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Research Paper

The Influence of Financial Understanding, Digital Marketing, Digital Payments, on the Consumer Behavior of Generation Z in the Era of Industrial Revolution 4.0

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ABSTRACT*: This study investigates the impact of Financial Knowledge and Digital Marketing on Consumptive Behavior with Digital Payments among Generation Z in the era of the fourth industrial revolution. Employing a quantitative descriptive method, data was collected from 76 students majoring in Economic Education at the Faculty of Economics and Business, Universitas Negeri Makassar, from the cohorts of 2020 to 2022, through observation, questionnaires, and documentation. Data analysis techniques include testing research instruments, descriptive analysis, classic assumption tests, multiple linear regression analysis, hypothesis testing, and Moderated Regression Analysis (MRA). Results indicate that financial understanding and digital marketing do not directly and significantly impact consumptive behavior. Similarly, financial understanding does not directly and significantly impact the use of digital payments, while digital promotion and both financial understanding and digital marketing directly and significantly impact the use of digital payments. However, the use of digital payments does not directly and significantly impact consumptive behavior. Additionally, financial understanding through the use of digital payments and digital marketing through the use of digital payments do not directly and significantly impact consumptive behavior.*
KEYWORDS: *Financial Understanding, Digital Marketing, Use of Digital Payments, Consumptive Behavior*

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I. INTRODUCTION

Industrial revolutions have changed lifestyles and ways of working through the advancement of information technology, with the internet becoming a bridge to reach online consumers. The Fourth Industrial Revolution combines fast and high-security automation technologies, dramatically changing the fundamental way systems operate (Chung & Kim, 2016). In the era of the industrial revolution, countries focused on adapting human resources through the improvement of skills in accordance with technology. The change in the industrial world known as the Fourth Industrial Revolution, focuses on the application of technology in aspects of business and daily life of the community (Yu & Schweisfurth, 2020). Advanced digital access in Indonesia creates great economic opportunities through effective management and strengthening of the digital industry. The young generation with many smartphone users is expected to drive economic innovation and provide benefits for individuals and society (Ikhsan et al., 2020). Businesses need to welcome Generation Z, who are skilled in collaboration, cultural tolerance, and adaptability in the digital era, but they need financial literacy to manage their finances wisely. Generation Z is the future that needs to understand the importance of financial literacy. (Garg & Singh, 2018).

Financial literacy is important for protecting yourself from financial problems and fraud. Generation Z who are proficient in financial literacy are more likely to save, insure themselves, and invest, even at a young age, demonstrating their ability to manage their finances wisely (Shankar et al., 2022). The Fourth Industrial Revolution involves financial literacy and digital promotion through digital technology and electronic media that rely on the availability of the internet. This aims to increase sales by understanding customer needs and leveraging internet technology innovations based on new business trends (Novytska et al., 2021). In addition to financial literacy, the Fourth Industrial Revolution also includes digital promotion that uses digital technology and electronic media, depending on the availability of the internet (Umami & Darma, 2021). Advanced technology allows for digital promotion and impulse buying through online media, replacing conventional purchases in physical stores. Additionally, the Fourth Industrial Revolution introduces digital payments, facilitating instant and cashless transactions (Lavuri, 2023). Digital payments are growing thanks to easy internet access and rapid innovation, supported by the important role of government and the private sector in following new technology trends, increasing its popularity as businesses grow (Shailza & Sarkar, 2019).

Digital payments pose security challenges, including the risk of losing money and personal information. Although more economical, security and installation costs can be high. The use of digital payments can encourage consumer behavior, especially when the benefits are felt to be increasingly high (Kushwaha, 2021). Consumptive behavior is spontaneous shopping without economic consequences, often influenced by visual stimuli or promotions. Generation Z, especially when shopping online, tends to be impulsive, influenced by emotions, and lacks financial control, compared to buyers in physical stores (Lina et al., 2022). Generation Z needs to adapt to the Industrial Revolution 4.0, utilize technology and financial literacy, and control consumer behavior when shopping online to face future economic challenges. Basic financial literacy is an important life skill that helps individuals manage their finances, improves financial well-being, and supports inclusive growth and economic stability (Fenton-O'Creevy & Furnham, 2020). Communications industry trends include smartphone technology, growing social networks, and expanding internet infrastructure. This increases access to information, but can also trigger impulse buying behavior that tends to prioritize wants over needs (Amagir et al., 2018).

