Generation Z Muslim loyalty toward e-commerce: Evidence from Indonesia

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A R T I C L E   I N F O

A B S T R A C T

Research on e-commerce loyalty among Muslim consumers has become increasingly important due to the large size of the Muslim market in Muslim-majority countries. However, the relationship between technological features and consumer characteristics remains underexplored. This study investigates the factors influencing the loyalty of Generation Z Muslim consumers toward e-commerce platforms. A survey was conducted in 2025 among Generation Z university students (born between 1997 and 2012) in Central Java. Quantitative data were collected through an online questionnaire completed by 315 highly educated Muslim respondents. Structural Equation Modeling (SEM) was used to test the proposed research model. The results show that Generation Z loyalty is positively influenced by brand equity ($\beta = 0.600$), trust ($\beta = 0.153$), and flow experience ($\beta = 0.192$), with brand equity identified as the strongest determinant of loyalty. In the e-commerce context, brand equity is significantly enhanced by utilitarian features ($\beta = 0.477$) and flow experience ($\beta = 0.309$). Improving these factors strengthens brand equity, which subsequently leads to higher consumer loyalty.

1. Introduction

Generation Z is a generation born in the mid-1990s to early 2010s. This generation is a generation that grew up and developed with the internet and digital technology (Auliaramadhan et al., 2024). E-commerce is an integral part of the lifestyle for Generation Z (Auliaramadhan et al., 2024). With the development of the era and the increasing Muslim population throughout the world and Indonesia, understanding online shopping behavior with Muslim consumers of Generation Z is important to explore further. As consumers, Generation Z has unique characteristics in online shopping, which is influenced by Islamic religious values, lifestyle trends, and the influence of digital technology (Auliaramadhan et al., 2024). Gen Z, known for their tech-savviness and creativity, effectively use digital tools and platforms to manage and grow businesses.

The rapid development of digital technology has driven a broader digital transformation across the business sector, including in efforts to build consumer loyalty, particularly among Muslim Gen Z (Polas et al., 2022). Digital transformation has fostered a distinctive intersection between religious values and economic activity, a phenomenon that is particularly evident among Muslim Generation Z consumers. However, prevailing assumptions often overlook the significant role of cultural and religious identities in shaping their behaviors (Febriandika et al., 2023).

This study seeks to challenge and reconstruct such perspectives by examining Muslim Gen Z as a unique consumer segment, one that is deeply rooted in Islamic teachings and navigates the contemporary e-commerce landscape with a distinct approach (Polas et al., 2022). Within the framework of Society 5.0, which emphasizes the holistic integration of technology into everyday life, Muslim Gen Z stands at the crossroads of tradition and digital innovation. This dynamic has been further reinforced by the COVID-19 pandemic, which accelerated the shift toward online shopping, increasingly replacing preferences for physical retail. This phenomenon is particularly pronounced in Indonesia, home to the world's largest Muslim population and a rapidly

growing e-commerce market. One indicator of the success of an e-commerce company is consumer loyalty. This loyalty is not only driven by conventional factors such as price and product quality, but also by application content and trust (Faizah and Aisyah, 2023).

Consumer loyalty refers to a consistent preference for using a particular product and a reluctance to switch to competing brands. This form of loyalty is typically influenced by the consumer's trust in the brand and their intention to make repeat purchases. Generation Z has an attitude that can be said to be unique, where they live in an era of globalization and technological sophistication compared to previous generations (Febriandika and Azman, 2025).

Basically, Generation Z has a low level of loyalty to a brand, but has a high ability to process all forms of existing digital technology information. This also applies to the Muslim Generation Z; Muslims have unique characteristics that are closely related to their religious beliefs. Religion is a phenomenon with effects at various levels of analysis: Individual, social, organizational, macroeconomic, national and regional.

This study aims to explore the complex relationship between consumer loyalty and its influencing factors, brand equity, trust, and flow experience among Generation Z in the context of e-commerce (Faizah and Aisyah, 2023). Understanding this dynamic is essential, as it reflects the preferences of Muslim Gen Z consumers, which are shaped not only by technological advancements but also by cultural, religious, and ethical values. While previous studies have addressed aspects of online shopping behaviors, trust, and user experience, few have comprehensively examined the combined impact of these three factors on the consumption behaviors of Generation Z within e-commerce platforms. Given Generation Z's significant influence on the current digital marketplace, the findings of this study offer important implications for e-commerce platform developers, marketers, and policymakers in designing strategies that go beyond technological efficiency, strategies that also incorporate Sharia-compliant values and trust-building measures aligned with the unique characteristics of Muslim Gen Z consumers.

