2 The proposed conceptual model

There are abundant literature in information system and psychology research that provide findings on the significance of attitude for predicting behavioral intention such as [26] [27] [28]. Four meta-analysis studies on TAM [29] [30] [31] [32] also give the conclusion that relationship between Attitude and Behavioral intention is strong. In TAM, the variable Attitude is preceded by Perceived usefulness and Perceived ease of use. Since Attitude is preceded by Perceived Usefulness and Perceived Ease of Use, therefore variable Effort Expectancy is removed from the model because Perceived Ease of Use and Effort Expectancy basically are measuring the same construct (some researchers use them interchangeably such as in [33] and [34]). Besides, Perceived Ease of Use is an "indigenous" variable of TAM. The updated proposed model is depicted in Fig. 2.

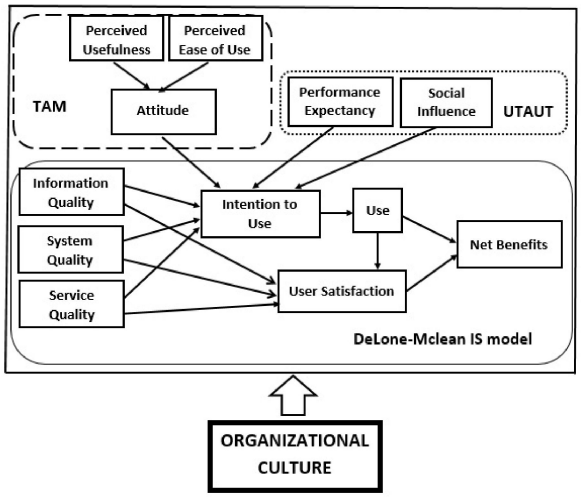

Fig. 3 The integration of organizational culture on the proposed conceptual model

C. The integration of organizational culture into the proposed information system success model

Culture in organization affect employees on their attitude and behavior [35], as such it could impact the attitude toward information system implemented in organization. Based on that assumption, this study proposed a hypothesis that organizational culture could affect the success of information system. To test that hypothesis, an organizational variable is added into the model. The addition of organizational culture construct into the conceptual model follows the positioning of moderator variables (such as gender, age, experience, voluntariness of use) in UTAUT. That means the organizational culture type is expected to moderate the relationship among variables in the information system success model. It is mentioned in the introduction that organization culture framework used in this study is competing values framework (CVF) which is established by [17] [18].

III. METHODS

The empirical study for this research is using quantitative method. Questionnaires were distributed to the employees of an IT-based company in Indonesia. Questionnaire was distributed in two types: online and paper-based. The questionnaire is divided into two parts. The first part is for mapping the current organizational culture of the employees. The second part is data collection for information system success constructs with the human resource (HR) system as the research object (the questions in the questionnaire were asking about the employee's experience toward HR system which is mandatory for all employees). The data for information system success constructs will be processed and analyzed using statistical method, while data for organizational culture will be processed and analyzed according to OCAI [18]'s instruction. There were 398 questionnaires returned, but after data cleaning process, only 319 samples can be used for data analysis. SPSS is being used to test the normality of data distribution. Shapiro-Wilk test provides the best result for testing non-normal data distribution when the sample size is below 2000 [36]. The result of Shapiro-Wilk test for the data of this study showed that the p-value < 0.000 for all variables. P-value < 0.000 means that the null hypotheses are rejected, hence the data is deemed to be not normally distributed. Based on that result therefore partial least square for structural equation modeling (PLS-SEM) is being used for data analysis since PLS does not need the data to be normally distributed [37]. The tool for analysis is using SmartPLS3 [38].

IV. RESULT

A. Organizational culture mapping using OCAI

It has been stated earlier that this study is using the theory of organizational culture based on competing values framework (CVF)which was established by [17] [18], therefore the assessment for organizational culture will use organizational culture assessment instrument (OCAI) which was developed by Cameron and Quinn [18].CVF divides organizational culture into four distinct culture types: clan, adhocracy, market, and hierarchy. Clan culture is characterized by close-knit relationship among member of the organization. The organization values teamwork and empowers their employees. Adhocracy culture gives regards to innovativeness and willingness of employees to take risks. They focus on long term growth and are leading in offering new products or services. Market culture focuses on competitiveness and goal oriented. They define success as representation of high proportion on the market share. Hierarchy culture is focusing on control, smoothness, and efficiency in day-to-day organizational operation, therefore they prefer activities that are predictable. As such, people in hierarchy culture tend to be resistant toward changes.

