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The Influence of Digitalization and Technology on Generation Z's Career Choices

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ABSTRACT

Digitalization has significantly reshaped how individuals live, learn, and choose their careers. Generation Z, growing up in the digital age, faces challenges such as unequal digital literacy, information overload, and unpreparedness in making career decisions. This study investigates how digitalization and technology affect Generation Z's career choices in Indonesia. Using a quantitative, explanatory research approach, data were collected from 100 university students aged 18–24 through purposive sampling. Respondents completed a Likert-scale questionnaire distributed via Google Forms. The data were analyzed using multiple linear regression with SPSS to examine both individual and combined effects of the variables. Findings show that (1) digitalization has a positive and significant impact on Generation Z's career choices; (2) technology also positively and significantly influences their career decisions; and (3) both factors together significantly shape career preferences. This research offers insights for educators, industries, and policymakers to develop career support strategies that align with digital progress. It also highlights the importance of digital readiness for Generation Z as they navigate a rapidly evolving, tech driven job market

INTRODUCTION

Digitalization is a transformative process that reshapes the ways in which individuals, organizations, and societies interact, operate, and communicate through the application of digital technologies. This process aims to enhance efficiency and effectiveness across various sectors of life, including the economic, social, educational, and professional domains (Wibowo et al., 2023). In the context of career development, digitalization has opened new avenues for innovation, collaboration, and information dissemination, enabling individuals to access broader and more flexible career opportunities.

This transformation is particularly significant for Generation Z, who have grown up entirely within a digital environment and integrate digital tools into nearly every aspect of their lives. Nurkhasannah and Putri (2025) found that Generation Z's perception of digital environments has a positive and significant impact on their career choices, indicating that digital awareness directly influences how this cohort navigates career-related decisions. Their study shows that digital fluency affects not only career aspirations but also the platforms used to explore and evaluate employment options.

Furthermore, Subekti et al. (2024) describe digitalization as being characterized by increased digital literacy, enhanced user interactivity, and more efficient access to information, which collectively reduce reliance on physical media. The ease of storing and sharing data also accelerates learning processes and facilitates career exploration. Nonetheless, challenges such as data security and the digital divide must be addressed to ensure equitable access to the benefits of digital transformation.

Supporting this view, Subasman and Rusmiati (2023) argue that technological transformation particularly in education significantly contributes to career readiness, especially in the STEM (Science, Technology, Engineering, and Mathematics) sector. Their findings highlight that digital competencies acquired through technology-integrated education directly enhance students' preparedness for entering a modern workforce. This underscores the need for educational systems and policy frameworks to prioritize technological integration across disciplines.

The rise of digitalization has also led to the emergence of previously unknown job categories such as content creator, digital marketer, data analyst, and UX designer. These professions are heavily reliant on digital competencies and information technology infrastructure. Sintani et al. (2024) noted that the integration of digital media in career planning enables individuals to make faster, more informed career decisions. Key indicators of digitalization in career contexts include access to online information, participation in social media, the use of digital career platforms (e.g., LinkedIn, JobStreet, webinars), and adaptability to digital work culture (Tapscott, 2009).

Generation Z hose born between 1997 and 2012 is the first generation to have grown up entirely in the digital era. They maintain a close and habitual relationship with technology and the internet, and they tend to prefer careers that are flexible, technology-oriented, and unconstrained by geographic or time-based limitations. Hidayat et al. (2024) reported that 98% of Indonesian Generation Z use the internet for more than eight hours daily. However, not all Gen Z individuals have equal access to digital tools and skills. According to BPS (2023), although 78% of Indonesian households have internet access, there remains a significant digital divide between urban and rural areas.

In parallel, technological advancements play a crucial role in shaping individual readiness to face a rapidly changing labor market. Technology in this context includes not only hardware and software but also digital infrastructure, online platforms, and collaborative work systems. Wibowo et al. (2023) assert that digital technologies have fundamentally changed how people learn, work, and communicate. Subekti et al. (2024) further emphasize that technology increases productivity and demands new skills and high adaptability.

