

## DIGITAL SERVICE EXPERIENCE MODERATING SATISFACTION ON LOYALTY: GENERATIONAL COMPARISON IN INDONESIAN FASHION MSMES

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### ABSTRACT

**Background:** Micro-, small-, and medium-sized enterprises (MSMEs) in Indonesia's fashion sector face growing challenges in building consumer loyalty across generational segments with diverse digital consumption patterns. While previous studies have investigated satisfaction and loyalty in metropolitan markets, few have explored these relationships within non-metropolitan MSMEs, leaving a theoretical gap in understanding how Digital Service Experience (DSE) moderates such dynamics in regional contexts.

**Purpose:** This study examines the effects of Product Quality (PQ) and Brand Image (BI) on Customer Satisfaction (CS) and Customer Loyalty (CL) while analyzing the moderating role of Digital Service Experience (DSE) across Generations Y and Z. By addressing this gap, this study extends existing theories of consumer behavior to intergenerational loyalty formation in emerging digital markets.

**Design/methodology/approach:** A quantitative survey was conducted with 600 respondents (300 Generation Y and 300 Generation Z), who purchased local fashion MSME products through digital platforms. Data were analyzed using Partial Least Squares-Structural Equation Modelling (PLS-SEM), Moderated Regression Analysis (MRA), and Multi-Group Analysis (MGA) to test direct, indirect, and moderating relationships, as well as generational differences.

**Findings:** The findings revealed distinct generational patterns in loyalty formation. PQ has a stronger impact on CS and CL among Generation Y, which values functionality and reliability. In contrast, BI influences Generation Z more strongly, reflecting emotional and identity-based motivations. Customer Satisfaction mediated the effects of PQ and BI on loyalty in both groups. Digital Service Experience enhances loyalty and strengthens the CS-CL link, especially among Generation Z, although it does not significantly alter the PQ-CL or BI-CL relationship.

**Conclusion:** Customer satisfaction is the principal determinant of loyalty, while digital service experience enhances, but does not replace, the fundamental influence of product quality and brand image. The integration of the Theory of Planned Behavior (TPB) and Expectation Confirmation Theory (ECT) bridges theoretical and contextual gaps, providing a robust framework for understanding generational loyalty in MSME settings.

**Originality/value:** This study provides novel empirical evidence of cross-generational consumer behavior in non-metropolitan MSMEs. It extends the TPB-ECT framework to incorporate digital service experience and highlights the actionable managerial implications for enhancing competitiveness and loyalty in the digital economy.

**Keywords:** product quality, brand image, digital service experience, customer satisfaction, customer loyalty

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## INTRODUCTION

Over the past few decades, global economic transformation has demonstrated that micro-, small-, and medium-sized enterprises (MSMEs) are essential contributors to economic growth, employment creation, and equitable wealth distribution. Across countries, MSMEs have proven their resilience in times of crisis, such as during the COVID-19 pandemic, while adapting to the emergence of a creative economy that emphasizes innovation, product uniqueness, and digital connectivity between producers and consumers.

In Indonesia, MSMEs account for more than 60% of the national Gross Domestic Product (GDP) and employ nearly 97% of the total workforce (Coordinating Ministry for Economic Affairs, 2025). The government continues to strengthen MSMEs' global competitiveness of MSMEs through debt restructuring, subsidized financing, and financial inclusion initiatives. Among these sectors, the fashion industry plays a strategic role in the creative economy by fostering local identity and supporting regional entrepreneurship.

Aceh Province presents an interesting case where fashion MSMEs producing ethnic-patterned clothing, woven hijabs, and handmade bags show promising creative potential but face uneven digital transformation. Only 48% of MSMEs in Aceh actively engage in e-commerce, while most depend solely on passive social media promotion (MSME Agency, 2023). Combined with Aceh's relatively high poverty rate (14.45% in 2023; BPS, 2023), this digital gap constrains consumer purchasing power and limits MSMEs' competitiveness in the digital economy.

The regional consumer base is predominantly composed of Generation Y and Z, which account for over 60% of the population (BPS Aceh, 2023). Generation Z, as digital natives, prefers instant interaction, visual aesthetic content, and personalized online shopping experiences (Priporas et al. 2017; Siregar et al. 2025). By contrast, Generation Y values quality, sustainability, and brand reputation, often remaining loyal to brands that consistently deliver value (Saputra et al. 2020; Joshi & Garg, 2021; Yusrawati et al. 2024). These generational differences indicate that uniform marketing strategies are no longer effective, particularly in digitalized markets, where consumer expectations rapidly evolve.

Previous studies have established the importance of product quality (PQ) and brand image (BI) in influencing customer satisfaction and loyalty (Dash et al. 2021; Tahir et al. 2024). In addition, recent research highlights the growing importance of digital service experience (DSE), which encompasses digital interface design, ease of use, responsiveness, and transaction reliability, in shaping consumer behavior (Diputra & Yasa, 2021; Agritika et al. 2024; Maihani et al. 2024). However, most empirical investigations have been conducted in developed or metropolitan areas. Limited evidence exists regarding how consumers in non-metropolitan MSMEs such as those in Aceh perceive and evaluate PQ, BI, and DSE simultaneously. Moreover, existing research rarely differentiates between Generation Y and Generation Z despite their distinct digital lifestyles and consumption motivations. This underscores the need for a deeper examination of how generational factors interact with digital experiences to influence satisfaction and loyalty in local MSMEs.

Although prior research has shown that PQ and BI positively contribute to consumer satisfaction and loyalty, few studies have integrated DSE as a moderating variable in the context of non-metropolitan MSMEs. Furthermore, empirical comparisons between Generation Y and Generation Z remain scarce, even though both groups dominate Indonesia's consumer markets. This creates a theoretical gap in extending behavioral models to generational and digital contexts, and a contextual gap in examining MSMEs located outside major urban centers. Therefore, this study aims to fill these gaps by investigating the mediating effect of satisfaction and the moderating role of DSE on the relationship between PQ, BI, and loyalty, focusing on generational differences in Aceh's fashion MSMEs.