Financial education helps consumers become wise buyers, avoid losses, understand consumer protection rights, and has the potential to reduce consumer consumer behavior (Tang & Baker, 2016). Financial literacy helps teenagers manage money wisely and reduce consumer behavior. Good economic literacy has a positive impact on impulse buying, while low literacy causes negative consumer behavior (Ergün, 2018). Marketing must be intensive and utilize internet services for offers, payments and product delivery. Digital promotions must attract consumers' attention so that they continue to participate in transactions (B. Chen et al., 2022). Consumer behavior involves perceptions and experiences that influence future behavioral intentions, with stages including search, purchase, use, evaluation, and product selection, influenced by internal and external factors in purchasing decisions (Suher & Hoyer, 2020).

Consumer attitudes reflect psychological factors and are influenced by interactions with the company and the social environment. Companies need to understand consumers' needs, preferences and reasons for choosing products (Miao et al., 2020). Diversification of e-commerce platforms and special offers influence shopping behavior patterns. Changes in consumption culture are caused by increasing daily needs, while social networks play an important role with positive and negative aspects (Ahn & Kwon, 2022). Low financial literacy has a detrimental impact on money management, while high literacy enables wise management and intelligent allocation between consumption and future investments (Rai et al., 2019). Sales promotions increase purchases with short-term incentives. The digital era allows for easy online or offline purchases, and access to promotional information such as discounts (Baicu et al., 2020).

Consumptive behavior is often triggered by financial motivations, especially in the millennial generation who have easy access to information to meet their daily needs. Motivation is a drive that influences a person's actions (Perera et al., 2022). The development of the digital world influences consumer behavior with online shopping, especially among the millennial generation who are active on social media. Often, shopping is driven by ambition rather than product benefits, potentially fueling consumerist behavior (Wang et al., 2019). Interest in using fintech, especially e-wallets, is increasingly important in today's society. This research focuses on two main factors that influence interest in using e-wallets, namely financial literacy and perceived benefits (Shen et al., 2020). Perceived usefulness is a consumer's belief about the extent to which using a product or service will improve their performance, influencing purchasing decisions (Siew Bee & Yan Ying, 2021).

E-wallet understanding and trust support usage, while distrust and lack of understanding hinder it (Andreou & Anyfantaki, 2021). Financial literacy and perceived benefits influence e-wallet interest. Financial literacy plays a role in accepting new technologies such as e-wallets based on their benefits. Increasing student literacy encourages interest in e-wallets (Shen et al., 2018). Interest in using technology is influenced by perceptions of convenience and promotions, including discounts and cashback. Promotion is an important element in product marketing, including e-wallets, to attract consumer interest (Zafar, Qiu, Shahzad, et al., 2021). Promotions influence interest in using e-wallets. This includes cashback, discounts, and points that reduce consumer spending. Promotion is a key element in the e-wallet marketing mix (Salwa & Abdul, 2020). Promotions (including discounts, cashback and vouchers) influence e-wallet usage intentions. Attitudes also play a role in usage intentions. Promotion is key in the e-wallet business, especially in developing countries (Aragoncillo & Orús, 2018). Introducing e-wallets to holders of traditional values requires a sharp approach, focused on the convenience and benefits of digital money. Consumers are now more critical in evaluating products without just relying on promotions (Palmié et al., 2020).

Fintech and digital wallets increase financial literacy by requiring knowledge, encouraging understanding of financial instruments, and providing easy access to digital banking services (Ligon et al., 2019). Financial literacy increases interest in using digital wallet applications to manage finances and facilitate transactions, including public services and daily needs (Sharma et al., 2020). Financial literacy and advertising play an important role in increasing students' interest in using E-money by providing important information about products or services (Chaveesuk et al., 2021). The increase in digital wallet use is influenced by promotions and ease of transactions with digital money. Perceived ease of use is a key factor in the adoption of this technology (Yang et al., 2021). The use of non-cash money, such as debit cards or electronic money, significantly increases consumer behavior, because the ease of shopping with this method influences the consumption of goods and services (Liébana-Cabanillas et al., 2020). The use of electronic money is more practical, safe, comfortable and efficient than cash. This has a positive impact on consumer behavior, especially among students (Sun et al., 2020).