Mula and Ristiani (2025) argue that technological developments have triggered substantial changes in required workforce

competencies. The demand for technology-based roles such as software engineers, cybersecurity analysts, and data scientists is rising rapidly. Consequently, younger generations are expected to be technologically competent and adaptable from an early age. Indicators of technological competence include proficiency in digital tools (e.g., Microsoft Office, Canva, Google Workspace), internet access, participation in online learning, and readiness to work in technology-driven environments.

Career choice is a complex decision-making process that reflects an individual's direction in life based on their interests, potential, values, and socio-economic conditions. Syam et al. (2021) highlight that both internal factors (e.g., personality and interests) and external factors (e.g., labor market trends and technological advancements) influence these decisions. Nurlaila et al. (2024) note that Generation Z tends to prefer dynamic, project-based careers that offer better work-life balance and professional freedom. Indicators of career choice include interest in technology based occupations, readiness to join the digital workforce, active exploration of career options through digital platforms, and decision-making informed by market trends and data (OECD, 2004).

Based on the foregoing discussion, it is evident that digitalization and technological advancement are key drivers influencing Generation Z's career orientations and decision-making processes. However, empirical research examining the simultaneous impact of both factors remains limited. Therefore, this study is significant as it fills a theoretical and practical gap by providing a comprehensive understanding of how digitalization and technology jointly affect career choices. The findings are expected to inform educational strategies, workforce development programs, and career guidance policies that align with the evolving digital landscape.

METHODS

This research employed a quantitative approach using an explanatory research design to determine the causal relationship between digitalization (X_1), technology (X_2), and Generation Z's career choices (Y). The explanatory method was selected because it not only describes existing phenomena but also aims to analyze to what extent and how both independent variables influence the dependent variable, both partially and simultaneously. This is in line with Sugiyono (2021), who stated that explanatory research seeks to explain causal relationships among variables by testing hypotheses through statistical analysis such as multiple linear regression.

The research was conducted online using Google Forms to distribute questionnaires. This method enabled broad and diverse access to respondents, particularly active university students in Indonesia aged 18–24 years who belong to Generation Z. This population was targeted because of their digital native characteristics and active career planning stage. The online format was deemed appropriate due to the digital focus of the study, allowing the collection of real-time, contextually relevant data.

The sampling technique used was purposive sampling, a non-probability technique in which the researcher selects participants based on specific criteria. The inclusion criteria for respondents included: being currently enrolled in undergraduate programs, aged between 18–24 years, actively using digital technology, and currently involved in career planning or exploration. A total of 100 respondents were selected for this study, a sample size deemed sufficient to represent the research population and yield valid and reliable results.

The primary data was collected via a structured closed-ended questionnaire. The instrument was designed using a 5-point Likert scale, ranging from 1 (strongly disagree) to 5 (strongly agree). The questionnaire was constructed based on operational indicators from established theories: digitalization indicators were derived from Tapscott (2009), technology indicators from Schmidt et al.

(2009), and career choice indicators from OECD (2004). To ensure the accuracy of measurements, the instrument underwent validity testing using Pearson Product Moment, where items with a correlation coefficient ≥ 0.3 and significance level < 0.05 were considered valid (Sugiyono, 2021). Reliability testing was conducted using Cronbach's Alpha, with $\alpha \geq 0.60$ considered acceptable (Ghozali, 2018).

In addition to primary data, secondary data was obtained from books, journals, government reports, and other scholarly sources relevant to digitalization, technology, and career development. These sources were used to strengthen the theoretical framework and enrich the interpretation of the findings.

The data analysis process followed several stages using SPSS software. First, descriptive statistics were used to summarize respondent characteristics, means, standard deviations, and frequency distributions. Next, classical assumption tests were performed, including tests for normality (Kolmogorov-Smirnov), multicollinearity (VIF < 10; Tolerance > 0.1), and heteroscedasticity (via scatterplots).

