

THE EFFECT OF TECHNOLOGY USE, TEACHERS' DIGITAL COMPETENCE, AND COMMUNICATION STRATEGIES ON THE IMAGE OF PUBLIC ELEMENTARY SCHOOL

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Abstract

This study aims to analyze the influence of technology use, teachers' digital competencies, and communication strategies on the image of public elementary schools, both partially and simultaneously. The study employed a quantitative approach with an explanatory design and was conducted at six public elementary schools in Wiyung District, Surabaya. The entire population of 133 teachers was included as respondents through a census or total sampling method. Data were collected using a structured questionnaire with a 1-to-4 Likert scale and were analyzed using descriptive statistics, regression assumption tests, multiple linear regression, t-tests, F-tests, the coefficient of determination, and standardized beta coefficients. The results indicate that technology utilization, teachers' digital competencies, and communication strategies each have a positive and significant effect on school image, with significance levels below 0.001. Communication strategies emerged as the variable with the strongest relative influence, based on a Standardized Beta value of 0.537. Collectively, all three variables significantly influence school image, with an F-value of 177.575 and an R-squared of 0.805. These findings indicate that school image develops through the integrated use of technology, the digital competencies of human resources, and purposefully managed communication strategies, while also providing empirical evidence through the integration of these three variables into a single model to explain the image of public elementary schools.

Keywords

School Image, Teacher's Digital Competence, Technology Utilization, Public Elementary Schools, Communication Strategies.



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INTRODUCTION

The image of educational institutions today is determined not only by direct services but also by their digital footprint. This aligns with the increase in internet users in Indonesia, which reached 81.72% or 235 million users in 2025 (Arif et al., 2025). The use of information technology is now transforming how schools interact with stakeholders (Liu et al., 2025), while also redefining organizational concepts to maintain a sustainable image amid competition (Hayati et al., 2026). Furthermore, social media plays a strategic role in building an institution's identity, reputation, and visibility (Al-Hail et al., 2024). These conditions make technology management, teachers' digital competencies, and communication strategies crucial pillars in shaping a school's image.

However, advancements in digital infrastructure and access are not always accompanied by optimal use of technology in school management. Data from the Indonesian Digital Society Index indicates an increase in the public's ability to adopt technology; however, gaps in digital utilization and proficiency remain a challenge in the digital transformation process (KOMDIGI, 2025). This issue becomes even more critical in the context of elementary schools, particularly when teachers not only fulfill pedagogical roles but are also involved in the school's communication and public relations activities. Managing information through digital media requires the ability to use technology, manage content, foster two-way communication, and respond appropriately to the public's information needs. Tzafilkou et al. (2023) emphasize the importance of educators' digital competencies in supporting the effective implementation of technology, while Wardhani et al. (2025) demonstrate that interactive digital communication can strengthen an institution's reputation.

This urgency is even more evident in the context of competition among educational institutions. In the Wiyung subdistrict of Surabaya, the number of elementary school students declined by 18.96% between 2022 and 2025, leaving schools with an increasingly urgent need to maintain public trust and appeal (BPS Kota Surabaya, 2026). At the same time, public and private elementary schools compete through programs, services, facilities, and the promotion of activities via social media. This situation highlights a discrepancy between the ideal—the planned use of technology and digital communication to build an institution's image—and the reality that the intensity of digital media use, the competence of administrators, and communication strategies still vary significantly among schools. In this context, a school's image must be understood as the result of experiences, service quality, credibility, and consistent communication with the community.

A number of studies have examined the relationship between technology, digital

competencies, communication strategies, and the image of educational institutions. Syahid et al. (2022) demonstrated that teachers' digital competencies are related to the quality of the educational process, which can influence perceptions of the school. Yuliana et al. (2023) also found that digital literacy is associated with improved learning outcomes, which in turn support the school's image and appeal. In terms of communication, public relations strategies that are systematically planned and implemented play a role in shaping the positive image of educational institutions (Hidayati & Adawiyah, 2024; Ummah et al., 2024). Meanwhile, Liu et al. (2025) emphasize that the use of information and communication technology can enhance service quality and support the management of educational institutions. Nevertheless, these studies generally still examine the relationships between variables separately or combine only some of the variables.