The ShopeePay e-wallet influences student consumer behavior with convenience, security, benefits and reward programs. This reflects the impact of financial technology and promotions on college students' shopping patterns. Wise use of digital wallets is important to avoid overspending (Ali et al., 2023). E-wallets eliminate the need to carry cash but can interfere with students' financial management and encourage consumer behavior. Payments without physical money can occur without careful consideration (Li et al., 2020). Financial literacy is important in making financial decisions, including saving, taking out loans, and managing money. Difficulty controlling finances indicates low financial literacy (Dzogbenuku et al., 2022). e-wallets make it easier for students to shop and make transactions, increasing consumer behavior. Discounts and cashbacks also play a role in increasing their spending (Jünger & Mietzner, 2020). The use of e-wallets is changing students' consumption patterns, encouraging active purchasing. Financial literacy is important to avoid impulsive actions when shopping (Van Nguyen et al., 2022).

Convenient online shopping applications support students' consumptive behavior by avoiding crowds and traffic problems when shopping offline. Non-cash payments make transactions easier (Flavian et al., 2020). In shopping, digital promotions (discounts, cashback, reward points) influence consumer behavior by exploiting consumer impulses and often ignoring basic needs, which can lead to waste (Munsch, 2021). Consumptive behavior due to digital promotions can cause waste, difficulty controlling finances, and accumulation of unneeded goods (Alkhowaiter, 2020). Digital promotion through digital payments influences consumer behavior. Awareness of risk and the ability to manage finances are key in the digital era (Hsu & Chen, 2018).

II. METHODS

The method applied in this research is a quantitative descriptive method, because the data collected will be expressed in the form of numbers and analyzed using a statistical approach.

In this study, researchers used the research title "The Influence of Financial Literacy, Digital Promotion, and the Use of Digital Payments on Consumptive Behavior Among Generation Z in the Era of Industrial Revolution 4.0". Researchers use financial understanding (X1), digital marketing (X2) as independent variables, consumer behavior (Y) as dependent variable, and use of digital payments (Z) as moderator variable.

Population refers to the entire group of people, objects and other elements that are the focus of attention or the collection of all objects that are in focus. The population of this research is active students from the 2020, 2021 and 2022 classes who chose to major in economics education at Univeristas Negeri Makassar. The table below shows the indicators used in this research:

Table 1. Research Indicators

No	Variable	Indicator
1.	Financial Understanding (X1) (Potrich et al., 2016)	Financial Knowledge Behavioral Finance Financial Attitude
2.	Digital Marketing (X2) (Young Kim & Kim, 2004)	Interactive Incentive Program Cost
3.	Digital Payments (Z) (Puspita, 2019)	User Convenience Ease of Access User Benefits

4.	Consumptive behaviour (Y) (Chung & Kim, 2016)	Impulse Buying Irrational Purchases Waste

From the results of the indicators that have been determined based on variables from the research, there are several statements that will be given to business actors in the form of a questionnaire that discusses financial understanding, digital marketing, digital payments and consumer behavior.

III. RESULT

Respondent Description

In the framework of this research, researchers have distributed questionnaires to 76 Bachelor of Economics Education students at Makassar State University. Respondents demonstrated a wide range of characteristics, including variations in age and gender. Specifically, in the age group of respondents, there were 6 students aged 18 years, 18 students aged 19 years, 32 students aged 20 years, and 20 students aged 21 years. Meanwhile, gender characteristics include 16 men and 70 women. Furthermore, the data collected during the research period will be processed and analyzed using SPSS statistical software.

Validity Test

Based on the results of the validity test of the financial understanding scale (X1), it was found that the range of calculated r values for this scale ranged from 0.534 to 0.714. In addition, the digital marketing scale (X2) has a calculated r value range between 0.541 to 0.812. On the other hand, the digital payment scale (Z) shows a calculated r value range between 0.285 to 0.865, and on the consumer behavior scale, the calculated r value range is between 0.743 to 0.871.

