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SUCCESS FACTORS OF TIMESHEET MANAGEMENT SYSTEM IMPLEMENTATION ON IT COMPANY'S NON-FINANCIAL PERFORMANCE

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Abstract

The purpose of this research is to find out empirical evidence regarding the success factors of implementing the Timesheet Management System (TMS) at PT. XYZ based on the USRS (The User Satisfaction Research Stream Approach) model, the UTAUT (Unified Theory of Acceptance and Use of Technology) model, and its impact on the company's non-financial performance. TMS can be used to record the amount of time an employee spends at work based on a specific job, related project or working for a specific client. This important data is used for the purpose of reporting and tracking labor hours. By complying with the timesheet policy, project costs are properly recorded and reported, labor productivity hours are properly tracked, and truthful information is available for management decision-making purposes. Currently, TMS has not been evaluated, so the authors consider evaluating the success factor of the implementation of TMS needs to be done. The sample of this research were employees of PT. XYZ who had used the timesheet system during 2020. This data was collected using questionnaires. The data processing and analysis used was multi-regression analysis using SMARTPLS 3 for windows with Structural Equation Model (SEM) to prove the use of the TMS and its success criteria for IT companies. The success factors for implementing the Timesheet System are Performance Expectancy which mean company must provide user trust on benefit of TMS system that can help them to simplify their work. In addition, the quality of the system, which is reflected in the reliability, ease of access, flexibility, strong integration, timeliness in supporting staff work activities should be maintain and improved. These factors can impact positively on companies' non-financial performance.

Keywords: Information Systems Success; UTAUT; USRS; Timesheet Management System; Non-Financial Firm Performance

1. INTRODUCTION

Currently, the development of information and telecommunications technology (ICT) is experiencing rapid progress. The rapid development of the IT industry is supported by the government with adequate infrastructure development [1]. The high growth rate in the IT industry, of course, has an impact on increasing competition in the industry. The financial performance of telecommunications companies continues to increase, even if viewed on the stock market, telecommunications stocks are one of the stocks that can support the movement of the Composite Stock Price Index (JCI) [2].

One of the companies in the IT sector is PT. XYZ which has a representative office in Indonesia since 1968 and has been recognized in the field of IT infrastructure. Its main business is to provide services in the field of solutions in the IT industry [3]. PT. XYZ in maintaining its performance is through improving the company's performance. The company's performance

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based on theory is divided into two, namely non-financial performance and financial performance [4, 5]. Non-financial performance can be measured by employee discipline and achievement, product and service quality, company growth and customer satisfaction. While financial performance can be seen from the level of activity, liquidity, profitability, and solvency.

Strategy to improve the performance of PT. XYZ is supported by its efforts to increase company value through improving good corporate governance (GCG). These include increasing transparency, making quick decisions, increasing accountability, and disclosing information that is timely, trustworthy, and fair [3]. PT. XYZ since 2015 has adopted Japanese corporate governance (Japan's "Corporate Governance Code").

The multinational based XYZ Company with various branches spread throughout the world, of course, makes investments that can support good governance in its efforts to improve company performance so that it can compete in today's highly competitive and rapidly growing IT industry. One mechanism for improving company performance is to apply appropriate information technology within the company [6]. The need for effective integrated technology that has an effective role in optimizing human resources, especially in the pandemic and contactless era, so it is very necessary to evaluate the current timesheet system.

The need to evaluate the success and effectiveness of information technology in the company is something that is very important because it is related to the success of the management strategy and investment in it [7]. Current research shows that technology in companies will benefit optimally if employees use appropriate technology, use the latest technology for training, the quality of technology owned and management support [8]. One of the mechanisms to empirically evaluate the timesheet system is to conduct research based on previous research.

Several previous studies about the use of technology in companies was used the UTAUT (Unified Theory of Acceptance and Use of Technology) as a development of the Technology Acceptance Model (TAM) which has been developed by Venkatesh et. al.[9]. Based on the UTAUT model, the behavior of intention to implement information technology and the behavior of using technology in companies influenced by performance expectancy, social influence, effort expectancy, supporting facilities moderated by gender, age, experience using technology and voluntariness of use. [9].