This gap highlights the need for research that examines the utilization of technology, teachers' digital competencies, and communication strategies collectively in explaining a school's image. In addition to the limitations of integrated research models, previous studies have primarily focused on secondary or higher education levels, whereas research on elementary schools remains relatively limited. Furthermore, no empirical study has been found that specifically examines these three variables at public elementary schools (SDN) in the Wiyung subdistrict of Surabaya. Thus, this study aims to answer the question of whether the use of technology, digital competencies, and communication strategies influences the image of public elementary schools in the Wiyung subdistrict of Surabaya, both partially and simultaneously.

Based on these issues and gaps, this study aims to analyze the influence of technology utilization, teachers' digital competencies, and communication strategies on the image of public elementary schools, both partially and simultaneously. It is hoped that this study will expand the body of research on educational management, particularly regarding the relationship between digital transformation, human resource competencies, institutional communication, and the formation of a school's image. In practical terms, the research findings are expected to provide empirical evidence for school principals, teachers involved in public relations activities, and policymakers in designing more effective technology utilization and communication strategies to strengthen trust, credibility, and the school's image amid the changing landscape of digital transformation in education.

METHOD

This study employs a quantitative approach with an explanatory research design to analyze the influence of technology utilization, digital competencies, and communication strategies on the image of public elementary schools (SDN). The study positions the use of technology as the first independent variable (X1), teachers' digital competencies as the second independent variable (X2), and communication strategies as the third independent variable (X3), while the image SDN is designated as the dependent variable (Y). The relationships among the variables were analyzed to determine the influence of each variable—both individually and collectively—on the school's image. This study was conducted at six public elementary schools (SDN) in the Wiyung subdistrict, Surabaya City. The research subjects were all teachers at these schools because teachers are directly involved in the use of technology, the development of digital competence, and the implementation of school communication with parents and the community. Based on 2026 Dapodik data, the study population consisted of 133 teachers. This study used the census method, or total sampling, so that all members of the population were included as respondents.

Research data were collected using a structured questionnaire with a 1–4 Likert scale. The instrument was designed based on the indicators for each research variable and was used to obtain data on technology utilization, teachers' digital competencies, communication strategies, and school image. Before being used in the main data collection, the instrument underwent validity and reliability testing to ensure that each item could be used to measure the research variables consistently; the questionnaire was then distributed to all teachers who served as research respondents.

The collected data were analyzed using SPSS. The initial stage of analysis involved descriptive statistics to describe the characteristics of the data and the conditions of each research variable. Next, the researcher tested regression assumptions, including normality, multicollinearity, heteroscedasticity, and linearity. Once the data met the analysis requirements, the relationship between the independent and dependent variables was tested using multiple linear regression. Hypothesis testing was performed using the t-test to determine the effect of each independent variable on school image, the F-test to determine the combined effect of the variables, and the coefficient of determination to assess the model's ability to explain variations in school image. This study also compared the standardized beta coefficients to identify the variables with the most dominant influence.