2. Literature review

2.1. Generation Z and e-commerce

Generation Z, typically defined as individuals born between the mid-1990s and early 2010s, represents the first generation to grow up entirely in a digitally saturated environment (Auliaramadhan et al., 2024). Characterized by high digital fluency, constant connectivity, and heavy engagement with social media and mobile applications, Gen Z demonstrates distinct patterns of online consumption.

Previous studies have shown that Generation Z exhibits a strong tendency toward online transactions, as they have grown up in a digital era saturated with the internet, social media, and mobile devices. Gen Z also demonstrates high expectations for convenience, service speed, and personalized experiences in online shopping. In Indonesia, where Gen Z constitutes one of the largest demographic segments, their contribution to the growth of e-commerce is particularly significant (Soni and Vohra, 2023). The decision-making process in purchasing products can vary in terms of complexity, ranging from simple to more intricate forms. Consumer decision-making can be categorized into three main types: extended decision making, limited decision making, and habitual decision making (Bangsa and Schlegelmilch, 2020). Each individual exhibits unique behavioral patterns, including in purchasing habits, leading to variations in the types of purchasing decisions made from one person to another (Ishak et al., 2020).

This section provides the necessary background to understand Gen-Z Muslims' loyalty toward e-commerce in Indonesia in relation to the interplay between technological attributes and consumer characteristics. Furthermore, it offers a review of relevant theoretical foundations and previous empirical research related to the topic. Research on consumer loyalty in the context of e-commerce continues to evolve in line with digital transformation and shifting consumer behaviors. One demographic group that has received particular attention in the literature is Generation Z (Gen-Z), which exhibits unique characteristics in terms of technology usage and digital consumption behaviors, including their preferences toward e-commerce platforms (Auliaramadhan et al., 2024).

2.2. Hedonic value

Another value that influences consumer shopping behavior is the emotional value, commonly referred to as hedonic value. Hedonic in the context of shopping refers to pleasure, entertainment, and emotional satisfaction, while flow in the context of shopping is a purchasing decision. Hedonic and flow have a positive or complementary relationship, where hedonic values can encourage consumers to seek pleasure in shopping, and flow values deepen the shopping activity so that it can increase purchases. Hedonic and trust have a positive relationship where a product or service that can provide hedonic value can increase the level of consumer trust (Albayrak et al., 2020).

Hedonic features, defined as the emotional and pleasurable aspects of the online shopping experience, are known to enhance user engagement by fostering a sense of enjoyment and immersion. This psychological state, often referred to as "flow," has been associated with increased satisfaction and intention to revisit an e-commerce platform (Ertemel et al., 2021).

Moreover, hedonic value may not only stimulate flow but also influence consumer trust, as emotionally satisfying experiences can enhance the perceived credibility and reliability of the platform (Albayrak et al., 2020). Based on previous literature, the following research hypotheses are offered:

H1: Hedonic features have a positive effect on flow among Generation Z consumers toward e-commerce.
H2: Hedonic features have a positive effect on trust among Generation Z consumers toward e-commerce.

2.3. Utilitarian features

Utilitarian features, which emphasize functionality, efficiency, and reliability, have also been proposed as key drivers of flow experience, although their influence may be less emotionally engaging. In addition to its effect on flow, utilitarian value has been shown to contribute directly to the development of brand equity, as consumers evaluate brands based on functionality and performance. Therefore, the hypothesis offered is as follows:

H3: Utilitarian features have a positive effect on flow among Generation Z consumers toward e-commerce.
H4: Utilitarian features have a positive effect on brand equity among Generation Z consumers toward e-commerce.

2.4. Flow experience

Flow is consumer satisfaction with an item. Meanwhile, a brand is a particular brand or product that exists in society (Ertemel et al., 2021). The relationship between flow and brand can cause several things, such as improving the consumer's purchasing experience, encouraging impulse buying, and building brand loyalty (Maqsood and Javed, 2019). This is because if consumers get experience and satisfaction from purchasing a product, they will buy the product again. The flow experience, as a state of deep involvement during online transactions, has been shown to increase both brand equity and consumer trust, as users associate enjoyable interactions with platform quality and integrity (Ertemel et al., 2021).

