DIJEMSS: Dinasti International Journal of Education Management and Social Science
E-ISSN: 2686-6331
P-ISSN: 2686-6358
https://dinastipub.org/DIJEMSS dinasti.info@gmail.com +62 811 7404 455
DINASTI PUBLISHER
DOI: https://doi.org/10.38035/dijemss.v7i4

Digital Transformation in Improving Teacher Performance: A Quantitative Study of Digital Leadership, Digital Culture, and Innovation

Wiwik Pudjaningsih[1], Nur Intan Rochmawati[2], Lisa Virdinarti Putra[3], Zuhri Saputra Hutabarat[4], Heni Pratiwi[5]
[1]Universitas Ngudi Waluyo, Jawa Tengah, Indonesia, wikpudja@gmail.com
[2]Universitas Ngudi Waluyo, Jawa Tengah, Indonesia, nurintanrochmawati@unw.ac.id
[3]Universitas Ngudi Waluyo, Jawa Tengah, Indonesia, lisavirdinartiputra@gmail.com
[4]Universitas Batanghari Jambi, Indonesia, zuhri2saputra1hutabarat9@gmail.com
[5]Universitas Jambi, Indonesia, henipratiwi@unja.ac.id

Corresponding Author: wikpudja@gmail.com[1]

Abstract: This study aims to examine and demonstrate the impact of digital leadership, digital culture, and innovation on enhancing teacher performance, as well as the degree to which technology use and innovative teaching methods spearheaded by school administrators can enhance learning efficacy. The study involved 110 teachers from State Vocational High Schools in Jambi City of this study, using a quantitative ex post facto design. Data were collected using validated questionnaires to gather data. The evaluation stage of the measuring model and the structural model, as well as assessing direct and indirect influences, were used to analyze the data. The results indicate that digital leadership, digital culture, and innovation significantly influence teacher performance, lack adequate training, lack technology adoption, and less competent leaders, 2) Teachers who are in an environment with a strong digital culture tend to be more innovative in designing learning, 3) Teacher innovation creates new ideas in learning, teachers use creative learning models, and teachers utilize technology, 4) Lack of organizational readiness in adopting technology, poorly planned innovation, and lack of digital competence of leaders, 5) Teachers who are familiar with technology tend to find new ideas more easily, utilize online learning platforms.

Keywords: Digital Leadership, Digital Culture, Innovation, Teacher Performance

INTRODUCTION

Digital technology has transformed many aspects of human life in the current digital era. The advent of technology has made it more than just a useful tool; it is now a necessary part of daily existence. Education is one industry that has been most affected by the emergence of the digital age (Dita Alfitami, 2017). The relationship between teachers and students, the variety of learning approaches, and the use of digitalization in school administration are all examples of how the education system is changing (Mohamad et al., 2017) and (Dacholfany et al., 2023).

The usage of digital technology in schools is still uneven, despite the continuous push for digital transformation across multiple education sectors. Only 5.31% of Indonesian elementary schools, 27.10% of junior high schools, 39.38% of senior high schools, and 41.45% of vocational high schools have access to computers, according to data from the Central Statistics Agency (BPS) (BPS, 2022). According to this statistics, many schools still do not have the necessary digital infrastructure to facilitate technology-based learning (Phongsavath et al., 2022). Teacher effectiveness is eventually impacted by this unequal access, which leads to low technology utilization in the teaching and learning process and school administration (Iyamuremye et al., 2024) and (Mulyadi et al., 2024).

The discrepancy in access to and usage of technology in schools emphasizes how crucial digital leadership is in directing the efficient use of technology (Rustantono et al., 2024). The principal's capacity to oversee technology-based change, give teachers guidance, and establish a school vision and culture that encourages technology use are all included in digital leadership. Strong digital leadership on the part of principals can encourage educators to incorporate technology into their lessons, which will improve their performance (Eganasrudin et al., 2024).

The employment of technology in educational settings is greatly aided by digital culture as well as digital leadership. The ideals, attitudes, and behaviors of school personnel in utilizing technology constructively and effectively are reflected in digital culture (Masni et al., 2021). Teachers will be conscious of and consistent in using technology as a teaching tool when a digital culture is well-established. Teachers' performance will continue to increase in a school setting with a strong digital culture (Hutabarat & Ekawarna, 2023) and (Fedushko & Ustyianovych, 2022).

