

The Integration of Technical and Social Humanism Dimension on the Construct of Digital Media Empowerment: A Study on Generation Z

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Abstract

The widespread incorporation of digital technology in education emphasizes the imperative to empower students with digital media skills. This study examined the integration of technical and social humanism dimensions of digital media empowerment construct for students of senior high school as a representative of Generation Z. The study implemented the digital media empowerment construct for student learning especially on Generation Z. The survey of digital media empowerment constructs was applied in several public and private senior high schools in Jakarta city. The finding showed the valid items of eight dimensions have high reliability. The results indicated that eight dimensions were successfully integrated into the digital media empowerment construct. When Generation Z deals with technical dimensions, they may consider social humanism dimensions to empower their media digital savvy. The findings of the integration between technical and social humanism dimensions were discussed in terms of Generation Z characteristics.

Keywords: digital media empowerment, student learning, technical dimension, social humanism dimension, generation Z

1. Introduction

The optimization of digital media technology has increased the transformation of new communication and social interaction. Digital media strengthens an inevitability process that governs and changes social life aspects strongly, profoundly, and comprehensively (Nguyen & Tran, 2022). Digital media has experienced exponential growth, transforming the way people interact and connect with others (Nguyen et al., 2022). Digital media disseminates more information and gives more access to the public to government services (Maryani et al., 2022).

Digital media presence could lead to social empowerment and its effects (Madra-Sawicka et al., 2020). The significance of digital media lies in its association with the digital revolution era, which has given rise to numerous new technologies. With new technology, people can perform various tasks from any location (French & Shim, 2016). The digital technology changed the ecosystem of human interaction (Akkoyunlu & Yilmaz, 2011). The digital technology has led to the new usage and opportunity (French & Shim, 2016). The usage and opportunity of digital technology could empower any life aspect including media use. Digital empowerment becomes essential to accelerate new ability and skill (Akkonyulu et al., 2011). The use of digital media could also empower adaptation ability and provide new avenues for for expression and participation (Hans, 2018).

Empowerment is the awareness process by which individuals who lack power to organize and to make better for their quality of life (Madra-Sawicka et al., 2020; Poddar, 2013). Empowerment process consists of information gathering, skill training, and utilization of individual ability in their daily practices (Hans, 2018). With the assistance of digital technology and the collective of individual participation, the digital empowerment could be achieved (Kirti et al., 2017). Therefore, digital empowerment refers to individual and collective process through digital technology to assist and increase the knowledge, skill, competence, and capacity in order to have a better life (Eynur, 2016). One of the indicators of digital empowerment could be examined from the digital media use including social media for interaction, communication, and learning to enhance the quality of life. This indicator is known as digital media empowerment (Madra-Sawicka et al., 2020).

In the contemporary digital era, the term of digital natives accurately characterizes the student generation who have been engaged with digital technologies from a young age. For these individuals, a nuanced understanding of digital media literacy (Salleh et al., 2019) is not only beneficial but essential (Selwyn, 2009). This empowerment goes beyond mere familiarity with digital tools; it encompasses a comprehensive understanding and skill in using digital platforms, tools, and media to enhance learning and personal growth. The active involvement of students in their digital empowerment journey is paramount. The educational landscape has evolved to integrate digital media, devices, and content as fundamental components of the teaching and learning process (Haleem et al., 2022). This integration is not superficial, but deeply embedded in the curriculum, teaching methods, and assessment strategies.

The objective of the current study is to examine the integration between technical and social humanism dimensions of digital media empowerment among high school students. Specifically, the study aims to investigate the multifaceted dimensions of digital empowerment by integrating theoretical frameworks from previous studies (Akkoyunlu & Yilmaz, 2011; Ellis, 2012; Gerlich et al., 2015; Irwansyah, 2020, 2021a; Safira & Irwansyah, 2019). This research is crucial because previous studies have mainly focused on different demographic groups, such as teachers, college students, and professionals in rural and urban settings, without a concentrated examination of high school students. The current study's novelty resides in its comprehensive approach to digital empowerment, encompassing both the technical and practical aspects of digital media utilization while incorporating humanities perspectives to offer a more holistic understanding of digital media empowerment within the educational context. The incorporation of the humanities seeks to illuminate the social, cultural, and ethical ramifications of digital media within the high school student environment, thereby broadening the conversation beyond simply technical proficiency. In addition, the target population of this study sets it apart from previous research. The study aims to address a gap in the literature by examining how high school students engage with and derive advantages from digital media in both their educational and personal spheres. This emphasis is crucial due to the key role that digital media occupies in influencing the educational experiences and social interactions of contemporary adolescents. The current research uses a quantitative approach to gather empirical data on the levels of digital media empowerment among the study's participants. This methodological choice represents a departure from the qualitative and mixed methods approaches commonly used in the existing literature on the topic.

