The Role of Financial Self-Control in Mitigating Online Impulsive Buying Among Gen Z Consumers in Indonesia's E-Commerce Sector

Uppalidevi Jaya Mudra, Toto Rusmanto

Department of Accounting, Bina Nusantara University

uppalidevi.mudra@binus.ac.id, trusmanto@binus.edu

Abstract. This study analyzes the impact of e-commerce application features and financial self-control on online impulse purchases among 188 Gen Z consumers in The Special Capital Region of Jakarta (Indonesia) using Structural Equation Modeling (SEM). The sampling technique in this research used a purposive sampling technique to look at Gen Z's perspective as users of e-commerce applications by distributing online questionnaires. Questionnaires were distributed to 320 respondents with an age range of 19 – 28 years, and the number of respondents who met the criteria in this study was 188 respondents who were processed using SmartPLS version 4 software. The findings revealed that customer experience, pay later options, and flash sales had a significant effect on online impulse buying. Additionally, financial self-control was found to moderate the impact of customer experience and pay later on online impulse buying, with higher financial self-control associated with lower online impulsive buying. The results of this study indicate that increasing awareness in financial self-control can mitigate the increasing consumer debt problems faced by young people in e-commerce. Education regarding increased awareness of targeted financial self-control, as well as improved e-commerce platform protection can help encourage responsible spending. This research contributes by increasing Gen Z's awareness of users of e-commerce application features, in managing finances and loans to meet shopping styles that can trigger online impulsive buying. Apart from that, another contribution is a consideration for the government in increasing regulations that can protect the public, especially Gen Z, in managing finances and debt which can trigger collectability scores.

Keywords: E-commerce Application, Customer Experience, Pay Later, Flash Sale, Online Impulsive Buying, Financial Self-control, Gen Z, The Special Capital Region of Jakarta

1. Introduction

Business models in the digitalization era have been transformed into digital businesses, where previously conventional business models required face-to-face transaction processes can become more efficient with digitalization (Nurmillah, 2021). The transformation of digital business models from traditional models in general has changed almost all industrial sectors (Eisape, 2022). In Indonesia, the adoption of digital technology has resulted in readiness to accept these technological developments (Setiawan, 2017). The use of internet technology in business activities is quite common in the digital era, this is supported by the growth of electronic commerce (e-commerce) which is increasingly developing in Indonesia (Pusdiklat Keuangan Umum, 2019).

Based on a report from Momentum Works, the largest Gross Merchandise Value (GMV) / Gross Transaction Value of e-commerce in Southeast Asia (ASEAN) was contributed by Indonesia at 51.9% (Nabila, 2023). According to Siswanto and Blackie Dictionary, GMV itself is one of the measuring tools used to measure the financial health of businesses in e-commerce by measuring the total value of goods/services purchase transactions in a certain period (OCBC NISP, 2022). In this case, it's preview are quite high total shopping transactions in e-commerce in Indonesia.

Based on data from SimilarWeb, marketplace visits as one of the highest e-commerce applications in Indonesia are Shopee and Tokopedia (CNN Indonesia, 2023). The various features, facilities and services provided by the two marketplaces are quite diverse but have the same function for their users, namely online stalls for carrying out buying and selling transactions (Darmawan & Gatheru, 2021). Various other features and promos offered to attract consumer interest include the flash sale feature which is well known among marketplace users, the pay later payment option feature, and financial features such as online loans.

The flash sale feature in e-commerce applications offers product prices that are cheaper than the actual price in limited quantities and for a limited time duration. Psychologically, this can encourage consumers to buy products (Lamis et al., 2022). The presence of a flash sale feature can encourage the level of intention to consume excessively. Purchasing previously unplanned products that are beyond your needs is impulsive buying. The sense of urgency when seeing the duration of a flash sale can trigger impulsive buying (Martaleni et al., 2022).

Impulsive buying can also arise from the ease of payment for transactions in e-commerce applications (Luthfia, 2023). With the development of financial technology or what is commonly known as Fintech, it can support ease in the transaction payment process. Fintech is a form of business that uses technology that can be run through software to carry out financial service transactions (KOMPASIANA, 2022). One of the features from Fintech is Pay later as '*Layanan Pinjam Meminjam Uang Berbasis Teknologi Informasi*' (LPMUBTI), allowing transactions without direct face-to-face interaction (ojk.go.id, 2023). Digital payments on e-commerce applications are starting to become popular with consumers, developments in digitalization have created the Pay Later service as a payment system. According to Jayanti, in 2023, Pay Later will offer ease of use by simply using a pin or fingerprint as confirmation of payment (Luthfia, 2023). This can trigger consumers to use Pay Later in the payment system to fulfil their desires in purchasing products. The Pay Later system has become popular among young people, some of people have economic limitations and are interested in using Pay Later, so this system has become a favourite to fulfil the need to purchase products. This dependence on the Pay Later system is starting to become a cause for concern, where consumers' financial limitations can increase the adoption of the "Buy Now, Pay Later" trend (Relja et al., 2023).