TABLE 1
FREQUENCY OF CULTURE TYPES IN COMPANY

No	Organizational Culture	Frequency
1	Clan	169
2	Adhocracy	44
3	Market	84
4	Hierarchy	22
	Total	319

Organizational culture mapping is an activity to assess the perception of each respondent regarding the daily practice of their company which relate to certain culture type (clan, adhocracy, market, or hierarchy). Since this study only needs the current status of organizational culture, therefore only the "Now" part of OCAI was used without the "Preferred" part. Each respondent was given an OCAI questionnaire to be filled out. The result of organizational culture mapping is shown in Table I and the diagram is depicted in Fig. 4. Considering the company is an IT-based, the result is somewhat surprising since the shape of organizational culture profiles is having a

tendency toward clan culture. It can be seen in Fig 4 that the aggregate score of clan culture is 40.3, adhocracy is 19.5, market is 26.0, and hierarchy is 14.1. With those results, it can be concluded that the dominant organizational culture in the company is clan culture, followed by market, adhocracy, and hierarchy.

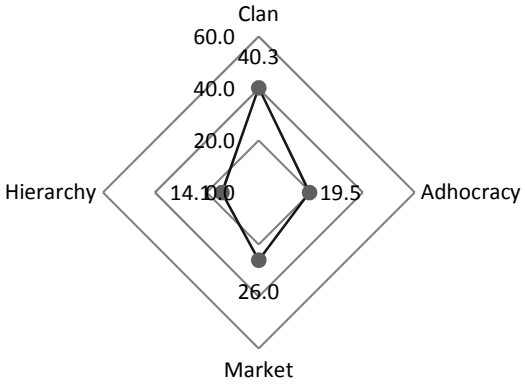

Fig. 4 Organizational culture profile of the company based on employees' perspectives

B. Data analysis for information system success

Data analysis using PLS-SEM involves two processes [39].First is assessing the measurements model to evaluate its reliability and validity, and second is assessing the structural model. To evaluate the measurement model, there are some parameters that need to be reported when data analysis is conducted using PLS-SEM. The first parameter is the score of internal consistency reliability which is supposed to be above 0.70. In SmartPLS3, the score of internal consistency reliability can be found in the composite reliability values. The result of composite reliability for this study is shown in Table 2. Since all variables have composite reliability above 0.70 therefore the requirement for internal consistency reliability is fulfilled.

TABLE 2
COMPOSITE RELIABILITY

Variable	Composite reliability
Perceive Ease of Use	0,906
Information Quality	0,916
Intention to Use	0,904
Use	0,900
Perceive Usefulness	0,888
Performance Expectancy	0,940
Service Quality	0,952
Social Influence	0,897
System Quality	0,848
Attitude	0,938
Net Benefits	0,890
User Satisfaction	0,922

TABLE 3
CONVERGENT RELIABILITY (AVE SCORES)

Variable	Average Variance Extracted
Perceive Ease of Use	0,763
Information Quality	0,578
Intention to Use	0,760
Use	0,693
Perceive Usefulness	0,726
Performance Expectancy	0,838
Service Quality	0,604
Social Influence	0,744
System Quality	0,584
Attitude	0,834
Net Benefits	0,730
User Satisfaction	0,747

The second parameter that has to be reported for PLS-SEM is indicator reliability or indicator loading which has to be above 0.70. Due to the limitation of the number of the page, the loadings for all indicators will not be shown in this paper. It can be reported that most indicators have loadings above 0.70. Even though some indicators have loadings below 0.70 but they are above 0.60 which is acceptable according to [40]. The third parameter has to be checked is the convergent validity which can be found in the average variance extracted (AVE) values. The AVE has to be higher than 0.50 to fulfill the requirement as a good model. It can be seen in Table 3 that the score of AVE for all variables are higher than 0.50.

The fourth parameter that has to be reported is discriminant validity. J. Henseler [41] provides new guidelines for establishing discriminant validity which is using heterotrait-monotrait (HTMT) ratio instead of Fornell-Larcker criterion and cross-loadings. J. Henseler [41] stated that HTMT ratio with a threshold of 0.90 is acceptable for most cases. In SmartPLS3, HTMT scores can be found in the discriminant validity report section. The HTMT ratio is shown in Table 4 on the next page. Since all of the ratio values are below 0.90 therefore the discriminant validity is established. However, some of the HTMT have scores that are very close to 0.90 (for example the scores that higher than 0.86). This score can be used as a caution that variables with high HTMT score might measure similar substances or properties.