2. Theoretical Framework

Digital media empowerment refers to the ability, the skill, and the capacity to operate and optimize digital media to make better a quality of life (Eynur, 2016; Madra-Sawicka et al., 2020). The basic proficiency of digital media empowerment is a technical dimension of understanding how to operate digital devices (Hargittai, 2010), software applications (Deursen & Dijk, 2019), and search engines (Brand-gruwel et al., 2009). Lack of digital media literacy significantly hinders the ability to function in various domains, particularly in education, where students without digital media skills face significant obstacles (Hammer et al., 2021).

Empowerment through digital media aligns with the uses and gratifications theory, emphasizing how users actively select and manipulate media content to achieve personal goals (Thomas, 2011). Prior studies highlight that empowerment through digital media is linked to mobile application gratifications (Gerlich et al., 2015). This theoretical perspective underscores the importance of aligning technical skills with social humanism dimensions in digital media empowerment.

Social humanism has three dimensions (Ellis, 2012). The first dimension of social humanism is social contractual utilitarianism. Social contractual utilitarianism is the establishment of societal goals and ideals aimed at fostering a community of virtuous individuals. The second dimension is social contract egalitarianism. The dimension focuses on the ethos of equality and anti-discrimination measures. The third dimension is real equal of opportunity. It implies that every person should have the essential freedom to lead a fulfilling life and a fair chance to pursue his or her aspirations in a fair and unbiased behavior (Ellis, 2011). These dimensions are critical to include social humanism dimensions with the existing technical dimensions to enhance digital media empowerment (Purohit et al., 2022).

The current study seeks to integrate technical and social humanism dimensions of digital media empowerment among high school students, addressing gaps in prior research. By combining technical proficiency with social and cultural insights, this research aims to offer a holistic understanding of digital empowerment. High school students, as representatives of Generation Z, possess inherent adaptability to digital environments, making them a focal point for investigating the transformative potential of digital empowerment (IDN Research Institute, 2024).

Given these challenges, both individuals and society at large must embrace and promote digital literacy. The immersion of media digital technology into practice of daily life is not just a trend, but an elementary shift in how information is consumed, processed, and used (Akkonyulu et al., 2011). The transformation has been occurred in education system, skills development, and professional training, where media digital tools and platforms have become integral components of teaching and learning methodologies (Hans, 2018). The pervasive role of digital technology in educational settings underscores the need for concerted efforts to empower students with digital media skills. This empowerment is critical not

only to facilitate access to information and resources but also to prepare students for a workforce that increasingly relies on digital literacy. The focus on students is strategic because they are the nexus of modern teaching methods in schools. Teachers may enhance learning outcomes, increase student engagement, and make sure students are ready to handle the challenges of the digital age by providing them with strong digital skills. The emphasis on digital literacy in educational institutions therefore reflects a broader societal need to adapt to the digital age. Through such empowerment, students can be transformed into savvy digital citizens who can use technology to enhance their learning, professional, and personal lives. As digital technology continues to evolve and permeate more aspects of daily life, the importance of digital literacy as a fundamental life skill will only increase, making it a critical area of focus for educators, policymakers, and society at large.

Students that are immersed in this framework of education that is centered around digital technology become active learners who use digital tools to create, investigate, and communicate knowledge in a variety of ways, rather than being passive consumers of knowledge. Therefore, the acquisition of digital literacies is critical for students to navigate and excel in this digitally driven learning environment. These skills are not limited to the ability to use specific software or devices but include a broader set of competencies such as critical thinking in digital contexts, understanding digital ethics, and the ability to communicate and collaborate effectively through digital means (Kirti et al., 2017). These skills enable students to follow and engage with the instructional process, access a wealth of information, apply it to real-world problems, and collaborate with peers both locally and globally more effectively. In addition, digital empowerment in education fosters a culture of lifelong learning. In an era where knowledge is constantly expanding and evolving, the ability to independently seek out information, learn new skills, and adapt to new technologies is invaluable. By instilling these skills in students, educators not only enhance their immediate educational experience but also give them the instruments necessary to accomplish in a swiftly altering world. In terms of education, digital empowerment is manifested through the collaborative efforts of educators and students (Irwansyah & Hardiah, 2020). The process of self-reflection among teachers and students fosters a deeper understanding of information and communication technologies, thereby promoting digital media as a learning tool.

Schools are important place to prepare students with digital knowledge and skill (Akkonyulu et al., 2011). Schools could provide students with learning process and tools to understand the digital ecosystem (Sailer et al., 2021). The students can be transformed as a part of information society (Akkonyulu et al., 2011). Students with good technical access could optimize digital technology to create various contents. The optimization of digital technology gives more productive, more social ownership, and more ideas to solve the problem (Sailer et al., 2021). In terms of digital media empowerment, there are four dimensions: Awareness, empowerment, motivation, and technical access. The four dimensions of digital media empowerment implies the enabling dimension to optimize the digital media technology (Akkoyunlu & Yilmaz, 2011).