After confirming that the data met classical assumptions, multiple linear regression analysis was conducted to evaluate the simultaneous and partial effects of the independent variables. The regression model used was:

$$Y = \alpha + \beta_1 X_1 + \beta_2 X_2 + \varepsilon,$$

where Y represents career choice, X_1 is digitalization, X_2 is technology, and ε is the error term.To test the research hypotheses, the study applied:

a) T-tests for analyzing the partial effect of each independent variable,
b) F-tests for determining the simultaneous effect of both variables,
c) Coefficient of Determination (R^2) to measure how much variation in career choice can be explained by digitalization and technology.

RESULTS AND DISCUSSION

A. Multiple Linear Regression

Multiple linear regression analysis was employed to determine the extent to which the independent variables Digitalization (X_1) and Technology (X_2) influence the dependent variable, namely Generation Z's Career Choice (Y). This method is used to measure the contribution of each independent variable in shaping the career decisions of Generation Z, as well as to identify which factor exerts the most significant impact. Through this analysis, both the simultaneous and partial effects of digitalization and technology can be observed, particularly within the rapidly evolving context of the digital era.

Table 1. Multiple Linear Regression Analysis

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	6,007	2,641		2,275	0,025
Digitalisasi	0,412	0,098	0,416	4,219	0,000
Teknologi	0,540	0,100	0,530	5,381	0,000

Source**:** Processed SPSS Data, 2025

Regression Equation:

$$\mathbf{Y = 6.007 + 0.412X_1 + 0.540X_2 + e}$$

Interpretation of Regression Output:

1. Constant ($\alpha = 6.007$):
   This indicates that if both independent variables digitalization and technology are held at zero, the baseline value of Generation Z's career choice would be 6.007 units. This value represents the default level of the dependent variable when no influence from the independent variables is present.
2. Coefficient of Digitalization ($b_1 = 0.412$):

This means that for every one-unit increase in the digitalization variable, Generation Z's career choice increases by 0.412 units, assuming technology remains constant. This finding suggests that as digitalization progresses, it positively enhances the interest and motivation of Generation Z in making career decisions.

3. Coefficient of Technology ($b_2 = 0.540$):
   A one-unit increase in the technology variable leads to an increase of 0.540 units in career choice, indicating a stronger positive influence. This highlights that advancements in technology play a significant role in shaping career orientation among Generation Z.

Comparatively, technology exerts a stronger influence on career choices than digitalization, as reflected in the higher regression coefficient. Therefore, it can be concluded that among the two variables analyzed, technology is the most dominant factor influencing Generation Z's career decision-making within the scope of this study.

Hypothesis Testing

A. Coefficient of Determination (R^2)

The coefficient of determination (R^2) is used to assess how well the regression model explains the variation in the dependent variable based on the independent variables. The R^2 value ranges from 0 to 1, with values closer to 1 indicating a stronger relationship between the variables in the model. In this study, which investigates "The Influence of Digitalization and Technology on Generation Z's Career Choices", the R^2 value reflects the extent to which the independent variables Digitalization and Technology account for the variance in the dependent variable, namely Generation Z's career choices. A high R^2 value indicates that the model captures most of the information necessary to predict career choices. Therefore, the higher the R^2, the better the model is at explaining and forecasting the influence of digitalization and technology on Generation Z's career tendencies in today's digital landscape.

B. F-Test (Simultaneous Significance Test)

The F-test is used to determine whether all independent variables in the regression model, when considered collectively, significantly influence the dependent variable. In this context, the F-test evaluates whether Digitalization and Technology, taken together, have a significant effect on Generation Z's career choices. If the significance value (Sig.) is less than the conventional alpha level (typically 0.05), it can be concluded that the regression model is statistically valid and that the independent variables exert a joint significant effect on the dependent variable. Conversely, if the significance exceeds 0.05, the model is not statistically significant.

Table 2. F-Test Results

Model	Sum of Squares	df	Mean Square	F	Sig.
Regression	3,942.624	2	1,971.312	302.973	0.000
Residual	631.136	97	6.507		
Total	4,573.760	99			

Source**:** Processed SPSS Data, 2025

As shown in the ANOVA table, the calculated F-value is 302.973, which is significantly higher than the F-critical value of approximately 3.09 (at $\alpha = 0.05$, $df_1 = 2$, $df_2 = 97$). Since F_calculated > F_critical and Sig. = 0.000 < 0.05, the null hypothesis (H_0) is rejected and the alternative hypothesis (H_1) is accepted. This confirms that digitalization and technology jointly have a significant effect on Generation Z's career choices. These findings indicate that the advancement of digital infrastructure and technological applications plays a vital role in shaping career aspirations and preferences among today's youth. Consequently, education, training, and employment policies must

consider digital and technological trends to effectively address the evolving expectations of Generation Z.