TABLE 4
HETEROTRAIT-MONOTRAIT (HTMT) RATIO

	Perceive Ease of Use	Information Quality	Intention to Use	Use	Perceive Usefulness	Performance Expectancy	Service Quality	Social Influence	System Quality	Attitude	Net Benefits
Perceive Ease of Use											
Information Quality	0,741										
Intention to Use	0,776	0,681									
Use	0,577	0,727	0,769								
Perceive Usefulness	0,658	0,751	0,730	0,830							
Performance Expectancy	0,486	0,603	0,618	0,779	0,899						
Service Quality	0,658	0,779	0,599	0,634	0,749	0,619					
Social Influence	0,452	0,527	0,695	0,788	0,728	0,705	0,543				
System Quality	0,698	0,861	0,680	0,802	0,853	0,728	0,852	0,581			
Attitude	0,610	0,754	0,771	0,825	0,713	0,670	0,636	0,672	0,798		
Net Benefits	0,562	0,704	0,732	0,873	0,816	0,851	0,636	0,823	0,774	0,858	
User Satisfaction	0,749	0,815	0,814	0,842	0,770	0,668	0,717	0,677	0,834	0,859	0,859

To assess the structural model in PLS-SEM [42] define four parameters that have to be examined: coefficient of determination (R^2), path coefficient, cross-validated redundancy (Q^2), and effect size. The value of R^2=0.75 is considered "substantial", 0.5 is considered "moderate", and 0.25 is weak. Table 5 shows the R^2 and adjusted R^2 for the model. J. F. J. Hair [43] suggests to use adjusted R^2 rather than R^2. The adjusted R^2 for variable Use, which is 0.429, is the least among all endogenous variables. That means there are other factors besides Intention to Use that urge the employees for using the system since Intention to Use only explains 42.9% of Use. The adjusted R^2 for user satisfaction (User Satisfaction) and user benefits (Net Benefits) are nearly substantial, 0.687 and 0.667 respectively. It is quite satisfying that User Benefits (benefits perceived by the users after using the information system) holds a quite high adjusted R^2 since User Benefits is the very goal of information system success.

TABLE 5
THE R^2 FOR ENDOGENOUS VARIABLES

Endogenous variables	R Square	R Square Adjusted
Intention to Use	0,550	0,542
Use	0,431	0,429
Attitude	0,434	0,430
Net Benefits	0,689	0,687
User Satisfaction	0,671	0,667

The path coefficients for the model can be seen in Table 6. If alpha=0.05 then the threshold for T statistics is 1.96 for P values to be significant [39]. If alpha=0.10 then the threshold for T statistic =1.62 for P values to be significant. Table 6 shows the result of all path coefficients for alpha=0.05. There are four relationships which have T statistics < 1.96 (in Table 6 written in bold).That means those four relationships are considered not significant: Performance Expectancy → Intention to Use, Service Quality → Intention to Use, System Quality → Intention to Use, and System Quality → User Satisfaction. The result of path coefficients is depicted in Fig 5. The arrows with solid line are showing the relationships that are significant, and the dashed arrows are showing the relationships that are not significant.

TABLE 6
THE SIGNIFICANCE OF THE RELATIONSHIPS IN THE MODEL

Relationships	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values*
Perceive Ease of Use ->Attitude	0,286	0,288	0,058	4,907	0,000
Information Quality ->Intention to Use	0,175	0,174	0,072	2,434	0,015
Information Quality ->User Satisfaction	0,299	0,294	0,076	3,924	0,000
Intention to Use ->Use	0,657	0,658	0,039	17,054	0,000
Use ->Net Benefits	0,463	0,461	0,061	7,576	0,000
Use ->User Satisfaction	0,405	0,400	0,068	5,936	0,000
Perceive Usefulness ->Attitude	0,455	0,455	0,056	8,058	0,000
Performance Expectancy -> Intention to Use	0,052	0,053	0,058	**0,893**	**0,372**
Service Quality -> Intention to Use	0,065	0,068	0,072	**0,905**	**0,366**
Service Quality ->User Satisfaction	0,167	0,177	0,068	2,474	0,013
Social Influence ->Intention to Use	0,263	0,263	0,061	4,302	0,000
System Quality -> Intention to Use	-0,008	-0,005	0,076	**0,107**	**0,915**
System Quality -> User Satisfaction	0,065	0,066	0,072	**0,904**	**0,366**
Attitude ->Intention to Use	0,337	0,331	0,075	4,488	0,000
User Satisfaction ->Net Benefits	0,428	0,430	0,059	7,207	0,000

*alpha=0.05

Another parameter that has to be reported in construct evaluation is cross-validated redundancy (Q^2). Q^2basically is assessing the "model's predictive accuracy" [42]. A value of Q^2 above zero for an endogenous variable means that the particular endogenous variable can be predicted quite good in the model. In SmartPLS3, the cross-validated redundancy is the result from blindfolding process with certain omission distant value. SmartPLS3 suggests the omission distance=7 while [44] suggest to use the omission distance value between 5-10. According to cross-validated redundancy principle, the number of sample divides by omission distance has to give result a non integer value, therefore this study follows SmartPLS advice to set omission distance as 7. Table 7 shows the result for Q^2. It can be seen that the cross-validated redundancy values for all endogenous variables are above zero. This result means that, in the proposed model, all of endogenous variables can be predicted quite good.