Another important component of understanding digital technology is innovation. Innovation is the process of creating something new through more inventive and efficient use of current technologies (Hutabarat et al., 2022). In addition to being able to use digital technology, teachers must create instructional strategies that are specific to the needs of their students. Teachers can develop engaging, non-monotonous teaching strategies that are customized to meet the requirements of their pupils by using creativity (Surono et al., 2023). Additionally, creative educators must use the technologies at their disposal to overcome inadequate infrastructure and facilities. As a result, better performance as educators is strongly associated with teachers who are able to innovate with digital technology (Saputra Hutabarat, 2017) and (Budiningtyas & Hutabarat, 2024).

One important metric for assessing the standard of instruction in schools is teacher performance. Effective teachers are able to plan, carry out, and assess instruction. Teachers' effectiveness in the digital age is evaluated not just on their traditional teaching abilities but also on how well they use technology to generate engaging and effective lessons (Emvula, 2020). As a result, digital leadership, digital culture, and the capacity for innovation in the classroom all have a significant impact on teacher performance today (Amin et al., 2022).

Initial observations at State Vocational High School 1 in Jambi City suggest that learning innovation, digital culture, and digital leadership are starting to be incorporated into school activities (Wei & Lin, 2024). The principal actively uses digital media to support digital-based administrative systems, promote technology use, and provide guidance. Additionally, teachers are used to creating and altering educational materials, utilizing digital learning tools and resources, and methodically carrying out learning administration and assessment. These circumstances show how leadership and a digital culture enable better teacher effectiveness (Mizal & Wijayangka, 2020).

The focus on concurrently highlighting the impact of digital leadership, digital culture, and innovation on teacher performance, especially at vocational high schools (SMK), is what makes this research interesting. Instead than focusing on educational institutions, the majority of prior study has concentrated on the organizational or industrial sector (Mayasari et al., 2024).

Additionally, by investigating how these three factors interact to affect teacher effectiveness in the age of educational digitalization, this study aims to close this gap. As a result, it is anticipated that this study will make fresh contributions to the advancement of leadership and innovation theories in the field of education (Hutamy et al., 2023).

Additionally, the research's novelty is demonstrated by its empirical findings, which show that vocational high schools (SMK) differ from public schools in terms of job preparedness, vocational abilities, and the requirements of adjusting to industrial technology (Syuhada et al., 2023). As a result, this study is seen to be pertinent for vocational high schools to investigate how much innovation, digital leadership, and digital culture affect teacher effectiveness (Tangahu, 2021), (Hutabarat et al., 2023) and (Betzalel et al., 2022).

METHOD

Because it seeks to ascertain the influence between the variables employed in the study, this research employs quantitative research methodologies. A technique for testing a theory is quantitative research, which looks at the correlations between the variables under study (Sugihartono, 2007). The study's goals of objectively and quantitatively examining the relationship between independent, dependent, and mediating variables led to the selection of quantitative research. Ex post facto research, which is done after an event has happened with the goal of determining the causes of the occurrence, is the study design that is employed. Ex post facto is a type of research conducted by examining events that have occurred previously, then tracing back to the past to identify factors suspected to have caused the event (Sugiyono, 2017).

In order to gather data for this study, questionnaires are distributed to respondents in order to get information on the factors under investigation. The population consisted of 110 teachers from State Vocational High Schools in Jambi City that the researcher has chosen as the study's focus in order to make conclusions. The 110 teachers who work at State Vocational High Schools 1, 2, 3, 4, and 5 in Jambi City comprise the population of this study. SmartPLS 3.0 software was used to evaluate the gathered data as follows:

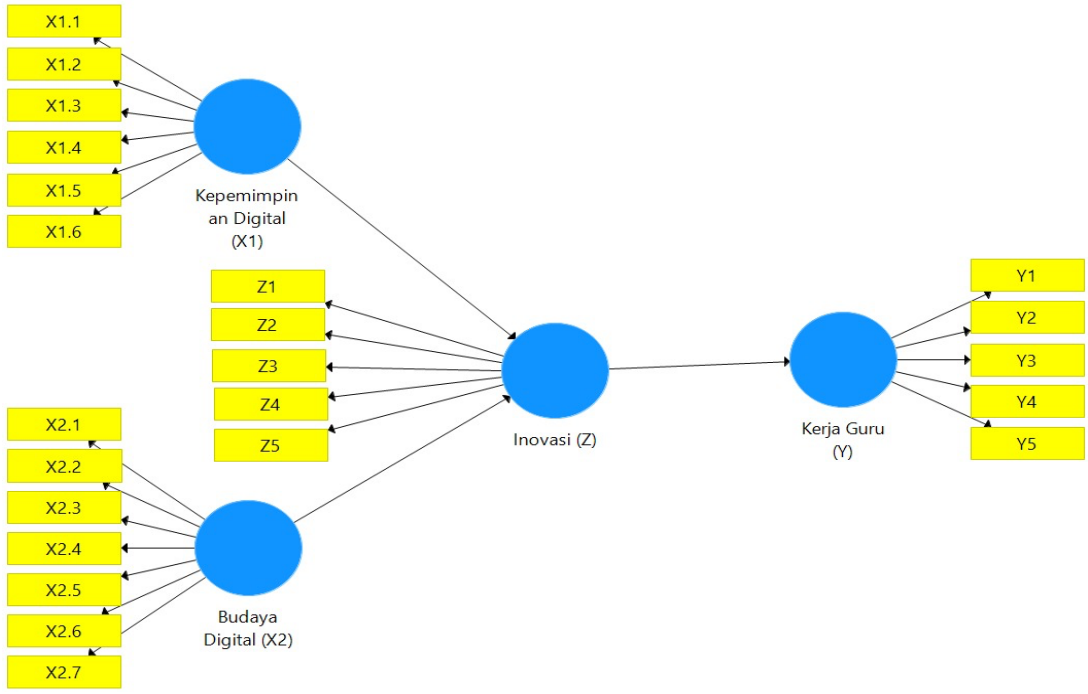

Figure 1: Model Design
(Source: Researcher's Design using SmartPLS 3.0 Software)

RESULTS AND DISCUSSION

Research Result

1. *Direct Effect* Hypothesis Testing

The direct effect hypothesis test is used to determine whether exogenous variables have a direct impact on endogenous variables. The test criteria state that if the variable's P-Value is less than 0.05 (alpha = 5%) and its T-Statistic is greater than 1.96 (significance level = 5%), then exogenous variables have a significant impact on endogenous variables. Bootstrapping is used to present the hypothesis test findings. SmartPLS in this manner:

Path Coefficients

Mean, STDEV, T-Values, P-... | Confidence Intervals | Confidence Intervals Bias ... | Samples | Copy to Clipboard: | Excel Format | R Format

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Budaya Digital (X2) -> Inovasi (Z)	0.696	0.698	0.086	8.052	0.000
Inovasi (Z) -> Kerja Guru (Y)	0.779	0.781	0.069	11.249	0.000
Kepemimpinan Digital (X1) -> Inovasi (Z)	0.052	0.053	0.102	0.511	0.610

Figure 2. Results of Direct *Effects*
(Source: Researcher's Design using SmartPLS 3.0 Software)

It can be observed as follows based on the data collected from the aforementioned image: 1) The P-Value and T-Statistic for the impact of digital leadership on innovation were less than 0.610 and greater than 0.511, respectively. The test findings indicate that the T-Statistic is more than 1.96 (significance level = 5%) and the P-Value is less than 0.05 (alpha = 5%). 2) The impact of digital culture on innovation was shown to have a P-Value of less than 0.000 and a T-Statistic greater than 8.052, indicating that this is negative, has no effect, and is not significant for digital leadership on innovation. The test findings indicate that the T-Statistic is more than 1.96 (significance level = 5%) and the P-Value is less than 0.05 (alpha = 5%). 3) The impact of innovation on teacher performance was shown to have a P-Value of less than 0.000 and a T-Statistic greater than 0.511, indicating that this is positive, has an impact, and is significant for digital culture on innovation. According to the test results, the T-Statistic is >1.96 (significance level = 5%) and the P-Value data is <0.05 (alpha = 5%). This is described as favorable and has a major impact on the performance of innovation (Komang et al., 2023) and (Ghozali, 2016).

