LATTE: A Journal of Language, Culture, and Technology
Volume 3, Number 2, 2025, pp 1 – 9
ISSN: 3063-0754 / DOI: https://doi.org/10.24002/lj.v3i2.13299

YOUNG PEOPLE'S PERCEPTION OF DIGITAL TRANSFORMATION

Ignatius Novianto Hariwibowo
Department of Accounting, Atma Jaya University Yogyakarta
novianto.wibowo@uajy.ac.id

Received: November, 2025
Published: December, 2025

Abstract

This study aims to explain young people's perception of digital changes that are increasingly massive. This study is important to provide clarity on the readiness of young people, namely students in higher education, to face the challenges of the digital era. This study uses a descriptive approach with a sentiment analysis method. This approach was chosen because it can capture the perception of young people naturally. The respondents in this study were 440 students from various educational backgrounds. Respondents responded by answering open-ended questions submitted through google forms. The results show that the majority of respondents have positive sentiments towards the digital transformation that is taking place. Mayoitas of respondents also showed readiness to enter digital transformation. These findings show that young people can accept and are ready to enter the digital transformation. The findings emphasize the identification of patterns that higher understanding is not always proportional to positive sentiment, but rather encourages critical and reflective attitudes. These findings enrich the literature that has so far highlighted the linear relationship between digital literacy and positive attitudes towards digital transformation.

Keywords: Digital transformation, Sentiment Analysis, Young People, Industry 4.0.

INTRODUCTION

The industrial revolution 4.0 has had the impact of a major change known as digital transformation. This digital transformation is not just the adoption of the latest technology, but a paradigm revolution that changes the way organizations, institutions, and individuals operate, interact, and create value (Yaqub & Alsabban, 2023) . Driven by the rapid development of technologies such as Artificial Intelligence, Big Data, Internet of Things (IoT), and cloud computing, digital transformation has permeated almost every sector of life, from the global economy, governance, to people's social interactions (Quy et al., 2023) . Such a wide and profound change makes digital transformation a necessity that must be faced by all parties, including the world of higher education (Fernández et al., 2023).

In the midst of these rapid changes, higher education institutions are in an important position as they are no longer just teachers of science but must also be catalysts that prepare young people for an uncertain and digitized future (Kuleto et al., 2021). Digital transformation is forcing universities to reorganize their curriculum, teaching methodologies, and student services. The shift from conventional learning to a hybrid or online model, the need for lecture materials that are relevant to the demands of the industry, and the importance of training soft skills such as complex problem-solving, critical thinking, and digital collaboration, are urgent challenges to be answered. Furthermore, the impact of digital transformation also affects the needs in the world of work. The workforce of the future will demand digital competencies that are not only technical, but also adaptive and constantly evolving. New professions that were previously unimaginable are emerging, while traditional jobs that are routine are threatened to be replaced by automation. This situation creates an urgency for prospective workers,

especially students, to not only have technical expertise in their fields, but also equip themselves with digital literacy and a sense of readiness to face the dynamics of rapid change (Abulibdeh et al., 2024).

Study shows that young people have a higher level of digital adaptation and tend to be quicker to accept and utilize new technologies. A study in India found that young populations have great potential in driving the adoption of digital technologies, as they are more adaptive and have better computer literacy than other age groups (Sindakis & Showkat, 2024). This confirms that the younger generation plays a strategic role in determining the direction of digital change. Several studies based on the Technology Acceptance Model (TAM) and the Unified Theory of Acceptance and Use of Technology (UTAUT) model prove that attitudes, perceptions of convenience, and usability of technology among the younger generation greatly influence the intentions and behaviors of using technology (Xue et al., 2024). Systematic studies in higher education also confirm that college students (young people) are the main group that determines the patterns of adoption of new technologies, and that their acceptance is a major predictor of widespread adoption. Other study on e-commerce among college students shows that the perception of benefits and ease of use greatly determines the intention to use and adopt technology on a massive scale (German Ruiz-Herrera et al., 2023).