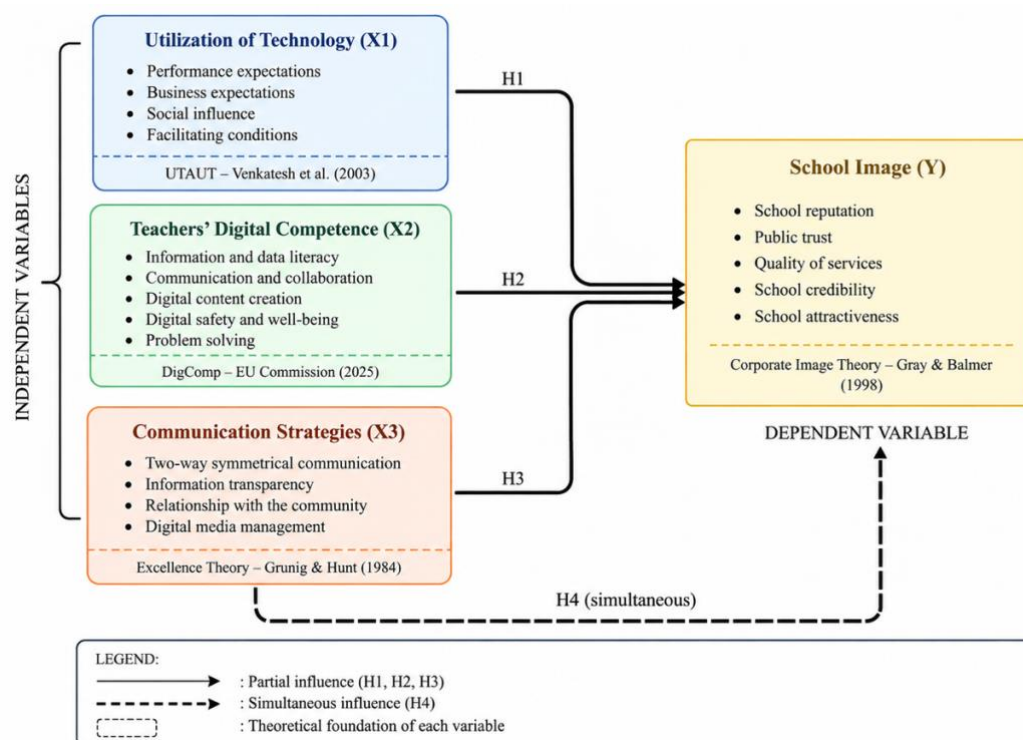


Figure 1. Research Framework.

Four hypotheses were formulated and tested in this study: (1) technology utilization influences the image of public elementary schools (SDN) in Wiyung, Surabaya; (2) teachers' digital competence influences school image; (3) communication strategies influence school image; and (4) technology utilization, teachers' digital competence, and communication strategies simultaneously influence school image. All of these hypotheses were tested based on statistical analysis results to determine whether or not there was a significant influence in accordance with the research model that had been formulated.

FINDINGS AND DISCUSSION

Findings

The data in this study were obtained from respondents who served as the research sample, consisting of 133 teachers at public elementary schools in Wiyung subdistrict, Surabaya. Data were collected in the form of scores obtained from the distributed questionnaires. Each variable was described based on the scores obtained from the respondents' questionnaire answers. The research variables—technology utilization (X1), teachers' digital competence (X2), communication strategies (X3), and the image of public elementary schools (Y)—are presented in **Table 1** below:

Table 1. Descriptive Analysis

Variables	N	Minimum	Maximum	Mean	Std. Deviation
Technology Utilization	133	20,00	40,00	35,1429	4,28377
Teacher's Digital Competencies	133	29,00	56,00	49,6316	5,64140
Communication Strategy	133	23,00	48,00	42,5714	4,79628
Image SDN	133	40,00	56,00	52,6241	3,65273

Source: Results of the researcher's analysis in 2026

Based on the results of descriptive statistical analysis of Table 1 of 133 respondents, the mean values were found to be 35.1429 for technology utilization, 49.6316 for teachers' digital competence, 42.5714 for communication strategies, and 52.6241 for the image of public elementary schools. The standard deviations for each variable were 4.28377, 5.64140, 4.79628, and 3.65273, respectively. These data indicate that all variables exhibited variation in responses among respondents, with the image of the public elementary school showing the smallest data dispersion, while teachers' digital competence exhibited the greatest variation. In general, the mean scores obtained are above the minimum values for each variable, suggesting that the respondents' levels of technology utilization, teachers' digital competence, communication strategies, and school image are generally in relatively good condition.

Prerequisite Test

The data obtained from the 133 respondents who completed the instrument were tested using the Kolmogorov-Smirnov test as a normality test to determine whether the data were normally distributed. The analysis was conducted using SPSS software; with a significance criterion of >0.05 , the data can be considered normally distributed.

Table 2. Results of the X-Y Normality Test

N	Test Statistic	Asymp. Sig. (2-tailed)	Notes
133	0,064	0,200	Normally distributed

Source: Results of the researcher's analysis in 2026

Based on Table 2, the results of the normality test using the Kolmogorov-Smirnov test yielded a value of 0.064 and a significance value of 0.200. The significance value obtained is greater than 0.05; therefore, the regression model can be stated to be normally distributed, and the assumption of normality in the regression model has been met.

The multicollinearity test aims to determine the presence of strong relationships among independent variables in the regression model by examining the *Tolerance* and *Variance Inflation Factor* (VIF) values. A model is considered free from multicollinearity if *Tolerance* >0.1 and *VIF* <10 . Based on Table 3, all independent variables exhibit *Tolerance* >0.1 and *VIF* <10 ; therefore, no

multicollinearity exists, and the three variables can be used together in the regression model.

