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Analysis Of The Effect Of Perceived Usefulness, Trust And Digital Capability On Technology Adoption In The Learning Process

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ABSTRACT

Penelitian ini bertujuan untuk memahami bagaimana persepsi kegunaan, kepercayaan, dan kapabilitas digital memengaruhi tingkat adopsi teknologi dalam proses pembelajaran di lembaga pendidikan. Penelitian ini menggunakan metode survei kuantitatif dengan 150 responden yang dipilih secara purposif. Responden tersebut adalah guru dari lima kota besar di Indonesia yang telah menggunakan teknologi digital dalam kegiatan mengajar mereka setidaknya selama satu tahun. Regresi linier berganda digunakan untuk analisis data, setelah dilakukan uji normalitas, heteroskedastisitas, dan multikolinearitas untuk mengonfirmasi kelayakannya. Temuan menunjukkan bahwa ketiga variabel, yaitu persepsi kegunaan, kepercayaan, dan kapabilitas digital, tidak hanya secara individual tetapi juga secara keseluruhan, merupakan penentu utama adopsi teknologi dalam pembelajaran. Temuan ini menambah literatur penerimaan teknologi yang ada dalam pendidikan dan juga berpotensi menjadi isu bagi administrator sekolah dalam memfasilitasi penggunaan teknologi secara maksimal. Salah satu cara untuk melakukannya adalah melalui promosi manfaat teknologi, membangun kepercayaan pada sistem digital, dan menyediakan kapasitas digital bagi guru dan peserta didik sehingga pembelajaran berbasis teknologi menjadi lebih efisien dan dapat berlanjut dengan mudah.

The research was aimed at understanding how the perception of usefulness, trust, and digital capability affects the level of technology adoption in the learning process in educational institutions. The research utilized a quantitative survey method with 150 purposively selected respondents. The respondents were teachers from five big cities in Indonesia who have been using digital technology in their teaching activities for at least one year. Multiple linear regression was used for data analysis, following the performance of normality, heteroscedasticity, and multicollinearity tests to confirm the feasibility. The findings indicate that the three variables of perceived usefulness, trust, and digital capability not only individually but also as a whole are a major determinant of technology adoption in learning. These findings add to the existing technology acceptance literature in education and have also the potential to be an issue for the school administrators in facilitating the use of technology to the fullest extent. One way of doing this can be through the promotion of technology benefits, the building of trust in the digital systems, and the provision of digital capacity to the teachers and the learners so that technology-assisted learning becomes more efficient and can easily continue.

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INTRODUCTION

The fast expansion of digital technology has affected all sectors of the human being's life, the education segment being one of them (Zakaria et al., 2025). The schools of today are obliged to stay abreast with the latest changes of the times and one such method is incorporating the use of technology in teaching academic process. Just going for technology integration in education is a step forward from using digital devices only, as it is a medium of technology for teaching strategies, content, and media that aims at improving the quality of instruction and the speed of learning (Sadikin et al., 2023). The actuality of this technology usage has come nearer with the computerization and e-learning, if not more when considering the global pandemic that has been the cause of the institutions' rapid switching (Suryaningsih et al., 2024). The contribution of technology has granted a chance for more adaptable and engaging methods of instruction, hence the possibility of using different kinds of learning materials without being at the same time or place. However, the adoption of technology in education is still facing some obstacles, including bad infrastructures, the digital ability of teachers, and students' readiness to take up the change (Riyanti et al., 2023). For technology to be effectively used in teaching as an enabler of educational quality improvement, it is imperative that we deeply explore the factors of technology adoption in learning.