To address these theoretical and contextual gaps, this study adopts an integrative theoretical approach by combining the Theory of Planned Behavior (TPB) and Expectation Confirmation Theory (ECT). The TPB framework explains how individual attitudes, subjective norms, and perceived behavioral control shape consumer decision making and loyalty intentions, making it suitable for analyzing generational behavioral differences. Meanwhile, ECT focuses on how expectation-confirmation or disconfirmation influences satisfaction and post-purchase behavior. By integrating these two perspectives, this study develops a comprehensive analytical model to examine how product quality and brand image affect customer satisfaction and

loyalty, while considering the moderating influence of digital service experience and generational differences between Generation Y and Generation Z. This theoretical combination provides a robust foundation for understanding how digital experiences and product evaluations jointly shape consumer loyalty in the MSME context.

Based on the research background and identified gaps, this study aims to analyze the influence of product quality and brand image on customer satisfaction and loyalty within the context of local fashion MSMEs. It also seeks to examine the mediating role of customer satisfaction in linking product quality and brand image to customer loyalty and to investigate the moderating effect of digital service experience on the relationship between satisfaction and loyalty. Furthermore, this study compares these relationships across Generation Y and Generation Z using a multi-group analysis approach to identify potential generational differences in consumer behavior.

Theoretically, this research extends the application of the Theory of Planned Behavior (TPB) and Expectation Confirmation Theory (ECT) to the MSME context, thereby enriching the understanding of how attitudes, expectations, and digital interactions influence consumer loyalty. Empirically, it offers new insights into how digital services experience shapes generational loyalty behavior in developing regions. These findings are expected to provide valuable implications for MSME practitioners and policymakers in designing more effective digital marketing and service strategies that enhance competitiveness and ensure long-term sustainability within the digital economy.

## METHODS

This study was conducted in Aceh, Indonesia's westernmost province, focusing on the districts of Banda Aceh, Aceh Besar and Pidie. These areas were selected because local fashion micro, small, and medium enterprises (MSMEs) demonstrate higher levels of digital adoption than other regions, making them highly relevant to the research context. A quantitative approach was employed, using primary data collected through an online questionnaire distributed via Google Forms. The target population consisted of consumers who had purchased local fashion products from MSMEs through digital platforms such as Instagram, Shopee, or

TikTok Shop. The sample comprised 600 respondents, consisting of 300 Generation Y consumers (aged 28–43) and 300 Generation Z consumers (aged 13–27). Stratified purposive sampling was used to ensure that the respondents were active digital consumers of local fashion MSME products. This approach was deemed appropriate for capturing generational differences in digital shopping behavior and customer experience.

Data were collected using a structured online questionnaire that was divided into two main sections. The first section captured demographic characteristics, such as age, gender, income, and frequency of online purchases, while the second section measured the key constructs of this study, including Product Quality (PQ), Brand Image (BI), Customer Satisfaction (CS), Customer Loyalty (CL), and Digital Service Experience (DSE). Each construct was operationalized using validated indicators adapted from prior studies and rated on a five-point Likert scale ranging from 1 (“strongly disagree”) to 5 (“strongly agree”).

Product Quality is assessed through indicators of performance, reliability, durability, and fulfilment of expectations (Abigail et al. 2024). Brand Image is measured through perceptions of brand reputation, uniqueness, attractiveness, and the extent to which the brand reflects the consumer's identity (Chen et al. 2022; Tahir et al. 2024). Customer Satisfaction was evaluated based on the degree to which the product and service experience met or exceeded consumer expectations and provided overall value (Agritika et al. 2024). Customer Loyalty was measured by behavioral intentions, including repurchase willingness, recommendation behavior, and preference continuity, despite the availability of alternatives (Rastogi et al. 2024). The Digital Service Experience captures the quality of consumer interaction with digital platforms in terms of ease of use, personalization, transaction speed, interactivity, and perceived security (Molinillo et al. 2022; Maihani et al. 2024). Prior to data collection, a pilot test involving 30 respondents was conducted to ensure clarity, comprehensibility, and reliability of the questionnaire items.

The collected data were analyzed using Partial Least Squares structural equation Modeling (PLS-SEM) with SmartPLS 4.0, following the analytical guidelines established by Hair et al. (2019, 2021). The analysis consisted of two stages. The first stage, known as measurement model evaluation (outer model), assessed

the validity and reliability of the constructs using outer loadings, Average Variance Extracted (AVE), Composite Reliability (CR), and Cronbach’s alpha. Discriminant validity was examined using the Fornell–Larcker criterion and the heterotrait–Monotrait Ratio (HTMT) to ensure the distinctiveness of each construct. The second stage, or structural model evaluation (inner model), tested the significance of the hypothesized relationships through path coefficients, t-statistics, and p-values obtained via bootstrapping with 5,000 resamples. The R-squared values were also analyzed to assess the explanatory power of endogenous variables.

Additionally, Moderated Regression Analysis (MRA) was applied to evaluate the moderating effect of digital service experience, while multigroup analysis (MGA) was conducted to identify generational differences between Generation Y and Generation Z. These procedures ensured the robustness, validity, and methodological rigor of the overall model testing.

The hypotheses of this study were derived from previous empirical findings and the theoretical foundations linking product evaluation, brand perception, satisfaction, and loyalty. Prior research has demonstrated that product quality and brand image significantly influence customer satisfaction and loyalty (Dash et al. 2021; Tahir et al. 2024; Abigail et al. 2024). Based on this evidence, we propose that product quality and brand image exert direct positive effects on both satisfaction and loyalty. Customer satisfaction is also expected to enhance customer loyalty, which is consistent with the findings of Agritika et al. (2024) and Diputra and Yasa (2021).

In addition to direct relationships, customer satisfaction is hypothesized to play a mediating role in linking

product quality and brand image with customer loyalty. This assumption is supported by studies that indicate that satisfaction serves as an essential pathway through which consumers translate product perceptions into loyalty intentions (Rastogi et al. 2024). Furthermore, Digital Service Experience is proposed to moderate several of these relationships, particularly the linkages between satisfaction and loyalty as well as between product quality, brand image, and loyalty. Previous studies by Mofokeng (2021, 2023) and Maihani et al. (2024) find that the quality of digital interaction enhances customer engagement and retention, suggesting a moderating role that strengthens the overall relationship pattern. Finally, this study assumed that the magnitude of these effects differs across generational cohorts. Prior research (Reisenwitz, 2021; Saputra et al. 2025) indicates that Generation Y and Generation Z exhibit different behavioral tendencies and expectations in digital consumption contexts. Accordingly, this study explores intergenerational differences by employing a multi-group analysis to test whether generational identity influences the strength and direction of the proposed relationships.