Table 3. Results of the Multicollinearity Test

Variable	Tolerance	VIF	Notes
Technology utilization (X1)	0,958	1,044	No multicollinearity
Teacher's digital competence (X2)	0,983	1,017	No multicollinearity
Communication strategy (X3)	0,950	1,053	No multicollinearity

Source: Results of the researcher's analysis in 2026

The heteroscedasticity test was conducted to determine whether the residual variance in the regression model was constant. The *Glejser test* was employed, with a significance value greater than 0.05 indicating the absence of heteroscedasticity. Based on **Table 4**, the significance values were 0.071 for technology utilization, 0.352 for teachers' digital competence, and 0.200 for communication strategy. As all these values exceeded 0.05, it can be concluded that the regression model does not exhibit heteroscedasticity.

Table 4. Results of the Heteroscedasticity Test

Variable	t	Sig.	Notes
Technology utilization (X1)	-1,820	0,071	No heteroscedasticity
Teacher's digital competence (X2)	-0,935	0,352	No heteroscedasticity
Communication strategy (X3)	-1,289	0,200	No heteroscedasticity

Source: Results of the researcher's analysis in 2026

A linearity test was conducted to determine whether the relationship between the independent and dependent variables is linear. The decision is based on the *Sig. Deviation from Linearity* value, where a value greater than 0.05 indicates a linear relationship. Based on **Table 5**, the *Sig. Deviation from Linearity* values for technology utilization, teacher digital competence, and communication strategy are 0.196, 0.362, and 0.804, respectively. All values exceed 0.05; therefore, the relationship of each independent variable with the dependent variable is considered linear, satisfying the assumptions for further analysis.

Table 5. Linearity Test Results

No.	Variable Relationship	Sig. Linearity	Sig. Dev from Linearity	Notes
1.	Technology Utilization (X1) and Image SDN (Y)	0,000	0,196	Linear
2.	Teacher's Digital Competence (X2) and Image SDN (Y)	0,000	0,362	Linear
3.	Communication Strategies (X3) and Image SDN (Y)	0,000	0,804	Linear

Source: Results of the researcher's analysis in 2026

Hypothesis Testing

The multiple linear regression analysis used in this study aims to determine the direction and magnitude of the influence of technology utilization (X1), teachers' digital competence (X2), and communication strategies (X3) on the image of public elementary schools (Y) in the Wiyung subdistrict, Surabaya City. The analysis was conducted using SPSS software.

Table 6. Results of Multiple Linear Regression Analysis

Variable	B	Std. Error	Beta	t	Sig.
(Constant)	1,042	2,607	-	0,400	0,690
Technology utilization (X1)	0,458	0,041	0,446	11,215	<0,001
Teacher's digital competence (X2)	0,310	0,032	0,384	9,801	<0,001
Communication strategy (X3)	0,507	0,038	0,537	13,465	<0,001

Source: Results of the researcher's analysis in 2026

Based on the analysis results, the multiple linear regression equation is $Y = 1.042 + 0.458X_1 + 0.310X_2 + 0.507X_3$. The constant of 1.042 represents the predicted value of the SDN's image when all independent variables are zero. The coefficients for technology utilization (0.458), teachers' digital competence (0.310), and communication strategy (0.507) are all positive, indicating that an increase in each variable is associated with an improvement in the SDN's image, with the other variables held constant. The communication strategy has the largest B coefficient (0.507). Based on the Standardized Beta, the communication strategy also has the highest value (0.537), thereby making the strongest relative contribution compared to the other independent variables in the model.

Table 7. Results of the Partial T-Test

Variable	B	T value	Sig.	Conclusion
Technology utilization (X1)	0,458	11,215	<0,001	Has a positive and significant effect
Teacher's digital competence (X2)	0,310	9,801	<0,001	Has a positive and significant effect
Communication strategy (X3)	0,507	13,465	<0,001	Has a positive and significant effect

Source: Results of the researcher's analysis in 2026

The partial significance test (T-test) was conducted to examine the influence of each independent variable on the SDN's image while controlling for the other variables. Technology utilization had a positive and significant influence ($T=11.215$, significance <0.001 , coefficient=0.458). Teachers' digital competence also showed a positive and significant influence ($T=9.801$, significance <0.001 , coefficient=0.310). Communication strategy demonstrated a positive and significant influence ($T=13.465$, significance <0.001 , coefficient=0.507). In addition to having the largest coefficient, the communication strategy exhibited the highest *Standardized Beta* (0.537). Thus, all three

partial hypotheses received empirical support.