Prior research highlighted that empowerment through digital media is closely linked to the gratifications of mobile applications usage (Gerlich et al., 2015). This finding parallels the uses and gratifications theory (Thomas, 2011), which was originally formulated in the context of conventional media channels such as television, the Internet, and mobile phones. It emphasizes that users of the Internet and mobile devices actively select and manipulate media content to achieve specific personal goals, seeking rewards such as engagement, leisure, knowledge, education, and social interaction from their use of mobile applications.

Previous study recommends to develop the construct of social humanism (Irwansyah, 2020). Social humanism has three dimensions (Ellis, 2012). The first dimension of social humanism is social contractual utilitarianism. Social contractual utilitarianism is the establishment of societal goals and ideals aimed at fostering a community of virtuous individuals. The second dimension is social contract egalitarianism. The dimension focuses on the ethos of equality and anti-discrimination measures. The third dimension is real-equal of opportunity. It implies that every person should have the essential freedom to lead a fulfilling life and a fair chance to pursue his or her aspirations in a fair and unbiased behavior (Ellis, 2011). These dimensions are critical to include social humanism dimensions with the existing technical dimensions to enhance digital media empowerment (Purohit et al., 2022).

Generation Z (Gen Z) is a demographic cohort that is inherently attuned to digital technology (IDN Research Institute, 2024). Gen Z who was born between 1995 and the early 2010s also has been immersed in digital technology from an early age (Djafarova & Bowes, 2020). Instead of digital native, Gen Z is known by nicknames such as Centennials, Founders, and iGen (Arora et al., 2019). This generation is characterized by its deep integration with digital and technological domains. As students, Gen Z represents the coming wave of individuals who will navigate an increasingly digital-centric future. Their adaptation to the ongoing digital revolution is paramount. The transformative changes of daily life interaction of this generation were driven by the Internet and mobile technology (French & Shim, 2016).

Previous study was examined the technical dimension of digital media empowerment partially (Akkoyunlu & Yilmaz,

2011; Gerlich et al., 2015). Another previous study (Madra-Sawicka et al., 2020) also showed the humanities dimension of digital media empowerment was observed partially either. Several studies suggested integrating the technical aspects of digital media empowerment with the dimension of humanities (Irwansyah, 2020, 2021a; Safira & Irwansyah, 2019). Therefore, the current study proposed an integration of both dimensions of digital media empowerment (Figure 1).

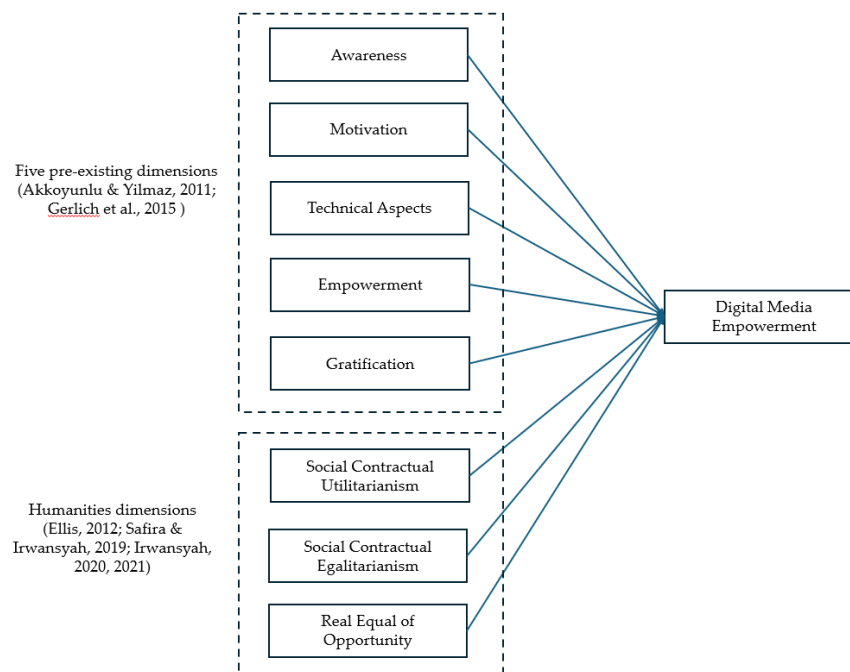


Figure 1. The proposed integrated digital media empowerment

3. Method

The current research adopted an approach of explanatory quantitative and applied a structured survey for data collection (Akkonyulu et al., 2011; Gerlich et al., 2015). The previous study employed a descriptive survey to search for prospective digital empowerment (Akkonyulu et al., 2011; Akkoyunlu & Yilmaz, 2011), a survey on the awareness and empowerment dimension (Madra-Sawicka et al., 2020), and an online survey to explore the gratification dimension (Gerlich et al., 2015). Other previous studies (Irwansyah, 2020, 2021a; Safira & Irwansyah, 2020, 2019) recommended applying quantitative approaches for social contractual utilitarianism, social egalitarianism, and real equal of opportunity.