Figure 1 presents the conceptual framework of this study. It depicts the hypothesized relationships among the main constructs, where Product Quality and Brand Image directly influence Customer Satisfaction and loyalty, while customer satisfaction mediates these effects. Digital Service Experience moderates the relationship between Product Quality, Brand Image, and Customer Loyalty as well as the link between Customer Satisfaction and Customer Loyalty. The model further incorporates a generational comparison to explore the behavioral differences between Generation Y and Generation Z.

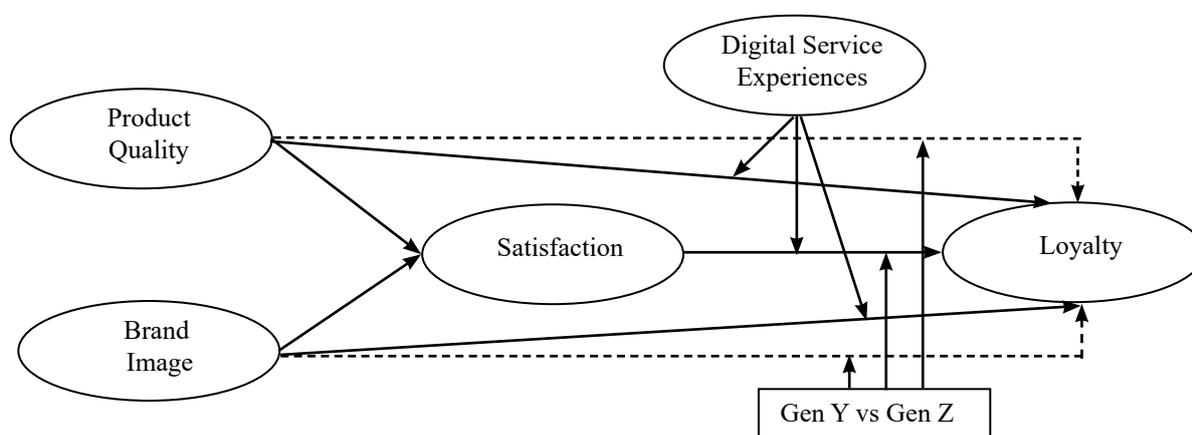


Figure 1. Conceptual model of the effect of product quality, brand image, and digital service experiences on loyalty through satisfaction with Gen Y vs Gen Z as moderating variables

This framework integrates the Theory of Planned Behavior (TPB) and Expectation Confirmation Theory (ECT) to explain how product evaluations, brand perceptions, and digital experiences jointly shape satisfaction and loyalty across generational cohorts within the MSME context. The TPB highlights the influence of attitudes, norms, and perceived behavioral control on behavioral intention, whereas the ECT emphasizes expectation fulfillment as a driver of satisfaction and loyalty. Together, these theories provide a comprehensive foundation for examining generational loyalty in digitalized MSME environments.

## RESULTS

### Characteristics of Respondents

Table 1 presents the demographic characteristics and consumer behaviors of the 600 respondents sampled in this study. The sample was evenly split between Generation Z and Generation Y, each group contributing

300 respondents, and gender proportions were nearly balanced in both cohorts. Educational attainment differs markedly by generation: most Generation Z respondents are high school or vocational graduates, whereas Generation Y respondents have higher rates of bachelor's and postgraduate degrees. Occupational profiles further differentiate the cohorts, with Generation Z dominated by students and NEETs, while Generation Y is characterized by employed individuals and business owners, indicating relatively greater economic stability and purchasing power among Generation Y. Preferences for local Acehese fashion products also vary across generations: Generation Z favors casual, trend-driven items such as Aceh-themed T-shirts, whereas Generation Y shows a stronger preference for traditional and craft-based products such as songkets and kebaya. These descriptive patterns provide a context for interpreting subsequent measurement and structural analyses as they highlight cohort-specific consumption motives that may underlie differences in how product quality, brand image, and digital service experience shape satisfaction and loyalty.

Table 1. Characteristics of Gen Z and Gen Y Respondents based on Age, Gender, Education, Occupation, and Type of Local Fashion Products Purchased (n = 600)

Variable	Category	Gen Z (Freq.)	Gen Z (%)	Gen Y (Freq.)	Gen Y (%)
Age	17–25 years (Gen Z)	300	100		
	26–41 years (Gen Y)			300	100.0
	Total	300	100	300	100
Gender	Male	151	50.3	152	50.7
	Female	149	49.7	148	49.3
	Total	300	100	300	100
Education	Senior High School / Vocational	180	60	90	30.0
	Diploma	30	10	60	20.0
	Bachelor's Degree	90	30	120	40.0
	Postgraduate (Master/Doctorate)	0	0	30	10.0
	Total	300	100	300	100
Occupation	Student	120	40	10	3.3
	Not in Education, Employment, or Training	86	28.7	30	10.0
	Employee(Private/Govt./State-Owned)	40	13.3	120	40.0
	Education Professional	5	1.7	30	10.0
	Healthcare Professional	4	1.3	20	6.7
	Freelancer / Gig Worker	24	8	25	8.3
	Entrepreneur / SME Owner	10	3.3	25	8.3
	Farmer / Fisherman / Informal Sector	2	0.7	10	3.3
	Homemaker	0	0	20	6.7
	Migrant Worker	0	0	5	1.7
	NGO / Social Worker	4	1.3	5	1.7
	Others	5	1.7	5	1.7

Table 1. Characteristics of Gen Z and Gen Y Respondents based on Age, Gender, Education, Occupation, and Type of Local Fashion Products Purchased (n = 600) (continue)

Variable	Category	Gen Z (Freq.)	Gen Z (%)	Gen Y (Freq.)	Gen Y (%)
	Total	300	100	300	100
Local Fashion Products Purchased	Acehnese Motif Bag	40	13.3	50	16.7
	Accessories (Kupiah, Brooches, etc.)	30	10	40	13.3
	Kebaya / Kasab Embroidery	20	6.7	40	13.3
	Songket / Handwoven Textile	30	10	50	16.7
	Ija Kroeng (Acehnese Scarf)	20	6.7	30	10.0
	Aceh Slogan T-shirt	100	33.3	40	13.3
	Aceh Batik	40	13.3	30	10.0
	Others	20	6.7	20	6.7
	Total	300	100	300	100