Table 8. Results of the Simultaneous F-Test

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	4856,153	3	1618,718	177,575	<0,001
Residual	1175,923	129	9,116		
Total	6032,075	132			

Source: Results of the researcher's analysis in 2026

The simultaneous test (F test) is used to determine the effect of all independent variables together on the dependent variable, with a significance criterion of <0.05 indicating a significant regression model. Based on **Table 8**, the calculated F is 177.575 with a significance of <0.001 , so the regression model is declared significant. Thus, the use of technology, teacher digital competence, and communication strategies simultaneously have a significant effect on the image of public elementary schools, so the model is suitable to be used to explain the relationship between the three independent variables and the image of SDN.

Table 9. Results of the Coefficient of Determination Test

R	R Square	Adjusted R-Square	Std. Error of the Estimate	Notes
0,897	0,805	0,801	3,019	High model clarity

Source: Results of the researcher's analysis in 2026

The coefficient of determination (R^2) is used to measure the model's ability to explain variations in school image simultaneously through the use of technology, teacher digital competence, and communication strategies. Based on Table 9, the R value of 0.897 indicates a strong relationship between the independent variables and the SDN image. The R^2 value of 0.805 indicates that 80.5% of SDN image variations can be explained by these three variables, while 19.5% is influenced by factors outside the model. Meanwhile, the *Adjusted R²* value of 0.801 shows that after taking into account the number of variables and sample size, the model is still able to explain 80.1% of the variation in SDN images, so it has high explanatory power.

Discussion

The Effect of Technology Utilization on the Image of Public Elementary Schools

The research results show that technology utilization has a positive and significant effect on the image of public elementary schools (SDN) in Wiyung District, Surabaya. The partial test yielded a regression coefficient of 0.458, a t-value of 11.215, and a significance level of <0.001 . These findings indicate that an increase in technology utilization is followed by an improvement in the school's image, after controlling for the effects of teachers' digital competence and communication strategies.

The significance of these findings extends beyond the relationship between device ownership and image; rather, they demonstrate that technology becomes valuable when it is translated into services, information management, and interactions as perceived by the community. In this study, image encompasses the school's reputation, public trust, service quality, credibility, and attractiveness. This framework aligns with Corporate Image Theory, which views image as the accumulation of the public's perceptions and experiences regarding an organization's identity and activities (Gray & Balmer, 1998).

The technology adoption variable adopts the UTAUT framework, which emphasizes that technology adoption is determined by benefits, ease of use, social support, and enabling conditions (Venkatesh et al., 2003), a framework further expanded through contextual analysis of users and the environment in UTAUT2 (Venkatesh et al., 2012). The consistent application of UTAUT in the field of education (Widayoko et al., 2026) and the importance of integrating technology acceptance and digital competencies (Caner-Yıldırım, 2025) further strengthen this framework. Thus, the coefficient value of 0.458 reflects technology that is appropriate, easy to operate, supported by the environment, and backed by adequate facilities.

The organizational value of technology is reflected in improvements in work quality and service. The use of ICT modernizes administration, enhances management efficiency, and accelerates the dissemination of information (Liu et al., 2025). Therefore, digital transformation must be viewed as a renewal of work systems and the management of organizational relationships—not merely the procurement of devices (McCarthy et al., 2023) that expands academic outreach and the scope of communication (Saif et al., 2022). Ultimately, the public does not evaluate the existence of technology itself, but rather its impact on ease of access to information, speed of service, administrative orderliness, and the school's responsiveness.