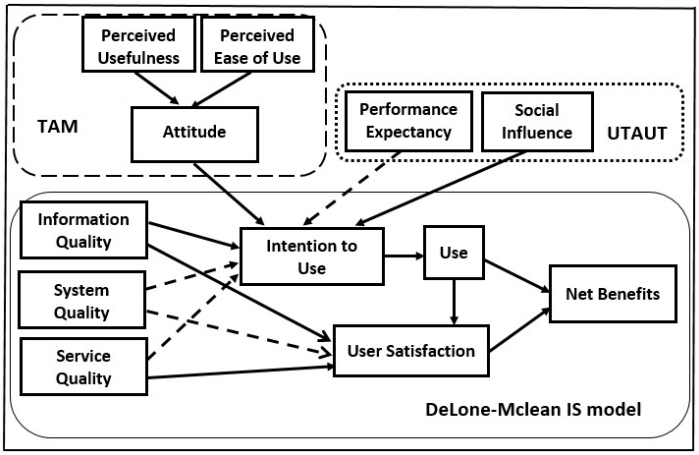

Fig. 5 The result of path coefficients analysis without culture as control variable

The last parameter that needs to be reported for model evaluation is effect size (f^2). Effect size is "the increase in R2 relative to the proportion of variance of the endogenous latent variable that remains unexplained" [45]. In other words, basically, effect size shows the strength of a predictor variable toward an endogenous variable. The effect size (f^2) of 0.02 is considered weak, while f^2=0.15 is medium, and f^2=0.35 is strong. The effect size of the model is showed in Table 8. It can be seen that Performance Expectancy, Service Quality, and System Quality have a very

weak effect size toward Intention to Use, which are below 0.02. The score of Information Quality toward Intention to Use is exactly at 0.02, stronger than the previous three variables. That result is consistent with the result of path coefficients of the three relationships: Performance Expectancy→Intention to Use, Service Quality→Intention to Use, and System Quality→Intention to Use are not significant with alpha = 0.05 (see Table 6). System Quality is having a very weak effect size toward both Intention to Use and User Satisfaction. This result is consistent with the result of path coefficient analysis shown in Table 6. A very low f^2 score is corresponding with a non-significant path coefficient. It can be seen in Table 8 that the highest effect size holds by Intention to Use →Use. That means that this relationship is the strongest among all of the relationship in the model.

TABLE 7
PREDICTIVE RELEVANCE (CROSS-VALIDATED REDUNDANCY)

Latent Variables	SSO	SSE	Q^2 (=1-SSE/SSO)
Intention to Use	957,000	594,887	0,378
Use	1.276,000	925,115	0,275
Attitude	957,000	638,199	0,333
Net Benefits	957,000	512,433	0,465
User Satisfaction	1.276,000	690,258	0,459

TABLE 8
EFFECT SIZE (F^2) OF PREDICTOR VARIABLES

	Intention to Use	Use	Attitude	Net Benefits	User Satisfaction
Perceive Ease of Use			0,100		
Information Quality	0,020				0,083
Intention to Use		0,758			
Use				0,317	0,266
Perceive Usefulness			0,252		
Performance Expectancy	**0,003**				
Service Quality	**0,004**				0,036
Social Influence	0,081				
System Quality	**0,000**				**0,004**
Attitude	0,103				
User Satisfaction				0,270	

C. The effect of organizational culture type toward information system success model

The effect of organizational culture type on the relationships in the model of information system success is analyzed using multi-group analysis (MGA). As reported in the section A that, in this study, employees were being mapped based on their perception on the culture of the company. As consequence there are four groups of employees which have clan, adhocracy, market, or hierarchy dominant type of culture. The focus of analysis is to examine the effect of employees' culture type on the relationships between latent variables in the model of information system success. The result of multi-group analysis using SmartPLS3 is shown in Table 10. The P-value < 0.05 (or T statistics > 1.96) is considered significant. It can be seen that some relationships have different significance based on the culture type. Clan culture has the least number of significant relationships (4 out of 12 relationships are not significant), while hierarchy culture is the type of culture which has the most number of non-significant relationship (9 out of 12 relationships are not significant). There are two relationships that are significant across culture: Use → Net Benefits and Perceive Usefulness → Attitude. There are three relationships that are not significant across culture: Performance Expectancy → Intention to Use, System Quality→Intention to Use, and System Quality → User Satisfaction. The rest of the relationships have different status of significance depending on the type of organizational culture.