In this context, students as young people occupy a strategic position in determining the direction of technological development and adoption. However, the younger generation is also vulnerable to the negative impact of digital transformation (Czerwińska et al., 2023). As a generation that will soon enter the world of work and become the main agents of change, their perception and attitude towards digital transformation are the determining factors for the success of the nation's adaptation. Although they are often referred to as digital natives who are familiar with technology, this does not necessarily guarantee that they have a deep understanding, positive sentiments, and an adequate sense of preparedness to deal with the professional implications of digital transformation (Potgieter et al., 2023). Therefore, evaluating these two perceptions becomes very important because perceptions can reflect young people's feelings and attitudes (positive, neutral, negative) towards these changes. A perception that also shows their readiness about their ability to compete in the new era. Positive perceptions shown through positive sentiment can describe the readiness for good technological adaptation, which is directly related to confidence and future performance. (Zhao et al., 2021).

Various studies have been conducted on the implementation of technology in universities as well as on the need for digital skills from industry. However, often the study is separate and lacks a comprehensive evaluation of students' subjective sides—namely how they feel (sentiment) and how they assess their own readiness—to this digital transformation phenomenon, especially when viewed from various disciplinary backgrounds (Zhao et al., 2021). This gap in understanding can lead to the emergence of a gap between the competencies produced by educational institutions and those really needed by the world of work (Potgieter et al., 2023).

Thus, due to the lack of understanding of young people's views in responding to this digital transformation, this study was conducted to provide a description related to the response of young people to digital transformation. Many previous studies have only focused on the implementation of technology or the need for industrial digital skills, but have not explored the subjective side of students, such as feelings (sentiment) and assessment of self-readiness, especially across disciplines. This leads to a gap between graduate competencies and the needs of the world of work because educational institutions do not fully understand students' experiences, concerns, or enthusiasm for digital transformation (Grimalt-Álvaro & Usart, 2024) . This issue is important to reveal because so far there is still a lack of in-depth understanding of students' perception maps of digital transformation. Therefore, it is important

to conduct a thorough evaluation of their sentiments and readiness in order to be the basis for the development of digital competencies, and for educational institutions to develop more relevant and responsive educational approaches.

METHOD

To be able to reveal young people's acceptance of digital transformation, this study uses a descriptive method with a survey approach. The survey was carried out by sending a google form questionnaire to young people, especially students, which was carried out randomly who could be found and willing to fill out the questionnaire. The questions in this questionnaire are open-ended questions aimed at being able to assess the respondents' responses naturally. The following is the data submitted to the respondents.

1. How do you understand digital transformation (very unfamiliar to very understanding)?
2. What do you understand about digital transformation?
3. What is your view on the impact of digital transformation on the world of work?
4. What is your view on the impact of digital transformation on economic conditions?
5. Are you ready for the digital competencies that the world of work needs?
6. What do you think are the competencies needed in the era of digitalization?

To be able to interpret the meaning of respondents' responses, this study interprets respondents' statements into positive, neutral, and negative sentiments by reading and interpreting respondents' statements. Interpretation is done manually by identifying positive or optimistic words and negative or pessimistic meanings. A neutral statement is determined if the respondent conveys positive and negative things simultaneously in their answer.

The application of the sentiment analysis approach in this study is based on its ability to quantitatively identify and classify emotional valence—positive, neutral, or negative—in unstructured textual data provided by students. This methodology offers significant advantages over traditional quantitative surveys, which can be limited by predetermined questions and may introduce researcher bias, potentially overlooking nuanced or unexpected participant reactions. By systematically analyzing authentic student feedback, sentiment analysis reveals a richer and more dynamic landscape of perceptions, capturing real-time attitudes that might otherwise remain hidden. This is crucial for identifying latent challenges in the digital transformation process, such as underlying anxieties, silent resistance, or fluctuations in motivation, which may not be explicitly reported by students in structured instruments. As a result, this approach provides a more authentic and data-driven foundation for educators and policymakers to understand the human factors behind digital adoption, enabling targeted interventions that address not only technical readiness but also the psychological and emotional dimensions of change (Grimalt-Álvaro & Usart, 2024; Simatupang et al., 2024).