In terms of meaning, flow means flowing, namely the flow of happiness within an individual that can be felt by everyone (Ertemel et al., 2021). This happiness is not limited to one or two meanings, but everything. An example of happiness is when finding a brand, logo, colour, and symbol of a product (Aminnuddin and Hamid, 2021). The meaning of a brand is the brand, logo, symbol, and identity of a product that makes a product or service superior to its competitors. Economically, flow means cash flow that shows the turnover of money in and out received by the company as a result of running a business. Trust is an individual's belief that makes them confident when making transactions with anyone, which is an individual's belief in doing economic things. The flow experience itself can promote loyalty, as emotionally satisfying shopping experiences increase the likelihood of repeat engagement and brand attachment. Flow experience has been associated with various outcomes in the online context, including consumer behaviors such as loyalty and the intention to revisit or repurchase. This hypothesis is supported by previous research, which found that flow experience influences e-loyalty among Generation Z customers. Therefore, the following hypotheses are offered:

H5: Flow has a positive effect on brand equity among Generation Z consumers toward e-commerce.
H6: Flow has a positive impact on trust among Generation Z customers toward e-commerce.

2.5. Customer loyalty

Successful e-commerce is a site that can attract customers, make them feel trusted, reliable, and superior (Ertemel et al., 2021). Someone will be loyal to sites that provide security and comfort guarantees to customers. The definition above, it shows the relationship between the trust variable and the loyalty variable in determining customer loyalty in exploring e-commerce. Brand is an added value given to a product (Saeed and Azmi, 2019), which can increase consumer trust. In addition, consumers also consider and choose very well-known brands rather than lesser-known brands.

Customer loyalty can be built by improving customer experience when exploring e-commerce (Urdea and Constantin, 2021). This shows that the emotional relationship formed from the interaction between customers and the online environment can increase loyalty, such as the intention to play online games and visit e-commerce sites (Ting and Ahn, 2023). Flow can increase trust because a positive experience during shopping can strengthen consumer confidence in the security and quality of service from the platform. Conversely, high trust can also increase flow because consumers who feel safe tend to be more involved in the shopping process. Utilitarianism in a brand affects how the brand's products provide functional benefits to consumers. This can also help brands determine the market for their products and help strengthen their relationships with consumers. Both of these aspects have positive and significant values.

The flow experience itself can promote loyalty, as emotionally satisfying shopping experiences increase the likelihood of repeat engagement and brand attachment. Flow experience has been associated with various outcomes in the online context, including consumer behaviors such as loyalty and the intention to revisit or repurchase. This hypothesis is supported by previous research, which found that flow experience influences e-loyalty among Generation Z customers. Therefore, the hypothesis offered is as follows:

H7: Flow has a positive effect on loyalty among Generation Z consumers toward e-commerce.

2.6. Trust

Trust is consumer confidence in the integrity, ability, and good intentions of a brand or company (Castro-González et al., 2021). While loyalty is a customer's commitment to continue buying products or services from a particular brand (Azizan and Yusr, 2019). Both of these aspects have a positive relationship where a product builds trust through good service, which can increase consumer loyalty, so that it has a significant effect. Flow also has a direct effect on customer loyalty. Customers who are satisfied with the purchase will be more loyal because they feel emotionally connected to the brand or service. This positive influence encourages them to come back and make repeat purchases. The achieved flow will increase loyalty in the long term. So that flow and loyalty have a significant impact. Therefore, the hypothesis offered is as follows:

H8: Trust has a positive effect on loyalty among Generation Z consumers toward e-commerce.

2.7. Brand equity

Furthermore, brand equity, which encompasses consumer perceptions of a brand's value, reputation, and reliability, is widely recognized as a critical factor influencing loyalty (Saeed and Azmi, 2019). Therefore, the hypothesis offered is as follows:

H9: Brand equity has a positive effect on loyalty among Generation Z consumers toward e-commerce.

The existing literature highlights that Generation Z, particularly in the Indonesian context, represents a digitally native consumer group with distinct behavioral patterns shaped by their technological fluency, high expectations for personalization and convenience, and strong reliance on digital platforms. Their purchasing behavior in e-commerce is influenced not only by utilitarian and hedonic values but also by emotional experiences, brand perceptions, and trust. Moreover, for Muslim Gen Z consumers, religious values such as halal assurance and ethical consumption play a central role in shaping preferences and loyalty decisions. Despite their generally low brand loyalty compared to previous generations, Gen Z's loyalty can be fostered through engaging shopping experiences (flow), strong brand equity, and established trust. However, empirical gaps still exist in fully understanding how these interrelated factors, hedonic and utilitarian features, flow experience, trust, and brand equity. They collectively shape consumer loyalty in the unique cultural and religious landscape of Indonesia. Fig. 1 shows the research model of the hypotheses offered.