According to BBC News Indonesia, this low understanding of the risks of using Pay Later creates a high risk of default which makes Pay Later users feel 'strapped' to pay their loans (BBC News Indonesia, 2022). The need to pay loans by using Pay Later can extend to the use of fintech lending or online loans. Where some of them are cases of 'dig a hole and close a hole', users will be interested due to the urgent situation to use other online loans to pay previous debts that have matured (Kompas.com,

2022). This cycle can make users trapped in an endless cycle of debt because users are unable to consider their financial capabilities, which causes failure in managing personal finances and has an impact on users' finances (Asosiasi Fintech Pendanaan bersama Indonesia (AFPI), 2023).

Generation Z (Gen Z) is a generation born where the use of digital media has become a natural thing, both in socializing and in utilizing these media, one of which is a preference for shopping online (Khairunnisa et al., 2023). The issue of payment failure due to the use of Pay Later as a fintech lending product is also starting to attack Gen Z the young generation in Indonesia. According to CNBC Indonesia, several cases of Gen Z have been found who have been rejected for work and have had difficulty applying for Home Ownership Credit (KPR) due to high debt and bank credit collectability Col 5 / bad credit (CNBC Indonesia, 2023b). Gen Z's involvement in using Pay Later tends to increase in Indonesia, one of which is because Pay Later user registration is easy without collateral and only requires filling in identity (OCBC NISP, 2023). This is starting to become a concern for Gen Z in Indonesia in managing the use of Pay Later as a payment system which is starting to be available on various e-commerce platforms. According to data from the October 2023 edition of the Unveiling Indonesia's Financial Evolution: Fintech Lending & Pay Later Adoption survey report, it shows that the main reason why Pay Later users are connected to e-commerce applications directly so that ease of registration is one of the main reasons (Populix, 2023). The ease of Pay Later registration is in stark contrast when compared to credit registration in banking which requires credit scoring as one of the requirements (CNBC Indonesia, 2023a).

This research aims to determine the influence of financial self-control as a moderating variable on the use of e-commerce applications on online impulsive buying. The data used in this research includes elements of customer experience, customer psychology, use of the pay later feature, as well as the flash sale program from e-commerce which will be collected through a questionnaire to Gen Z with an age range of 19 years to 28 years who live in The Special Capital Region of Jakarta. The selection of respondents was determined by Gen Z as the generation most adaptive to technological developments (BBC News Indonesia, 2022) due to the increase in the use of Pay Later as an easily accessible payment option (CNBC Indonesia, 2023b).

2. Literature Review

2.1. Theoretical Foundations

The theoretical basis applied in this research uses the concept of behavioral finance and The Unified Theory of Acceptance and Use of Technology (UTAUT). Behavioral finance theory explains the understanding of reasoning patterns, including the emotional aspects involved and the extent to which this influences the decision-making process in managing finances. Behavioral theory of finance is a theory that studies the application of psychology in finance which focuses on the level of individual cognitive bias (Ricciardi & Simon, 2000). Cognitive bias is a phenomenon that affects all people individually, in interpreting information and making decisions based on the information received (*Lembaga Penelitian dan Pengabdian Masyarakat Universitas Medan Area*, 2023). Behavioral finance theory involves 3 aspects, namely finance, psychology and sociology (Siska Abriani et al., 2021). Looking at 3 aspects that integrate financial behavior, according to Baker & Nofsinger this seeks to understand financial choices from a combination of economic and financial theories with psychological and cognitive behavioral theories (Serisi, 2022). This theory assumes that humans have an aspect of irrationality in making financial decisions. Decisions made tend to focus on prospective profits and losses seen in the form of a value function (edu channel.id, 2022). UTAUT Theory is a research framework designed to identify user acceptance of information technology. UTAUT consists of four elements, namely performance expectancy, effort expectancy, social influence, and facilitating conditions which have an impact on the intention to use technology (Junadi & Sfenrianto, 2015). In this research, the use of basic behavioral finance theory is used to see the extent to which e-commerce

application users involve their financial behavior and the UTAUT theory is used to see user acceptance of e-commerce applications in influencing online impulsive buying attitudes.

2.1.1. E-commerce
The use of e-commerce applications is one of the main solutions for carrying out product purchase transactions, especially during the COVID-19 pandemic which supports increased use of e-commerce services (Higueras-Castillo et al., 2023). The e-commerce application itself is designed to be an unlimited online shop provided by the company for buying and selling transactions between buyers and sellers online without requiring face-to-face contact.

2.1.2. Online impulsive buying
Online impulsive buying is a term for consumer behavior that finds, buys, uses, evaluates and discards products and services that they hope will meet their needs (Firmansyah, 2018). Impulsive buying behavior from consumers is widely recognized as a phenomenon in Indonesia, in e-commerce transactions around 80% of sales are impulsive purchases compared to pre-planned purchases. According to Rook & Fisher, impulse buying is characterized by relatively short decision-making, as well as subjective decisions that support full ownership (Rook, 1987).

2.1.3. Customer experience & customer psychological
Customer experience in e-commerce is the consumer's experience in carrying out transactions in e-commerce. Customer experience itself needs to be updated in line with developing trends in society which are always changing/inconsistent, this is done to attract consumers to continue using services in e-commerce by existing trends (Zha et al., 2023).