FINDINGS AND DISCUSSION

Field of Science and Sentiment towards Digital Transformation

In this survey, respondents came from various study programs which can be grouped into the fields of Economics and Business, Technology or Engineering, Social and Humanities, Health and Medicine, and other categories. The following is an overview of the demographics of the respondents in this study:

Table 1. Respondent demographics based on field of knowledge

No	Study Program	Number of Respondents	to Universities of Origin
1	Accounting	85	UAJY, UNPAD, UNDIP, Sanata Dharma
2	Management	65	UAJY, UGM, UNDIP, UNS
3	Informatics / IT / SI	15	UAJY, Telkom University, UGM, ITB
4	Law / Law	14	UAJY, UI, Tanjungpura University
5	Communication Sciences	12	UAJY, UI, President University
6	Civil Engineering	10	ITB, UGM, UNDIP, UAJY
7	Psychology	9	Sanata Dharma University, UNY, UNAIR
8	Medicine & Health	8	UI, UGM, UNAIR, Hasanuddin University
9	International Relations	5	Udayana University, Hasanuddin University

Source: Survey data processed, 2025

Data on respondents by age can be seen in the following table 2:

Table 2. Demographics of respondents by age

No	Age Range	Number of Respondents	Description
1	16 - 20 Years	240	Majority age group (S1 students)
2	21 - 25 Years	50	Final or graduate students
3	> 25 Years	7	Young Workers

Source: Survey data processed, 2025

Geographically, the respondents in this study were dominated by respondents from major education cities such as Yogyakarta, Bandung, and Jakarta. This shows that the survey has managed to reach educated young people who can enjoy digital infrastructure and are closely connected to digital culture. In terms of field of study, the dominance of the Accounting, Management, and Informatics study programs increasingly shows the added value of this survey. This field of study is a field of study that will later play an important role in Indonesia's digital economy practice. Their sentiment towards digital change is very important to understand in responding to digital change. With the majority of respondents aged 18-21 years (Generation Z), as shown in table 2, this survey managed to capture the perception of the generation that was born and grew up in the pure digital era. They are digital natives whose opinions will provide an authentic perspective on their acceptance, adaptation, and expectations for the ongoing digital change.

The following table shows the distribution of sentiment towards digital transformation (positive, neutral, negative) by student field of science:

Table 3. Respondents' responses are in accordance with the field of science

Study Program	Positive	Neutral	Negative	Total
Economy/Business	124	99	11	234
Technology/Engineering	31	29	3	63
Social/Humanities	33	26	3	62
Health/Medicine	10	11	2	23
Others (mixed)	34	18	6	58
Total	232	183	25	440

Source: Survey data processed, 2025

From table 3, it can be seen that in all groups of science fields, the majority or plurality of students have positive sentiments towards digital transformation. For example, in the field of Economics/Business (n=234), 124 students (53%) had positive sentiments and 99 (42%) were neutral, while only 11 (5%) were negative. A similar pattern was seen in the fields of Technology/Engineering and Social/Humanities, where more than half of the respondents were positive, and very few were negative. The Health/Medicine group tends to have slightly lower positive sentiment (43% positive, with almost half neutral), but the number of respondents is smaller. Overall, positive sentiment towards digital transformation dominated across the study, and there were no striking differences between fields of science in the proportion of positive/neutral/negative sentiment.

Level of Understanding and Sentiment towards Digital Transformation

Respondents also stated their level of understanding of the concept of digital transformation, ranging from *"Very Understanding"* to *"Not Understanding"*. Here's the distribution of sentiment based on the level of understanding:

Table 4. Respondents' responses related to understanding digital transformation

Level of Comprehension	Positive	Neutral	Negative	Total
Very Understanding	34	41	4	79
Understand	114	86	7	207
Simply Understand	53	38	7	98
Lack of understanding	6	4	2	12
Don't Understand	24	14	5	43

Source: Survey data processed, 2025

In general, the more students understand digital transformation, the less likely they are to have negative sentiments. Only 3–5% of the *"Understand"* and *"Very Understanding"* groups had negative sentiments, compared to ~11% in the *"Not Understood"* group. The group that claimed *to be "Uninformed"* showed the highest proportion of negative (16.7%, but this equates to only 2 people out of 12).