3. Methods

The type of research used in this study uses quantitative research (Faizah and Aisyah, 2023), drawing on both primary and secondary data sources. Quantitative research has a logical structure. This research applies marketing science principles by utilizing the Structural Equation Modeling (SEM) method, supported by the AMOS and SPSS software, Structural Equation Modelling Approach to Evaluating Capital Budgeting Factors in Oman (Aro-Gordon, 2022).
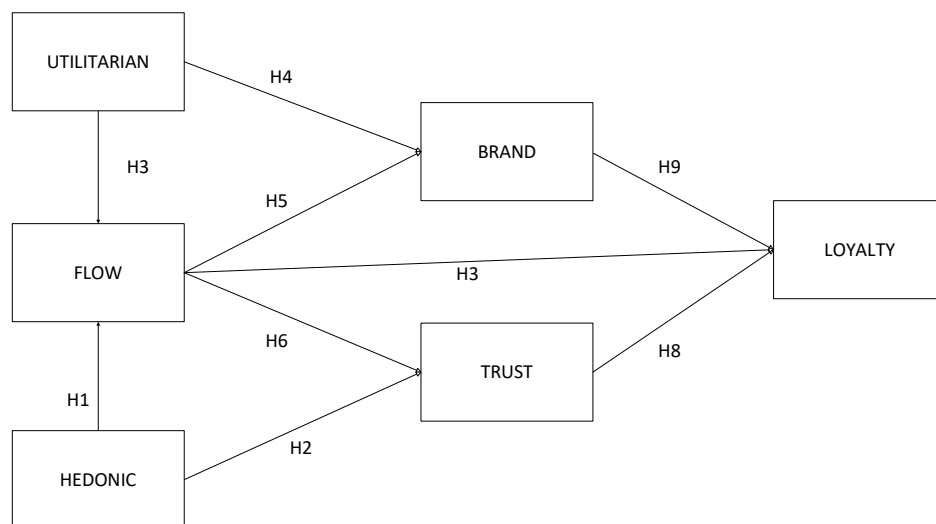

Fig. 1: Research model

Structural Equation Modelling (SEM) was used to examine the proposed relationships, as it allows for testing multiple connections at the same time. This method is more effective than traditional approaches, especially since the study includes several hypotheses, such as direct, mediating, and moderating effects, which need to be analyzed together to achieve the research goals (Saeed and Azmi, 2019). SPSS 28 was used to run correlation and hierarchical linear regression analyses. Correlation analysis showed how the variables are related, and hierarchical regression was used to see how each variable affects the results (Aminnuddin and Hamid, 2021). The survey was conducted in

2025 on Generation Z who were aged between 1996 and 2010, among university students in Central Java.

Making indicators in the form of questionnaires is very important in order to obtain accurate data results. In this study using two questionnaire methods were used, namely the Likert scale (5-point balanced Likert Scale) (Ertemel et al., 2021) and the 5-point semantic differential scale (used in hedonic and utilitarian variables). The 5-point semantic differential scale is a measurement technique in surveys used to assess respondents' attitudes or perceptions of a concept, brand, or object using pairs of opposite adjectives. In this scale, respondents are asked to rate a statement based on a range of five levels that are between two opposite adjectives as mentioned in Table 1.

Table 1: Constructs and measurement items

Construct	Variables	Question items
Positive online experience (Flow)	FW1	POE_1: I was in flow the last time I shopped online
	FW 2	POE_2: Generally, I am in flow when I shop online
	FW 3	POE_3: Most of the time when I shop online, I feel like I am in flow
	FW 4	POE_4: The last time I purchased something on this website, I really enjoyed it
Hedonic	HF 1	HF_1: Weary - Entertaining
	HF 2	HF_2: Disagreeable - Agreeable
	HF 3	HF_3: Dull - Exciting
	HF 4	HF_4: Not Delightful - Delightful
	HF 5	HF_5: Not Thrilling - Thrilling
Utilitarian	UF 1	UF_1: Chaotic - Ordered
	UF 2	UF_2: Unreliable - Reliable
	UF 3	UF_3: Wrong - Correct
	UF 4	UF_4: Not Functional - Functional
Trust	T1	T_1: I trust this e-commerce keeps my best interests in mind
	T2	T_2: This e-commerce will always be honest with me
	T3	T_3: I believe in the information that this e-commerce provides
	T4	T_4: This e-commerce is genuinely concerned about its customers
Brand equity	BE1	BE_1: It makes sense to buy from this e-commerce instead of any other e-commerce, even if they are the same.
	BE2	BE_2: Even if another e-commerce has the same features as this e-commerce, I would prefer to buy through this e-commerce.
	BE3	BE_3: If there is another brand as good as this e-commerce, I prefer to buy through this e-commerce.
	BE4	BE_4: If another e-commerce is not different from X in any way, it seems smarter to book through X.
Loyalty	L1	EL_1: As long as the present service continues, I doubt that I would switch to e-commerce.
	L2	EL_2: To me, this site is the best e-commerce site to do business with.
	L3	EL_3: I believe that this is my favorite e-commerce.