V. DISCUSSION

It is very interesting to see that in an IT-based company, the majority of employees portrait their company as having a clan culture as their embedded organizational culture. It seems contradict with common stereotype that technology correlates with adhocracy culture since adhocracy is believed to be the type of culture that surrogate the innovation, including the easiness for adoption of technology [46], [47]. Furthermore, an information technology company is better managed in a culture that surrogate innovation [48], and a culture that promotes innovation is adhocracy culture [49].Clan culture is a culture of teamwork and collaboration, and the company is a friendly place to work where everybody is like a family. A company which has a core business in information technology that

encourage creative and innovative works from the employees will be less likely to survive in clan culture. However, looking deeper into their company culture, it shows that clan culture is not the only culture exist in the company. There are other cultures that also play an important role as a supporting culture. For example, the company defines one of their values as "Integrity, Enthusiasm, Totality". Integrity is a characteristic brought by clan culture. Enthusiasm is a property of adhocracy culture. Totality is similar to commitment and loyalty, values that are originated in clan culture. Another set of values that is promoted by the management of the company is "Solid, Speed, Smart". Solid is definitely a value of clan culture. Speed stems from market culture where one of its characteristics is "outpacing the competition" [49], while smart is the nature of adhocracy culture. It also can be seen on the result of organizational mapping (Table 1) that almost half of the respondents perceived that their company has other culture than clan culture. That means the other three cultures (adhocracy, market, and hierarchy) also give colors into the holistic organizational culture of the company. From that discussion, it is clear that even though clan is the dominant culture, however, other cultures coexist in the company and they are affecting the employees in their workplace, including their behavior toward information system implemented in the company.

TABLE 9
THE SIGNIFICANCE OF THE RELATIONSHIPS IN THE MODEL BASED ON CULTURE TYPE

	P-values				
Path Relationships	Without organizational culture's effect	Clan	Adhocracy	Market	Hierarchy
Perceive Ease of Use→Attitude	0,000	0,000	**0,226**	0,000	**0,762**
Information Quality→Intention to Use	0,015	0,037	**0,958**	0,047	**0,750**
Information Quality→User Satisfaction	0,000	0,000	0,040	**0,362**	**0,935**
Intention to Use→Use	0,000	0,000	0,022	0,000	**0,060**
Use→Net Benefits	0,000	0,000	0,011	0,000	0,043
Use→User Satisfaction	0,000	0,000	**0,418**	0,000	**0,685**
Perceive Usefulness→Attitude	0,000	0,000	0,001	0,003	0,002
Performance Expectancy→Intention to Use	**0,372**	**0,769**	**0,150**	**0,122**	**0,165**
Service Quality→Intention to Use	**0,366**	0,002	**0,803**	**0,083**	**0,753**
Service Quality→User Satisfaction	0,013	0,000	0,006	**0,637**	0,043
Social Influence→Intention to Use	0,000	0,001	**0,291**	0,002	**0,498**
System Quality→Intention to Use	**0,915**	**0,558**	**0,595**	**0,506**	**0,453**
System Quality→User Satisfaction	**0,366**	**0,466**	**0,663**	**0,526**	**0,964**
Attitude→Intention to Use	0,000	0,007	0,048	0,032	**0,639**
User Satisfaction→Net Benefits	0,000	0,000	**0,268**	0,000	**0,090**

Another interesting result from the study is the emergence of three insignificant relationships across culture types: Performance expectancy → Intention to Use, System Quality→ Intention to Use and System Quality → User Satisfaction. The possible explanation about this result is because the system that was used in the study is a mandatory system (it was mentioned in the Method section that the HR system is the object of the study and it is a mandatory for the employees to use it). This result confirms the finding of [50] that system quality does not affect Intention to Use if the use is mandatory. The mandatory use also is the culprit on the insignificant relationship between System Quality and User Satisfaction. The descriptive statistic of System Quality data showed that the mean of the data has negative skewness. That means the employees gave a relatively high score on System Quality (the majority of the respondent agree that the quality of the system is good). However, that does not affect the satisfaction of users. Users are satisfied toward HR system because of other factors that are Information Quality, Service Quality, and the experience after using the system (Use). Employees also see that the HR system does not have direct correlation with their performance; therefore the relationship between Performance Expectancy and Intention to Use is not significant.

