Information Technology Acceptance: Indonesian Company Case

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Abstract: Digital transformation involves digital capabilities and technology to add value to business processes and customer experience. To support the digital transformation, companies need to make efforts so that technology can be accepted and used by employees in operational activities. This study aimed to measure employee acceptance of information technology facilities provided by the company. A survey was conducted based on technology acceptance theories and an online questionnaire was distributed online. Employees participated through the Google form website. Two thousand six hundred six employees participated in the information technology acceptance survey from 2610 targeted employees (99%). Purpose, daily use, and acceptance represented the overall information technology acceptance (71.1%). Management, Perceived Usefulness, Participation, and Purpose significantly influenced IT Acceptance. The research findings provided insight into the approval of technologies to drive digital transformation. The company must optimize technology utilization and continuously improve its performance and reliability. In addition, companies need to review technology investment needs and optimize employee involvement in technology identification and selection.

Keywords: information technology acceptance, digital transformation, technology optimization

1 Introduction

After COVID-19 and the Russia-Ukraine war, the steel industry still faces challenges, especially in Indonesia. The excess global production capacity in 2022 of 563 million tons will make Indonesia flooded with imported products, especially from China, Russia, and Eastern Europe [13]. Meanwhile, Indonesia has already

invested heavily in developing the national steel industry [13]. However, Indonesia needs to address this challenge more optimistically because the projected growth in national steel consumption will reach 6% in 2023, in line with the recovery of the national economy, especially strategic projects in the infrastructure and energy sectors [7].

Therefore, digitalization has been implemented in Indonesia through the commitment of the Ministry of Industry and the Ministry of State-Owned Enterprises to transform towards Industry 4.0 through the Indonesia Industry 4.0 Readiness Index (INDI 4.0) assessment which 326 companies, including steel companies, attended [15]. The assessment is based on five pillars: management and organization, people and culture, products and services, technology, and plant operations [8].

Through well-established strategic planning, digitalization is carried out to increase efficiency, innovation, and competitiveness in the steel industry [9]. Steel industries can also collaborate with stakeholders to produce successful digital transformation initiatives [3]. Digital transformation involves digital capabilities and technology to add value to business processes and customer experience. To support the digital transformation, companies need to make efforts so that technology can be accepted and used by employees in operational activities. Adopting information technology is essential in driving efficiency [12], profitability [14], customer experience [11], and business sustainability [2].

It is beneficial to measure employee acceptance of information technology facilities provided by the company. In this sense, an online survey was conducted and analyzed with statistical methods. This paper is organized as follows: Section 2 describes the factors of information technology acceptance. Section 3 gives the detail of the research methodology. The results of the applied survey are presented in Section 4, and Section 5 explains the conclusion or summary.

2 Information Technology Acceptance

The Technology Acceptance Model (TAM) is a widely used theory to describe the user experience of adopting new technology (Figure 1). TAM can identify factors that influence user acceptance of new technologies and assist developers in designing information systems that are more easily accepted by users [5]. TAM explains that there is a strong influence of perceived usefulness and ease on technology users' attitudes and behavior, where respondents are measured for their perception that technology will help work and can be used easily [6]. Attitudes toward use are a function of perceived usefulness and perceived ease of use. Perceived ease of use has a chain reaction on perceived usefulness. The capability of designing technology can influence perceived ease of use [4]. The most important reason for developing a technology acceptance model is to create a system where

users can experience the benefits and conveniences of technology users can accept it more [16]. Innovation can thrive when an application development team follows the technology acceptance model [19].
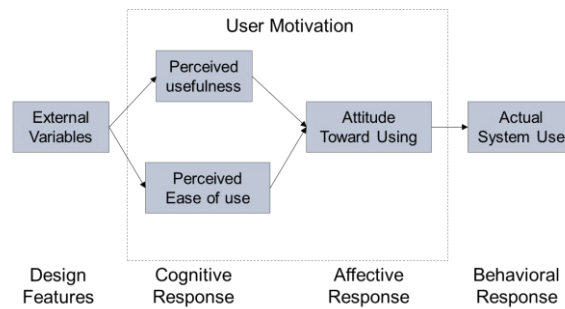