2. Indirect *Effect* Hypothesis Testing

To ascertain if exogenous variables had an indirect impact on endogenous variables, indirect hypothesis testing was carried out. According to the testing criteria, the exogenous and endogenous factors have a significant impact if the P-Value is less than 0.05 (alpha = 5%) and the T-Statistic is more than 1.96 (significance level = 5%). The following is how SmartPLS bootstrapping is used to present the hypothesis testing results:

Specific Indirect Effects

Mean, STDEV, T-Values, P-... | Confidence Intervals | Confidence Intervals Bias ... | Samples | Copy to Clipboard: | Excel Format | R Format

	Original Sample (O)	Sample Mean (M)	Standard Deviation (STDEV)	T Statistics (|O/STDEV|)	P Values
Budaya Digital (X2) -> Inovasi (Z) -> Kerja Guru (Y)	0.542	0.546	0.087	6.246	0.000
Kepemimpinan Digital (X1) -> Inovasi (Z) -> Kerja Guru (Y)	0.041	0.042	0.080	0.506	0.613

Figure 3 Results of Indirect *Effects*
(Source: Researcher's Design using SmartPLS 3.0 Software)

It can be observed as follows based on the data collected from the aforementioned image: 1) The impact of innovative digital leadership on teacher performance was shown to have a P-Value of less than 0.613 and a T-Statistic greater than 0.506. The test findings indicate that the T-Statistic is more than 1.96 (significance level = 5%) and the P-Value is less than 0.05 (alpha = 5%). 2) The impact of digital culture on teacher performance through innovation produced P-Value data of <0.000 and T-Statistic > 6.246; this is described as negative, has no effect, and is not significant for digital leadership on innovation. The test findings indicate that the T-Statistic is more than 1.96 (significance level = 5%) and the P-Value is less than 0.05 (alpha = 5%). This is regarded as beneficial, has an impact, and is important for innovation in digital leadership (I Ghozali, 2011) and (Davis & Jones, 2014).

Discussion

Five hypothesis developments have been identified from the researcher's research findings and the results of the hypothesis testing. These findings will be addressed as follows:

1. The Influence of Digital Leadership on Innovation.

According to the study's conclusions, innovation is negatively impacted by digital leadership. Teacher innovation is hampered by a lack of infrastructural support, inadequate training, a lack of technology uptake, and leaders who are less capable of directing digital transformation. This is consistent with the study's findings. This is consistent with the findings of a study, which discovered that teachers' capacity for innovation in technology integration is not directly impacted by the principal's digital leadership.

Digital leadership does not significantly promote teacher innovation without supporting infrastructure without the assistance of ongoing training, infrastructure readiness, and a professional cooperation framework (Mohamad et al., 2017), (Wei & Lin, 2024) and (Mulyadi et al., 2024). Innovation is negatively and negligibly impacted by testing the theory of digital leadership. Using SmartPLS 3.0 software, structural equation modeling (SEM) analysis produced direct effects data (direct effects) with a P-Value of less than 0.610 and a T-Statistic greater than 0.511.

2. The Influence of Digital Culture on Innovation.

In the contemporary educational ecosystem, teacher innovation and teacher digital culture are closely intertwined. Innovation is the tangible result of applying digital culture to enhance learning quality, whereas digital culture provides the basis for attitudes and actions. The study's findings support the notion that innovation is directly and significantly impacted

by digital culture. This implies that the degree of innovation generated increases with the strength of the organization's digital culture.

This study demonstrates that digital culture encompasses attitudes, conventions, and work practices that encourage speed, teamwork, flexibility, and the application of digital knowledge in addition to the usage of technology (Caggiano et al., 2020), (Fedushko & Ustyianovych, 2022), (Nold, 2017) and (Shidiq, 2023). When this culture is deeply ingrained, workers become more receptive to changes and more inventive in their efforts to provide value. Direct effects data (P-Value <0.000 and T-Statistic > 8.052) were obtained using structural equation modeling (SEM) analysis using SmartPLS 3.0 software.

3. The Influence of Innovation on Teacher Performance.

Innovative educators are able to develop and implement novel concepts, approaches, and educational technologies. In the end, learning tends to be more effective in teaching, which can enhance the quality of student learning outcomes as anticipated. The results of field research show that: Teachers that are innovative use technology to promote better learning outcomes and teacher performance; they also employ creative learning models. These outcomes are consistent with research findings.