Benefits (Net Benefits) those users will get after using the system is proven to be a strong dependent variable in information system success model. Benefits can be accrued either from using the system or from user satisfaction. However, it can be seen in Table 8 that the effect size (f^2) of Use (system use) is bigger than User Satisfaction. Therefore, using the system continuously is perceived to give bigger benefit compare to just satisfy by using the system. Again, this situation is caused by mandatory usage.

It is important to point out that clan culture has the least number of insignificant relationships compared to other type of culture. The relationship between Service Quality and Intention to Use that was not significant in the original model (Table 9 column 2) became significant under clan culture. It is not surprising that in clan culture, services

from other members of the group (in this case is the staffs from IT Department of the company) are greatly appreciated. Furthermore, clan culture turned out to be very friendly toward innovation and technology. A. Chan [51] argued that clan culture is a safe harbor for uncertainty environment as technology often viewed as disruptive, hence creating uncertainty. Further, [51] stated that in a turbulence environment, many organizations survive because they hold on clan culture. In organizational control context, clan culture diminish the differences among individuals that are not in compliance with the organizational missions [52].

VI. CONCLUSION

There are some highlighted findings that can be drawn from this research. First, clan culture can be a dominant culture in IT-based Company even though generally IT-based Company have tendency toward adhocracy or market culture. Second, in the research of information system success and the like (technology acceptance/technology diffusion), the choice of information system to be studied affects the result of the study. If the information system is not crucial for the users on doing their tasks then some relationships might give a non-significant result, as the relationship between Performance Expectancy and Intention to Use. Third, the circumstance of the system usage (mandatory vs. voluntary) also affects the result of the research. Fourth, clan culture, combined with other subculture and with clan organizational control, can drive the company to survive during turbulence, hence enabling company to sustain in almost every situation.

Further research needs to be conducted to get a greater clarity on the impact of organizational culture on the success of information system implemented in organization. Since information technology is a relatively high investment therefore a suitable organizational culture is needed to ensure its success. Different type of information system might have a different impact toward employees therefore the employees will respond accordingly. For example, in mandatory setting where the use of information system is a must, employees will act based on the rules of the organization and set aside their own perspectives. In such circumstances, a specific treatment has to be conducted to get the real picture of user behavior. Further research also needs to involve qualitative study to get a deeper understanding on the impact of culture toward employees' perception on information system.

ACKNOWLEDGMENTS

This research is funded by Direktorat Riset dan Pengabdian Masyarakat, Direktorat Jenderal Penguatan Riset dan Pengembangan, Kementerian Riset, Teknologi, dan Pendidikan Tinggi based on the Research Contract for Fiscal Year 2018 (decree number 03/E/KPT/2018 and contract number 021/SP4/LP2M-UTAMA/III/2018).

REFERENCES

[1] G. R. Harper and D. R. Utley, "Organizational Culture and Successful Information Technology Implementation," *Eng. Manag,* vol. 13, no. 2, pp. 11 - 15, 2011.

[2] I. Walsh, H. Kefi and R. Baskerville, "Managing culture creep : Toward a strategic model of user IT culture," *J. Strateg. Inf. Syst.,* vol. 19, no. 4, p. 257–280, 2010.

[3] S. Jackson, "Organizational culture and information systems adoption: A three-perspective approach," *Inf. Organ,* vol. 21, no. 2, pp. 57-83, 2011.

[4] E. H. Schein, "Organizational Culture and Leadership, 3rd ed.," *CA: Jossey-Bass - A Wiley Imprint,* 2004.

[5] D. Lee, Y. Rhee and R. B. Dunham, "The Role of Organizational and Individual Characteristics in Technology Acceptance," *Int. J. Hum. Comput. Interact.,* vol. 25, no. 7, p. 623–646, 2009.

[6] D. M. Strong and O. Volkoff, "Understanding Organization—Enterprise System Fit: A Path to Theorizing the Information Technology Artifact," *MIS Q.,* vol. 34, no. 4, p. 731–756, 2010.

[7] W. H. DeLone and E. R. McLean, "Information Systems Success: The Quest for the Dependent Variable," *Inf. Syst. Res.,* vol. 3, no. 1, p. 60–9, March 1992.

[8] W. H. DeLone and E. R. McLean, "The DeLone and McLean Model of Information Systems Success : A Ten-Year Update," *J. Manag. Inf. Syst.,* vol. 19, no. 4, p. 9–30, 2003.

[9] P. B. Seddon, "A respecification and extension of the DeLone and McLean model of IS success," *Inf. Syst. Res.,* vol. 8, no. 3, p. 240–253, 1997.

[10] P. B. Seddon, S. Staples, R. Patnayakuni and M. Bowtell, "Dimensions of Information Systems Success," *Commun. Assoc. Inf. Syst.,* vol. 2, no. Article 20, 1999.