C. T-Test (Partial Significance Test)

The t-test is used to assess the individual (partial) influence of each independent variable on the dependent variable within a multiple regression model. In this study, the t-test determines whether Digitalization and Technology independently have a significant impact on Generation Z's career choices. The calculated t-value from the regression output is compared to the critical t-value at a 5% significance level and degrees of freedom (df = n - k = 100 - 2 - 1 = 97). If t_calculated > t_critical and Sig. < 0.05, the null hypothesis is rejected, indicating that the variable significantly influences the dependent variable.

Table 3. T-Test (Partial Significance Test)

Model	Unstandardized Coefficients (B)	Std. Error	Standardized Coefficients (Beta)	t	Sig.
(Constant)	6.007	2.641	—	2.275	0.025
Digitalization	0.412	0.098	0.416	4.219	0.000
Technology	0.540	0.100	0.530	5.381	0.000

Source**:** Processed SPSS Data, 2025

Interpretation:

1. **Digitalization:**
   a) Sig. = 0.000 < 0.05, and t_calculated = 4.219 > t_critical (with df = 97)
   b) Therefore, H_0 is rejected, and it is concluded that digitalization has a positive and significant partial effect on Generation Z's career choices.
2. **Technology:**
   a) Sig. = 0.000 < 0.05, and t_calculated = 5.381 > t_critical (with df = 97)
   b) Thus, H_0 is rejected, and **t**echnology also has a positive and significant partial effect on career choices.

Based on these t-test results, both digitalization and technology individually exert a statistically significant and positive influence on the career decisions of Generation Z. Among the two, technology demonstrates a slightly stronger influence, as indicated by its higher standardized oefficient and t-value. These findings highlight the critical role of digital and technological readiness in shaping career aspirations. As such, policymakers and educators must prioritize digital literacy and technological integration in career development programs to align with the demands and interests of the digital native generation.

DISCUSSION

The Influence of Digitalization on Generation Z's Career Choice

The findings of this study indicate that digitalization has a significant and positive influence on the career choices of Generation Z. This is statistically supported by a t-value of 4.219 and a significance level of 0.000 ($p < 0.05$), signifying a high degree of confidence in the result. The regression coefficient shows that as digitalization increases, the career orientation and decisions of Generation Z become more dynamic, flexible, and digitally aligned.

Digitalization, in this context, refers to the transformation of information and communication through digital technologies such as internet platforms, social media, and online job portals that reshape the way individuals explore, assess, and decide on potential careers. For Generation Z, who are widely recognized as digital natives, digitalization is not simply a technological shift but a cultural one. They grow up immersed in a digital environment that constantly shapes their perceptions,

preferences, and expectations regarding professional opportunities.

The digital environment provides unprecedented access to career-related information, including job trends, required qualifications, salary benchmarks, testimonials, and career pathways. Through platforms like LinkedIn, JobStreet, Glassdoor, YouTube, and even TikTok, young people can explore hundreds of career options with just a few clicks. This high level of accessibility empowers them to make better-informed decisions based on real-time data and peer insights, rather than relying solely on traditional sources like academic advisors or family expectations.

Furthermore, digitalization allows for career flexibility and innovation. Traditional roles are no longer the sole focus; instead, careers such as content creator, digital marketer, influencer, and freelance designer have emerged as viable paths that are not only accessible but appealing to Gen Z due to their autonomy, creativity, and relevance to current cultural trends. These roles often offer flexible hours, the ability to work remotely, and the opportunity to build personal brands all of which align with Gen Z's values for independence and balance.