These findings are consistent with which demonstrates that creative work practices significantly and favorably affect teacher effectiveness. Because they see failure as a necessary component of learning, teachers that exhibit innovative behavior typically have a growth mentality, are open to challenges, and don't fear failure. This mindset motivates educators to always look for better teaching methods, take criticism well, and keep improving their skills (Hutabarat & Ekawarna, 2023), (Dacholfany et al., 2023), (Sima et al., 2020), and (Charernnit et al., 2021). Teacher performance is positively and significantly impacted by hypothesis testing of innovation. Direct effects data were acquired with a P-Value of <0.000 and a T-Statistic of >11.249, according to structural equation modeling (SEM) study using SmartPLS 3.0 software.

4. The Influence of Digital Leadership on Teacher Performance through Innovation

In terms of technology proficiency and the capacity to communicate a clear digital vision to teachers, many school leaders are ill-prepared for the challenges posed by the digital age. To improve these connections and raise teacher effectiveness, supporting digital leadership, continuous training, and strengthened infrastructure are crucial. Poorly planned innovation, a lack of digital competency in leaders, and a lack of organizational readiness to adopt technology have all been identified by field study.

These findings are consistent with study which shown that teacher innovation skills are not significantly impacted by digital leadership in the absence of a substantial mediating function. Only by bolstering professional learning communities can digital leadership boost creativity; if organizational preparedness and collaborative support are lacking, its direct impact on innovation is negligible (Alharbi & Al-Ashaab, 2020), (Surono et al., 2023), (Betzalel et al., 2022), and (Durmuş, 2024). This demonstrates that the impact of digital leadership on teacher performance through innovation is typically ineffectual in the absence of a robust internal structure, ongoing training, and supportive digital leadership. Therefore, improving school principals' digital skills, bolstering infrastructure, and providing ongoing training are crucial measures to greatly enhance teacher effectiveness. The structural equation modeling (SEM) analysis's findings employing.

Therefore, improving school principals' digital skills, bolstering infrastructure, and providing ongoing training are crucial measures to greatly enhance teacher effectiveness. With a P-Value of <0.613 and T Statistic >0.506, the results of the Structural Equation Modeling

(SEM) study using SmartPLS 3.0 software demonstrated that indirect effects data were acquired.

5. The Influence of Digital Culture on Teacher Performance through Innovation.

A strong digital culture can foster innovation, which in turn leads to better performance. This conclusion can be explained by a causal relationship between variables. The study's findings are consistent with previous research that found that employee performance is positively and significantly impacted by digital culture through innovation, with a partial mediation pattern.

These comparable findings support the conclusion that innovation strengthens the impact of digital culture on performance by acting as a mediating variable. Technology use, adaptability, and high levels of digital literacy are traits of a robust digital culture that inspire educators to utilize more creative teaching methods (Syahputri et al., 2020), (Adriani et al., 2023), (Lee & Hsieh, 2010), (Saunila et al., 2014), and (Suratno & Hutabarat, 2023). The professionalism and productivity of instructors are then directly impacted by this innovation. The findings of the SmartPLS 3.0 software's Structural Equation Modeling (SEM) study demonstrated that the indirect effects data were P-Value <0.000 and Tstatistic > 6.246.

CONCLUSION

The conclusion of this issue is the creation of a collaborative and data-driven work environment, where teachers are more actively utilizing digital tools to share best practices, conduct learning evaluations, and make more informed and measurable decisions. Good digital leadership can guide the sustainable use of technology, while a digital culture strengthens an open attitude to change. The push for innovation makes teachers more creative in designing learning models, media, and strategies relevant to the needs of students in the digital era, thus creating a more meaningful, adaptive learning process that is oriented towards improving learning outcomes.

REFERENCES

Adriani, E., Surono, Y., Budiningtyas, D. P., Maududi, S. Al, Azrianto, A., Fahmi, A., & Hutabarat, Z. S. (2023). Lingkungan Kerja dan Kepuasan Kerja Pengaruhnya Terhadap Motivasi Serta Dampaknya Pada Kinerja Pegawai. *Jurnal Ekonomi Bisnis, Manajemen Dan Akuntansi (JEBMA)*, *3*(3), 984–994. https://doi.org/10.47709/jebma.v3i3.3233

Alharbi, B. F., & Al-Ashaab, A. (2020). The influential factors of business development among SMEs in the Food Industry of the GCC Region. *Journal of Business & Retail Management Research*, *14*(02), 96–113. https://doi.org/10.24052/jbrmr/v14is02/art-09