[11] B. H. Wixom and P. A. Todd, "A Theoretical Integration of User Satisfaction and Technology Acceptance," *Inf. Syst. Res.,* vol. 16, no. 1, p. 85–102, March 2005.

[12] D. Sedera, "An empirical investigation of the salient characteristics of IS-Success models," in *Proceedings Americas Conference on Information Systems 2006*, 2006.

[13] G. G. Gable, D. Sedera and T. Chan, "Re-conceptualizing Information System Success : the IS-Impact Measurement Model," *J. Assoc. Inf. Syst.,* vol. 9, no. 7, p. 377–408, 2008.

[14] R. Ismail, "Organizational Culture Impact on Information Systems Success," 2011.

[15] S. Wang and W. Yeoh, "How Does Organizational Culture Affect IS Effectiveness: A Culture-Information System Fit Framework," in International Conference on Electronic Commerce and Business Intelligence," 2009.

[16] T. Scott, R. Mannion, H. Davies and M. Marshall, "Methods The Quantitative Measurement of Organizational Culture in Health Care : A Review of the Available Instruments," *HSR Heal. Serv. Res.,* vol. 38, no. 3, p. 923–945, 2001.

[17] R. E. Quinn and J. Rohrbaugh, "A Spatial Model of Effectiveness Criteria: Towards A Competing Values Approach to Organizational Analysis," *Manage. Sci.,* vol. 29, no. 3, p. 363–377, 1983.

[18] K. S. Cameron and R. E. Quinn, "Diagnosing and Changing Organizational Culture: Based on The Competing Values Framework," in *CA: Jossey-Bass - A Wiley Imprint*, Revised Ed. San Francisco, 2006.

[19] S. D. Müller and P. A. Nielsen, "Competing values in software process improvement: a study of cultural profiles," *Inf. Technol. People,* vol. 26, no. 2, p. 146–171, 2013.

[20] C. a. Hartnell, A. Y. Ou and A. Kinicki, "Organizational culture and organizational effectiveness: a meta-analytic investigation of the competing values framework's theoretical suppositions," *J. Appl. Psychol,* vol. 96, no. 4, p. 677–94, July 2011.

[21] Y. K. D. e. al., "Research on information systems failures and successes : status update and future directions," *Inf. Syst. Front.,* vol. 17, no. 1, p. 143–157, 2015.

[22] V. Venkatesh and F. D. Davis, "A Theoretical Extension of the Technology Acceptance Model : Four Longitudinal Field Studies," *Manage. Sci.,* vol. 46, no. 2, p. 186–204, 2000.

[23] V. Venkatesh, J. Y. L. Thong and X. Xu, "Consumer Acceptance and Use of Information Technology: Extending the Unified Theory of Acceptance and Use of Technology," *MIS Q.,* vol. 36, no. 1, p. 157–178, 2012.

[24] M. D. Williams, N. P. Rana, Y. K. Dwivedi and B. Lal, "IS UTAUT REALLY USED OR JUST CITED FOR THE SAKE OF IT ? A SYSTEMATIC REVIEW OF CITATIONS OF UTAUT's ORIGINATING ARTICLE," in *in ECIS 2011 Proceedings*, 2011.

[25] S. Mardiana, J. H. Tjakraatmadja and A. Aprianingsih, "DeLone-McLean IS success model revisited : the separation of intention to use - use and the integration of technology acceptance models," *Int. J. Econ. Financ. Issues,* vol. 5, no. 1S, p. 172–182, 2015.

[26] D. Koys, "The effects of employee satisfaction, organizational citizenship behavior, and turnover on organizational effectiveness: a unit-level, longitudinal study," *Pers. Psychol.,* vol. 54, no. 1, p. 101–114, 2001.

[27] M. Söderlund and N. Öhman, "Assessing behavior before it becomes behavior: An examination of the role of intentions as a link between satisfaction and repatronizing behavior," *Int. J. Serv. Ind. Manag.,* vol. 16, no. 2, p. 169–185, 2005.

[28] G. Bock, R. W. Zmud, Y. Kim and J. Lee, "Behavioral intention formation Knowledge Sharing : Examining the Roles of Extrinsic Motivators, Social-Psychological Forces, and Organizational Climate," *Mark. Intell. Plan.,* vol. 29, no. 1, p. 87–111, 2005.

[29] P. Legris, J. Ingham and P. Collerette, "Why do people use information technology ? A critical review of the technology acceptance model," *Inf. Manag.,* vol. 40, p. 191–204, 2003.

[30] J. Schepers and M. Wetzels, "A meta-analysis of the technology acceptance model : Investigating subjective norm and moderation effects," *Inf. Manag.,* vol. 44, p. 90–103, 2007.