Figure 1
Technology Acceptance Model
Source: Davis, F.D. (1985)

3   Methodology

The survey, adapted from the TAM model, consists of 6 variables (Table 1), specific questions about IT acceptance and demographic questions on a unipolar and bipolar scale. The IT acceptance result will be categorized into one of three levels: Fully Accepted (70%-100%), Quite Accepted (50%-70%), and Not Accepted (0%-50%). An online questionnaire made by Google Form was distributed via email and WhatsApp. Employee demography consisted of 2,606 employees (99%) have participated in the IT acceptance survey from 2,610 targeted employees.

Name	Variable	Notes
Level	-	Multiple choice
Age	-	Multiple choice
Years of service	-	Multiple choice
Management	Independent	Multiple choice
Perceived usefulness	Independent	Multiple choice
Participation (perceived ease of use)	Independent	Yes/ No
Purpose (behavioral intention to use)	Independent	Yes/ No
Perception	Independent	Multiple choice
Acceptance (actual system use)	Dependent	Multiple choice
Technology type	-	Multiple choice

Table 1.
Survey Variables

The majority of respondents (Figure 2) were Operator (42.13%), between 25-30 years old (31.62%), and had 5-10 years of service (30.12%).
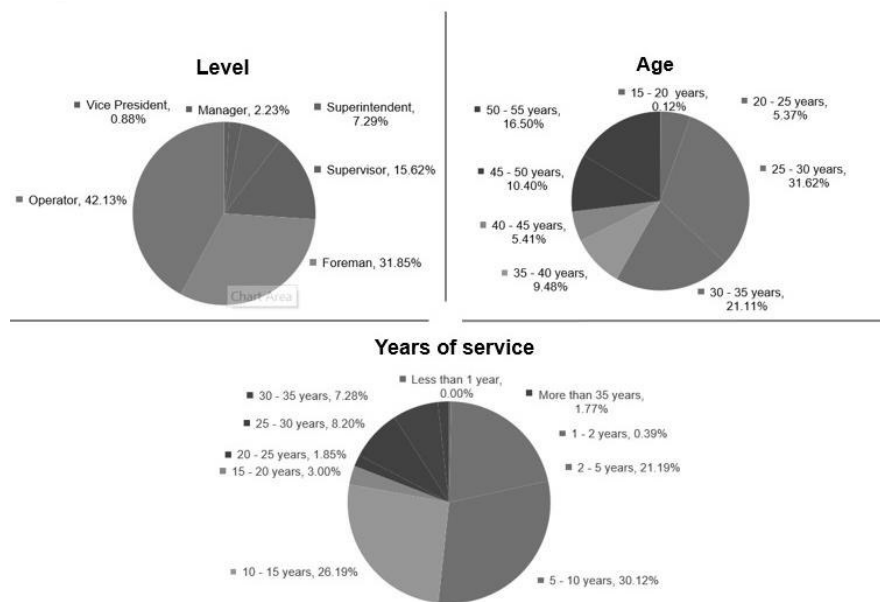

Figure 2
Respondent Demography

To carry out the analysis, 6 hypotheses were proposed as below:

H1: Management is partially affecting the IT acceptance.

H2: Perceived usefulness is partially affecting the IT acceptance.

H3: Participation is partially affecting the IT acceptance.

H4: Purpose is partially affecting the acceptance of IT.

H5: Perception is partially affecting the IT acceptance.

H6: Management, perceived usefulness, participation, purpose, and perception are simultaneously affecting the IT acceptance.

Data analysis regarding variables related to survey answers was carried out with SPSS through Multiple Regression Analysis testing.