One of the main factors that determine the successful implementation of technological learning innovations is the degree to which technology is seen as a helpful tool in learning or in other words a perceived usefulness of the technology (Mardiah et al., 2024). It means a person is considered to be more efficient when using a certain software than doing the task without any technological means, hence the software is seen as a helpful tool for the person to perform better (Iriani et al., 2024). In schools environment both teachers and students are very likely to accept and embrace technology use if they see it as a real aider, rather than a scarf, for example, by cutting down the time needed for accessing books and journals, carrying out academic interactions, or facilitating better understanding of the study materials (Pratiwi et al., 2023). Moreover, when technology is merely seen as complicated, or and it only gives a small portion of the benefits to users, then the usage will remain very low with only the toolkit and the infrastructures given (Risnawati et al., 2025). For instance, a real-life learning platform equipped with easy-to-understand features and learning activities that are up to the point, will be accepted by the users more easily because it offers visible benefits. Indeed, this notion of perceived usefulness fits perfectly well within the Technology Acceptance Model (TAM) conceptual framework, which identifies perceived usefulness as one of the principal factors in determining the attitudes and intentions of a user towards technology (Lapasau et al., 2022). Hence, it is very important for the institutions to take into consideration the views of the end-users while deciding on prevailing or designing new technology-based learning systems in order to become implementations, which are truly efficient and have a positive effect on teaching and learning process (Solehuddin et al., 2025).

Though the benefits are perceived, trust is another factor which is equally important in driving the successful adoption of technology in learning (Ismunandar & Kurnia, 2023). In the realm of digital learning, trust is the confidence of users i.e. teachers and students in the security, stability, and honesty of the learning systems they use (Wajnah et al., 2025). If users feel that their personal data is safe, the system is stable and the content provided is accurate and credible, they will be more confident and comfortable in using the technology. What is more, problems like platform security, the risk of data leakage or frequent technical interruptions, can reduce the user's desire to use technology that, even if the platform technically has a lot of features (Ismunandar & Rini, 2024). Therefore, user trust must be established. Digital learning platforms need to be open, provide privacy, and offer a good and stable user experience. This trust is important not only for gaining a first-time user but also for securing the technology's long-term use. For educational institutions, it means the selection and management of technology not only from the functional but also from the system integrity and security perspectives so

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that all users can trust the digital learning process and it can continue without any problems (Meilina et al., 2022).

In addition to perceived usefulness and trust, a digital capability is also the main point that a successful technological adoption in the field of education (Arsyad & Rathomi, 2025). Digital capacity refers to the skills, knowledge, and confidence of an individual in using technology to teach and learn. Generally, digitally competent teachers and students are: 1. more current and thus more open to change; 2. capable to utilize the features of learning technologies fully; 3. more confident in the use of digital tools for the efficiency of learning (Dalail et al., 2024). In the context of educational institutions, digital capability extends beyond technical skills to critical understanding in selecting, using, and adapting technology to meet learning needs. Therefore, developing digital capabilities through ongoing training, technical guidance, and access to digital resources is a crucial step that cannot be overlooked. With the right support, enhancing digital capabilities will strengthen educational institutions' readiness for digital transformation and ensure optimal and sustainable technology adoption (Estede et al., 2025).

Referring to the previous explanation, this study aims to explore how perceived usefulness, trust, and digital capability influence the level of technology adoption in the learning process within educational institutions. Academically, this study is expected to enrich theoretical understanding of the dynamics of technology adoption, particularly in the context of modern education, by highlighting the role of these three factors as key components (Susilowati et al., 2025). Furthermore, from a practical perspective, the findings of this study can provide a reference for policymakers and educational institution managers in designing policies that support effective and sustainable technology integration. The resulting recommendations can be applied in developing more responsive digital learning platforms, improving the digital competence of both teachers and students, and strengthening learning systems that are safe, reliable, and truly provide added value. Therefore, this research is expected to not only contribute to the development of scientific literature but also have a tangible impact on improving the quality of learning in the digital era.