### Measurement Model Testing (Convergent and Discriminant Validity)

The measurement model was evaluated to ensure that the constructs were reliable and valid before testing structural relationships. Convergent validity results indicate that all indicator outer loadings exceeded 0.70, and the Average Variance Extracted (AVE) values for each construct were above 0.50, confirming that items adequately capture their intended latent variables (Table 2). Internal consistency reliability was satisfactory, with Cronbach's Alpha and Composite Reliability scores exceeding the recommended thresholds, indicating stable and coherent construct measurements. Discriminant validity was assessed using both the Fornell–Larcker criterion and the Heterotrait–Monotrait Ratio (HTMT), where the square roots of AVE for each construct exceeded their correlations with other constructs and all HTMT values fell below the conservative cut-off of 0.85. Taken together, these results demonstrate that Product Quality, Brand Image, Customer Satisfaction, Customer Loyalty, and Digital Service Experience are empirically distinct and have good psychometric properties. These measurement results provided a sound foundation for interpreting the structural model outcomes reported below.

The Fornell–Larcker criterion results in Table 3 indicate that the square root of each construct's Average Variance Extracted ( $\sqrt{AVE}$ ) is greater than its correlation with other constructs. This confirms that all constructs, Product Quality, Brand Image, Customer Satisfaction, Customer Loyalty, and Digital Service Experience, are empirically distinct and meet the discriminant validity requirement of the measurement model.

The discriminant validity of the measurement model was assessed using the HTMT criteria. As shown in Table 4, all HTMT values range from 0.344 to 0.777, which are below the conservative threshold of 0.85 (Henseler et al. 2015; Hair et al. 2021). These results confirm that each construct, Product Quality, Brand Image, Customer Satisfaction, Customer Loyalty, and Digital Service Experience, are empirically distinct and free from multicollinearity. Thus, the measurement model demonstrates satisfactory discriminant validity, ensuring that the constructs measure the unique aspects of consumer perception and behavior within the research model.

### Structural Model Testing (Inner Model)

The results in Table 5 show that the model explained 57.6% of the variance in Customer Loyalty and 48.0% of the variance in Customer Satisfaction. Based on the classification by Hair et al. (2021), these values fall within the moderate explanatory range, indicating that the model has sufficient predictive power to explain consumer behavior. The adjusted R-squared values (0.573 for Customer Loyalty and 0.478 for Customer Satisfaction) were nearly identical to the original estimates, confirming that the model was stable, reliable, and free from overfitting. Overall, these results suggest that Product Quality, Brand Image, and Digital Service Experience together form a solid explanatory framework for predicting both satisfaction and loyalty among consumers of local fashion micro-, small-, and medium-sized enterprises (MSMEs).

Table 2. Convergent validity and construct reliability tests for product quality, brand image, customer satisfaction, digital service experience, and customer loyalty

Construct / Indicators	Outer Loadings	Convergent Validity (AVE)	Construct Reliability	
			Cronbach's Alpha	Composite Reliability
<b>Product Quality (PQ)</b>		0.719	0.869	0.911
PQ1 – The product performs well.	0.870			
PQ2 – The product is reliable.	0.854			
PQ3 – The product is durable.	0.848			
PQ4 – The product meets my expectations.	0.818			
<b>Brand Image (BI)</b>		0.739	0.882	0.919
BI1 – The brand has a good reputation.	0.881			
BI2 – The brand is unique and attractive.	0.875			
BI3 – This brand makes me feel confident.	0.836			
BI4 – This brand represents my personality.	0.845			
<b>Customer Loyalty (CL)</b>		0.748	0.888	0.922
CL1 – I intend to repurchase from this brand.	0.883			
CL2 – I recommend this brand to others.	0.875			
CL3 – I will remain loyal even if alternatives exist.	0.862			
CL4 – I prefer this brand over others.	0.840			
<b>Customer Satisfaction (CS)</b>		0.758	0.893	0.926
CS1 – I am satisfied with my experience with this brand.	0.884			
CS2 – The product fulfills my expectations.	0.869			
CS3 – Overall, I am pleased with this purchase.	0.871			
CS4 – This brand delivers what I need.	0.857			
<b>Digital Service Experience (DSE)</b>		0.707	0.862	0.906
DSE1 – The online platform is easy to use.	0.865			
DSE2 – The platform provides a personalized experience.	0.839			
DSE3 – The transaction process is fast and secure.	0.819			
DSE4 – The platform interaction is enjoyable.	0.838			

Table 3. Results of discriminant validity test based on Fornell–Larcker criteria for product quality, brand image, customer satisfaction, digital service experience, and customer loyalty constructs

Variable	Brand Image	Customer Loyalty	Customer Satisfaction	Digital Services Experience	Product Quality
Brand Image	0.860				
Customer Loyalty	0.542	0.865			
Customer Satisfaction	0.574	0.693	0.870		
Digital Services Experience	0.313	0.452	0.367	0.841	
Product Quality	0.327	0.545	0.554	0.299	0.848

Table 4. Results of the Discriminant Validity Test Based on Heterotrait–Monotrait Ratio (HTMT) Values for Product Quality, Brand Image, Customer Satisfaction, Digital Service Experience, and Customer Loyalty Constructs

Variable	Brand Image	Customer Loyalty	Customer Satisfaction	Digital Services Experience	Product Quality
Brand Image					
Customer Loyalty	0.612				
Customer Satisfaction	0.646	0.777			
Digital Services Experience	0.359	0.513	0.418		
Product Quality	0.373	0.620	0.628	0.344	

The results presented in Table 6 reveal clear differences between Generation Y and Generation Z in their satisfaction and loyalty toward local micro-, small-, and medium-sized enterprises (MSMEs). Product Quality (PQ) shows a significant positive effect on Customer Satisfaction (CS) for both generations, with a stronger influence among Generation Y ( $\beta = 0.323$ ;  $p < 0.001$ ) than Generation Z ( $\beta = 0.124$ ;  $p < 0.003$ ). This finding suggests that Generation Y consumers are more rational and place a higher value on the functional and performance-related attributes of products when forming satisfaction. Product Quality also appeared to be a major determinant of satisfaction, demonstrating substantial effects for Generation Y ( $\beta = 0.483$ ;  $p < 0.001$ ) and Generation Z ( $\beta = 0.343$ ;  $p < 0.001$ ). Although significant in both cohorts, the stronger impact among Generation Y firms highlights their greater appreciation for tangible product quality and reliability.