Providing consumers with a positive shopping experience can motivate customers to spend more money on e-commerce transactions. Customer experience is divided into 2 categories according to Gulfraz et al. namely in terms of functionality and psychology (Gulfraz et al., 2022).

a. Customer Experience (Functionality)
The customer experience of a brand that is considered good requires Visual Application, User Friendly (Usage guide that is easy, understandable, and can be applied by customers according to instructions), and Informativeness (Information that has complete instructions) (Gulfraz et al., 2022). This refers to what is visible and can be felt directly by the user (Zha et al., 2023).

b. Customer Psychological
The components of the psychological dimension of customer experience are (Gulfraz et al., 2022):
1. Trust (Trust)
2. Convenience (Comfort)
3. Enjoyment (Pleasure)

These include feelings and psychological drives that make users experience using e-commerce applications indirectly.

2.1.4. Pay later
Pay Later is one of the services provided by Fintech lending companies to provide facilities for carrying out loan transactions without having to meet in person (ojk.go.id, 2023). Customers' lack of experience with Fintech makes it difficult for them to evaluate Fintech services before using them(Wang et al., 2019). Competition in lending technology is increasingly fierce and the convenience of digital technology provides customers with a variety of choices, which can make customers consider easily switching to other Fintech services at low costs. Retaining customers is a crucial issue for Fintech service providers to build and maintain their success, so it is essential to advance the understanding of customer retention in Fintech (Wang et al., 2019).

2.1.5. Flash sale

Flash sales are a popular sales technique in e-commerce to attract buyers' interest, where brand manufacturers sell various products at discounted prices for a limited period outside normal sales times (Zhang et al., 2018). This flash sale service feature offers prices that are relatively far from the normal price with limited quantities and time duration. The aim of sales through this feature is to increase sales and visits on e-commerce, as well as increase awareness of certain brands to be able to reach more buyers (Aribowo et al., 2020).

2.1.6. Financial Self-control

Self-control is an individual's skills and ways of dealing with one's emotions and impulses, including the ability to manipulate oneself to increase or decrease one's behavior regarding the decisions to be made (Ardiana & Unesa, 2017).

According to Pritazahara & Sriwidodo, every individual has a strategy to prevent wasteful financial allocation through good self-management in the financial management process (Pritazahara & Sriwidodo, 2015). The level of control in individual financial management is considered important for each individual to begin to realize to be wiser in controlling finances.

2.2.   Hypothesis Development

2.2.1. Customer experience (functionality) and online impulsive buying

Customer Experience or consumer shopping experience is an important thing that must be measured for the sustainability of an e-commerce business. Having a good shopping experience means consumers will continue to use the service. Several aspects of measuring functionality are influenced by several factors, namely based on consumer shopping experiences related to web/application displays, user-friendly use, and clear delivery of information to consumers (Gulfraz et al., 2022).

Apart from an attractive appearance for service users, the level of convenience and clarity of information in the service can provide a good impression and experience from the consumer's perspective (Diana Sari & Dwijayati Patrikha, 2021; Liu et al., 2013). Fulfilling a good consumer shopping experience tends to make consumers continue to use their e-commerce web/application loyally, which leads to online impulse purchases. Opportunity, trust, and customer experience have an important role in driving online impulsive buying, and the perceived value of information plays an important role in influencing online impulsive buying (Bao & Yang, 2022). Therefore, researchers propose the following hypothesis:

H1: Customer Experience (Functionality) has a significantly effect on Online Impulsive Buying.

2.2.2. Customer psychological and online impulsive buying

Customer Psychology is a psychological impulse that arises within an individual based on previous events. This attitude arises based on their experience in the e-commerce usage environment. Psychological encouragement according to Kotler & Keller (2009) is influenced by motivation, perception and learning that arise from previous experiences (Oping et al., 2015).

According to Beatty & Ferrell (1998), when a consumer enjoys a shopping experience they are more likely to engage in more in-depth web/app browsing leading to a greater likelihood of consumers making more unintentional purchases (Moreno et al., 2022). Customer psychology has an important role in influencing online impulse buying behavior and socially relevant characteristics influence application user enjoyment (Xiang et al., 2016). Therefore, researchers propose the following hypothesis:

H2: Customer Psychological has a significantly effect on Online Impulsive Buying.

2.2.3. Pay later and online impulsive buying

Fintech Lending is divided into several types of service products, including pay later. There is a payment

system using pay later by 'adding' credit/temporary financial balance for consumers which can be used to purchase products (Wang et al., 2019). This is seen as triggering a relationship with impulse buying, where a consumer has a sense of sufficient financial balance that can be used to fulfil their desire to purchase a product.

If someone can buy a product, they will not hesitate to spend money when they see a product that interests them(OCBC NISP, 2022). The Buy Now Pay Later (BNPL) credit program in previous research had an effect in increasing the tendency to buy online impulses and encourage excessive consumption (Fook & McNeill, 2020). Therefore, researchers propose the following hypothesis:

H3: Pay later has a significantly effect on Online Impulsive Buying.

2.2.4. Flash sale and online impulsive buying

Flash Sale is a promotion that provides product discounts for a limited number and duration. According to Setiawan & Sahetapy (2022), flash sale programs can encourage consumers to make impulsive purchases, where product purchases occur without any prior planning because consumers feel positive value when they see price discounts on products (Viany Juwita et al., 2022).