After obtaining approval from the institutional review board (IRB) and obtaining formal approval from the headmaster of the school, this study began to collect data from a selected public and private high school. The selected public and private high school in Jakarta were based on the high rank of the best school for national test-based selection (Kemendikbud, 2019). This particular institution was identified based on the recommendations of previous studies (Akkoyunlu & Yilmaz, 2011; Safira & Irwansyah, 2020, 2019) that showed the focal population of the study due to its notable achievements in digital and multimedia literacy as highlighted on its official website (Salleh et al., 2019). With a total enrolment of 756 students, the research used a survey calculator to determine a sample size with a confidence level of 95% represented by an interval of 1.82, resulting in the selection of 600 participants through a randomized process (Wimmer & Dominick, 2006).

Online survey platform using Google Forms was applied to collect data as suggested by previous studies (Gerlich et al., 2015; Rohmah et al., 2018). This approach required potential participants to read a consent form and to complete an online survey by accessing it through a provided web link (Malik et al., 2023; Rohmah et al., 2018). The survey measurement used a scale of Likert from strongly disagree (1) to strongly agree (10) (Akkoyunlu et al., 2010; Gerlich et al., 2015). The distribution of the questionnaires was targeted to appropriate respondents, and the collection of responses took place between July 7 and September 20, 2022. By ethical standards for research involving human subjects, the survey process was conducted under the supervision of parents and a guidance counsellor, both of whom gave their consent for their participation.

The construction of the questionnaire was approached methodically, with questions aligned to each dimension examined in this study. The awareness dimension consisted of nine indicators: Digital media enables new skills (A-1), allows me to share information with others (A-2), allows me to communicate with people in other cities (A-3), allows me to express myself (A-4), makes me feel progressed in everyday life (A-5), gives me the opportunity to future jobs (A-6), can be a

mean for world peace (A-7), makes it possible for me to engage in political online discussion (A-8), and can be a force for progress in society (A-9) (Akkonyulu et al., 2011; Gerlich et al., 2015).

The motivation dimension consisted of 11 indicators: Digital media developed my belief that something could be possible (M-1), could be a great source of new information (M-2), inspired me to create new things (M-3), gave me a benefit (M-4), increased my belief on new successful (M-5), excited me to interact with others (M-6), excited me to get a lot of information (M-7), made me happy to get new things (M-8), convinced me to have various status (M-9), gave me a belief about its usefulness (M-9), increase my new skill (M-10), and increase my belief to solve the problem (M-11) (Akkonyulu et al., 2011).

Technical access dimension consisted of eight indicators: Digital media was easy to access (TA-1), could be accessed without permission (TA-2), could be accessed without asking other people (TA-3), could be accessed in my school (TA-4), could be accessed after asking my teacher (TA-5), had been prohibited during school time (TA-6), could be free after school break (TA-7), and could be accessed after my school time (TA-8) (Akkonyulu et al., 2011).

Empowerment dimension consisted of 16 indicators: Digital media make me capable of utilizing various tools (E-1), make me evaluate the quality of any information (E-2), make me proficient in accessing electronic resources (E-3), make me capable of navigating online platforms (E-4), make me able to participate in an online forum (E-5), make me able to conduct an online searching (E-6), develop my skill to locate the new information (E-7), encourage me to engage online social activity (E-8), enhance me to stay online with my family (E-9), make me engage online campaigns (E-10), enhance my capability to understand the online ethics (E-11), enhance my consideration of information utilization (E-12), increase my awareness on an online ethical standard (E-13), accelerate my skill to disseminate positive online content (E-14), generate my new ability to disseminate new online information (E-15) and accelerate my skill to solve online issue (E-16) (Akkonyulu et al., 2011).

The gratification dimension consisted of six indicators: I may possess the new proficiency (G-1), may adopt new digital media (G-2), may have a new ability to use digital media (G-3), may have a proficiency to optimize digital media (G-4), may increase my ability to curate digital media (G-5), and may enhance my ability to employ new digital media (G-6) (Akkonyulu et al., 2011; Gerlich et al., 2015).

The social contractual utilitarianism dimension consisted of 14 indicators: Digital media could be integrated with my way of life (SCU-1), could improve my social life (SCU-2), could give more permission on digital life (SCU-3), make me deal with new situations (SCU-4), make me responsible for other social life (SCU-5), could secure my responsibilities (SCU-6), could employ my style (SCU-7), could adjust with my friends' style (SCU-8), could give me more knowledge about a fundamental aspect of technology (SCU-9), could align my online behavior (SCU-10), give me to an idea of prosperity (SCU-11), give me a conflict of interest with others (SCU-12), facilitates me to have positive interactions with others (SCU-13), and facilitate me to have harmonious relationship with others (SCU-14) (Ellis, 2012; Irwansyah, 2020, 2021b; Safira & Irwansyah, 2019).