METHOD

This research was conducted using a quantitative approach through a survey method to examine how perceptions of technology usability, trust levels, and digital capabilities influence technology adoption in learning activities in educational institutions. The research respondents consisted of teachers teaching in ten schools located in five major cities in Indonesia. A total of 150 teachers were selected as a sample using a purposive sampling technique, with the criteria being that they were active educators, had used digital technology in the teaching process for at least one year, and had teaching experience in an education system based on the national curriculum or a curriculum that has been integrated with technology. The data collection instrument used was a structured questionnaire with a five-point Likert scale, ranging from strongly disagree (1) to strongly agree (5), which was developed based on the indicators of each research variable. The validity of the instrument was tested through item-total correlation using a t-test, with validity indicators if the significance value is below 0.05 and the correlation is more than 0.30. Meanwhile, reliability was tested using the Cronbach Alpha value, where a minimum value of 0.70 was used as a reference as an acceptable internal resilience limit. Before carrying out the regression analysis, the data underwent testing with classical assumption tests namely normality, heteroscedasticity, and multicollinearity. After that, these data were treated with multiple linear regression to determine how much the independent variables, namely perceived usefulness, trust, and digital capability both jointly and individually had an impact on the level of technology adoption in the learning process.

RESULT AND DISCUSSION

According to the validity tests all items in the questionnaire for the variables of perceived usefulness, trust, digital capability, and technology adoption in learning displayed item-total correlation values greater than 0.30 and were significant at a 5% confidence level. This result points out that the instrument utilized in the current research is valid. In the meantime, the outcomes of the reliability test conducted with the Cronbach Alpha formula also revealed values exceeding 0.70 for each variable, which suggests that the instrument has a considerable degree of internal consistency and can be a strong tool for further research. In order to test whether the data are compatible with the regression model, a

series of classical assumption tests were implemented. The normality test employing the Kolmogorov-Smirnov method presented a significance value, which was more than 0.05, consequently, the data distribution is normal. Besides that, the heteroscedasticity test implementing the Glejser method did not reveal any indication of heteroscedasticity since all the independent variables had significance values that were higher than the 0.05 cutoff point. Moreover, the performance of the multicollinearity test demonstrates that each independent variable's VIF value is less than 10 and the respective tolerance values are over 0.10; thus, no multicollinearity problem is found in the model.

The multiple-linear regression analysis results show that the model in this research has a simultaneous significant effect. One such indication is the computed F-value being higher than the F-table as well as the significance level being less than 0,05. This result implies that the variables of perceived usefulness, trust, and digital capability not only individually but also jointly significantly influence the level of technology adoption in the learning process in educational institutions. The value of the coefficient of determination (R^2) was 0.56, meaning that the three factors could explain 56% of technology use variation, while the other 44% was due to factors that were not included in the study. The findings from the individual t-test are also consistent with each independent variable having a significant effect on technology adoption. The calculated t-value is higher than the t-table value and the significance level is below 0.05. All three regression coefficients are positive, which means that the higher the user's perceived usefulness, trust level, and digital capability, the greater the likelihood that technology will be optimally adopted in learning.

The results from a research study indicate that how much a person sees a technology as useful has a strong positive correlation with the adoption rate of that technology in the process of learning in the context of educational institutions. The higher the user's belief, be it a teacher or a student, that the technology will bring real benefits in the facilitation of teaching and learning activities, the higher the probability of the technology being used on a regular basis. This perception embodies the idea of technology as an enabler of efficiency, effectiveness, and quality of learning. Simply put, various learning platforms like learning management systems (LMS) are, most of the time, regarded as necessary because they make the distribution of materials, the taking of assignments, and the evaluation of learning in an organized manner possible. When users see technology as making information access faster and academic communication more straightforward, they are usually more willing and even enthusiastic to use it. However, if technology is considered to be a source of stress and that it does not provide clear benefits, then users will be reluctant to use the technology even if it is infrastructure that is available. Thus, schools need to provide the most technically advanced and user-friendly technology that will actually meet their users' needs. The finding agrees with the Technology Acceptance Model (TAM) concept that considers the perception of usefulness as the determining factor in a person's decision to use technology. The degree of technology success in its usage in education, however, is going to be largely based on the amount of benefits that the users will get over time.

The research results imply that users' belief in technology-based learning systems is the main factor that affects the introduction of technology in education. The more users trust that a system is secure and reliable, the more they will be willing to use it for their teaching and learning activities. Here trust, in this sense, involves quite a few things such as the security of the user's data, the reliability of the system, and the truthfulness of the content provided. Hence, it is very important to gain trust by providing strong data security, being open about privacy policies, and offering technical support. These inferences align with the notion that trust is a major determinant of the sustained use of educational technology. For schools, delivering a reliable digital environment is not merely a feature but a first step that must be taken to achieve an effective and sustainable technology integration. The trust that is well maintained will influence users, their decisions, and their behavior when they go on to use technology to facilitate the teaching and learning process.