Limited-time promotions (flash sales) in e-commerce can increase consumer confidence, thereby leading to more online impulse purchases and post-purchase regret (Marjerison et al., 2022). Therefore, researchers propose the following hypothesis:

H4: Flash Sale has a significantly effect on Online Impulsive Buying.

2.2.5. The role of financial self-control as moderating variable

Financial self-control is self-control in managing individual finances. Financial self-control is a strategy for controlling and measuring decisions about using or saving money / managing one's finances (Davydenko et al., 2021). In this research, Financial Self-control is used as a moderating variable to see its influence on the relationship between Customer Experience (Functionality), Customer Psychological, Pay Later, and Flash sales, with Online Impulsive Buying.

Financial decisions have been the focus of extensive research in disciplines such as psychology, economics, and marketing. Many of these studies have integrated concrete actions that concretely increase savings or reduce spending, which can ultimately be used as a method to effectively control individual finances (Peetz & Davydenko, 2021). Anticipated regret on the effects after making a purchase has an important role in influencing purchase intention (Luo et al., 2021). Therefore, researchers propose the following hypothesis:

H5: Customer Experience (Functionality) has a significantly effect on Online Impulsive Buying moderated by Financial Self-control.

H6: Customer Psychological has a significantly effect on Online Impulsive Buying moderated by Financial Self-control.

By improving financial management and reducing online impulse purchases, mindfulness can reduce the use of BNPL (Buy Now, Pay Later) payment systems, thereby improving overall consumer well-being (Schomburgk & Hoffmann, 2023). Limited-time promotions (flash sales) in e-commerce can lead to more online impulse purchases and post-purchase regret (Marjerison et al., 2022). Therefore, researchers propose the following hypothesis:

H7: Pay later has a significantly effect on Online Impulsive Buying moderated by Financial Self-control.

H8: Flash sale has a significantly effect on Online Impulsive Buying moderated by Financial Self-control.

3. Research Methods

3.1. Research model

As factors that influence e-commerce application users, namely Customer Experience, Customer Psychology, Pay Later, and Flash Sales, their influence on Online Impulsive Buying will be analyzed, as well as the moderation effect, namely Financial Self-control, which can influence the relationship with Online Impulsive Buying. The following figure (Figure 1) is an overview of the research model in this study.
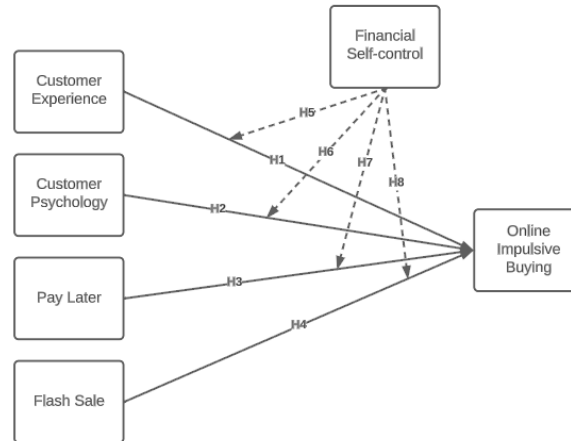

Fig.1: Research Model

3.2. Data Collection Method

The data collection method in this research uses primary data collected through distributing questionnaire forms using the purposive sampling method. The type of data used in this research is primary data which will be collected by distributing questionnaires to respondents aged 19 - 28 in 2023, users of e-commerce applications, have used pay later, and know the mechanism for purchasing flash sale goods. The data will be processed into data in the form of numbers on a Likert scale. The Likert scale is an attitude measurement with a 5-point scale (Yamashita & Millar, 2021). The Likert scale is used to measure individual behavior by collecting responses from 1 to 5, namely strongly disagree, disagree, neutral, agree, and strongly agree (Zakaria et al., 2020).

3.3. Population And Sample

The population in this study were Generation Z respondents with an age range of 19 - 28 years who had used e-commerce applications. The samples that will be taken are the results of a questionnaire with respondents who have met the research object criteria, namely:

(1) Generation Z with an age range of 19-28 in 2023,
(2) Users of e-commerce applications (Shopee, Tokopedia, and so on),
(3) Have ever used Pay Later as a type of payment, and
(4) Know the transaction mechanism for purchasing Flash Sale products.

The population data taken is the percentage of Gen Z from e-commerce application users in Indonesia. In determining the sample size in this study, the Slovin formula was used with a tolerance level of 10% = 0.1 (rono, 2018).

$$n = N / (1 + (N \times e^2))$$

n = Sample size

N = Population size

e = Tolerance level

Therefore, the minimum sample size calculation in this study is:

N = Gen Z populations as e-commerce users in Indonesia on 2022.

$$N = (178.940.000 \text{ people x } 27,94\% \text{ Gen Z in Indonesia})$$

$$N = 49.995.836$$

$$e = 0,1 \text{ with tolerance level } 10\%.$$

$$n = 49.995.836 / (1 + 49.995.836) \text{ x } 0,1^2$$

$$n = 99.999 \sim 100 \text{ Respondents (minimum)}$$

3.4. Analytical Method

The quantitative data analysis method in this research was carried out using SmartPLS software version 4.0.9.5 with the Structure Equation Modeling (PLS-SEM) model. PLS-SEM is used in research when the research analysis is related to theoretical framework testing, when the structural model is complex and includes many constructs, indicators, or model relationships, and when the path model includes one or more constructs that are measured formatively (J. F. Hair, Risher, et al., 2019). This research will present the results of the validity test, reliability test, as well as structural model test (inner model) to test the influence of the independent variable on the dependent variable, and the influence of the moderating variable.