Social contractual egalitarianism dimension consists of 11 indicators: Digital media suited to my way of life (SCE-1), maintains my honesty (SCE-2), could give me insight into other perspectives (SCE-3), employed my habitual practices (SCE-4), allowed me to understand different cultural practices (SCE-5), gave me new responsibility about online life (SCE-6), employed me to participate with new online cultural life (SCE-7), optimized me to communicate with various online friends (SCE-8), allowed me to maintain relationships with people in various geographies (SCE-9), fostered me a sense of equality with others (SCE-10), and helped others to feel an equality sense with me (SCE-11) (Ellis, 2012; Irwansyah, 2020, 2021b).

Real equal of opportunity dimension consists of eight indicators: Digital media freed me to utilize new technology (REO-1), gave me a chance to engage in new technology (REO-2), allowed me to utilize new technology (REO-3), granted me the opportunity to own the latest in new technology (REO-4), present me the opportunity to discover the newest information (REO-5), give me a chance to inform the others about the latest technology (REO-6), gave me a chance to instruct other the utilization of new technology (REO-7), and provided me the opportunity to assist others to navigate the use of emerging technology (REO-8) (Ellis, 2012; Irwansyah, 2020, 2021b).

The collected data were pre-processed using SPSS software, version 25.0, to prepare them for subsequent presentation, analysis, discussion, and drawing of conclusions. This procedural step is in line with established methodological standards (Babbie, 2021; Bryman & Bell, 2019; Creswell, 2014). Before examining the validity and reliability of digital media empowerment, every item from the observed dimensions was first confirmed via confirmatory factor analysis (CFA) (Elias et al., 2022). Factor loadings must be at least 0.6. Items with lower loadings were excluded to maintain the construct's unidimensionality (Radomska et al., 2023). The construct reliability was performed for observed dimensions using Cronbach's alpha with a threshold of 0.6 and above (Raharjanti et al., 2022). After validity and reliability were achieved, the study assessed for normality distribution of all items with skewness values within the range of -1.0 to 1.0

(Hair et al., 2014). To examine the integration of all dimensions (both technical and humanities dimensions) of digital media empowerment, this study performed Pearson's correlation coefficients between the dimensions (Akkoyunlu & Yilmaz, 2011). The correlation was conducted with all valid items from the observed dimension (Hair et al., 2014). The study applied the confirmatory factor analysis (CFA)(Elias et al., 2022) to confirm the expanded dimensions of digital media empowerment.

4. Results

4.1 Recruitment Profile of Respondents

Table 1 shows the profile of respondents from public and private senior high school. The respondents were a part of Generation 'Z' who were born from 1997 to 2012 (Dolot, 2018; IDN Research Institute, 2024). Most respondents were 17 years old (59.67%) with an average age of 17.3 years old (standard deviation 1.5). Most respondents were male (51.83%), attend public school (53.50%), and came from middle-income families (56.83%). This finding was similar to the school's statistics that showed number of female students was less than male students (Kemendikbud, 2019).

Most of the respondents had mobile phones (98.71%) called 'smartphones' and they had laptops (94.00%). The respondents used their mobile phones for an average of 10.8 hours per day. The respondents used Line (39.33%) and WhatsApp (37.67%) applications for sending their instant messaging. Instagram (54.33%) was the dominant social media and Spotify (49.67%) was the dominant entertainment application used for observed respondents. This study had similar findings to other research that showed the females of Gen Z were attracted to Instagram (IDN Research Institute, 2024).

Table 1. Respondents' demographics

Demographics variables	Category	Mean (SD)	F	%
Age	16 years old	17.3 (1.5)	242	40.33
	17 years old		358	59.67
Gender	Female		289	48.17
	Male		311	51.83
Attend the school	Public school		321	53.50
	Private school		279	46.50
Family income level	Lower middle income		134	22.33
	Middle income		341	56.83
	Upper middle income		125	20.83
Device ownership (More than one answer)	Laptop		564	94.00
	Mobile phone		589	98.17
	Pad/Tab		112	18.67
	Personal Computer		98	16.33
Mobile phone use per day	Less than 5 hours	10.8 (1.2)	76	12.67
	6 – 10 hours		263	43.83
	11-15 hours		198	33.00
	More than 16 hours		63	10.50
Instant messaging applications use	Line		239	39.33
	WhatsApp		223	37.67
	Telegram		120	20.00
	Others		18	3.00
Dominant of Social Media Use	Instagram		123	20.50
	TikTok		345	54.33
	Snack video		89	14.83
	X (Twitter)		88	7.50
	Facebook		12	1.50
	Others		15	1.33
Dominant Entertainment Applications Use	Netflix		24	4.00
	Spotify		345	49.67
	Wattpad		231	31.50
	YouTube		123	14.83