Brand Image (BI) also has a significant impact, but exhibits a different generational pattern. Among Generation Z, Brand Image exerts a stronger influence on Customer Loyalty (CL) ( $\beta = 0.223$ ;  $p < 0.001$ ) than Generation Y ( $\beta = 0.149$ ;  $p < 0.001$ ), indicating that Generation Z is more responsive to symbolic and identity-based brand meanings. When predicting satisfaction, Brand Image also had a greater effect on Generation Z ( $\beta = 0.517$ ;  $p < 0.001$ ) than on Generation Y ( $\beta = 0.363$ ;  $p < 0.001$ ). These results demonstrate that Generation Z tended to prioritize emotional value and social connection when evaluating satisfaction. Customer Satisfaction remained a strong and consistent predictor of loyalty for both groups, with a slightly higher influence among Generation Z ( $\beta = 0.401$ ;  $p < 0.001$ ) than Generation Y ( $\beta = 0.379$ ;  $p < 0.001$ ).

Table 5. R-squared and adjusted R-squared values for endogenous constructs of customer satisfaction and customer loyalty

Endogenous variable	R-square	Adjusted R-square
Customer Loyalty	0.576	0.573
Customer Satisfaction	0.480	0.478

Table 6. Results of path coefficients, t-values, and significance values (p-values) for direct, indirect, and moderating effects of product quality (PQ), brand image, (BI) and digital service experiences (DSE) on loyalty through satisfaction with gen Y versus Gen Z

Coefficient path	Gen Y		Gen Z		Description
	$\beta$	Sig	$\beta$	Sig	
<b>Direct Effects</b>					
Product Quality (PQ) → Customer Loyalty (CL)	0.323	0.000	0.124	0.003	Accepted
Product Quality (PQ) → Customer Satisfaction (CS)	0.483	0.000	0.343	0.000	Accepted
Brand Image (BI) → Customer Loyalty (CL)	0.149	0.001	0.223	0.000	Accepted
Brand Image (BI) → Customer Satisfaction (CS)	0.363	0.000	0.517	0.000	Accepted
Customer Satisfaction (CS) → Customer Loyalty (CL)	0.379	0.000	0.401	0.000	Accepted
<b>Indirect effects</b>					
Product Quality (PQ) → Customer Satisfaction (CS) → Customer Loyalty (CL)	0.183	0.000	0.137	0.000	Accepted
Brand Image (BI) → Customer Satisfaction (CS) → Customer Loyalty (CL)	0.138	0.000	0.207	0.000	Accepted
<b>Moderated Regression Analysis (MRA)</b>					
Digital Services Experience (DSE) → Customer Loyalty (CL)	0.137	0.000	0.203	0.000	Accepted
Digital Services Experience (DSE) x Customer Satisfaction (CS) → Customer Loyalty (CL)	0.100	0.045	0.114	0.013	Accepted
Digital Services Experience (DSE) x Product Quality (PQ) → Customer Loyalty (CL)	0.034	0.247	0.012	0.813	Not Accepted
Digital Services Experience (DSE) x Brand Image (BI) → Customer Loyalty (CL)	-0.067	0.132	-0.009	0.859	Not Accepted

\*x is (multiplication)

Customer Satisfaction (CS) also mediates several key relationships. It significantly mediates the link between Product Quality and Customer Loyalty for both Generation Y ( $\beta = 0.183$ ;  $p < 0.001$ ) and Generation Z ( $\beta = 0.137$ ;  $p < 0.001$ ). Similarly, it mediates the relationship between Brand Image and Customer Loyalty, with a stronger mediating effect for Generation Z ( $\beta = 0.207$ ;  $p < 0.001$ ) than for Generation Y ( $\beta = 0.138$ ;  $p < 0.001$ ). These findings suggest that Generation Z's loyalty is more strongly driven by satisfaction derived from Brand Image, whereas Generation Y's loyalty is influenced more by satisfaction from Product Quality and performance.

Digital Service Experience (DSE) plays an important, but selective, role. It has a direct positive impact on Customer Loyalty, which is stronger for Generation Z ( $\beta = 0.203$ ;  $p < 0.001$ ) than Generation Y ( $\beta = 0.137$ ;  $p < 0.001$ ). Digital Service Experience also strengthens the link between customer satisfaction and loyalty, again more prominently among Generation Z ( $\beta = 0.114$ ;  $p < 0.013$ ) than Generation Y ( $\beta = 0.100$ ;  $p < 0.045$ ). This finding demonstrates that digital interaction and convenience are particularly influential for younger consumers. However, Digital Service Experience did not significantly moderate the direct effects of Product Quality on Customer Loyalty (Generation Y:  $p = 0.247$ ;

Generation Z:  $p = 0.813$ ) or Brand Image on Customer Loyalty (Generation Y:  $p = 0.132$ ; Generation Z:  $p = 0.859$ ). This implies that digital experience enhances consumer engagement, but does not directly amplify the influence of Product Quality or Brand Image on loyalty.

### Multi-Group Analysis results (Gen Y vs Gen Z)

Visually, the structural models for both generational cohorts are presented in Figures 2 and 3, which illustrate the estimated path coefficients and significance levels of each relationship. Figure 2 represents the model for Generation Y, while Figure 3 illustrates the model for Generation Z. Both figures include the construct indicators and measurement items for each variable, thereby ensuring the transparency and replicability of the research model.

The numerical results corresponding to these models are summarized in Table 7, which presents the estimated path coefficients, *t*-statistics, and *p*-values for all the hypotheses tested across both generational groups. These tables complement the visual models by providing a detailed overview of the statistical outcomes that support the interpretation of structural relationships depicted in the figures.