Amin, A., Alimni, A., Kurniawan, D. A., Perdana, R., Pratama, W. A., & Triani, E. (2022). Analysis of the Relationship of Religious Character, Perseverance and Learning Motivation of Junior High School Students. *Journal of Innovation in Educational and Cultural Research*, *3*(4), 536–547. https://doi.org/10.46843/jiecr.v3i4.233

Betzalel, E., Penso, C., Navon, A., & Fetaya, E. (2022). *A Study on the Evaluation of Generative Models*. 116–131. http://arxiv.org/abs/2206.10935

Budiningtyas, D. P., & Hutabarat, Z. S. (2024). Model Intellectual Capital Sebagai Variabel Moderating Ditinjau Dari Likuiditas, Leverage, dan Profitabilitas Pengaruhnya Terhadap Nilai Perusahaan. *Owner*, *8*(1), 885–892. https://doi.org/10.33395/owner.v8i1.2104

Caggiano, V., Schleutker, K., & Petrone, L. (2020). *Towards Identifying the Soft Skills Needed in Curricula : Finnish and Italian Students ' Self-Evaluations Indicate Di ff erences between Groups*.

Charernnit, K., Mathur, A., Kankaew, K., Alanya-Beltran, J., Singh, S., sudhakar, P. J.,

Magulod, G. C., Gómez, J. J. S., & Singh, N. D. (2021). Interplay of shared leadership practices of principals, teachers' soft skills and learners' competitiveness in covid 19 era: Implications to economics of educational leadership. *Estudios de Economia Aplicada*, *39*(12). https://doi.org/10.25115/eea.v39i12.6463

Dacholfany, M. I., Ikhwan, A., Budiman, A., Hutabarat, Z. S., Riady, Y., Hutabarat, Z. S., Yusdi Andra, Denny Denmar, Z. S. H., Rosmiati, Z. S. H., Keguruan, F., Jambi, U. B., Kagermann, H., Annisa Sepriani, Z. S. H., Harbeng Masni, Zuhri Saputra Hutabarat, Lili Andriani, D. A., Suratno, M., Saputra Hutabarat, Z., Sari, N., Suratno, S., Hutabarat, Z. S., Denmar, D., … Unbari, F. (2023). Teachers' Constraints in Organizing Learning Process for High School Students in Jambi. *AL-ISHLAH: Jurnal Pendidikan*, *3*(1), 1–23. https://doi.org/10.35445/alishlah.v14i4.1667

Davis, K. L., & Jones, R. E. (2014). Modeling Environmental Concern for Urban Tree Protection Using Biophysical and Social Psychological Indicators. *Society and Natural Resources*, *27*(4), 372–388. https://doi.org/10.1080/08941920.2013.861555

Dita Alfitami, A. R. (2017). Pengaruh Locus Of Control Internal, Locus Of Control Eksternal, Manajemen Waktu, Dan Kreativitas Mengajar Terhadap Motivasi Berprestasi. *Economic Education Analysis Journal*, *6*(3), 960–972.

Durmuş, İ. (2024). Organizational Overview of Maslow and Management Research. *Turkish Psychological Counseling and Guidance Journal*, *14*(72), 137–152. https://doi.org/10.17066/tpdrd.1332600_10

Eganasrudin, I., Citation, S., Implications, T., & Education, C. (2024). *Examining the Characteristics of Generation Z and Their Implications for Students ' Character Education*. *4*(4), 363–372.

Emvula, E. (2020). The Role of Motivational Theories in Shaping Teacher Motivation and Performance: A Review of Related Literature. *International Journal of Research and Innovation in Social Science (IJRISS) |Volume IV, Issue IV*, *4*(4), 64–76. www.rsisinternational.org

Fedushko, S., & Ustyianovych, T. (2022). E-Commerce Customers Behavior Research Using Cohort Analysis: A Case Study of COVID-19. *Journal of Open Innovation: Technology, Market, and Complexity*, *8*(1). https://doi.org/10.3390/joitmc8010012

Ghozali, I. (2016). *Aplikasi Analisis Multivartete dengan Program IBM SPSS 23 Edisi Delapan*. Badan Penerbit Universitas Diponegoro.