By referring to this data, the conclusion is that financial literacy, digital promotion, use of digital payments, and consumer behavior are considered valid. This is because the calculated r value exceeds the table r value which has been set at 0.255. In other words, the validity results show that all measurement scales in this study have a sufficient level of validity to be used in further analysis.

Reliability Test

Based on the results of the reliability test, the reliability value for the financial understanding behavior scale (X1) was 0.827, for the digital marketing scale (X2) it was 0.867, for the digital payment usage scale (Z) it was 0.946, and consumptive behavior (Y) was 0.903. From these data it can be concluded that all the questions asked in this questionnaire have good reliability.

Normality Test

Based on normality test results. The Sig value of 0.057 exceeds the limit of 0.05, so it can be suggested that the data in this study has a normal distribution and can be continued with further analysis.

Multicollinearity Test

Based on the research results, it shows that the multicollinearity test obtained a VIF of 1.266 and a TOL of 0.790 for the financial literacy variable, a VIF of 1.705 and a TOL of 0.586 for the digital promotion variable, a VIF of 1.713 and a TOL of 0.584 for the digital payment usage variable, it can be seen that all Tolerance values for each variables X and Z for Y have a value of > 0.10 with a VIF value of each variable < 10.00. There was no evidence of multicollinearity between the variants of financial literacy, digital promotion, and use of digital payments.

Heteroscedasticity Test

Based on the results of the heteroscedasticity test, the following variables financial understanding (0.066), digital marketing (0.786), and digital payments (0.071) have statistically significant values. Because this value is more significant than 0.05, it can be concluded that heteroscedasticity does not occur in this regression model.

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Table 2. Multiple Linear Regression Analysis

No	Variable	B Coefficient Value
1	Constant	17.343
2	X1 against Y	0.288
3	X2 against Y	0.178

Output Data SPSS.22 Uji Normalitas (2023)

Based on the results above, it can be seen that the constant value is 17,343, which means that the variables X1, X2, are considered constant and do not change.

Partial Significance Test (T Test)

The value used to get the T test results is the Sig value. and t obtained from the coefficient table. The acceptance criteria for the T Test are if Sig < 0.05 and T Calculated > T Table (1.993), then it can be concluded that there is a significant influence between the independent variable and the dependent variable.

Table 3. Partial Significance Test (T Test)

No.	Hipotesis	T	Sig
1	X1 againts Y	1,061	0,292
2	X2 againts Y	0,243	0,808
3	Z againts Y	1,194	0,236
4	X1 againts Z	1,759	0,083
5	X2 againts Z	5,351	0,000

Output Data SPSS.22 Uji Normalitas (2023)

From the table above it can be seen that the influence of X1 and X2 on Y is rejected, Z on Y is rejected, X1 on Z is rejected, and likewise X2 on Z is accepted.

Simultaneous Significance Test (F Test)

The value used to get the results of the F test is the F value calculated from the ANOVA table. The acceptance criteria for the F Test are if calculated f > f table (3.12). The F test can be seen from the following table:

Tabel 4. Simultaneous Significance Test (F Test)

No.	Hipotesis	T	Sig
1	X againts Y	2,149	0,102
2	X againts Z	17,926	0,000

Output Data SPSS.22 Uji Normalitas (2023)

From the resulting SPSS output, it can be seen that the variables X1 and X2 collectively do not have a significant impact on Y, so the hypothesis is rejected. On the other hand, it can be seen that the variables X1 and X2 together have a significant influence on Z, so the hypothesis can be accepted.

Correlation Coefficient Test (R Test)

Table 5. Correlation Coefficient Test (R Test)

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate
1	.287[a]	.082	.044	7.059

Output Data SPSS.22 Uji Normalitas (2023)

The data processing results above show that the correlation value (R) is 0.287 or 28.7%, meaning that financial understanding (X1), digital marketing (X2), and digital payments (Z) have a low level of relationship with consumer behavior (Y).

Moderator Regresion Analysis (MRA)

MRA is carried out with the aim of testing the correlation between independent and dependent variables, by considering factors that can increase or decrease the relationship (moderating variables).