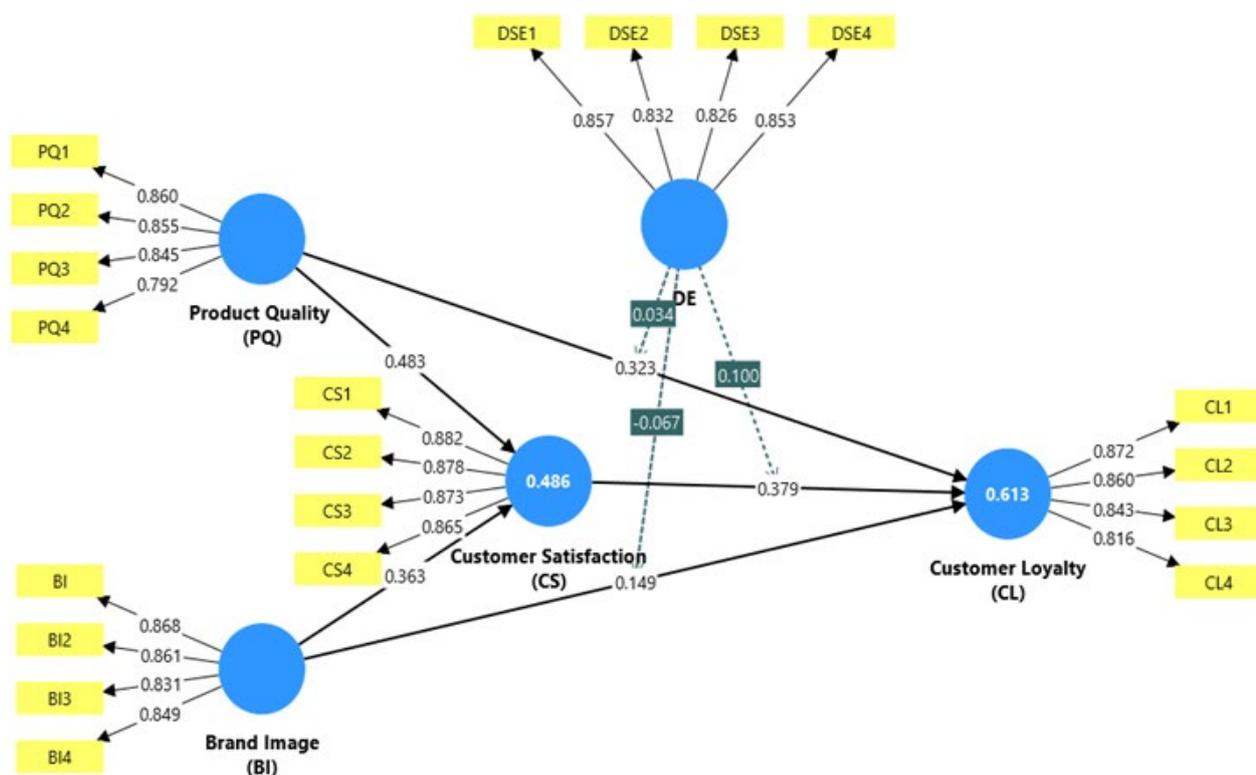


Figure 2. PLS-SEM Structural Model for Generation Y: effect of product quality, brand image, and digital service experience on customer loyalty through customer satisfaction

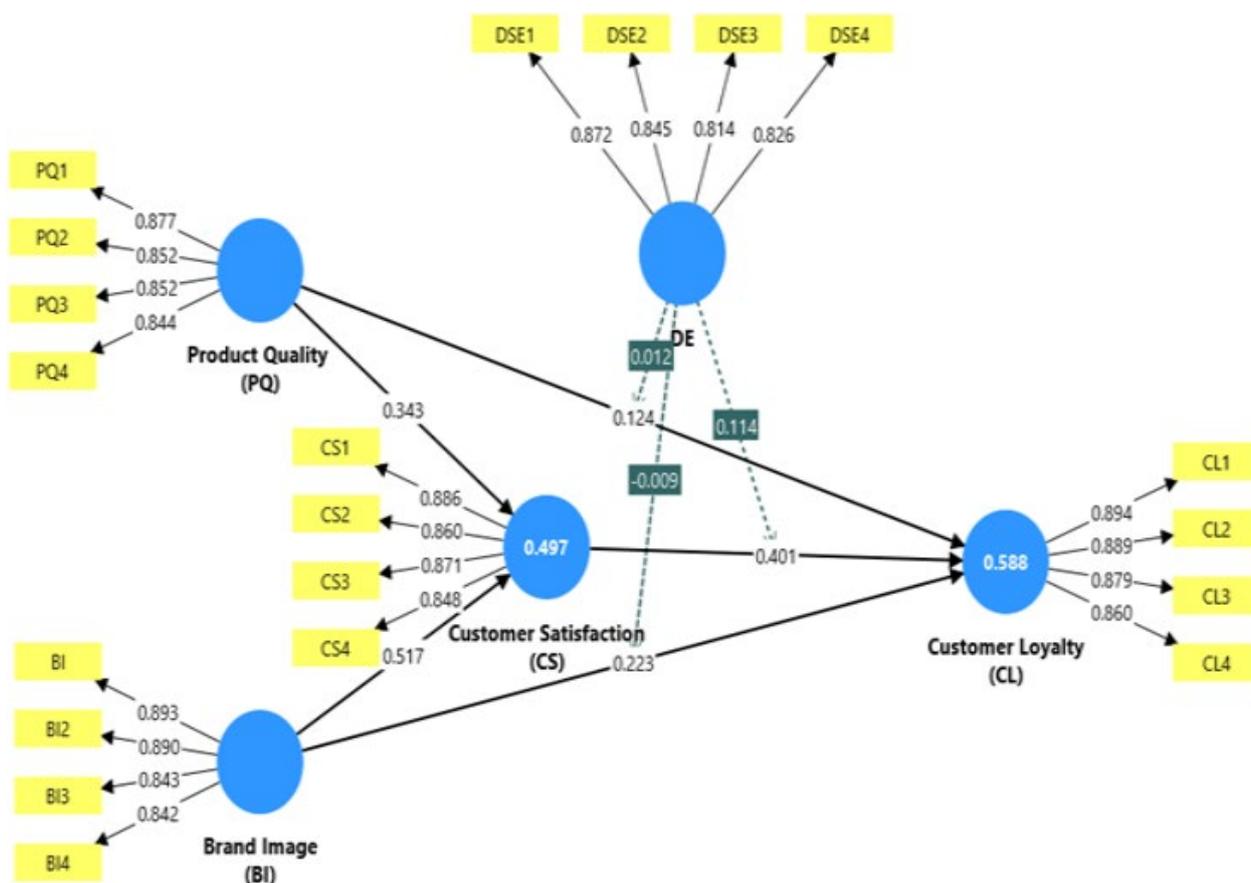


Figure 3. PLS-SEM Structural Model for Generation Z: effect of product quality, brand image, and digital service experience on customer loyalty through customer satisfaction