Public relations technology enhances the effectiveness of school information services such as "MP mobile apps", which achieved an 85% suitability rating (Haq et al., 2023), while simultaneously expanding public relations functions through social and digital media, these platforms serve as interactive spaces that accelerate communication, foster transparency, and strengthen the school's reputation and public trust (Liedyani et al., 2025; Putri et al., 2026; Wardhani et al., 2025). Its utilization also strengthens school family relationships through real-time communication, student progress reporting, and structured feedback (Mulyani et al., 2025). The effectiveness is influenced by internal management, specifically the support of school principals and colleagues, as well as the prevailing

work culture, given that digital transformation requires leadership and systematic change (McCarthy et al., 2023). Empowering leadership has a direct 65.4% influence on teachers' digital learning behaviors, with self-efficacy acting as a mediator at a rate of 29.5% (Trihantoyo et al., 2025), while the availability of devices, internet access, and technical support facilitates the sustainability of technology adoption (Widayoko et al., 2026). Thus, technology has the potential to bolster a school's image through rapid, open, and responsive communication, provided it is supported by an internal ecosystem that enables consistent and sustainable utilization.

Although digital innovation has the potential to optimize learning, its success is largely determined by teacher readiness and infrastructure (Fatimah et al., 2024). The quantity of technology does not automatically enhance a school's image; rather, it is the quality, meaningfulness, and consistency of its use that do. The use of public information and communication technology has been shown to project an image of a modern, responsive, and professional institution (Rahayu & Ajhuri, 2022). In the context of SDN in the Wiyung subdistrict, characterized by an urban environment with intense competition, the digital space serves as a strategic medium for publicizing the school's programs, services, achievements, and identity.

From an empirical perspective, the *Standardized Beta* for Technology Utilization of 0.446 places it as the second-most significant predictor after Communication Strategy. This position indicates that technology is important, but its impact on the image still depends on how it is used in relation to the public. Technology provides the means and speed; communication strategies determine the direction of its utilization. Thus, the influence of Technology Utilization primarily operates through improved access to information, service quality, speed of communication, transparency, and positive interaction experiences.

The Influence of Teachers' Digital Competence on the Image of Public Elementary Schools

Teachers' digital competence was also found to have a positive and significant effect on the image of public elementary schools. A regression coefficient of 0.310, a t-value of 9.801, and a significance level of < 0.001 indicate that the higher the teachers' digital competence, the better the school's image after controlling for Technology Utilization and Communication Strategy. This finding is important because digital competence in this study is not limited to the ability to operate devices. This variable encompasses information and data literacy, communication and collaboration, digital content creation, digital security, and problem-solving. These five dimensions position teachers as agents who transform technology into service and communication practices that are

tangible to the public.

According to the *DigComp 3.0 framework*, digital competence is not merely a technical skill but encompasses information management, communication, content creation, security, and problem-solving (Cosgrove & Cachia, 2025). The integration of pedagogical and professional elements into teachers' digital competencies has a direct impact on school performance (Tzafilkou et al., 2023). This is supported by the interconnection between digital literacy and self-efficacy with professional competence (Prasetyo et al., 2024), the importance of mapping elementary school teachers' digital competencies (Syahid et al., 2022), and the influence of digital literacy and the learning environment on student learning outcomes (Yuliana et al., 2023). Taken together, these findings affirm that digital competencies are professional capacities that influence the public's perceptions and experiences of schools.

Information and data literacy play a role in enhancing material quality and preventing disinformation, while the development of teachers' digital competence is influenced by needs, motivation, and support for the meaningful use of technology (Chiu et al., 2024). Furthermore, data literacy and digital teaching competence are linked to practices that empower students (Lin et al., 2023). Regarding a school's image, the management of accurate, relevant, and accountable information helps cultivate a professional impression. Digital communication and collaboration competencies also expand the teacher's role in disseminating information, documenting activities, and performing public relations functions, as digital communication has become an integral part of professional practice (Claro et al., 2024). The ability to create digital content helps represent the school's identity while supporting learning and fostering relationships with parents via digital media (Maghfiroh et al., 2026). Meanwhile, digital security and technical problem-solving skills help maintain trust and ensure smooth service delivery (Chiu et al., 2024; Claro et al., 2024; Cosgrove & Cachia, 2025). Thus, teachers' digital competence is reflected in service quality, content consistency, and communication security, all of which ultimately shape the school's image.

A *Standardized Beta* of 0.384 positions Teachers' Digital Competence as the predictor with the lowest relative influence in the model. This value does not diminish the variable's importance but helps interpret its influence pathway. Digital competence is an internal capacity, whereas image is an external perception. In other words, digital competence functions more as an enabling capacity that operates through the quality of work practices, communication, and services before becoming evident in the image. (Trihantoyo et al., 2025) Reinforce this perspective by highlighting the roles of

empowering leadership and self-efficacy in teachers' digital practices. Therefore, competency development should not rely solely on individual training; schools need to foster an environment that provides support, space for experimentation, and continuous learning.