The validity test in this questionnaire data is used to ensure that the questionnaire tool used can measure variables correctly. Value refers to the degree to which an instrument measures what it is supposed to measure. Checking the validity of this test can help ensure that the questionnaire used in research is of good quality and can be relied upon to collect relevant data. This test uses the PLS algorithm procedure where the validity of the indicators in the model is measured by the outer loadings value with the limit said to be valid being greater than 0.708 (Jr. , J. F. Hair et al., 2022). The reliability test in this questionnaire data is used as a measurement of the questionnaire instrument so that it is consistent and reliable in measuring the same variable when tested on different groups of respondents at different times. Reliability measures the stability and consistency of results from a measurement instrument. This test is important to carry out because inconsistent data can produce wrong conclusions and affect the validity of the research results. In this test, the reliability of the variables can be seen in the Cronbach's Alpha value with the criteria of a value > 0.6 and Composite Reliability > 0.7. Reliability testing of indicators in measuring the variable construct can be seen in the results of construct reliability and validity tests on composite reliability values in the range of 0 to 1, where a high value can indicate a higher level of reliability (Jr. , J. F. Hair et al., 2022).

The Structural Model Test (inner model) in this research will measure the significance of the influence between variables using Smart PLS software, where the significance of each relationship between variables will be seen based on the questionnaire data that has been collected. In SmartPLS, the structural model test is also called an inner model, where this test can be used to model concepts because it represents a hypothesis and its relationship to the theory being tested. In this test, the data obtained will be seen as a low missing value ratio and the sample size will be assumed to be good if there is a sufficient sample size (Jr. , J. F. Hair et al., 2022). In looking at the ability of variables to predict the model in research, it is measured by the Predictive Relevance (Q2) value in the Blindfolding menu in SmartPLS. If the value in Q2 is less than 0 then the variable cannot predict the model well, and if it is above 0 then the model prediction can be said to predict the model well (J. F. Hair, Black, et al., 2019). In determining the acceptability of the hypothesis formulation in this test, the path coefficient test is used, looking at the T-statistic value and p-value of each hypothesis.

4. Results

4.1. Respondent Demographics

The use of e-commerce applications is familiar to most Gen Z people in Indonesia. In this research, the

results of filling out a questionnaire have been distributed to people living in The Special Capital Region of Jakarta who have used e-commerce applications and pay later payment methods. The demographics of respondents in this study will be displayed in the following table.

Table 1. Respondent Demographics

Demographic Characteristics	Response Category	Number of Responses	Percentage
E-commerce Users	Yes	188	100%
	No	0	0%
Have you ever used Pay Later?	Yes	188	100%
	No	0	0%
E-commerce applications that have been used	Tokopedia	111	26,1%
	Shopee	168	39,4%
	Lazada	92	21,6%
	Blibli	28	6,6%
	Bukalapak	26	6,1%
	Others	1	0,2%
Frequency of shopping on e-commerce	1 – 2x for a month	52	28%
	3 – 5x for a month	88	47%
	More than 5x for a month	48	26%
Gender	Male	62	33%
	Female	126	67%
Age	19 – 22 y.o	65	35%
	23 – 25 y.o	84	45%
	26 – 28 y.o	39	21%
Domicile	West Jakarta	70	37%
	South Jakarta	63	34%
	Centre Jakarta	46	24%
	North Jakarta	5	3%
	East Jakarta	4	2%
Marital Status	Marriage	41	22%
	Single	142	78%
Residence	Boarding / Dormitory	54	29%
	Living with relatives/other	13	7%
	Living with parents	83	44%
	Stay at home alone	38	20%
Income (per month)	Below IDR 3.000.000,-	38	20%
	IDR 3.000.001,- up to IDR 6.000.000,-	85	45%
	IDR 6.000.001,- up to IDR 10.000.000,-	54	29%
	IDR 10.000.001,- up to IDR 20.000.000,-	9	5%
	More than IDR 20.000.000,-	2	1%
Employment Status	Employment	168	89%
	Unemployment	20	11%

Based on the information presented in the respondent demographic table, it shows that there are 39.4% Shopee application users, 26.1% Tokopedia application users, 21.6% Lazada application users, 6.6% Blibli application users, 6.1% Bukalapak application, and there are 0.2% of users of other e-commerce applications (Amazon). In using e-commerce applications, the frequency of using e-commerce applications for online shopping for respondents is divided into 3 categories, namely rarely doing online shopping activities in e-commerce (1 – 2x for one month) at 28%, quite often doing shopping activities online in e-commerce (3 – 5x for one month) by 47%, and frequent online shopping activities in e-commerce (more than 5x for one month) by 25%. So the majority of respondents fall into the category of quite often carrying out online shopping activities in e-commerce. Based on the information in the results of filling out the questionnaire in this study, the majority of respondents filling out the questionnaire were female, 67% and 33% were male. In the age category, the results of filling out the questionnaire by respondents show that the majority are in the age category 23 to 25 years, namely 45%. Then in the next position with the age category 19 to 22 years at 34%, and followed by the age category 26 to 28 years at 21%. These 3 age categories are the age categories used in the object of this research, namely the Gen Z community. In the monthly income category, it is dominated by 45% of respondents with incomes of IDR 3,000,001 to IDR 6,000,000.