The multi-group analysis (Table 7) reveals significant generational differences in how consumers form satisfaction and loyalty toward local fashion MSMEs. Product Quality has a stronger impact on both Customer Loyalty ( $\Delta = 0.20$ ,  $p = 0.001$ ) and Customer Satisfaction ( $\Delta = 0.14$ ,  $p = 0.012$ ) in Generation Y, indicating that these consumers emphasize product functionality and performance in their evaluations. In contrast, Brand Image showed a stronger effect on Customer Satisfaction among Generation Z ( $\Delta = -0.15$ ,  $p = 0.007$ ), reflecting their greater sensitivity to brand symbolism, social identity, and emotional attachment.

The influence of Brand Image on Customer Loyalty did not differ significantly between generations ( $p = 0.227$ ), confirming that brand reputation remains equally valued once loyalty is established. The relationship between Customer Satisfaction and Customer Loyalty also remained consistent ( $p = 0.757$ ), indicating that satisfaction universally drives loyalty across age groups.

Regarding indirect effects, Customer Satisfaction mediates the impact of Product Quality and Brand Image on Customer Loyalty in both cohorts, with a slightly stronger mediation in the brand image-loyalty pathway for Generation Z ( $p = 0.055$ ). Meanwhile, Digital Service Experience shows no significant generational differences in its direct or moderating effects ( $p > 0.27$ ), suggesting that both groups benefit similarly from improved digital interaction.

Overall, these results suggest that Generation Y is more driven by functional product quality, whereas Generation Z is more responsive to symbolic and emotional brand cues. Satisfaction remains the most consistent determinant of loyalty, while digital service experience is enhanced, but does not differentiate loyalty formation across generations.

The primary objective of this study was to examine the effects of product quality and brand image on customer satisfaction and loyalty, as well as the moderating role of Digital Service Experience in the context of local fashion micro-, small-, and medium-sized

enterprises (MSMEs) in Aceh. In addition, this study compares the relationships between Generation Y and Generation Z. The empirical results confirm several established associations and reveal new insights into how generational differences shape consumer behavior in emerging digital markets.

Product Quality exerts a significantly positive effect on both satisfaction and loyalty among consumers, with a stronger influence observed in Generation Y. This result aligns with prior studies that identified product quality as a key determinant of satisfaction and loyalty (Diputra & Yasa, 2021; Rahmadani & Dwiridotjahjono, 2023; Abigail et al. 2024). The greater impact of Generation Y reflects their utilitarian purchasing orientation, emphasizing tangible product attributes such as performance, reliability, and durability (Saputra et al. 2020; Reisenwitz, 2021). Generation Y consumers appear to evaluate value propositions more rationally,

relying on product consistency and long-term benefits when forming satisfaction and loyalty.

Conversely, Brand Image has a stronger influence on satisfaction and loyalty among Generation Z consumers. This finding supports previous research emphasizing that brand image functions as an emotional and symbolic driver that shapes consumer experiences and post-purchase behavior (Chen et al. 2022; Tahir et al. 2024; Rastogi et al. 2024). Generation Z consumers are more responsive to symbolic meanings, identity expression, and the social visibility of brands, particularly on digital platforms where self-expression and peer validation are salient (Eger et al. 2021; Joshi & Garg, 2021). This result is consistent with Khalid (2024), who observed that brand-driven emotional engagement strengthened satisfaction and loyalty in the fashion industry.

Table 7. Results of Multi-Group Analysis (MGA) PLS-SEM: differences in path coefficients, significance values, and interpretations between Generation Y and Generation Z on the effect of product quality, brand image, and digital service experience on customer loyalty and customer satisfaction

Coefficient path	Difference (Gen Y - Gen Z)	P-Value (2-tailed) Gen Y Vs Gen Z	Description
<b>Direct Effects</b>			
Product Quality (PQ) → Customer Loyalty (CL)	0.199	0.001	Different
Product Quality (PQ) → Customer Satisfaction (CS)	0.140	0.012	Different
Brand Image (BI) → Customer Loyalty (CL)	-0.074	0.227	Same
Brand Image (BI) → Customer Satisfaction (CS)	-0.154	0.007	Different
Customer Satisfaction (CS) → Customer Loyalty (CL)	-0.021	0.757	Same
<b>Indirect effects</b>			
Product Quality (PQ) → Customer Satisfaction (CS) → Customer Loyalty (CL)	0.046	0.199	Same
Brand Image (BI) → Customer Satisfaction (CS) → Customer Loyalty (CL)	-0.07	0.055	Marginal Different
<b>Moderated Regression Analysis (MRA)</b>			
Digital Services Experience (DSE) → Customer Loyalty (CL)	-0.066	0.274	Same
Digital Services Experience (DSE) x Customer Satisfaction (CS) → Customer Loyalty (CL)	-0.058	0.380	Same
Digital Services Experience (DSE) x Product Quality (PQ) → Customer Loyalty (CL)	-0.014	0.842	Same
Digital Services Experience (DSE) x Brand Image (BI) → Customer Loyalty (CL)	0.022	0.703	Same

Customer Satisfaction was confirmed as a mediating variable linking Product Quality and Brand Image to Customer Loyalty. The mediation results indicate that both functional (product-based) and emotional (brand-based) factors indirectly shape loyalty through satisfaction. This finding supports earlier research describing satisfaction as a psychological bridge that connects performance-based evaluations to behavioral loyalty (Agritika et al. 2024; Rahmadani & Dwiridotjahjono, 2023; Zhengmeng et al. 2024). The mediation effect is stronger in the Brand Image–loyalty relationship among Generation Z consumers, suggesting that satisfaction arises more from affective and experiential brand perceptions in younger consumers. This aligns with Tahir et al. (2024), who argued that satisfaction represents a cognitive–emotional outcome of brand perception in digital contexts.