The Influence of Communication Strategies on the Image of Public Elementary Schools

Communication Strategy is the variable with the strongest positive and significant influence on the image of public elementary schools. A regression coefficient of 0.507, a t-value of 13.465, and a significance level of < 0.001 indicate a consistent contribution even after controlling for Technology Utilization and Teachers' Digital Competence. The *Standardized Beta* of 0.537 is higher than that of Technology Utilization (0.446) and Teachers' Digital Competence (0.384). The B value and beta must be distinguished: B indicates the change in image in the original unit when Communication Strategies increase by one unit, while beta is used to compare the relative strength among variables. With the highest beta, Communication Strategies are the relatively strongest predictor in the model.

This strength can be understood in terms of its proximity to the process of shaping public perception. Communication Strategy in this study encompasses two-way communication, information transparency, relationships with parents and the community, and digital media management. Excellence Theory positions two-way communication and organization-public relations as the core of public relations practice (Grunig & Hunt, 1984). Therefore, an image is not built solely through the quantity of information published, but rather through the quality of dialogue, the clarity of information, the ability to respond to feedback, and the consistency of relationships. Within the framework of Corporate Image Theory, these communication experiences serve as the material the public accumulates when evaluating an organization (Gray & Balmer, 1998).

Two-way communication and responsive spaces for dialogue position the public as interaction partners; consequently, communication strategies, particularly regarding dialogue and reputation management in digital media, determine the quality of relationships more than the mere provision of technology (Putri et al., 2026; Wardhani et al., 2025). Information transparency, characterized by openness, accessibility, and accuracy, forms the foundation of trust, while structured public relations management, collaboration, stakeholder engagement, and crisis management reinforce public relations strategies (Amalia & Sudadi, 2025; Astuti et al., 2024). School relationships with parents and the community, fostered through relationship management, strengthen the school's image and brand identity (Hidayati & Adawiyah, 2024; Ningsih, 2022) and can be supported by structures, real-time communication applications (Mulyani et al., 2025). In

practice, public relations encompasses planning, coordination, the use of digital media, and evaluation (Divina & Saifullah, 2023; Rahayu & Ajhuri, 2022; Ummah et al., 2024), while digital media enhances visibility and image continuity through targeted communication (Lieyani et al., 2025; Maulana et al., 2026). Leadership, message precision, media selection, and information consistency all play a role in shaping an institution's reputation (Lopez & Combs, 2024; Rostina, 2025). Thus, communication strategies should not focus solely on publication frequency but must ensure that the relevance and accuracy of information align with the quality of the school's service.

The research results reinforce previous findings while providing methodological expansion. Some previous studies used qualitative approaches, case studies, or examined one to two factors, whereas this study incorporates Communication Strategy alongside Technology Utilization and Teachers' Digital Competence into a quantitative model at public elementary schools in Wiyung Subdistrict. A t-value of 13.465 and a beta of 0.537 provide empirical evidence that communication management is the factor most closely linked to the formation of public perception in this model. Thus, the Communication Strategy is not merely a function of conveying information but a mechanism that translates the school's internal capabilities into experiences perceived by the community. This explains why the communication strategy is the relatively strongest predictor.

The Simultaneous Influence of Technology Utilization, Teachers' Digital Competence, and Communication Strategies on the Image of Public Elementary Schools

The simultaneous test shows that Technology Utilization, Teachers' Digital Competence, and Communication Strategy collectively have a significant effect on the Image of Public Elementary Schools. An F-value of 177.575 with a significance level of < 0.001 indicates that the model as a whole has significant explanatory power. The R-squared value of 0.805 indicates that 80.5% of the variation in the image of public elementary schools in the research data can be explained by these three variables, while 19.5% lies outside the model. The adjusted R-squared value of 0.801 indicates that the model's explanatory power remains high after accounting for the number of predictors. These figures show that a school's image is best understood as the outcome of a combination of digital resources, human capacity, and public relations management.