Interestingly, *the "Very Understand*" group was not the most optimistic: only 43% of them had a positive sentiment, lower than the *"Paham"* group (55% positive). Most of those who are very knowledgeable are neutral (52%). This may indicate that students with very high understanding have a more balanced or critical view of digital transformation, so it is not necessarily positive. Meanwhile, students who simply *"understand"* or *"Quite understand"* tend to be more optimistic (around 54–55% positive). The group with low understanding (no/lack of understanding) although dominant positive/neutral, relatively had slightly higher negative sentiments than the group that understood better.

Level of Understanding and Readiness for Digital Transformation

This survey also asks whether students feel ready for the digital competencies needed in the world of work (digital transformation era). The following table shows the relationship between the level of understanding of digital transformation and perceived digital readiness:

Table 5. Proportion of the level of understanding and readiness of respondents to digital transformation

Level of Comprehension	Number of Respondents	Ready (%)	Not Ready (%)
Very Understanding	79	88.6% (70)	11.4% (9)
Understand	207	94.7% (196)	5.3% (11)
Simply Understand	98	92.9% (91)	7.1% (7)
Lack of understanding	12	83.3% (10)	16.7% (2)
Don't Understand	43	90.7% (39)	9.3% (4)

Source: Survey data processed, 2025

Overall, most students feel ready for digital transformation (407 out of 440 respondents stated *"Ready").* The table above shows a trend that better understanding tends to increase readiness. Almost all students who *"understand"* digital transformation stated that they were ready (95% in the *Paham group* and 89% in *the Sangat Paham*). In contrast, among students with limited understanding, the proportion who felt unprepared was higher: 16.7% in the *"Less Understood" group* admitted to being unprepared. The *"Don't Understand" group* also has ~9% who are unprepared. Nonetheless, it is interesting that even in the lowest comprehension group, the majority (90%+) still answered ready, which could mean that students are generally optimistic or confident in their digital skills.

Discussion

From the findings of this study, it can be understood that the majority of students view digital transformation positively. This opinion is evident from the dominant proportion of positive sentiment in various fields of study towards the digital changes that are currently taking place. In various fields of study, almost all fields have a positive perception level above 50%, except for the field of health or medicine. In this field, the level of neutral perception is higher than in others, although it is only 1 point above positive perception (see Table 3). However, overall, these findings are in line with research in various countries showing that students from various fields generally have a positive perception of the benefits of digitization in various fields, including higher education, in terms of information literacy, collaboration, and digital security (Czerwińska et al., 2023; Zhao et al., 2021). This can also be interpreted as the readiness of various fields of study to accept the current digital revolution. This positive view shows optimism, which is also supported by the high level of digital readiness among students (see Table 5). Even among those who feel they lack understanding, positive views of digital change remain high. These results indicate students' confidence and belief in their ability to adapt in this era of digital change (Eri et al., 2021).

The results of this study also show that there is interesting information regarding the relationship between students' level of understanding and sentiment. The results show that the higher the students' understanding of digital transformation, the lower the proportion of negative sentiment, but in the group with a high level of understanding, they tend to be more neutral than positive (see Table 4). This phenomenon shows that a deep understanding of digital change encourages students to be more critical and reflective, rather than simply optimistic. These results are supported by other studies that also found that students with high digital literacy tend to be more critical in assessing the benefits and challenges of digitalization and are more aware of the risks and the need for further competency development. (Alexander Oliva et al., 2024). Therefore, maintaining a critical attitude towards change can be an appropriate way to prepare oneself to be more realistic in this digital transformation (Vodă et al., 2022). This finding also enriches the literature, which has tended to focus more on the

linear relationship between digital literacy and positive attitudes toward digital transformation (Fernández et al., 2023).