In addition, previous research by Wixom and Todd showed that desire of using new technology influenced by the quality of information and the quality of the system itself [14]. This theory is then called The User Satisfaction Model Research Stream Approach (USRS). This model can capture the new value of technology quality. So that the benefit of the model in this study, it can be used to give information to management whether the investment of Timesheet Management System is appropriate to use.

This study aims to contribute theoretically and practically. Theoretically, this study provides information and literature on the application of technology to company as a management strategy and improving GCG in companies in the IT sector namely PT. XYZ. The practical contribution of this research is to provide information to the management of PT. XYZ on the

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implementation of the Timesheet Management System in 2020. So, it can be said the goal of this study to evaluate the factors that play a role in the use of system technology information on PT. XYZ based on the UTAUT, USRS model and their impact on nonfinancial performance companies.

2. LITERATURE REVIEW

This section describes theoretical that will be used for analyzing and discussion related topic. In this study, Timesheet Management System, User Acceptance, UTAUT model, USRS model, Non-Financial Firm Performance and PLS-SEM will be studied further.

2.1. Timesheet Management System.

Timesheet Management System (TMS) is a tool for recording the amount of time employees spend on allocated work [10]. According to [10] the timesheet contains a detailed analysis related to ongoing projects in a company. Project start and end dates can be recorded, and the results of these statistics can later be used for accounting calculations, payroll, client billing, tracking, estimating, and work allocated to company projects. In other words, a company including IT Company requires TMS for reporting and tracking purposes.

The use of integrated technology continues to be developed by PT. XYZ as IT Company. The form of organization that is multinational cause's management to find technology that can improve communication between branches spread throughout the world. Related to the company's information system, PT. XYZ has developed the ERP system until 2020. However, based on management evaluation, the system has several obstacles, it is not easy to use so that users are not interested in continuing to use it, unable to provide timely information to management regarding organizational resources to ineffectiveness and efficiency the company is hampered.

The background of the pandemic and the company's operations being run remotely, PT XYZ innovate to cover the weaknesses of the existing ERP system by implementing Timesheet Management System 2020 called Global Timesheet System (GTS). The system is designed to be easier to use, accessible quickly, with a high degree of flexibility, so it is hoped that GTS will be able to cover the weaknesses that exist in the ERP system.

2.2. User Acceptance

User Acceptance was described as the availability of users in information technology implementation to support activities in compliance with technology functions [11]. User acceptance engagement is one of success factors in implementation and development of information technology. To increase the level of technology use and user adoption, the underline on factors that can affect user acceptance must be enhance [12]. Therefore, it is important to explore user acceptance of the timesheet management system at PT XYZ.

2.3. UTAUT

The Unified Theory of Acceptance and Use of Technology (UTAUT) was developed by Venkatesh, et al. (2003). UTAUT is a combination to perfect eight other behavioral theories in

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explaining user acceptance of information systems. The following is the UTAUT model can be seen in the picture below:

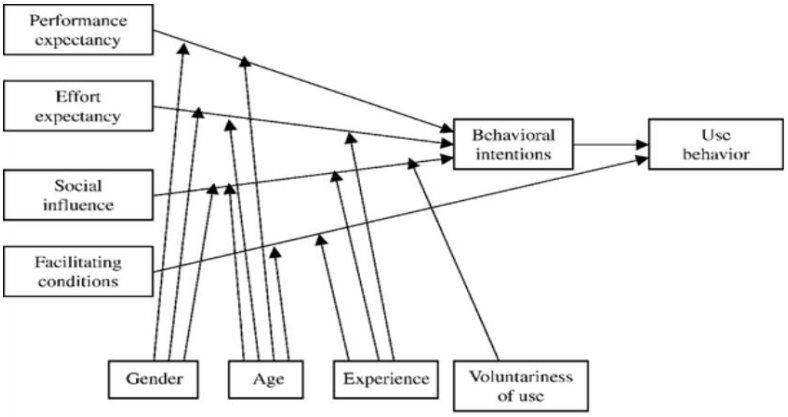

Figure 1: UTAUT Model

The model consists of four primary independent variable and two dependent variables. The four independent variables are performance expectancy, effort expectancy, social influence, and facilitating conditions. In the other hand for the dependent variable, there are behavioral intention and use behavior. The result is an integrated research model that perform better than the prior models to analyze user intention in using technology [13].