4.2 Validity and Reliability of Construct's Unidimensionality

Table 2 shows the validity results of all items from the observed dimensions. The result of validity showed that 72 of 83 items were valid (above 0.70) and 11 items (below 0.70) were invalid. The dimension of awareness has eight valid items (range from 0.89 to 0.93); the motivation has nine valid items (range from 0.88 to 0.91); the technical access has six valid items (range from 0.79 to 0.89); the empowerment has 15 valid items (range from 0.88 to 0.97); the

gratification has six valid items (range from 0.92 to 0.94); the social contractual utilitarianism has 12 valid items (from 0.89 to 0.96); the social contractual egalitarianism has 11 valid items (from 0.87 to 0.95) and the real equal of opportunity has five items (from 0.91 to 0.93).

Table 2. Validity of all items from observed dimensions

Dimension	Number of Items	Number of Valid Items	Number of Invalid Items
Awareness	9	8 (A-2, A-3, A-4, A-5, A-6, A-7, A-8, A-9)	1 (A-1)
Motivation	11	9 (M-1, M-2, M-3, M-4, M-5, M-6, M-7, M-8, M-9)	2 (M-10, M-11)
Technical Access	8	6 (TA-1, TA-3, TA-4, TA-6, TA-7, TA-8)	2 (TA-2, TA-5)
Empowerment	16	15 (E-1, E-2, E-3, E-4, E-6, E-7, E-8, E-9, E-10, E-11, E-12, E-13, E-14, E-15, E-16)	1 (E-5)
Gratification	6	6 (G-1, G-2, G-3, G-4, G-5, G-6)	-
Social Contractual Utilitarianism	14	12 (SCU-1, SCU-2, SCU-3, SCU-4, SCU-5, SCU-6, SCU-8, SCU-9, SCU-10, SCU-12, SCU-13, SCU-14)	2 (SCU-7, SCU-11)
Social Contractual Egalitarianism	11	11 (SCE-1, SCE-2, SCE-3, SCE-4, SCE-5, SCE-6, SCE-7, SCE-8, SCE-9, SCE-10, SCE-11)	-
Real Equal of Opportunity	8	5 (REO-1, REO-5, REO-6, REO-7, REO-8)	3 (REO-2, REO-3, REO-4)
Total	83	72	11

This finding showed that 72 items of eight dimensions have high validity. This finding was similar to previous quantitative studies (Akkonyulu et al., 2011; Gerlich et al., 2015). The initial result of the high validity of social contractual utilitarianism, social contractual egalitarianism, and real equal of opportunity dimensions could follow the recommendation of previous studies (Irwansyah, 2020, 2021a; Safira & Irwansyah, 2020, 2019) to be a part of the digital media empowerment construct. Moreover, the 11 invalid items (below 0.70) came from the dimensions of awareness (one item), motivation (two items), technical access (two items), empowerment (one item), social contractual utilitarianism (two items), and real equal of opportunity (three items). The invalid items were eliminated from the dimensions. This revealed that 72 items of eight dimensions can be a measurement scale (Field, 2017) for digital media empowerment.

Table 3 shows the reliability result of all items from the observed dimension. The result showed all dimensions with valid items were very reliable. The value of the reliability range is from 0.88 to 0.93 implying very high reliability (Emerson, 2019; Tavakol & Dennick, 2011). The high value of reliability (Babbie, 2021; George & Mallery, 2019) indicates that digital media empowerment has very reliable dimensions.

Table 3. Reliability of all valid items from observed dimensions

Dimension	No. of Valid Items	Construct Reliability	Interpretation
Awareness	8	0.89	Very Reliable
Motivation	9	0.93	Very Reliable
Technical Access	6	0.88	Very Reliable
Empowerment	15	0.94	Very Reliable
Gratification	6	0.96	Very Reliable
Social Contractual Utilitarianism	12	0.95	Very Reliable
Social Contractual Egalitarianism	11	0.89	Very Reliable
Real Equal of Opportunity	5	0.89	Very Reliable

Table 4 shows the normality values of all valid items from the observed dimension. The result showed all dimensions with valid items have a normal distribution. The value of the skewness range is from -0.14 to -0.93. This revealed that all valid items of dimensions of digital media empowerment have a normal distribution of the sample.