4. Results

Table 2 presents the results of the Exploratory Factor Analysis (EFA) conducted to examine the underlying factor structure associated with Gen-Z Muslims' attitudes toward e-commerce. The EFA extracted six distinct components, each corresponding to a group of conceptually related items (Islam, 2024). Alongside factor loadings, Table 2 also provides descriptive statistics (mean and standard deviation), the percentage of variance explained by each factor (VEE), and the Kaiser-Meyer-Olkin (KMO) measure of sampling adequacy for each component.

Table 2 shows the results of the Exploratory Factor Analysis (EFA) of data collected from 315 respondents. As many as 315 valid respondent data after going through the screening stage, which only accepted Muslim respondents who were between the ages of 1997 and 2012, which is the age range of Generation Z.

The total variance explained by the six extracted factors was 78.99%, which is considered highly acceptable in social science research. The overall KMO value of 0.938 demonstrates excellent sample adequacy and confirms the suitability of the data for factor analysis.

Table 2: Exploratory factor analysis

Variable	Component 1	2	3	4	5	6	Mean	SD	VEE	KMO
Fw1	.826						4.06	1.209	77.546	.818
Fw2	.864						3.98	1.227		
Fw3	.770						3.87	1.267		
Fw4	.760						4.18	1.197		
Hf1		.708					4.51	1.031	71.861	.874
Hf 2		.672					4.53	1.052		
Hf 3		.744					4.62	1.081		
Hf 4		.778					4.48	1.043		
Hf 5		.704					3.81	1.270		
UF 1			.792				4.89	1.046	76.039	.821
UF 2			.767				4.55	1.048		
UF 3			.699				4.43	1.022		
UF 4			.794				4.76	.076		
T2				.805			3.69	1.093	80.475	.743
T3				.734			3.86	1.037		
T4				.767			3.94	1.025		
B1					.708		4.15	1.075	82.049	.831
B2					.763		4.12	1.109		
B3					.829		3.93	1.073		
B4					.780		4.04	1.072		
L1						.758	4.08	1.096	83.591	.745
L2						.774	4.06	1.095		
L3						.721	4.14	1.104		

Overall KMO: 0.938; Total variance explained: 78.990%

Confirmatory factor analysis was conducted to ensure the reliability and validity of the latent variables, aiming to minimize the risk of common method bias or variance (Polas et al., 2022). The items have been shown to be valid and reliable, and have been widely used in previous studies (Saeed and Azmi, 2019). Based on the results of the variables tested in Table 2, it shows good KMO results are good, namely 0.93, the resulting value is greater than 0.5. The calculation results above contain deleted data, namely the trust 1 variable, due to low factor loading, which indicates that the factor analysis tested is considered sufficient, and the data achieved can be factored, with a p-value = 0.001, and the amount of variance produced is 78.99%. As the results are reported in Table 3, the cross values for each pair of constructs are all less than 0.85.

Table 3: Discriminant validity

	Flow	Hedonic	Utilitarian	Trust	Brand	Loyalty
Flow	0.806					
Hedonic	0.612	0.722				
Utilitarian	0.541	0.728	0.764			
Trust	0.668	0.547	0.561	0.769		
Brand	0.431	0.562	0.573	0.647	0.771	
Loyalty	0.693	0.534	0.467	0.223	0.273	0.751

Table 3 presents the results of the discriminant validity analysis based on the Fornell-Larcker criterion, which is commonly used in Structural Equation Modeling (SEM) to assess whether constructs are empirically distinct from one another (Aro-Gordon, 2022). Most constructs satisfy the Fornell-Larcker criterion for discriminant validity, indicating that each construct is empirically distinct from the others. However, the relatively high correlation between Hedonic and Utilitarian motivations (0.728) warrants further attention, as it approaches the square root of the AVE for both constructs, suggesting possible conceptual overlap or redundancy between these two dimensions.