4.2. Data Validity and Reliability Test

This test uses the PLS algorithm procedure where the validity of the indicators in the model is measured at the outer loadings value with the limit said to be valid being greater than 0.708 (Jr. , J. F. Hair et al., 2022). The following are the results of the outer model test in this research which will be attached to the following table.

Table 2. Outer Loadings List SmartPLS

Outer loadings List	Outer loadings
CE1 <- Customer Experience	0.75
CE2 <- Customer Experience	0.79
CE3 <- Customer Experience	0.82
CE4 <- Customer Experience	0.81
CP1 <- Customer Psychological	0.83
CP2 <- Customer Psychological	0.78
CP3 <- Customer Psychological	0.81
FS1 <- Flash Sale	0.79
FS2 <- Flash Sale	0.75
FS3 <- Flash Sale	0.79
FS4 <- Flash Sale	0.83
IB1 <- Online Impulsive Buying	0.86
IB2 <- Online Impulsive Buying	0.88
IB3 <- Online Impulsive Buying	0.83
PL1 <- PayLater	0.79
PL2 <- PayLater	0.78
PL3 <- PayLater	0.73
PL4 <- PayLater	0.78
PL5 <- PayLater	0.77
SC1 <- Financial Self-Control	0.83
SC2 <- Financial Self-Control	0.78
SC3 <- Financial Self-Control	0.78

Financial Self-Control x Customer Experience -> Financial Self-Control x Customer Experience	1.00
Financial Self-Control x Flash Sale -> Financial Self-Control x Flash Sale	1.00
Financial Self-Control x PayLater -> Financial Self-Control x PayLater	1.00
Financial Self-Control x Customer Psychological -> Financial Self-Control x Customer Psychological	1.00

The results of the outer loadings test carried out in the research showed results greater than 0.708. This shows that these indicators work in the measurement model. Data validity is measured by the Average Variance Extracted (AVE) value where the AVE value of each variable will be said to be valid if it has a value > 0.5. In this test, the reliability of the variable can be seen in the Cronbach's Alpha value with the criteria for a value > 0.6 and Composite Reliability > 0.7. Reliability testing of indicators in measuring construct variables can be seen in the results of construct reliability and validity tests on composite reliability values in the range of 0 to 1, where a high value can indicate a higher level of reliability (Jr. , J. F. Hair et al., 2022). The following is an image of the results of the validity and reliability test of this research data.

Table 3. Reliability and Validity Test

Construct Reliability and Validity Overview	Cronbach's alpha	Composite reliability (rho_a)	Composite reliability (rho_c)	Average variance extracted (AVE)
Customer Experience	0.80	0.81	0.87	0.63
Customer Psychological	0.74	0.76	0.85	0.65
Financial Self-Control	0.71	0.73	0.84	0.63
Flash Sale	0.80	0.81	0.87	0.62
Online Impulsive Buying	0.82	0.83	0.89	0.74
PayLater	0.83	0.84	0.88	0.59

The validity and reliability test values indicate that the data tested has met the data criteria values. The AVE value for each of these variables meets the requirements, namely greater than 0.5. In the measurement test results, the Cronbach's Alpha value for each variable is greater than 0.6, and in the measurement of the Composite Reliability value, it is greater than 0.7. This can be said that the data that has been tested is valid and reliable.

4.3. Structural Modelling Test (Inner Model)

In the questionnaire data that has been obtained, the sample size in this research data can be assumed to be good because it has a sufficient sample size, namely 188 samples from the minimum sample calculation for this research, namely 100 samples. In the picture of the results of obtaining questionnaire data in this study, it can be seen that the missing value is low (or = 0).

4.3.1. Predictive relevance (Q2)

Predictive relevance in this study was conducted to see whether the variables used in this study could predict the research model well. The test can be seen in the results of the Q^2 value, where it will be said that it can predict the model good if > 0.

Table 4. Cross-validated Communality Test

	SSO	SSE	Q^2 (=1-SSE/SSO)
Customer Experience	752.000	468.024	0.38
Customer Psychological	564.000	390.588	0.31
Financial Self-Control	564.000	408.190	0.28
Flash Sale	752.000	475.751	0.37
Online Impulsive Buying	564.000	306.749	0.46
Pay Later	940.000	578.438	0.39

The Q^2 value for each variable in this test is greater than 0, which means that these variables can predict this research model well.

4.3.2. Path coefficient test

The hypothesis test results in this study will be displayed with the path coefficient test to see the T-statistic and p-value as an indicator of the hypothesis test results. The following is an overview of the variable test results.

Table 5. R-square Table

R-square Overview	R-square	R-square adjusted
Online Impulsive Buying	0.51	0.48

The results of this test show R-squared with a value of 0.51 where the ability of the independent variable to explain the dependent variable is 51% (0.51 x 100% = 51%), while the other 49% is explained by other variables not examined in this study. The data from this test will be presented in the form of the following table.