Table 6. Moderator Regresion Analysis (MRA)

Model		Unstandardized Coefficients		Standardized Coefficients	t	Sig.
		B	Std. Error	Beta		
1	(Constant)	8.754	10.929		.801	.426
	x1	1.293	.647	.758	1.998	.050
	x2	-.457	.425	-.338	-1.075	.286
	z	.569	.603	.462	.944	.349
	Moderasi1	-.057	.033	-1.334	-1.750	.084
	Moderasi2	.032	.024	.934	1.353	.180

a. Dependent Variable: y

Output Data SPSS.22 Uji Normalitas (2023)

From the results of the table above, the value of X1 through Z towards Y is rejected and X2 through Z towards Y is also rejected.

IV. DISCUSSION

The Influence of Financial Understanding on Consumptive Behavior

Financial literacy does not always affect the ability to control spending urges, especially in stressful situations. Consumer behavior is influenced by post-millennial values such as YOLO (You Only Live Once) and FOMO (Fear of Missing Out), which influence purchasing decisions, especially on social media. Businesses can utilize the FOMO strategy in social media campaigns to influence consumer behavior (Chong et al., 2021).

The findings of this study are considered consistent with the findings (Vosylis & Erentaitė, 2020) From the research results, it appears that financial literacy does not have a significant impact on the consumption behavior of economic education students. Financial attitudes influence behavior more than financial knowledge. Financial literacy is important, but does not always guarantee wise financial behavior. Financial education is important to improve students' financial knowledge, attitudes and behavior (Yahaya et al., 2019)

The Influence of Digital Marketing on Consumptive Behavior

Digital promotions do not significantly influence consumer behavior among internet users aged 20-24 years, especially those who are still students and have unstable incomes. Thus, digital promotion efforts have not been effective among student groups (Zafar, Qiu, Li, et al., 2021). Digital promotions and mobile marketing are not always liked by consumers because several approaches such as SMS/MMS, push notifications, QR Codes, and Mobile ads often have little meaning for them (Wu et al., 2021).

Research conducted (Kathiravan et al., 2019) Consumptive behavior is influenced by internal and external factors. 20-24 year old students may be quite psychologically mature, but may lack time and resources. Research result (Abdelsalam et al., 2020) Factors of perceived perishability and perceived scarcity influence consumer behavior in digital promotional programs such as e-commerce flash sales in Indonesia. In making purchasing decisions, many aspects influence consumers.

The Influence of Financial Understanding and Digital Marketing on Consumptive Behavior

Higher education is associated with wiser responses to sales promotions in online media (Aydin & Akben Selcuk, 2019). Financial literacy influences product selection by being influenced by the level of education, values, way of thinking, point of view, and perception of knowledge (MacInnis et al., 2020)

E-commerce can be done at any time, but social media interaction does not guarantee consumptive behavior if financial literacy is strong. Financial literacy influences financial management and prevents impulse purchases (Triwidisari et al., 2018). This is supported by previous research (Abad-Segura & González-Zamar, 2019) The level of financial literacy plays an important role in shaping adolescent consumer behavior with a negative relationship. The higher the financial literacy, the greater their consideration when facing promotions.

The Influence of Financial Understanding on the Use of Digital Payments

Research conducted (Estisia Pratiwi & Saefullah, 2022) Financial literacy does not influence perceptions of using digital payments. Social influence is more dominant, because digital payment technology is common and easy to use. This technology has become the standard, and people are accustomed to its use.

This is in line with the findings (Nurrohim et al., 2020) Financial literacy does not affect interest in using electronic money because electronic money technology is easy for anyone to use. Financial literacy helps manage finances and prevent financial mistakes, but does not motivate the use of digital payments due to their ease of use (Gilenko & Chernova, 2021).