Table 4 presents the results of the internal consistency reliability test for each construct, as measured by Cronbach's Alpha. Cronbach's Alpha values above 0.70 are generally considered acceptable, while values above 0.80 indicate good reliability, and values above 0.90 reflect excellent reliability (Taber, 2018). The Reliability Coefficient or Cronbach's Alpha in Table 4 shows that all elements of the questionnaire with alpha = 0.953. The results of the estimated measurement model or measurement in the model in the initial section for all variables in Table 4 using the Maximum Likelihood method processed using AMOS show that the overall results have a goodness of fit benchmark, including chi-square, degrees of freedom (df), GFI, CFI, TLI, and RMSEA. In this study, the results of each variable have a value that exceeds the measurement limit. It can be said in the standard fit model with the following consecutive results: Chi-square (518,564), Degree of freedom (220), GFI (0.883), CFI (0.949), TLI (0.942), and RMSEA (0.065).

Table 4: Reliability test

Variables	Cronbach's alpha	Number of items
Flow	.903	4
Hedonic	.893	5
Utilitarian	.894	4
Trust	.878	3
Brand	.927	4
Loyal	.902	3
Total	.953	23

Table 5 summarizes the structural model's hypothesis testing results using path analysis. Each hypothesis is evaluated based on the standardized path coefficient (β), standard error (S.E.), p-value, and its corresponding significance level. The hypothesis in the study will be accepted if the probability value (p-value) < 0.05, meaning that it has a significant influence between the independent variable and the dependent variable (Islam, 2024). If the probability value (p-value) > 0.05, it means that the hypothesis is rejected because it cannot have a significant influence on the variables tested. Table 5 shows that all hypotheses are accepted except hypothesis 3 (H3).

Table 5: Hypothesis test results

Hypothesis	Path	β	S.E.	P-value	Results
H1	Hedonic→Flow	.551	.139	***	Accepted
H2	Hedonic→Trust	.451	.098	***	Accepted
H3	Utilitarian→Flow	.085	.109	.337	Rejected
H4	Utilitarian→Brand	.477	.067	***	Accepted
H5	Flow→Brand	.309	.051	***	Accepted
H6	Flow→Trust	.235	.062	***	Accepted
H7	Flow→Loyalty	.192	.046	***	Accepted
H8	Trust→Loyalty	.153	.060	.012	Accepted
H9	Brand→Loyalty	.600	.066	***	Accepted

***: $p < 0.001$

5. Discussion

This study provides new insights into the drivers of e-commerce loyalty among Muslim Generation Z consumers in Indonesia. The results confirm the importance of both hedonic and utilitarian features, flow experiences, trust, and brand equity in shaping consumer loyalty. However, the relative influence of these factors varies in interesting ways that reflect the behavioral characteristics of Gen-Z and the cultural context of Indonesian Muslims. First, hedonic features are shown to significantly enhance

both flow (H1: β = 0.109, p = 0.001) and trust (H2: β = 0.098, p = 0.001). This finding suggests that emotionally engaging website designs, interactive features, and enjoyable user experiences are particularly appealing to Gen-Z consumers, who are known for their desire for stimulation, personalization, and digital interactivity.

In the Indonesian Muslim context, hedonic elements may also resonate with young consumers' preference for social media–integrated platforms, gamification, and engaging interfaces that align with their digital lifestyles. These results are consistent with Evelina et al. (2020), who found that hedonic features strongly influence consumer trust in e-commerce, while extending the discussion by demonstrating their relevance in a Muslim-majority environment where trust is often linked not only to technical reliability but also to perceptions of halal authenticity. In contrast, utilitarian features do not significantly influence flow (H3: β = 0.109, p = 0.337), suggesting that functional or efficiency-based attributes are not sufficient to trigger immersive experiences for Gen-Z. Utilitarian emphasizes the functional benefits of a product that focuses on the convenience and results of a product, while in the context of e-commerce, utilitarian includes aspects such as product reliability, competitive prices, and ease of finding the desired product. Flow is a purchasing decision on a product or item. Overall, functional value is not influenced by the decision to purchase an item. This shows that utilitarian value does not significantly affect flow value. Hedonic is a value related to the emotional experience and pleasure obtained from a product. Trust is consumer confidence in a particular item or product.