Table 6. Structural Model Test Result (N=188)

Path Coefficients	Sample mean (M)	Standard deviation (STDEV)	T-statistics[a]	P-value	Result
Customer Experience -> Online Impulsive Buying	-0.204	0.10	2.40	0.008	Significant
Customer Psychological -> Online Impulsive Buying	0.078	0.09	0.73	0.232	Not Significant
Financial Self-Control -> Online Impulsive Buying	-0.005	0.09	0.06	0.476	Not Significant
Flash Sale -> Online Impulsive Buying	0.188	0.13	1.46	0.073	Significant
Pay Later -> Online Impulsive Buying	0.572	0.14	4.43	0.000	Significant
Financial Self-Control x Pay Later -> Online Impulsive Buying	0.203	0.13	1.53	0.064	Significant

Financial Self-Control x Customer Experience -> Online Impulsive Buying	-0.157	0.11	1.43	0.077	Significant
Financial Self-Control x Flash Sale -> Online Impulsive Buying	-0.066	0.12	0.55	0.292	Not Significant
Financial Self-Control x Customer Psychological -> Online Impulsive Buying	-0.009	0.09	0.06	0.476	Not Significant

[a]T-value = 1.28 (Jr. , J. F. Hair et al., 2022)

The results of the hypothesis test show the statistical significance of the coefficient using the Bootstrapping menu with 5000 subsamples with a significance level of 0.1. Based on the results of the structural model analysis, the coefficient between customer experience and online impulsive buying is 2.40 (T-stat> 1.28; p-value <0.01) which shows that customer experience influences online impulsive buying. The next result, the structural model test result of the pay later coefficient on online impulsive buying is 4.43 (T-stat>1.28; p-value<0.01) which shows that the role of pay later as one of the systems in payment methods in e-commerce influences the level of online impulsive buying. The structural model test results of the flash sale coefficient on online impulsive buying are 1.46 (T-stat>1.28; p-value<0.1) which shows that the role of flash sales in e-commerce can influence users to make online impulsive purchases in e-commerce. The moderation of financial self-control and customer experience on online impulsive buying is 1.43 (T-stat>1.28; p-value<0.1), and the moderation of financial self-control and pay later on online impulsive buying is 1.53 (T-stat>1.28; p -value<0.1). The results of this research show that financial self-control has a moderating effect on customer experience and pay later on online impulsive buying. Where respondents' financial self-control can influence the level of online impulsive purchases in e-commerce. So in testing this hypothesis H1, H3, H4, H5, and H7 are the accepted hypotheses.

5. Discussion

In the results of this research, the demographic characteristics of the respondents were 126 people, female and 62 males. In the age range category of respondents, 35% were 19-22 years old, 45% were 23-25 years old, and 21% were 26-28 years old. In terms of monthly income, it is dominated by respondents with an income range of IDR 3,000,001 to IDR 6,000,000. Apart from that, the relationship between variables in this research hypothesis is as follows.

5.1. Customer experience (functionality) has a significantly effect on online impulsive buying.

In the results of this research, the customer experience variable is proven to influence online impulsive buying where H1 is accepted. The higher the customer experience, the higher the level of online impulsive buying. Customer experience in this case refers to the experience of Gen Z as consumers using e-commerce applications which can influence them to make unplanned purchases thereby increasing online impulsive buying. According to previous research regarding 'the impact of online customers' shopping experience on online impulsive buying', consumers with a good shopping experience can increase consumer loyalty in shopping (Gulfraz et al., 2022). This will make consumers make purchasing decisions more quickly due to their history of making purchases on the application.

5.2. Customer psychological has a significantly effect on online impulsive buying.

The test results of this research do not prove the influence of customer psychology on online impulsive buying, where H2 is rejected. Where a good shopping experience can create historical interest for consumers to explore further the products available on e-commerce. However, this does not prove that

there is online impulsive buying by consumers due to customer psychological factors. One of the main psychological factors that can influence consumer purchasing behavior is consumer attitudes, belief and motivation, where previous research on 'Impulse buying during flash sales in the online marketplace' stated that consumer attitudes do not have a significant influence on online impulsive buying (Lamis et al., 2022).

5.3. Pay later has a significantly effect on online impulsive buying.

In the results of this research, the pay later variable is proven to influence online impulsive buying where H3 is accepted. The higher level of use of pay later by Gen Z on e-commerce applications can increase the level of impulsive buying. If consumers have a limit and access to payments using pay later, it can encourage consumers to buy the goods they want to buy. This can influence consumers to buy goods that have no urgency. According to previous research regarding 'Buy-Now-Pay-Later (BNPL): Generation Z's Dilemma on Impulsive Buying and Overconsumption Intention', pay later can increase consumer consumption levels due to the goods purchasing scheme where consumers can get the goods first without thinking about the costs at the time. this (Ayu et al., 2021). This can influence online impulsive buying because you can buy goods directly without having to have the funds first.