[31] S. Y. Yousafzai, G. R. Foxall and J. G. Pallister, "Technology acceptance : a meta-analysis of the TAM : Part 2," *J. Model. Manag.,* vol. 2, no. 3, p. 281–304, 2007.

[32] R. J. Holden and B.-T. Karsh, "The Technology Acceptance Model: Its Past and Its Future in Health Care," *J Biomed Inf.,* vol. 43, no. 1, p. 1–30, 2010.

[33] K. Bandyopadhyay and K. A. Fraccastoro, "The Effect of Culture on User Acceptance of Information Technology," *Commun. Assoc. Inf. Syst.,* vol. 19, p. 522–543, 2007.

[34] I. Im, S. Hong and M. S. Kang, "An International Comparison of Technology Adoption - Testing the UTAUT Model," *J. Inf. Manag.,* vol. 48, no. 1, pp. 1-8, 2011.

[35] L. Smircich, "Concepts of Culture and Organizational Analysis," *Adm. Sci. Q.,* vol. 28, p. 339–358, 1983.

[36] N. M. Razali and Y. B. Wah, "Power comparisons of Shapiro-Wilk , Kolmogorov-Smirnov, Lilliefors and Anderson-Darling tests," *J. Stat. Model. Anal.,* vol. 2, no. 1, p. 21–33, 2011.

[37] N. Urbach and F. Ahlemann, "Structural Equation Modeling in Information Systems Research Using Partial Least Squares," *J. Inf. Technol. Theory Appl.,* vol. 11, no. 2, p. 5–40, 2010.

[38] C. M. Ringle, S. Wende and J.-M. Becker, "SmartPLS3.," in *Bönningstedt: SmartPLS*, 2015.

[39] J. F. Hair, C. M. Ringle and M. Sarstedt, "PLS-SEM: Indeed a Silver Bullet," *J. Mark. Theory Pract.,* vol. 19, no. 2, p. 139–152, 2011.

[40] J. F. Hair, W. C. Black, B. J. Babin and R. E. Anderson, "Multivariate Data Analysis," in *7th ed. Pearson Prentice Hall*, 2010.

[41] J. Henseler, C. M. Ringle and M. Sarstedt, "A New Criterion for Assessing Discriminant Validity in Variance-based Structural Equation Modeling," *J. Acad. Mark. Sci.,* vol. 43, p. 115–135, 2015.

[42] J. F. Hair, G. T. M. Hult, C. M. Ringle and M. Sarstedt, "A Primer on Partial Least Squares Structural Equation Modeling (PLS-SEM)," in *2nd ed. Thousand Oaks*, CA: Sage, 2014.

[43] J. F. J. Hair, M. Sarstedt, L. Hopkins and V. G. Kuppelwieser, "Partial least squares structural equation modeling (PLS-SEM)," *Eur. Bus. Rev.,* vol. 26, no. 2, p. 106–121, 2014.

[44] W. W. Chin, "How to write up and report PLS analyses," in *in Handbook of Partial Least Squares: Concepts, Methods and Application*, Eds. Springer, Germany, 2010, p. 645–689.

[45] J. Henseler, C. M. Ringle and R. R. Sinkovics, "The use of partial least squares path modeling international marketing," in *in New Challenges to International Marketing (Advances in International Marketing)*, 2009.

[46] T. E. Dolan, "Revisiting Adhocracy : From Rhetorical Revisionism to Smart Mobs," *J. Futur. Stud.,* vol. 15, no. 2, p. 33–50, 2010.

[47] S. Yesil and A. Kaya, "The role of organisational culture on innovation capability : an empirical study," *Int. J. Inf. Technol. Bus. Manag.,* vol. 6, no. 1, p. 11–25, 2012.

[48] L. Xiao and S. Dasgupta, "The impact of organizational culture on information technology practices and performance," 2005.

[49] K. Cameron, "A Process for Changing Organizational Culture," in *Handbook of Organizational Development*, Thousand Oaks ed., CA: Sage, in Handbook of Organizational Development, T. G. Cummings, Ed. Thousand Oaks, 2008, p. 429–445.

[50] D. Liu and H. R. Weistroffer, "Is System Quality Irrelevant to System Use? A Literature Review of the Relationship Between System Quality and System Use," *Twenty-third Am. Conf. Inf. Syst.,* p. 1–10, 2017.

[51] A. Chan, "Corporate culture of a clan organization," *Manag. Decis.,* vol. 35, no. 2, p. 94–99, 1997.

[52] W. G. Ouchi, "A Conceptual Framework for the Design of Organizational Control Mechanisms," *Manage. Sci.,* vol. 25, no. 9, p. 833–848, 1979.