Besides usability and trust perceptions, this study has also established that digital capability is the main factor that can lead to the acceptance of technology in learning. The digital capability of an individual represents the skills, knowledge, and confidence he has when using digital devices and systems to facilitate the teaching and learning process. Sufficiently digitally literate teachers and students, in the first place, are usually able to handle the various online learning platforms easily and are also able to uncover and access the features that are available to them without any restrictions. On the other hand, lack of digital skills is sometimes being the biggest obstacle in the way of technology

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adoption, where users claim to be unprepared and even reluctant to try new technology-based approaches. For instance, a teacher who is so used to the old method of teaching might find it very challenging to mix technology with his or her lesson thus indirectly resulting in the use of technology at a low level. As a result, schools are required to support users with not just moral words but more tangible ways such as frequent training, workshops, and technical assistance so that teachers and students will be well prepared. In the first place, with strong digital capability, the learning process will not only be more effective and relevant but also smoother and thus the overall quality of education will get improved at the same time.

CONCLUSION

The research presented by the article reveals that tech-savvy digital capabilities, the user's belief in the trustworthiness of the system, and the potentiality of technology in adoption positively and significantly influence the success of technology adoption in the learning process in educational settings. These findings indicate that technology adoption is not solely dependent on infrastructure availability, it is also strongly influenced by how users perceive its benefits, their trust in the system, and their ability to operate it. When users, both teachers and students, perceive that technology truly supports the teaching and learning process effectively and efficiently, their motivation to use it will be even greater. Trust in data security, system stability, and content credibility are also important aspects that influence the continued use of the technology. Furthermore, mastery of digital skills is fundamental to optimal technology utilization and avoids obstacles in its implementation. Therefore, educational institutions need to take an active role in ensuring that the technology used is not only functionally relevant but also safe and accessible. This effort can be realized through strengthening digital infrastructure, regular training for teachers and students, and creating a learning ecosystem that is adaptive to technological developments.

REFERENCES

Sadikin, A., Nuraeni, L., Mutmainnah, M., Yuniwati, I., & Riyanti, A. (2023). The Effect of Strategic Compensation, HR Development and Work Motivation on Vocational High School Teacher Performance. *Journal on Education*, *5*(4), 10793-10800.

Riyanti, A., Sudadi, S., Rubiarko, S. I., Mutmainnah, M., & Damanik, S. (2023). Path Analysis of the Influence of Teacher Perception on Managerial Competency and Principal Supervision on Teacher Performance.

Mardiah, A., Haryanto, H., Astuti, A., Widyatiningtyas, W., Riyanti, A., & Rukiyanto, B. A. (2024). Analisis penggunaan sistem manajemen pembelajaran (LMS) dalam konteks pendidikan tinggi. *Jurnal Review Pendidikan Dan Pengajaran (JRPP)*, *7*(1), 540-550.

Pratiwi, I. W., Riyanti, A., Hasdiansa, I. W., & Hasbiah, S. (2023). Pengembangan Literasi Digital Masyarakat Sekolah Melalui Pelatihan Pembuatan Komik Digital Cerita Rakyat. *Jurnal Sipakatau: Inovasi Pengabdian Masyarakat*, *1*(1).

Lapasau, M., Virgana, Kasyadi, S., Mayasari, I., & Riyanti, A. (2022, July). Enhancing students' achievement in math word problems through reading comprehension and learning motivation. In *AIP Conference Proceedings* (Vol. 2577, No. 1, p. 020033). AIP Publishing LLC.

Ismunandar, A., & Kurnia, A. (2023). Peningkatan Kemampuan Pendidik Di Era Society 5.0. *Jurnal Review Pendidikan Dan Pengajaran*, *6*(2), 388-397.