The respondents' responses in this study indirectly indicate a link between the development of digital literacy and critical thinking in students' learning experiences. In this case, students already have technical experience with technology but are also able to assess changes objectively and adaptively through the learning process followed in lectures (Alexander Oliva et al., 2024; Vodă et al., 2022). Thus, the results of this study have shown an important fundamental perspective in understanding young people's responses to the ongoing digital transformation, namely the emphasis on the importance of deep understanding that encourages critical thinking in order to be prepared for this digital transformation. In addition, higher education institutions also need to consider the need for a balance between perceptions of readiness and the strengthening of real competencies through adaptive and reflective curricula. These findings can serve as a basis for developing more relevant and sustainable digital education policies and innovations (Abulibdeh et al., 2025; George & Wooden, 2023; Kuleto et al., 2021).

These findings reemphasize the importance of integrating digital literacy, critical thinking, and collaboration into higher education curricula. The results show that the potential for developing digital literacy integrated with critical thinking and collaborative learning can increase academic engagement and prepare students to face the challenges of the working world (Potgieter et al., 2023). These results also open opportunities for further research on learning strategies that can balance the experience, readiness, and critical attitudes of interdisciplinary students, as well as the development of more comprehensive and contextual digital readiness assessment instruments. In addition, the differences in sentiment and readiness across disciplines and socioeconomic backgrounds open opportunities for further research on inclusive and adaptive learning strategies, as well as the development of more comprehensive digital readiness assessment instruments (Potgieter et al., 2023). Thus, higher education institutions are expected not only to foster optimism, but also to equip students with critical, reflective, and relevant digital competencies for the future.

CONCLUSION

This study shows that students generally have confidence in their digital competence, which includes knowledge, attitudes, and skills to cope with the digital era. Moreover, they show a positive view of the digital changes that are taking place. The results of this study emphasize the importance of digital literacy in encouraging critical thinking, increasing academic participation, and preparing students to face the dynamics of the digital age. Most research participants showed optimism and confidence in facing digital transformation. However, this study found differences in readiness levels influenced by how well they understood digital transformation. Therefore, integrating digital literacy, critical thinking skills, and collaboration-based learning into the education curriculum is key to ensuring that students are fully prepared to face future challenges.

The findings in this study explain that higher digital literacy is not always closely related to positive perceptions; rather, this high literacy can encourage more critical and reflective attitudes. These results indicate the need for an educational approach that not only builds knowledge but also equips students with the ability to analyze and evaluate risks in digital development. Although the respondents in this study were quite broad and diverse in terms of their fields of study, it is possible that certain fields of study have different needs and depths of understanding. Therefore, further research is recommended to develop studies related to integrate learning models that holistically combine digital literacy, critical thinking, and collaboration, as well as to test their effectiveness in various disciplines and higher education

contexts. Thus, future studies are expected to provide more in-depth and applicable contributions to the development of higher education curricula and policies in the digital era.

Furthermore, the points of the promise of innovative pedagogical approaches, such as problem-based learning and the strategic integration of artificial intelligence (AI), as powerful vehicles for simultaneously advancing digital and critical thinking competencies. In conclusion, this study affirms that successful digital transformation in higher education must be coupled with a concerted effort to strengthen digital literacy, foster critical thinking, and provide adaptive institutional support. Only through this multifaceted approach can higher education truly prepare students to navigate the dynamic challenges and meet the evolving demands of the digital workforce.

REFERENCES

Abulibdeh, A., Chatti, C. B., AlKhereibi, A., & Menshawy, S. El. (2025). A Scoping Review of the Strategic Integration of Artificial Intelligence in Higher Education: Transforming University Excellence Themes and Strategic Planning in the Digital Era. *European Journal of Education*. https://doi.org/10.1111/ejed.12908

Abulibdeh, A., Zaidan, E., & Abulibdeh, R. (2024). Navigating the confluence of artificial intelligence and education for sustainable development in the era of industry 4.0: Challenges, opportunities, and ethical dimensions. *Journal of Cleaner Production*. https://doi.org/10.1016/j.jclepro.2023.140527

Alexander Oliva, H., Pérez-Morán, G., Epifanía-Huerta, A., Temoche-Palacios, L., & Iparraguirre-Villanueva, O. (2024). Critical Thinking and Digital Competence in College Students: A Cross-Sectional Study. *International Journal of Engineering Pedagogy (IJEP), 14*(2), 92–99. https://doi.org/10.3991/ijep.v14i2.46767