Hutabarat, Z. S., & Ekawarna, E. (2023). Development of Teaching Materials on Learning Economic Models to Improve Students' Cognitive Achievement. *AL-ISHLAH: Jurnal Pendidikan*, *15*(2), 1204–1212. https://doi.org/10.35445/alishlah.v15i2.1679

Hutabarat, Z. S., Riady, Y., Amral, S., Sumiharti, S., Susanti, H., Saputra, T., Affrian, R., & Taufan, A. (2023). Teaching Practice Program in College of Education – Creativity, Emotional Intelligence and Locus of Control. *Jurnal Kependidikan: Jurnal Hasil Penelitian Dan Kajian Kepustakaan Di Bidang Pendidikan, Pengajaran Dan Pembelajaran*, *9*(1), 244. https://doi.org/10.33394/jk.v9i1.6416

Hutabarat, Z. S., Wiryotinoyo, M., Masni, H., & Handayani, R. (2022). Teachers' Constraints in Organizing Learning Process for High School Students in Jambi. *AL-ISHLAH: Jurnal Pendidikan*, *14*(4), 4939–4946. https://doi.org/10.35445/alishlah.v14i4.1667

Hutamy, E. T., Safutri, R., Putri, S., Aqiel, M., & Afryan, R. (2023). *Systematic Literature Review : Family Economics Education as an Effort to Enhance Family Economic Resilience Based on Local Culture*. *6*(3), 187–198.

I Ghozali. (2011). *Aplikasi Analisis Multivariete dengan Program IBM SPSS 19*. Badan Penerbit Universitas Diponegoro.

Iyamuremye, A., Niyonzima, F. N., Mukiza, J., Twagilimana, I., Nyirahabimana, P., Nsengimana, T., Habiyaremye, J. D., Habimana, O., & Nsabayezu, E. (2024).

Utilization of artificial intelligence and machine learning in chemistry education: a critical review. *Discover Education*, *3*(1). https://doi.org/10.1007/s44217-024-00197-5

Komang, I., Anggara, A., Kusuma, W., Gede, I., Kawiana, P., Ngurah, A. A., & Sadiartha, G. (2023). *The Role of Cooperative Reputation in Moderating Relationship Levels of Deposit Rates and Financial Literacy to Members' Saving Decisions (Case Study on Provincial Level Savings and Loan Cooperatives in Bali Province) Article Info*. 1–12. https://kemenkopukm.go.id

Lee, J.-S., & Hsieh, C.-J. (2010). A Research In Relating Entrepreneurship, Marketing Capability, Innovative Capability And Sustained Competitive Advantage. *Journal of Business & Economics Research (JBER)*, *8*(9), 109–120. https://doi.org/10.19030/jber.v8i9.763

Masni, H., Rahima, A., & Hutabarat, Z. S. (2021). Implementasi Penanaman Kesadaran Pentingnya Keterampilan Soft Skills Entrepreneurship Wadah Pengembangan Fkip Unbari. *PROMOSI (Jurnal Pendidikan Ekonomi)*, *9*(2), 52–62. https://doi.org/10.24127/pro.v9i2.4512

Mayasari, M., Hidayati, U., Muslim, F., Aisyah, N., Hutabarat, Z. S., & Mareta, Y. (2024). Development Of Economic Mathematics Learning System Through Master Model For Students Of Economic Education Study Program. *Owner*, *8*(3), 2650–2660. https://doi.org/10.33395/owner.v8i3.2284

Mizal, O. M., & Wijayangka, C. (2020). Analysis of E-Commerce Adoption by MSME in Fashion Sector in Bandung Using the UTAUT Model. *Jurnal Ilmiah MEA (Manajemen, Ekonomi, Dan Akuntansi)*, *4*(3), 379–389. www.pikiran-rakyat.com

Mohamad, S. I. S., Muhammad, F., Mohd Hussin, M. Y., & Habidin, N. F. (2017). College Students' Perceptions of the Embedded Soft Skills Elements Program in Accounting Courses. *International Journal of Academic Research in Business and Social Sciences*, *7*(2), 778–784. https://doi.org/10.21276/sjhss.2017.2.1.15

Mulyadi, D., Nursyakinah, K. B., Baidhowi, N. R., Hidayat, C., Saharani, T. R., Tricahya, M. A., & Maswah, E. Z. (2024). The Negative Impact of Social Media on Generation Z in Election Activities in 2024. *Sinergi International Journal of Law*, *2*(3), 183–197. https://doi.org/10.61194/law.v2i3.151

Nold, H. (2017). Using Critical Thinking Teaching Methods to Increase Student Success: An Action Research Project. *International Journal of Teaching and Learning in Higher Education*, *29*(1), 17–32.