Table 4. Normality values of all valid items from observed dimensions

Dimension	Items	Skewness Range	Interpretation
Awareness	8	(-0.51) – (-0.91)	Normal Distribution
Motivation	9	(-0.47) – (-0.86)	Normal Distribution
Technical Access	6	(-0.14) – (-0.83)	Normal Distribution
Empowerment	15	(-0.54) – (-0.92)	Normal Distribution
Gratification	6	(-0.16) – (-0.52)	Normal Distribution
Social Contractual Utilitarianism	12	(-0.42) – (-0.90)	Normal Distribution
Social Contractual Egalitarianism	11	(-0.47) – (-0.93)	Normal Distribution
Real Equal of Opportunity	5	(-0.58) – (-0.86)	Normal Distribution

4.3 Interrelations Between Dimensions of Digital Media Empowerment

Eight dimensions of digital media empowerment come from both technical and humanities dimensions. Table 5 shows the interrelations between dimensions with all valid items of digital media empowerment. Interrelations between dimensions are significantly correlated from 0.80 to 0.92 (sig. = $p < 0.01$). This study confirmed that all significantly correlated dimensions become dimensions of digital media empowerment.

A high correlation among eight dimensions of digital media empowerment was revealed. The pattern was understood that digital media empowerment is substantially valid for the research sample (Field, 2017; George & Mallery, 2019). The pattern also indicated that awareness, motivation, technical aspects, empowerment, gratification, social contractual utilitarianism, social contractual egalitarianism, and real equal of opportunity are inherent parts of digital media empowerment. Previous studies (Akkoyunlu & Yilmaz, 2011; Gerlich et al., 2015) showed that only five dimensions were valid for digital media empowerment.

Table 5. Interrelations among dimensions with all valid items (N = 600, Sig. = $p < 0.01$)

Dimension	A	M	TA	E	G	SCU	SCE	REO
Awareness (A)		0.89	0.86	0.89	0.87	0.84	0.82	0.85
Motivation (M)	0.89		0.92	0.88	0.84	0.81	0.80	0.82
Technical Access (TA)	0.86	0.92		0.89	0.88	0.86	0.87	0.84
Empowerment (E)	0.89	0.88	0.89		0.91	0.90	0.91	0.91
Gratification (G)	0.87	0.84	0.88	0.91		0.91	0.90	0.90
Social Contractual Utilitarianism (SCU)	0.84	0.81	0.86	0.90	0.91		0.91	0.90
Social Contractual Egalitarianism (SCE)	0.82	0.80	0.87	0.91	0.90	0.91		0.91
Real Equal of Opportunity (REO)	0.85	0.82	0.84	0.91	0.90	0.90	0.91	

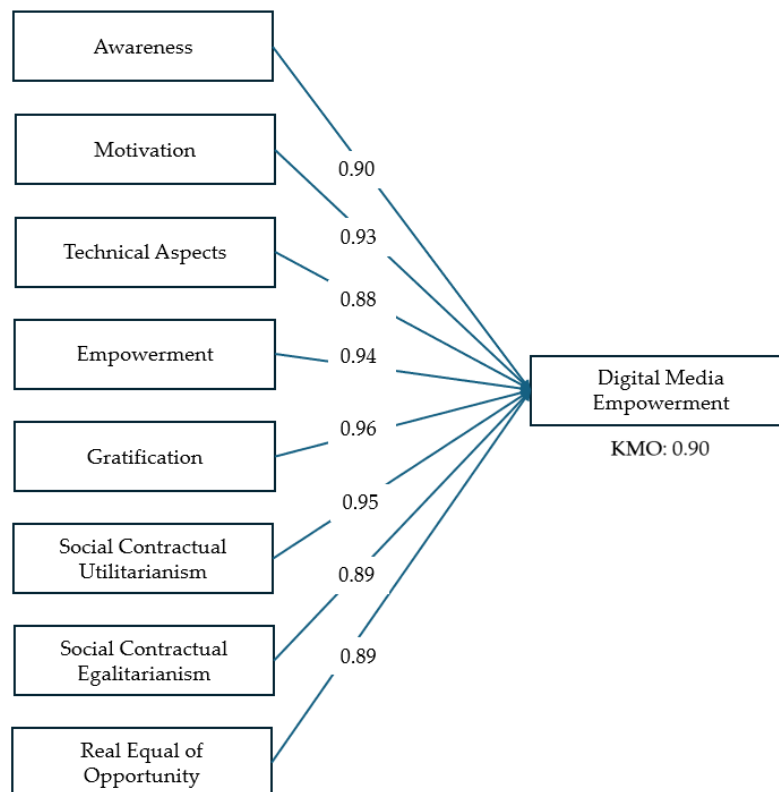


Figure 2. Factor loading values of the digital media empowerment dimensions

The study performed confirmatory factor analysis based on the dimension of digital media empowerment. The CFA result in Figure 3 showed that the factor loading of eight dimensions has a high value of validity. This finding confirms the eight dimensions become a part of digital media empowerment. This finding succeeded in applying three new dimensions from the humanities aspect (Ellis, 2012) into a construct of digital media empowerment. The result showed the integration of humanities aspects (Akkonyulu et al., 2011; Akkoyunlu et al., 2010) with other technical aspects (Ellis, 2012; Gerlich et al., 2015) of digital media empowerment was successful.