2.4. USRS

The User Satisfaction Research Stream Approach (USRS) model is a development of the Technology Acceptance Model (TAM) model. The quality of information composed of completeness, accuracy, format, and up-to-date data was able to affect satisfaction with the information produced by an information system [14]. In addition, the quality of the system, which is reflected in the reliability, flexibility, strong integration, ease of access and timeliness in supporting decision making can have positively effect on system satisfaction and affect information satisfaction indirectly.

2.5. Non-Financial Performance

Performance is the completion of activities in accordance with the duties and responsibilities with standard results in accordance with the set (Supit, Tinangon, & Sabijono, 2014). In an organization, performance is split into financial performance and non-financial performance. Financial performance is achieved if the organization can operate effectively and efficiently in the use of its resources. Several measures of financial performance include the ability to generate profits, the ability to repay loans, a high level of liquidity and the company's ability to generate returns on the use of assets and capital owned. One of the supporters of improving financial performance is the effective application of information technology in the company. Meanwhile, non-financial performance is the firm's ability to respond the facing problems. Non-financial firm performance includes degree of employee effectiveness, work performance, product quality, and minimum of complaints from customers, a conducive work environment

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and company growth.

2.6. PLS SEM

This study uses research's statistical technique called PLS SEM (Partial Least Squares Structural Equation Modeling). It used a regression-based ordinary least squares (OLS) estimation method which aims to "minimize the error terms and maximize the R^2 values of the (target) endogenous construct" to explain the latent constructs' variation [15]. The advantage of SEM can analyze simultaneous causal relationships between factor loadings and measurement errors use of a path diagram to visualize the hypothesis or the concept is one characteristic of PLS-SEM [16]. The path diagram comprises independent and dependent latent variables and indicators that measure each construct [17].

3. METHODOLOGY

This section will explain the methodology that used in this research involved Research Model, Research Sample, and Data Collection.

3.1. Research Model

After formulating some related hypotheses in Section 2 this research uses UTAUT (Unified Theory of Acceptance and Use of Technology) model and USRS (User Satisfaction Research Stream Approach) model as base of the research model. This study will focus on main variables consist of performance expectancy, effort expectancy, social influence, facilitating conditions, information quality, system quality and non-financial performance. Information system users are an important component in the use of information systems and technology [8]. So that humans are important in this research. In the formation of this research hypothesis, the human factor in the UTAUT model plays a role in the behavior of using technology. The hypotheses based on the theory and aligns with the purpose of this study:

1) H1: Effort expectancy positively influences the behavior of interest in using information technology.
2) H2: Performance expectancy influences the behavior of interest in using information technology.
3) H3: Social influence influences the behavior of interest in using information technology.
4) H4: Supporting facilities influences the behavior of interest in using information technology.
5) H5: The information quality influences the behavior of interest in using information technology.
6) H6: The system quality influences the behavior of interest in using information technology indirectly through satisfaction with the system.
7) H7: Behavior interested in using the system will improve non-financial performance.