However, utilitarian features do significantly strengthen brand equity (H4: β = 0.477, p = 0.001). This implies that practical attributes such as ease of navigation, secure payment systems, and efficiency are critical in shaping the perceived reliability and credibility of an e-commerce platform. In the Indonesian Muslim context, this could be linked to the expectation that platforms provide transparent and Sharia-compliant transactions, which reinforces brand credibility and, ultimately, trust (Nusair et al., 2013; Moslehpour et al., 2018). The findings also highlight the central role of flow in building positive consumer perceptions. Flow has a significant impact on both brand equity (H5: β = 0.051, p = 0.001) and trust (H6: β = 0.235, p = 0.001). These results confirm that immersive shopping experiences, where consumers feel fully engaged, enhance both the emotional and cognitive evaluation of a platform. This aligns with previous studies (Novak et al., 2000) that identified flow as a mediator between online experiences and consumer attitudes.

For Indonesian Muslim Gen-Z, flow may be particularly influential because they are digital natives accustomed to seamless interactions, multitasking, and engaging with platforms that provide instant gratification. Moreover, flow significantly predicts loyalty (H7: β = 0.192, p = 0.001), supporting the view that enjoyable experiences translate into repeat usage and long-term commitment. This finding extends the work of Bilgihan (2016), who argued that flow leads to satisfaction and loyalty in online shopping, by showing its relevance in an Islamic consumption context. For young Muslim consumers in Indonesia, loyalty may not only stem from convenience but also from a sense of emotional connection and trustworthiness associated with the platform.

Brand equity emerges as the strongest predictor of loyalty (H8: β = 0.600, p = 0.001). This indicates that loyalty among Muslim Gen-Z is not purely transactional but deeply tied to the perceived identity, credibility, and value of the brand. This result resonates with Bilgihan and Bujisic (2015), who demonstrated the role of brand equity in fostering consumer loyalty, but adds new evidence from an Islamic context where branding strategies must also signal Sharia compliance and ethical integrity. For Muslim Gen-Z, who are more ethically conscious and socially aware than previous generations, brand equity is likely reinforced by values such as halal assurance and social responsibility. Finally, trust significantly influences loyalty (H9: β = 0.153, p = 0.012), confirming the central role of trust in e-commerce adoption. This finding aligns with Bilgihan (2016), who emphasized trust as a key determinant of online consumer behavior, while extending it to the Muslim Gen-Z context, where trust involves not only technological security but also moral assurances related to Islamic values.

The results suggest that platforms that combine technological reliability with ethical credibility are more likely to gain lasting loyalty. Overall, these findings contribute to the literature by demonstrating that for Muslim Gen-Z consumers, hedonic features play a stronger role in shaping flow and trust compared to utilitarian features. This highlights the generational shift toward emotionally engaging digital experiences, while still recognizing the importance of utilitarian attributes in strengthening brand credibility. The study therefore underscores the need for e-commerce platforms in Muslim-majority markets to adopt a dual strategy: emphasizing functional reliability while also designing engaging, Sharia-compliant, and socially resonant consumer experiences.

From previous studies, the majority of consumers highlight the correlation between brand and loyalty (Izogo and Jayawardhena, 2018). Thus, between brand variables and loyalty variables, there is a relationship. Consumer shopping behavior is also influenced by Flow. Flow experience can increase customer interest in repurchasing and using e-commerce sites that they feel comfortable with. In e-commerce, customers seek utilitarian benefits, such as comparing prices and similar products; they also seek benefits and advantages from a brand that create happiness (Pratika and Sutikno, 2017). Therefore, some consumers only seek experience in shopping and seek utilitarian happiness from a brand motivation.

In the context of this research, the relationship between hedonic and utilitarian features shows a relatively high correlation. This is understandable because online shopping experiences generally cannot be separated purely into functional and emotional aspects. For example, efficient and reliable features (utilitarian) can simultaneously provide comfort and pleasure (hedonic). Similarly, features designed to provide pleasure (hedonic) often also increase usability and convenience (utilitarian). In other words, e-commerce technology design tends to combine the two into a unified consumer experience. However, previous literature (Bilgihan, 2016) confirms that the two remain distinct conceptual differences. Utilitarian features relate to rational needs, functional goals, and platform performance, while hedonic features emphasize affective needs, pleasure, and emotional engagement. Therefore, this study still treats the two variables as different constructs to capture the dual motivations in Gen-Z shopping behavior, although it acknowledges that the high correlation between the two could be a limitation of the study that could potentially affect the discriminant validity of the model used.