The three variables have different but complementary functions. Technology provides the tools and conditions for use; Teachers' Digital Competence provides the capacity to transform these tools into work practices, while Communication Strategy guides how technology and human capabilities are used in public relations. UTAUT explains the importance of benefits, ease of use,

social influence, and supporting conditions in technology adoption (Venkatesh et al., 2003, 2012). Widayoko et al. (2026) and Caner-Yıldırım (2025) reinforce the relevance of the technology acceptance framework, while Liu et al. (2025), Haq et al. (2023), and Saif et al. (2022) highlight the organizational consequences of digitalization, particularly in information management and the scope of communication. This means that technology will add value to an organization's image when it is available and actually used to produce services visible to the public.

Digital competence serves as a link between technology availability and the quality of practice, encompassing pedagogical, professional, communication, security, and problem-solving capacities (Chiu et al., 2024; Claro et al., 2024; Cosgrove & Cachia, 2025; Tzafilkou et al., 2023). Digital literacy is linked to professional competence (Prasetyo et al., 2024) and is relevant in primary education (Syahid et al., 2022; Yuliana et al., 2023), while also fostering innovation and facilitating communication with parents (Maghfiroh et al., 2026). Communication strategies subsequently translate internal capacities into external experiences through two-way communication (Grunig & Hunt, 1984), as image is formed through an accumulation of experiences, information, and public assessments (Gray & Balmer, 1998). The contribution of public relations management to school image has also been empirically demonstrated (Astuti et al., 2024; Divina & Saifullah, 2023; Hidayati & Adawiyah, 2024; Ningsih, 2022; Rahayu & Ajhuri, 2022; Ummah et al., 2024), while transparency, dialogue, digital media, and relationship management further strengthen reputation and public trust (Amalia & Sudadi, 2025; Lieyani et al., 2025; Maulana et al., 2026; Putri et al., 2026; Rostina, 2025; Wardhani et al., 2025). Digital transformation also requires integrating teacher competence with human resource management, policies, and institutional practices (Suryanto et al., 2025). In a simultaneous model, the integration of these three variables yields a value of 0.805, indicating that technology utilization requires teacher competence and supportive conditions, whereas its impact on image depends on planned communication strategies. Findings regarding the role of leadership in shaping teachers' digital learning behaviors and the importance of systemic change further underscore this interconnection (McCarthy et al., 2023; Trihantoyo et al., 2025). The dominance of the communication strategy beta coefficient 0.537 compared to technology utilization 0.446 and teacher digital competence 0.384 indicates that technology and teacher capacity become more strategic when translated through open, responsive, and trustworthy communication. Although the model explains 85% of the variation in human resource image, the remaining 19.5% stems from factors outside the model, such as academic quality and leadership, meaning the findings must be interpreted with an

appropriate perspective.

Overall, this study contributes to the development of research on school image by integrating perspectives on technology adoption, digital competence, and Excellence Theory into a single empirical model. The findings show that the image of public elementary schools in Wiyung Subdistrict is shaped not only by what the schools possess but also by how those resources are used to produce services and relationships as perceived by the public. The managerial implications are that efforts to strengthen image should focus on a beneficial and user-friendly digital ecosystem, the continuous development of teachers' digital competencies, and communication strategies that prioritize dialogue, transparency, and relationships. Within this framework, this study does not merely replicate previous findings but integrates evidence that was previously largely stand-alone and demonstrates that these three factors simultaneously explain the majority of the variation in school image.

CONCLUSION

This study shows that the use of technology, teachers' digital competencies, and communication strategies have a positive and significant effect on the image of human resources in the Wiyung subdistrict, Surabaya, both partially and simultaneously. Among these, communication strategies have the most dominant influence ($\beta = 0.507$; $t = 13.465$; Sig. < 0.001 ; Standardized $\beta = 0.537$), followed by the use of technology ($\beta = 0.456$; $t = 11.215$; Sig. < 0.001 ; Standardized $\beta = 0.446$), and teachers' digital competencies ($\beta = 0.310$; $t = 9.801$; Sig. < 0.001 ; Standardized $\beta = 0.384$). Collectively, these three variables exerted a significant influence ($F = 177.575$; Sig. < 0.001) with $R^2 = 0.805$, indicating that 80.5% of the variation in school image is explained by this model, while the remaining 19.5% is influenced by external factors. These findings confirm that building a school's image requires an integrated approach involving technology, human resources, and communication strategies. In practice, schools must prioritize communication strategies supported by optimized technology and digital competencies to effectively build public trust.

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