The Influence of Digital Marketing on the Use of Digital Payments

These results are in line with the research conducted (Putri et al., 2022). Cashback promotions have a positive effect on intentions to use digital wallets, illustrating the attractiveness of discounts and promos on these services. Promotion is a way for companies to convey product or service information to potential consumers to influence their use. The more e-wallet promotions, the higher the interest in use (Didied et al., 2022)

Online promotions on social media help electronic money attract and retain consumers and increase interest in use. The more effective the digital promotion, the better the acceptance of digital payments (Khoa, 2020). The growth of online business in Indonesia is increasing, the strategy and role of digital payments and digital marketing are key. Promotion is an important part of digital payment services (Che Nawi et al., 2022)

The Influence of Financial Understanding and Digital Marketing on the Use of Digital Payments

Research conducted (Frączek & Urbanek, 2021). Trust, convenience, financial literacy and transparency influence users to use financial applications. Trust is key in the financial sector. The results of this research are supported by (Klapper & Lusardi, 2020). Fintech companies in Indonesia use advertising and promotions to introduce financial applications and increase the number of users.

Financial literacy and personal financial management motivate individuals to make wise financial decisions, including in the use of digital payments and benefit from promotions (Naumenkova et al., 2019). Generation Z prefers digital payments, financial technology increases their financial inclusion with access to secure services, and they can make smarter financial decisions (Lim et al., 2019).

The Influence of Using Digital Payments on Consumptive Behavior

These results are supported by research (Agarwal & Zhang, 2020) Respondents use digital payments at a very high rate, but this use does not always have a positive impact on impulse buying behavior. High use of electronic payment systems does not necessarily encourage impulse purchases. Other research results show that digital payment services are negatively related to impulse buying, influenced by emotions, online shopping atmosphere, and personal character (Sari et al., 2021).

Positive internal factors, negative external factors in impulse buying. Decisions are influenced more by needs and lifestyle than advertising. Online users focus more on needs and consider price, benefits, usability and discounts (Y. Chen & Zhang, 2015). Electronic payments are influenced by convenience and promotions, and other factors such as security and satisfaction may also be important. This can influence impulse buying behavior and consumptive behavior (Gupta & Arora, 2020).

The Influence of Financial Understanding on Consumptive Behavior through the Use of Digital Payments

Good financial literacy is needed to avoid bad financial behavior. Digital payment technology and government regulations support increased financial literacy (Adnyani et al., 2023). Financial literacy influences the adoption of payment technology, but is still low in Indonesia, especially among the productive age group (Estisia Pratiwi & Saefullah, 2022). Financial literacy is very important to avoid consumer behavior, especially in the technological era with marketplace promotions and digital wallets.

Financial technology is important for digital payments, especially for millennial and Z generations who prioritize convenience. Its success depends on user experience and accessibility of financial services (Palmié et al., 2020). Financial literacy, behavioral strategies, product expansion, and time and cost considerations are key factors in financial technology infrastructure that influence the adoption and use of such services (Long et al., 2023).

The Influence of Digital Marketing on Consumptive Behavior through the Use of Digital Payments

Shopping via cellphone does not have a significant effect on consumer behavior. Discounts do not always encourage impulse purchases, product relevance and timing play an important role. Discount offers alone are not enough (Bagla & Sancheti, 2018). Sales promotions influence consumer behavior, especially impulse buying, and external factors also play a role. and style. The right strategy is needed to influence consumer behavior (Xu & Huang, 2014).

Digital promotions encourage impulse purchases through easy payment options on the internet when consumers find great deals. Self-control remains important in digital transactions (Badgaiyan & Verma, 2015). The consuming public adapts its lifestyle to changing situations, seeks efficiency, and appreciates discounts in purchases (Lo et al., 2016).

V. CONCLUSION

Based on the results described in the previous chapter, it can be concluded that financial literacy does not have a positive and significant influence on consumer behavior. The same thing also applies to digital promotions, which do not show a positive and significant impact on consumer behavior. In addition, when financial literacy and digital promotion are considered together, neither has a positive and significant influence on consumer behavior. Financial literacy itself does not have a positive and significant impact on the use of digital payments, while digital promotion shows a positive and significant impact on the use of digital payments. The combination of financial literacy and digital promotion also has a positive and significant influence on the use of digital payments. Even so, the use of digital payments does not have a positive and significant impact on consumer behavior. Apart from that, the use of digital payments as a moderating variable did not succeed in increasing the influence of financial literacy on consumer behavior, nor did digital promotion.

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