6. Conclusions

This study aimed to explore the antecedents of e-commerce loyalty among Muslim Generation Z in Indonesia by examining the effects of hedonic motivation, utilitarian motivation, flow experience, trust, and brand equity. Using structural equation modeling, the findings revealed that eight out of nine proposed hypotheses were supported, demonstrating the central role of emotional engagement, experiential satisfaction, and brand value in fostering online loyalty.

Based on the results of the study that examined the relationship between hedonic features, flow experience, trust, brand equity, and loyalty in the context of e-commerce for Generation Z, it was found that hedonic features play an important role in increasing the flow experience and consumer trust. High flow experience positively contributes to brand equity and consumer trust in the e-commerce platform. This shows that the aspects of fun and enjoyable experiences in online shopping can increase positive perceptions of the brand and strengthen customer trust. In addition, this study also found that utilitarian features have a positive impact on brand equity, which ultimately contributes to increased customer loyalty. Trust formed in the shopping experience has also been shown to increase e-commerce user loyalty. High brand equity and flow experience factors also have a significant effect on increasing Generation Z loyalty to the e-commerce platform. Therefore, to build long-term relationships with Generation Z customers, e-commerce platforms need to optimize hedonic and utilitarian features, as well as strengthen their trust and brand equity.

These findings offer theoretical contributions by validating a multidimensional loyalty framework that integrates cognitive, emotional, and behavioral elements. Practically, the study highlights the importance of delivering immersive, trust-building, and brand-enhancing experiences for retaining Muslim Gen-Z customers in the competitive digital commerce landscape. Future research could expand the model by incorporating religious commitment, social influence, or cultural variables to further contextualize loyalty behavior among Muslim digital natives in other emerging markets.

7. Limitations and future research

This study has several limitations that should be acknowledged. First, the sample was restricted to Muslim university students from Central Java, which may limit the generalizability of the findings to other demographic groups, regions, or levels of education. Gen Z Muslims in other parts of Indonesia, in different Muslim-majority or minority contexts, may exhibit different loyalty behaviors shaped by varying cultural, social, or economic factors. Second, the study employed a cross-sectional survey design, which limits the ability to draw causal inferences. Loyalty is a dynamic construct that evolves over time; therefore, longitudinal studies would provide a more comprehensive understanding of how technological attributes and consumer perceptions influence loyalty in the long term. Third, the constructs used in this study primarily focused on hedonic and utilitarian features, flow, trust, and brand equity.

While these variables proved to be significant, they may not fully capture the complexity of Muslim consumer loyalty, especially considering the unique role of religiosity, halal assurance, and ethical consumption in shaping Gen Z Muslim preferences. Finally, the high correlation between hedonic and utilitarian features poses a potential issue of discriminant validity, which, while theoretically justified, should be addressed more rigorously in future models. Future research could expand this study in several ways.

First, incorporating religious commitment, halal awareness, or Islamic ethical values into the framework would allow for a deeper contextualization of Muslim consumer loyalty in e-commerce.

Second, comparative studies across regions, age cohorts, or religious backgrounds could highlight how cultural and social influences moderate the relationships among technological attributes, trust, and brand equity.

Third, methodological extensions, such as experimental designs or longitudinal tracking, could provide stronger evidence of causality and capture shifts in loyalty behavior over time. Finally, integrating additional constructs such as social influence, gamification, user-generated content, or sustainability features may enrich the multidimensional understanding of Gen Z Muslim loyalty in digital commerce.

List of abbreviations

AVE	Average variance extracted
BE	Brand equity
β	Standardized path coefficient
CFI	Comparative fit index
df	Degrees of freedom
EFA	Exploratory factor analysis
EL	Electronic loyalty
FW	Flow (measurement item code)
GFI	Goodness of fit index
HF	Hedonic features
KMO	Kaiser–Meyer–Olkin measure of sampling adequacy
POE	Positive online experience
RMSEA	Root mean square error of approximation
SD	Standard deviation
S.E.	Standard error
SEM	Structural equation modeling
SPSS	Statistical package for the social sciences
TLI	Tucker–Lewis index
UF	Utilitarian features
VEE	Variance explained by extraction

Acknowledgment

Compliance with ethical standards

Ethical considerations

This study was conducted in compliance with ethical standards for social science research in Indonesia. The research procedures adhered to the principles outlined in the Indonesian National Guidelines for Research Ethics (Pedoman Etika Penelitian Nasional) issued by the Ministry of Education, Culture, Research, and Technology of the Republic of Indonesia.

Conflict of interest

The author(s) declared no potential conflicts of interest with respect to the research, authorship, and/or publication of this article.

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