Ismunandar, A., & Rini, A. P. (2024). Implikasi era revolusi industri 4.0 terhadap pengembangan kemampuan sumber daya manusia di perguruan tinggi. *Jurnal Review Pendidikan Dan Pengajaran*, *7*(2), 4831-4837.

Meilina, D., Rinovian, R., Mokodenseho, S., & Haris, M. (2022). Utilization of Used Cardboard Waste As a Learning Resource to Improve Early Childhood Fine Motor Development. *Bulletin of Early Childhood*, *1*(2), 102-109.

Dalail, W., Ismunandar, A., & Hasan, H. (2024). Peningkatan Kapasitas Tenaga Pendidik Melalui Kualifikasi Akademik Pada Lembaga Pendidikan. *Promis*, *5*(1), 46-53.

Kamaruddin, I., Azis, A. A., Assabana, M. S., & Meilina, D. (2022). Improving Early Childhood Fine Motor Development Through Weaving Activities. *Journal of Childhood Development*, *2*(1), 71-79.

Estede, S., Irianto, O., Murtini, M., Minarsi, A., Piarna, R., Hendratni, T. W., ... & Juansa, A. (2025). *Kewirausahaan: Konsep, Strategi, dan Inovasi Era Digital*. Henry Bennett Nelson.

Susilowati, T., Mustafa, F., Hendratni, T. W., Santosa, M. H., Nugraha, J. P., & Windreis, C. (2025). Pelatihan Dan Penguatan Literasi Digital Untuk Meningkatkan Kapasitas Umkm Menuju Pasar Internasional: Pengabdian. *Jurnal Pengabdian Masyarakat dan Riset Pendidikan*, *4*(1), 2554-2558.

Zakaria, M., Ismail, A., Hendratni, T. W., Putrianti, F. G., Soeprapto, A., & Lubis, F. M. (2025). ANALISIS PENGARUH SELF-LEADERSHIP, WORKPLACE WELL BEING DAN PENGEMBANGAN KARIR TERHADAP EMPLOYEE ENGAGEMENT PADA INDUSTRI JASA. *JURNAL LENTERA BISNIS*, *14*(2), 1953-1962.

Suryaningsih, S., Lisabe, C. M., Syafrullah, H., Arsyad, M., & Jamin, N. S. (2024). Pelatihan Metode Pembelajaran Kreatif Berbasis Teknologi untuk Meningkatkan Motivasi Belajar Siswa Sekolah Dasar. *JIPITI: Jurnal Pengabdian kepada Masyarakat*, *1*(3), 5-10.

Iriani, O. S., Sari, D. P., Syafrullah, H., & Ardayani, D. S. (2024). Pengaruh Edukasi Demonstrasi Terhadap Kemampuan Dalam Melakukan Praktik SADARI pada Siswi SMA PGII 2 Kota Bandung. *Jurnal Ilmu Kesehatan Immanuel*, *18*(1), 42-51.

Risnawati, Y., Hendra, M., Lestari, N. C., Apriliyani, E. S., Arsyad, M., & Efrina, G. (2025). Learning Transformation in the Digital Era: A Literature Review on Innovations in Teaching Methods and Media. *TOFEDU: The Future of Education Journal*, *4*(6), 2034-2039.

Solehuddin, M., Riyanto, A., Ilyas, H. P., Arifin, S., & Arsyad, M. (2025). Edukasi Pemanfaatan Artificial Intelligencess Deepseek Dan Canva Bagi Mahasiswa Baru Dalam Membuat Media Presentasi Materi Perkuliahan. *Journal Of Human And Education (JAHE)*, *5*(2), 558-564.

Wajnah, W., Kusmawan, U., Arifin, S., Muhammadiyah, M. U., & Arsyad, M. (2025). Technology-Based Learning Innovation in Community Service: Impact on Improving Education Access in Remote Areas. *Journal Of Human And Education (JAHE)*, *5*(2), 137-144.

Arsyad, M., & Rathomi, A. (2025). IMPLEMENTATION OF PROJECT-BASED LEARNING IN STEM EDUCATION. *Indonesian Journal of Education (INJOE)*, *5*(3), 307-315.

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