5. Discussion

The study confirmed the constructs of digital media empowerment could be added from technical and social humanism dimensions (Akkonyulu et al., 2011; Akkoyunlu et al., 2010; Gerlich et al., 2015; Irwansyah, 2020, 2021a; Irwansyah & Hardiah, 2020; Safira & Irwansyah, 2020, 2019). Technical dimensions (Akkonyulu et al., 2011; Akkoyunlu et al., 2010) and humanities dimensions (Ellis, 2011; Gerlich et al., 2015; Irwansyah, 2021a) were confirmed into a single construct of digital media empowerment. The current study integrates five pre-existing dimensions with three newly proposed ones, focusing particularly on the social dimensions within the humanities for the latter. These three newly introduced dimensions, which include social contractual utilitarianism, were derived from the previous findings (Ellis, 2012; Irwansyah, 2020, 2021a; Safira & Irwansyah, 2020, 2019). Meanwhile, the concepts of social contractual egalitarianism and real equality of opportunity were revisited (Ellis, 2012).

The successful integration between technical and humanities aspects into digital media empowerment construct at the sample of Generation Z implies enhancing digital technology literacy. The study implemented the digital media empowerment concept for student learning (Thambu et al., 2017), especially in Generation Z. This study showed that Generation Z may have the ability to effectively use digital tools and platforms, understanding their functionalities and potential (Incik & Incik, 2022). The implementation of the digital media empowerment construct on Generation Z proved that they could have self-awareness, self-motivation, self-empowerment, and self-gratification. The study focused on senior high school students attending state-run schools, suggesting that young individuals gain empowerment through access to digital platforms and technological devices. The sample of senior high school from Generation Z showed that they can possess self-assurance, inventiveness, a spirit of competition, practicality, inquisitiveness, autonomy, and a unique distinctiveness (Hendrastomo & Januarti, 2023). The combination of technical skills and humanities-inspired creativity can lead to innovative solutions to complex problems, both digital and societal (Vodá et al., 2022). This integration can empower Generation Z to create meaningful and impactful digital content (Palem & Gadagamma, 2024) that resonates on a deeper level with audiences (Widodo, 2024).

This study showed that digital media empowerment constructs consisted of both technical and social humanism dimension. When the Z generation deals with technical dimension, they may consider social contractual utilitarianism, social contractual egalitarianism, and real equal of opportunity. Digital media empowerment is not only about how to use and optimize the hardware and software. The empowerment of digital media should employ the social humanism dimension (Ellis, 2012). The ability to navigate both technical and humanistic dimensions can make individuals more adaptable to the rapidly changing digital landscape (Omol, 2023). This dual competency can open up a wider range of career opportunities, as there is a growing demand for professionals who can bridge the gap between technology and human-centric disciplines (Li, 2022).

Social humanism education instils a sense of ethics and social responsibility, which, when applied to digital media, can lead to more responsible online behavior (Rashid & Roy, 2024) and content creation (Shahbaznezhad et al., 2021). Understanding diverse cultural perspectives through humanities can enhance the inclusivity and accessibility of digital content, fostering a more global and empathetic digital community (Edwards & Ritchie, 2022). There needs to be a concerted effort within educational systems to foster the integration between technical and social humanism dimensions, breaking down the traditional silos between disciplines (Evans, 2015). Especially, ensuring equitable access to digital tools and education (Thambu et al., 2017) is crucial so that all members of Generation Z, regardless of their background, can benefit from this empowerment (Passey et al., 2018).

6. Conclusion

This study succeeds in the integration of eight dimensions which came from the technical and humanities dimensions into the digital media empowerment construct. The study was successful in conducting the recommendations from the previous studies. The study applied three new dimensions from the humanities aspect into a construct of digital media empowerment. The integration of technical and humanities dimensions into digital media empowerment with the sample of Generation Z may be able to enhance their usage of and understanding of digital tools and platforms. The implementation of the digital media empowerment construct on Generation Z proved that they could have self-awareness, self-motivation, self-empowerment, and self-gratification. When Generation Z dealt with technical dimensions, they may consider about social contractual utilitarianism, social contractual egalitarianism, and real equal of opportunity.

The study proved that the concept of digital media empowerment could be applied to the students of senior high school who knowns as Generation Z. This also proved that the construct of digital media empowerment could be flexible to be developed. Future studies could improve the construct with new dimensions and also develop any correlations with other constructs. The study focused on senior high school students attending state-run schools, suggesting that young individuals gain empowerment through access to digital platforms and technological devices. Future study could observe

the digital media empowerment constructs with the population or sample from the students of boarding school who demanded to have more digital competencies. Moreover, the next study could be conducted in the school at the rural areas. Future studies could further explore comparisons regarding the implementation of digital media empowerment constructs between urban and rural regions.

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Data sharing statement

No additional data are available.

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