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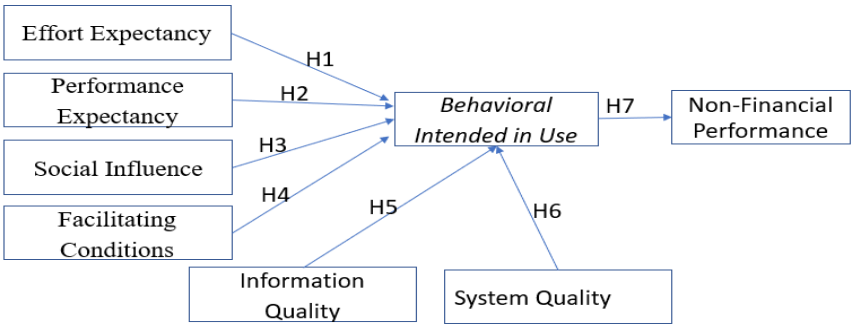

Figure 2: Research Model

3.2. Time and Object of Study

The data collection of this research was conducted from September to November 2022. The demographic target in this study was the user worked in one of IT Company in Indonesian that using Timesheet Management System based in Jakarta.

3.3. Research Sample

A non-probability technique, snowball sampling and the slovin formula had been used to determine the number of questionnaire respondent. According to the previous studies, researchers can determine the value of the confidence level or error tolerance of 10% or 0.1 of the population [18].The following formula is for the slovin formula.

Information:

n is minimum sample size $$n = \frac{N}{1 + Ne^2}$$

N is population size

E is a margin of error

The user use timesheet management system in PT XYZ is 127, number will be used as the N value or population size. So, the sample size to be used is 56 respondents.

3.4. Data Collection

Distributing a questionnaire was conducted in PT. XYz with respondents who have used timesheet management system. Respondents in this research answered questionnaires based on ratings to describe attitudes or opinions that matched their perceptions. This research is also assumed to use an interval measurement scale, namely the Likert scale between a minimum value 1 to a maximum value of 6. It correlated with if the value got 1, the respondent strongly does not agree/or dislikes and a value of 6 if the respondent strongly agrees/likes. The questionnaire has 27 number of questions, where each variable has 2 to 5 indicators.

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4. RESULT AND DISCUSSION

This section will discuss and analyze the result of this study with the evaluation of Timesheet Management System implementation at PT. XYZ as the main focus of this research.

4.1 Descriptive Analysis

This research successfully acquired a total of 68 respondents in around three weeks of data collection who used timesheet management to support their works. This number still exceeds the minimum sample size determined using the Slovin technique [15].

Table 1: Respondent Demographic

Demographic Variable	Category	Frequency
Age	20 - 30	2
	31 - 40	32
	41 - 50	22
	>50	12
Gender	Pria	60
	Wanita	8
Function	Admin	3
	Approver & Engineer (User)	16
	Approver Only	3
	Engineer (User)	46

4.2. Measurement Model Result

The SmartPLS version 3.2.9 utilized to measure reflectively all constructs in this study model. Convergent analysis conduct by analyze data using three measurements: composite reliability (CR), Cronbach's alpha, and Average Variance Extracted (AVE). In Table 2 present CR, Cronbach's alpha, and AVE. This table exhibits AVE score in the range 0.623 to 0.87, CR score in the range 0.892 to 0.971 and Cronbach's alpha value in the range 0,8 to 0,962. Based on this, all measurement fulfills the recommendation level since AVE score above 0.50, CR score above 0.70 and Cronbach's alpha score was above 0.60 [19]. This can be interpreted that the result of convergent validity was fulfilled satisfactorily for this study. Then discriminant validity was tested with factor loading and the Fornell-Larcker Criterion. The results show that all constructs have been fulfilled and confirmed. Based on the Fornell Larcker criterion, all the ranking variances of the extracted mean square roots show a value greater than the correlation. In case of the loading factor, all construction values are greater than 0.50 [20].

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Table 2: The measurement models

Construct/Variable	Composite Reliability	Cronbach Alpha	AVE
Effort Expectancy (EE)	0.956	0.939	0.845
Performance Expectancy (PE)	0.936	0.909	0.786
Social Influence (SI)	0.909	0.8	0.833
Facilitating Conditions (FC)	0.897	0.856	0.686
Information Quality (IQ)	0.936	0.911	0.787
System Quality (SQ)	0.892	0.853	0.623
BIUS (Behavioral Intended in Use)	0.963	0.949	0.867
Non-Financial Performance (NF)	0.971	0.962	0.87