4   Results and Discussion

The IT Acceptance Survey results stated that 71.1% of employees accepted the technology facilities implemented in the company (Fully Accepted). The survey results are significant facts that will determine the company's strategy as we advance based on the 8 specific questions.
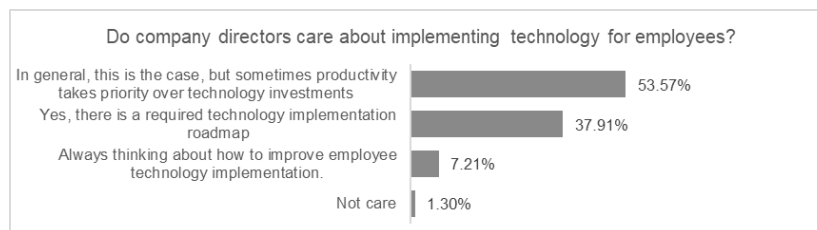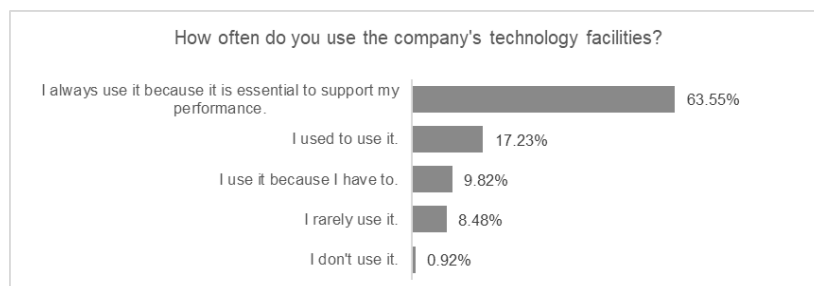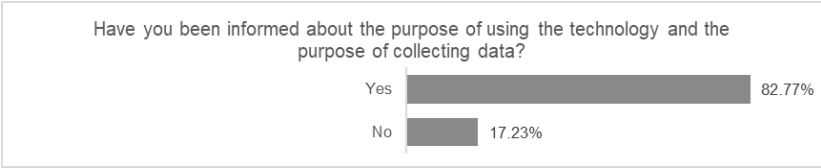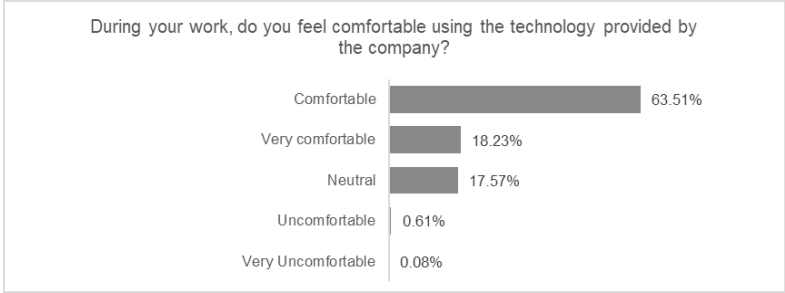
Figure 3
Management question results
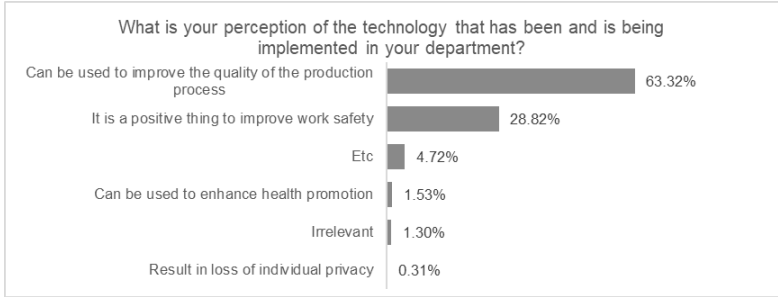
Figure 4
Perceived usefulness question results