Czerwińska, M. M., Berniak-Woźny, J., & Plebańska, M. (2023). Are digital natives ready to work in a digitally transformed work environment? University students' perspective. *Journal of Modern Science*, *54*(5), 163–180. https://doi.org/10.13166/jms/176179

Eri, R., Gudimetla, P., Star, S., Rowlands, J., Girgla, A., To, L., Li, F., Sochea, N., & Bindal, U. (2021). Digital resilience in higher education in response to COVID-19 pandemic: Student Perceptions from Asia and Australia. *Journal of University Teaching and Learning Practice*, *18*(5). https://doi.org/10.53761/1.18.5.7

Fernández, A., Gómez, B., Binjaku, K., & Meçe, E. (2023). Digital transformation initiatives in higher education institutions: A multivocal literature review. *Education and Information Technologies*, 1–32. https://doi.org/10.1007/s10639-022-11544-0

George, B., & Wooden, O. (2023). Managing the Strategic Transformation of Higher Education through Artificial Intelligence. *Administrative Sciences*. https://doi.org/10.3390/admsci13090196

German Ruiz-Herrera, L., Valencia-Arias, A., Gallegos, A., Benjumea-Arias, M., & Flores-Siapo, E. (2023). Technology acceptance factors of e-commerce among young people: An integration of the technology acceptance model and theory of planned behavior. *Heliyon*, *9*(6), e16418. https://doi.org/10.1016/j.heliyon.2023.e16418

Grimalt-Álvaro, C., & Usart, M. (2024). Sentiment analysis for formative assessment in higher education: a systematic literature review. *Journal of Computing in Higher Education*, *36*(3), 647–682. https://doi.org/10.1007/s12528-023-09370-5

Kuleto, V., Ilić, M., Dumangiu, M.-A., Ranković, M., Martins, O., Păun, D., & Mihoreanu, L. (2021). Exploring Opportunities and Challenges of Artificial Intelligence and Machine Learning in Higher Education Institutions. *Sustainability*. https://doi.org/10.3390/su131810424

Potgieter, I., Coetzee, M., & Ferreira, N. (2023). University students' digital world of work readiness in relation to their employability competency. *Journal of Learning Development in Higher Education*, *27*. https://doi.org/10.47408/jldhe.vi27.922

Quy, V., Thanh, B. T., Chehri, A., Linh, D. M., & Tuan, D. A. (2023). AI and Digital Transformation in Higher Education: Vision and Approach of a Specific University in Vietnam. *Sustainability*. https://doi.org/10.3390/su151411093

Simatupang, E. C., Zuraida, I., Illana, M. A. A., & Rodelas, A. N. (2024). Sentiment Analysis On Students' Perspective Toward English Online Learning Using Word Frequency Analysis. *English Review: Journal of English Education*, *12*(2), 725–732. https://doi.org/10.25134/erjee.v12i2.9392

Sindakis, S., & Showkat, G. (2024). The digital revolution in India: bridging the gap in rural technology adoption. *Journal of Innovation and Entrepreneurship*, *13*(1), 29. https://doi.org/10.1186/s13731-024-00380-w

Vodă, A. I., Cautisanu, C., Grădinaru, C., Tănăsescu, C., & de Moraes, G. H. S. M. (2022). Exploring Digital Literacy Skills in Social Sciences and Humanities Students. *Sustainability*, *14*(5), 2483. https://doi.org/10.3390/su14052483

Xue, L., Rashid, A. M., & Ouyang, S. (2024). The Unified Theory of Acceptance and Use of Technology (UTAUT) in Higher Education: A Systematic Review. *Sage Open*, *14*(1). https://doi.org/10.1177/21582440241229570

Yaqub, M., & Alsabban, A. (2023). Industry-4.0-Enabled Digital Transformation: Prospects, Instruments, Challenges, and Implications for Business Strategies. *Sustainability*. https://doi.org/10.3390/su15118553

Zhao, Y., Sánchez Gómez, M. C., Pinto Llorente, A. M., & Zhao, L. (2021). Digital Competence in Higher Education: Students' Perception and Personal Factors. *Sustainability*, *13*(21), 12184. https://doi.org/10.3390/su132112184