5.4. Flash sale has a significantly effect on online impulsive buying.

In the results of this research, the flash sale variable is proven to influence online impulsive buying where H4 is accepted. The existence of a flash sale program on e-commerce applications creates a desire for consumers to visit e-commerce applications so that it can trigger purchases beyond their needs. According to previous research regarding 'Impulse buying during flash sales in the online marketplace', online impulsive buying is significantly influenced by consumer passion and enjoyment where flash sale products offered with limited time and several products influence consumers to make purchases (Lamis et al., 2022). This affects online impulsive buying where due to pressure on time and the number of products offered, most consumers are quicker to make purchasing decisions.

5.5. Customer experience (functionality) has a significantly effect on online impulsive buying moderated by financial self-control.

In the results of this research, the financial self-control variable as a moderating variable with the customer experience variable is proven to influence the level of online impulsive buying where H5 is accepted. The existence of good financial self-control from consumers has a negative correlation with online impulsive buying, where a higher level of financial self-control will reduce the level of online impulsive buying. Based on previous research on 'Think Again Before You Buy: The relationship between self-regulation and impulsive buying behaviors among Jakarta young adults', good self-regulation can suppress impulsive buying habits (Pradipto et al., 2016).

5.6. Customer psychological has a significantly effect on online impulsive buying moderated by financial self-control.

In the test results of this research, the financial self-control variable as a moderating variable between customer psychology and online impulsive buying has no influence, where H6 is rejected. In this research, financial self-control cannot support customer psychology in influencing consumers to do online impulsive buying. This is possible from the lack of a strong enough relationship between these variables, so further research can be able to add factors that are quite strongly related to influencing online impulsive buying.

5.7. Pay later has a significantly effect on online impulsive buying moderated by financial self-control.

In the results of this research, the financial self-control variable as a moderating variable with the pay later variable is proven to influence the level of online impulsive buying where H7 is accepted. In this case, financial self-control influences pay later on online impulsive buying where a high level of

awareness of financial self-control will reduce the frequency of use of pay later which can trigger online impulsive buying. This affects the level of online impulsive buying that can occur due to the use of pay later. Based on previous research regarding 'The Influence of Self Control and Financial Attitude on Financial Management Behavior of Buy Now Pay Later Service Users', financial self-control is a form of individual self-control where a high level of self-awareness in financial management can delay the desire to use finances without planning (Putri & Andarini, 2022). This proves that a high level of financial self-control can influence the level of online impulsive buying.

5.8. Flash sale has a significantly effect on online impulsive buying moderated by financial self-control.

In the test results of this research, the financial self-control variable as a moderating variable between flash sales and online impulsive buying does not have a strong influence on variables, where H8 is rejected. This shows that self-control over finances in the relationship between flash sales and online impulsive buying is not strong enough. This is because consumers with financial self-control abilities prefer to avoid impulsive purchases of flash sale items so as not to be affected by post-purchase regret. This is supported by previous research by Rook (1987) in research conducted by Ardian Rahman Afandi and Sri Hartati (2017) that impulsive buying can cause post-purchase conditions, some of which are reduced personal finances, post-purchase regret, and affect self-esteem for some consumers (Rahman Afandi & Hartati, 2017).

6. Conclusions

The phenomenon of digitalization in business models in Indonesia is starting to develop increasingly, especially in online shopping methods through e-commerce. The e-commerce platforms with the highest number of visits in Indonesia are Shopee and Tokopedia, where the sales and purchase process can be done online without requiring face-to-face contact through these platforms. The use of e-commerce applications in Indonesia is a digital platform application that helps consumers carry out buying and selling transactions without having to meet face to face. During its development, various features began to be provided on the e-commerce/marketplace, such as Flash Sales and also the Pay Later payment method.

This research shows the results that Customer experience, Pay Later, and Flash Sales in operating online applications are several supporting factors for consumers who use online applications (Gen Z) which can encourage online impulsive buying.

Moderation of the existence of financial self-control factors from consumers can influence consumers to reduce the level of online impulsive buying, which among other things influences factors from customer experience and pay later, especially for Gen Z consumers.

By starting to realize financial self-control, we can reduce the risk of online impulsive buying caused by the desire of Gen Z consumers to buy excess goods and control the use of pay later. This can have a good influence on Gen Z where the number of online impulsive purchases can be further reduced by having financial self-control and avoiding the risk of default.

Therefore, based on the results of this research, there is a theoretical contribution, namely identifying the influence of factors in e-commerce applications that can influence online impulsive buying among Gen Z in Indonesia, as well as providing empirical evidence regarding the role of financial self-control in moderating factors on usage. e-commerce application on online impulsive buying behavior. Apart from that, the practical contribution of this research is to provide insight to Gen Z regarding the role of financial self-control in influencing the use of e-commerce applications on online impulsive buying attitudes, providing insight to marketers and e-commerce application developers in developing application features so that they can provide a positive impact on e-commerce application users, as well as providing consideration for government policymakers regarding protection for consumers from online impulsive buying attitudes, especially among Gen Z.

This research also shows results where customer psychology and financial self-control as moderation of customer psychology and flash sales on online impulsive buying are not significant enough. So that the results of this research can be more accurate, it is recommended that future researchers expand the reach of Gen Z outside the The Special Capital Region of Jakarta area and measure a wider sample, as well as collect data using the interview method.

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