Figure 5

Participation results

Figure 6

Purpose question results

Figure 7

Acceptance question results

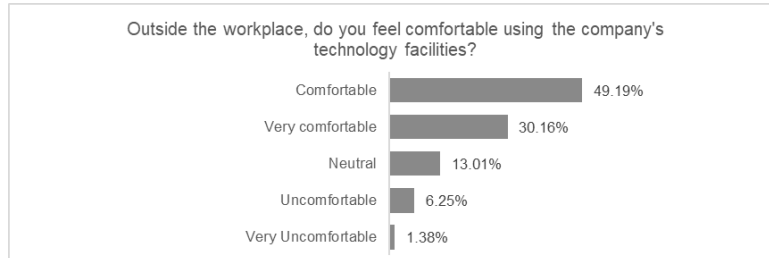Figure 8

Perception question results

Figure 9

Outside acceptance question results

Based on the T-Test Result (Table 2), H1, H2, H3, and H4 was accepted, but H5 was denied. Management, perceived usefulness, participation, and purpose had partially affected the IT acceptance while perception was not significant. Simultaniously, Table 3 showed that IT acceptance was affected by management, perceived usefulness, participation, and purpose. Independent variables had 22.4% influence over the IT acceptance (Table 4).

Coefficients[a]

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	.469	.016		29.932	.000
	MANAGEMENT	.116	.009	.243	13.485	.000
	PERCEIVED USEFULNESS	.125	.011	.218	11.870	.000
	PARTICIPATION	.038	.006	.121	6.372	.000
	PURPOSE	.054	.008	.132	6.873	.000
	PERCEPTION	-.003	.014	-.003	-.192	.848

a. Dependent Variable: ACCEPTANCE

Table 2.

T-Test Result

ANOVA[a]

Model		Sum of Squares	df	Mean Square	F	Sig.
1	Regression	13.875	5	2.775	150.524	,000[b]
	Residual	47.934	2600	.018		
	Total	61.809	2605			

a. Dependent Variable: ACCEPTANCE

b. Predictors: (Constant), PERCEPTION, PARTICIPATION, MANAGEMENT, PERCEIVED USEFULNESS,

Table 3.

F-Test Result

Model Summary

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	,474ᵃ	.224	.223	.13578

a. Predictors: (Constant), PERCEPTION, PARTICIPATION,

Table 4.

Determination Coefficient

Respondents' answers showed that the company had informed the purpose of using technology (82.77%) and employees continuously optimized the technology facilities (63.55%). Employees also felt significant comfort while working (63.51%). However, employees felt less involved in technology selection (61.28%), management is considered less concerned about technology implementation (53.57%), and employees are less comfortable using company technology facilities outside their work environment (49.19%).

In fact, the acceptance of information technology and the use of technology depend on a variety of factors, including individual and organizational characteristics, the design of the technology, and the broader socio-cultural context Older workers tend to be reluctant to use technology compared to younger employees [10]. People with higher levels of education tend to use technology more effectively than those with lower levels of education [5]. Men are more likely to adopt technology than women [17]. A supportive organizational culture also can encourage technology adoption to be accepted and used to get work done [1]. Societal norms also impact technology adoptions [18]. While management, perceived usefulness, participation, and purpose significantly influence IT acceptance, companies must improve technology reliability by involving employees in choosing technology that supports performance. In addition, companies need to review the need for investment in technology while maintaining and increasing productivity.

Conclusions

The Indonesian steel industry must be optimistic about meeting national steel needs, especially strategic projects in the infrastructure and energy sectors, by continuing to promote digitalization and information technology acceptance to boost productivity and efficiency. The survey was carried out to 2,606 online using the Technology Acceptance Model to identify the factors influencing user acceptance of new technologies. The IT Acceptance Survey results stated that 71.1% of employees accepted the technology facilities implemented in the company (Fully Accepted). Respondents' answers showed that the company had informed the purpose of using the technology. Employees continuously optimize the technical facilities and feel comfortable while working. These factors are also significant in building technology acceptance among employees: management, perceived usefulness, participation, and purpose. However, the company must involve the

employees in choosing technology. Companies also need to review the need for investment in technology while maintaining and increasing productivity.

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