These findings are supported by Subasman and Rusmiati (2023), who stated that digital transformation significantly alters career pathways, particularly in fields related to STEM and the creative economy. Similarly, Kara (2019) found that digital media exposure had a direct influence on students' career interests, particularly those with high intellectual potential, due to the interactive and personalized nature of digital tools. These results also refine earlier work by Nurkhasannah & Putri (2025) and Atika et al. (2022), who highlighted digital perception as a factor, but did not empirically measure the causal relationship. Therefore, this study provides stronger and more conclusive evidence that digitalization acts as a fundamental factor in shaping how Generation Z makes career decisions.

Ultimately, the data support the idea that digitalization is not merely a background context, but a central agent in shaping career development behavior. For this generation, the digital environment is not optional it is integral to how they perceive success, define work, and choose their future.

The Influence of Technology on Generation Z's Career Choice

In addition to digitalization, technology itself plays a crucial and statistically significant role in shaping Generation Z's career choices, as indicated by a t-value of 5.381 and a p-value of 0.000. This highlights that the more proficient and exposed young individuals are to current technology, the more likely they are to pursue careers that integrate or rely on technological systems, platforms, and processes.

Technology, in this study, encompasses both technical tools (hardware and software) and digital infrastructure, including online learning platforms, productivity applications, collaborative workspaces, and artificial intelligence systems. Generation Z has not only grown up with technology—they've evolved with it. Their expectations for work environments include real-time connectivity, seamless communication, task automation, and creative digital tools. Hence, their career decisions naturally gravitate toward fields that meet these technological standards.

The technological era has created new demands for workforce competencies, shifting the focus from conventional academic qualifications to tech-based skills such as data analysis, programming, cybersecurity, digital communication, and remote collaboration. As a result, Gen Z tends to select career paths that are aligned with these competencies. Tools like Google Workspace, Canva, Notion, Slack, and Trello are no longer optional; they are core components of daily productivity and collaboration both in education and in employment. This makes technological readiness not only advantageous, but essential.

The findings are in line with Mula & Ristiani (2025), who argue that the Fourth Industrial Revolution has reshaped labor demands through AI, automation, and big data. They emphasize that Generation Z must prepare for jobs that may not have existed a decade ago but are now in high demand

such as machine learning engineer, cloud specialist, virtual UX researcher, and AI content strategist. The ability to adapt to these roles is grounded in one's technological literacy and capacity to continuously upskill.

Furthermore, Akbar (2024) notes that the startup ecosystem has been a major influence on Gen Z's work values. Startups promote agility, cross-functional collaboration, and the integration of cutting-edge technology, which align closely with the working style preferred by younger generations. This explains the appeal of tech-based companies and hybrid/remote roles over traditional, rigid work structures.

Technology also enhances career autonomy, allowing individuals to design personalized career journeys. With access to MOOCs (Massive Open Online Courses), online certifications, and global job boards, students can acquire skills independently and pursue opportunities across borders. They are no longer limited to what is offered in their local context; instead, they are part of a global talent pool.

In summary, the evidence confirms that technology functions as both an enabler and a driver of career choice among Generation Z. It influences how they learn, where they work, what they expect from employers, and which roles they find desirable. As technology continues to evolve, so too will the career trajectories of those who are immersed in it from an early age.

CONCLUSION

This study concludes that both digitalization and technology exert a significant and positive influence on the career choices of Generation Z in Indonesia. Digitalization through enhanced access to information, social media, and online career platforms empowers young individuals to explore diverse career opportunities efficiently and in alignment with contemporary labor market trends. Simultaneously, technology, encompassing digital skills, tools, and remote work systems, not only enhances Generation Z's preparedness for the workforce but also shapes their preferences toward flexible, tech-driven, and location-independent careers.

The combined influence of digitalization and technology plays a pivotal role in shaping career orientation, readiness, and decision-making processes among Generation Z. These findings underscore that digital transformation is not merely a contextual backdrop, but rather a central force actively reshaping how this generation defines, pursues, and engages with career opportunities. Consequently, it is imperative for educators, industry stakeholders, and policymakers to develop responsive career support strategies that align with digital advancements, ensuring that Generation Z is adequately equipped to navigate the demands and opportunities of an increasingly technology-driven labor market.

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