Phongsavath, P., Andriani, R., & Saputra Hutabarat, Z. (2022). Perception of Economics Instruction on Technology Instruments to Face the Pandemics Covid-19. *Jurnal Ilmiah Dikdaya*, *12*(1), 68. https://doi.org/10.33087/dikdaya.v12i1.276

Rustantono, H., Rasyid, H., Nur Cholifah, T., Eka Yanti, Y., Amral, S., Saputra, T., & Saputra Hutabarat, Z. (2024). Exploring the Role of Family Economic Education in Meeting Economic Demands, Sociocultural Dynamics, and Enhancing Economic Literacy. *Jurnal Pendidikan*, *16*(2), 1947–1958. https://doi.org/10.35445/alishlah.v16i2.4942

Saputra Hutabarat, Z. (2017). Analisis Kepemilikan Atribut Soft Skills Mahasiswa Program Studi Pendidikan Ekonomi FKIP Univesitas Jambi. *Jurnal Ilmiah Dikdaya*, *9*(1), 145–155.

Saunila, M., Pekkola, S., & Ukko, J. (2014). The relationship between innovation capability and performance: The moderating effect of measurement. *International Journal of Productivity and Performance Management*, *63*(2), 234–249. https://doi.org/10.1108/IJPPM-04-2013-0065

Shidiq, M. (2023). the Use of Artificial Intelligence-Based Chat-Gpt and Its Challenges for the World of Education; From the Viewpoint of the Development of Creative Writing Skills. *Society and Humanity*, *01*(01), 2023.

Sima, V., Gheorghe, I. G., Subić, J., & Nancu, D. (2020). Influences of the industry 4.0 revolution on the human capital development and consumer behavior: A systematic review. *Sustainability (Switzerland)*, *12*(10). https://doi.org/10.3390/SU12104035

Sugihartono. (2007). *Psikologi Pendidikan*. UNY Press.

Sugiyono. (2017). *Metode Penelitian Kuantitatif, Kualitatif, dan R&D*. CV. Alfabeta.

Suratno, S., & Hutabarat, Z. S. (2023). Assessment of Soft Skill Learning Model Instruments in Interpersonal Relations of Economic Education Students. *AL-ISHLAH: Jurnal Pendidikan*, *15*(3), 3639–3645. https://doi.org/10.35445/alishlah.v15i3.1678

Surono, Y., Simarmata, J., Albetris, A., Azizah, A., Pratiwi, H., Berlian, D., & Hutabarat, Z. S. (2023). Analisis Kompetensi dan Gaya Kepemimpinan Pengaruhnya Terhadap Motivasi Serta Dampaknya Terhadap Kinerja Pegawai. *Jurnal Ekonomi Bisnis, Manajemen Dan Akuntansi (JEBMA)*, *3*(3), 995–1001. https://doi.org/10.47709/jebma.v3i3.3234

Syahputri, V. N., Rahma, E. A., Setiyana, R., Diana, S., & Parlindungan, F. (2020). Online learning drawbacks during the Covid-19 pandemic: A psychological perspective. *EnJourMe (English Journal of Merdeka) : Culture, Language, and Teaching of English*, *5*(2), 108–116. https://doi.org/10.26905/enjourme.v5i2.5005

Syuhada, S., Masni, H., Rahima, A., Zahar, E., Pudjaningsih, W., Budiyono, H., Wennyta, W., Syahputra, M. H. I., Harman, H., & Hutabarat, Z. S. (2023). The Perceptions of Jambi Province Students on the Teaching Profession. *AL-ISHLAH: Jurnal Pendidikan*, *15*(2), 2507–2517. https://doi.org/10.35445/alishlah.v15i2.2944

Tangahu, W. (2021). Modern Education in Revolution 4 . 0. *International Journal of Innovations in Engineering Research and Technology*, *8*(1), 3–7.

Wei, Y. M., & Lin, H. M. (2024). Revisiting business development: a review, reconceptualization, and proposed framework. *Cogent Business and Management*, *11*(1). https://doi.org/10.1080/23311975.2024.2351475