Digital Service Experience (DSE) also shows a positive direct effect on loyalty in both generations, with a slightly stronger influence among Generation Z. This reinforces prior findings highlighting the growing importance of digital interfaces and service quality in enhancing customer loyalty (Molinillo et al. 2022; Ly, 2025). Generation Z's stronger responses may reflect their digital nativity and higher expectations for seamless, interactive, and personalized online experiences (Maihani et al. 2024). Moreover, DSE strengthens the link between satisfaction and loyalty for both generations, confirming that high-quality digital interactions amplify the conversion of satisfaction into repeat purchase and advocacy behaviors (Agritika et al. 2024; Mofokeng, 2021, 2023).

However, the moderating effect of Digital Service Experience is not significant in the direct relationship between Product Quality and Loyalty or between Brand Image and Loyalty. This indicates that, while digital experiences enhance the overall customer journey, they do not replace the fundamental influence of product performance or brand meaning. This finding aligns with Akter et al. (2024), who asserted that technological factors serve as complementary rather than substitutive components in the satisfaction–loyalty mechanism. In essence, digital experience facilitates relational engagement, but remains secondary to the intrinsic value perceived in products and brands.

Multi-group analysis (MGA) revealed distinct generational differences in the formation of satisfaction and loyalty. The effects of Product Quality on both

satisfaction and loyalty are significantly stronger among Generation Y, reflecting their functional orientation and preference for performance-based product evaluations (Reisenwitz, 2021; Yusrawati et al. 2024). By contrast, Brand Image contributes more strongly to satisfaction among Generation Z, highlighting their emphasis on the symbolic, emotional, and social dimensions of brand experience (Chen et al. 2022; Dash et al. 2021). These results are consistent with those of Eger et al. (2021), who found that younger consumers respond more intensely to experiential and identity-based brand cues than older cohorts.

Interestingly, the relationship between satisfaction and loyalty did not differ significantly across the generations. This consistency indicates that once satisfaction is achieved, whether it is driven by product quality for Generation Y or brand image for Generation Z, it universally translates into loyalty. This outcome supports the established view that satisfaction is a universal predictor of loyalty across market and generational contexts (Abigail et al. 2024; Agritika et al. 2024).

Finally, although Digital Service Experience does not differ significantly between generations in its moderating strength, Generation Z tends to derive greater value from digital engagement. This suggests that both cohorts benefit from enhanced digital service environments; however, digital interaction is more integral to the shopping experience of younger consumers. This result aligns with Mofokeng (2021) and Khalid (2024), who concluded that digital immersion has become a common expectation across consumer segments, particularly in the fashion and lifestyle markets. Overall, these findings emphasize that generational differences lie primarily in the sources of functional versus symbolic satisfaction rather than in the mechanisms that convert satisfaction into loyalty.

### **Managerial Implications**

The results of this study provide several managerial insights for MSME practitioners, particularly in non-metropolitan regions, such as Aceh. First, the strong influence of Product Quality, especially among Generation Y, emphasizes the need for consistent product standards, material reliability, and quality assurance systems to maintain customer trust and repeat purchases. Second, because Brand Image exerts a greater effect on Generation Z, businesses

should prioritize emotional engagement and visual storytelling to strengthen symbolic attachment and brand community loyalty.

Third, the Digital Service Experience is essential for transforming satisfaction into loyalty. Therefore, MSMEs must ensure seamless online interactions through intuitive website design, secure transactions, and responsive digital customer service. Improving these touchpoints will enhance customer retention and word-of-mouth advocacy, particularly among digitally native consumers. Finally, local governments and support agencies should promote integrated capacity-building programmes that combine product innovation, digital literacy, and brand development. A dual strategic approach that balances functional excellence with symbolic branding and digital experience will help MSMEs cultivate sustainable loyalty across generations.

## CONCLUSIONS AND RECOMMENDATIONS

### Conclusion

This study confirms that Product Quality and Brand Image exert distinct influences on customer satisfaction and loyalty in Generation Y and Generation Z in the context of local fashion MSMEs in Aceh. Product Quality has a stronger impact on Generation Y, reflecting their rational and performance-oriented evaluations, while Brand Image plays a greater role among Generation Z, who associate purchases with emotional connection, self-expression, and social identity.

Customer Satisfaction was verified as a key mediating variable linking Product Quality and Brand Image to Customer Loyalty, demonstrating a consistent effect across both generations. Digital Service Experience enhances the satisfaction–loyalty relationship, but does not significantly differ between generations, suggesting that both groups benefit similarly from improved digital interactions.

Overall, these findings highlight that MSME marketing strategies should be tailored to generational characteristics, emphasizing product excellence and functionality for Generation Y and symbolic, emotion-

driven branding for Generation Z, while maintaining customer satisfaction as the foundation for long-term loyalty.

### Recommendations

From a theoretical perspective, this study advances the consumer behavior theory by integrating the Theory of Planned Behavior (TPB) and Expectation Confirmation Theory (ECT) to explain loyalty formation in digital MSME contexts. The model underscores the central role of satisfaction and the reinforcing function of digital service experience while providing empirical evidence of generational variation in how product and brand factors drive loyalty. Future research could extend this model to other MSME sectors, such as culinary, craft, or tourism, or test it in other regions to enhance external validity.

From a practical standpoint, MSMEs should enhance product quality, particularly durability, comfort, and consistency, to satisfy the expectations of Generation Y consumers. Simultaneously, marketing strategies for Generation Z should emphasize emotional engagement through creative digital storytelling, influencer collaboration, and community-driven branding, which reflects local culture and identity. Digital marketers should strengthen their overall Digital Service Experience by improving e-commerce usability, responsiveness, and transaction convenience, thereby maximizing satisfaction-driven loyalty. Policymakers are encouraged to integrate digital transformation, creative branding, and managerial capacity building into MSME development programs to sustain competitiveness in the digital economy.

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