4.3. Hypothesis Testing.

By using SMART PLS with bootstrapping calculations, hypothesis testing was done. This testing uses a 5% error limit level or p-value ≤ 0.05 as requirement to fulfilled the significance level. In other words, the hypothesis can be accepted if those criteria conditions are met. In addition, the significant relationship between variables can be seen from the path coefficient value. The path coefficient score range is −1 to 1, which mean a score between −1 to −0.1 indicates a negative relationship, score between −0.1 to 0.1 indicate a less significant relationship, a score of 0 indicates no relationship between variables and score 0.1 to 1 indicates a significant positive relationship [15]. Table 3 describes the result of hypothesis testing. It shows that H1, H3, H4, and H5 are not supported because the p-value is bigger than 0.05. The path coefficient value is between−0.1 to 0.1, which show effort expectancy is not significant toward behavioral intended in use, social influence is not significant toward behavioral intended in use and information quality is not significant towards behavioral intended in use. And the other hypothesis (H2, H6 and H7) is supported because shows p-value is bigger than 0.05 and path coefficient value is between −0.1 to 0.1 which show performance expectancy is significant toward behavioral intended in use, system quality is significant toward behavioral intended in use and behavioral intended in use significant toward non-financial performance.

Table 3: The measurement models

Attributes	Hypothesis	Path coefficient	T Statistics	P Values	Result
EE -> BIUS	H1	-0.038	0.328	0.743	Not supported
PE -> BIUS	H2	0.365	2.042	0.042	Supported
SI -> BIUS	H3	0.021	0.137	0.891	Not supported
FC -> BIUS	H4	0.172	1.023	0.307	Not supported
IQ -> BIUS	H5	0.091	0.504	0.614	Not supported
SQ -> BIUS	H6	0.268	2.107	0.036	Supported
BIUS -> NF	H7	0.893	24.752	0	Supported

4.4. Discussion

This study provides empirical results from an analysis of the evaluation of the implementation of the Timesheet Management System in IT companies, especially at PT. XYZ. Using variables in USRS, UTAUT, and previous research. Based on this research, H2 is supported which mean

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that performance expectancy positively impacts users' intention to use Timesheet Management System (TMS). Performance expectancy refers to how user is confident that TMS could support and help their works. So, users may use TMS since they believe by using the system, their workloads will be managed better and easier. H6 is also supported which mean that system quality expectancy positively impacts users' intention to use TMS. In this study, system quality refers to how system in good condition and stable to support user operation. So, it can be inferred users may use TMS since they believe if the system quality is good, their working activities will not be interrupt because of maintenance treatment for a long time. Other supported hypothesis is H7 which mean users' intention to use TMS positively impacts non-financial performance. So, it can be said that the use of TMS has a positive influence on non-financial performance. Based on the results show Effort expectancy, social influence, Facilitating Conditions, Information Quality has no significant impact on behavioral intention in use. Based on the results of the study, it shows that effort expectancy, social influence, facilitating conditions, information quality do not have a significant effect on behavioral intention in use. This can be caused by several factors because employees already have awareness of the importance of using TMS, employees have kpi that must be met in using TMS and others.

5. CONCLUSSION

Performance expectancy, system quality has an indirect effect on the company's non-financial performance because this variable has significant impact on behavioral intention to use. With details:

1) Performance Expectancy has a positive effect on the intention to use.
2) System Quality has a positive effect on the intention to use
3) Behavioral intention in use has a positive effect on non-financial performance

The success factors for implementing the Timesheet System are Performance Expectancy which mean company must provide user trust on benefit of TMS system that can help them to simplify their work. In addition, the quality of the system, which is reflected in the reliability, ease of access, flexibility, strong integration, timeliness in supporting staff work activities should be maintain and improved. These factors can impact positively on companies' non-financial performance. This study contains some limitations and can still be developed for further study by expanding the number of respondents in IT other companies, using other discipline not just IT Company, and using other moderating variables. Study contains some limitations and can still be developed for further study by expanding the number of respondents in IT other companies, using other discipline not just IT Company, and using other moderating variables.

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