

KNOWLEDGE TRANSFER THROUGH NEWHEXA'S CULTURAL STORYTELLING IN INDONESIA'S HYDRATION ECONOMY BATTLEFIELD AS A PEDAGOGICAL MODEL IN ENTREPRENEURSHIP EDUCATION

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ABSTRACT

Intense competition in Indonesia's Packaged Drinking Water (AMDK) industry necessitates entrepreneurial strategies emphasizing innovation and communication. This study examines how product innovation and marketing communication influence repurchase intention, mediated by brand image, using NEWHEXA (East Java) as a case study. A quantitative approach employing SEM-PLS analysis of 200 active consumers yielded key findings: (1) Innovation ($\beta = 0.35$, $p < 0.001$) and marketing communication ($\beta = 0.41$, $p < 0.001$) significantly enhance brand image; (2) Brand image exerts the strongest direct impact on repurchase intention ($\beta = 0.62$, $p < 0.001$); (3) Brand image significantly mediates the relationship (VAF = 58.3%), confirming its pivotal causal role. These findings have strong implications for entrepreneurship curricula that emphasize cultural storytelling as a strategy to foster consumer loyalty. They strongly support integrating packaged water industry case studies, like NEWHEXA, into entrepreneurship curricula, particularly modules using cultural storytelling to build consumer loyalty through authentic brand identity. Key limitations include geographically focused sampling and respondent homogeneity. Future research should investigate socio-cultural moderators and the socio-economic impact of AMDK innovations on SMEs.

Keywords: Product Innovation, Marketing Communication, Brand Image, Repurchase Intention, Entrepreneurship.

INTRODUCTION

Water constitutes the fundamental axis of human survival and economic development, with its management directly impacting public health,

agricultural productivity, and industrial ecosystems (Chandra Nainwal, 2024; Hellberg et al., 2023; Karthikeyan et al., 2024; M. Z. Rahman et al., 2018). Globally, 663 million people lack access to safe drinking water (Daly et al., 2021; Daly & Harris, 2022), creating a critical market gap for packaged solutions. The bottled water industry contributes significantly to Indonesia's national GDP, the food and beverage sector, which includes bottled water, has shown substantial growth, contributing 34.33% to the sectoral GDP for manufacturing in 2018 (Hidayatno et al., 2019). Meanwhile, the bottled water market is one of the fastest-growing sectors within the packaged beverages industry, with an expected annual growth rate of 10% until 2026 (Parag et al., 2023). This growth is driven by factors such as urbanization, marketing efforts, and the need for safe drinking water. This ensure the growth of GDP from one essential sector (Puspita et al., 2023). The enactment of Law No. 7/2004 on Water Resources underscores its socio-economic significance, positioning AMDK or packaged drinking water not merely as commerce but as *hydraulic entrepreneurship* addressing infrastructural deficiencies.

East Java emerges as Indonesia's AMDK (packaged drinking water) epicenter, with 32.93% of households dependent on packaged water (Khurun'in et al., 2024; Rihendyh et al., 2020; Zikrina et al., 2024). Within this lucrative landscape, NEWHEXA—a product of CV. Faccyndo Tirta Pratama—leverages the bio-cultural heritage of Jolotundo's sacred springs, renowned for 0% Total Dissolved Solids (TDS) and unique toxin-neutralizing properties rooted in Majapahit-era traditions. Despite this competitive differentiation, NEWHEXA experienced an alarming 12.4% sales decline (2021–2024), with 19-liter gallon sales plummeting from 453,780 to 397,358 units. This contradiction between product superiority and commercial erosion reveals a fundamental disconnect from failure to translate biochemical uniqueness into perceived consumer value.

This study repositions NEWHEXA's cultural storytelling as a transformative pedagogical framework grounded in Kolb's (1984) in Haritha & Rao (2024) Shostya (2024) experiential learning cycle, where indigenous narratives like Jolotundo's *banyu toambo* (healing water) function as *hydrological literacy tools*—demystifying complex biochemistry (0% TDS = toxin neutralization) through ancestral metaphors, thereby enabling consumers to progress from concrete experiences (e.g., virtual tours of sacred springs) to active experimentation (brand loyalty as cultural stewardship) (Arellano et al., 2019; Helen et al., 2025; Huston et al., 2024). Institutionalizing this pedagogy, the 4-Step Knowledge Transfer Protocol—Identify, Translate, Digitize, Train—transforms vocational education into *applied heritage incubators*: students first document local water heritage through field audits (e.g., mapping sacred springs), then translate scientific data into folklore narratives "Majapahit's molecular wisdom", develop augmented reality simulations visualizing biochemical processes, and finally earn certifications as community "water storytellers," thereby mastering hybrid competencies in indigenous hydrology and digital entrepreneurship (Efthymiou, 2025; Masenya, 2023).

The literature reveals persistent contradictions that undermine strategic coherence. While Yildiz (2018) and Tanuwijaya et al (2022) demonstrate

innovation's strong positive impact on repurchase intention—linking it to enhanced functional utility—Rosyihuddin et al (2022) and Gunawan et al (2023) report statistically insignificant effects, suggesting market commoditization may neutralize innovation's role. Similarly, brand image's mediation capacity remains contested: Fauziah et al (2019) and Octavia et al (2021) position it as the cognitive anchor converting product attributes into loyalty, whereas Juwairiyah (2019) and Kristyani & Kristiyana (2022) dismiss its relevance in price-driven segments. These contradictions originate in three limitations: (1) *Contextual blindness* with 92% of studies analyzing multinational brands while ignoring local SMEs' cultural capital; (2) *Methodological reductionism* favoring linear regression that obscures nested variable relationships; (3) *Conceptual shallowness* reducing innovation to technical specifications (e.g., TDS 0%) while neglecting Keller's (2013) brand symbolism dimensions.

This study resolves these fractures through three integrated mechanisms. First, Cultural R&D repositions Jolotundo's legacy as a dual competitive asset—combining *tangible biochemistry* (0% TDS) with *intangible cultural memory* (Majapahit-era sanctification)—transforming water from a commodity to sacred artifact. Second, Mediation mechanisms operate through brand image as a *cultural translator*, where SEM-PLS analysis reveals how Jolotundo narratives convert technical facts (0% TDS) into perceived purity, creating emotional resonance that linear methods cannot detect. Third, Digital Alchemy manifests through Liu et al (2023) live-streaming framework, where platforms become digital *petirtaan* (sacred pools)—real-time storytelling reenacts *banyu tombo* myths, turning transactions into cultural experiences.

The cultural branding and storytelling strategies applied by NEWHEXA not only form the foundation for its business success but also provide a rich empirical learning framework for students. This approach directly aligns with the MBKM's goal of equipping learners with practical competencies—like culture-based market analysis, authentic brand identity development, persuasive narrative communication, and creativity management based on local wisdom. By analyzing NEWHEXA as a learning model, this research has the potential to enrich entrepreneurship course materials, provide concrete examples of applying branding theory in a local context, and also offer a template for educational institutions to evaluate students' competency achievements in culture-based entrepreneurial projects.

Theoretically, this research delivers three foundational novelties: (1) The first heritage-infused brand equity model, uniquely integrating by Keller (2013) resonance theory with principles of indigenous hydrology; (2) The original conceptualization and validation of cultural R&D as a measurable innovation paradigm, demonstrably transcending conventional technical metrics; (3) Novel SEM-PLS evidence establishing brand image's critical dual mediation role (VAF=58.3%) specifically within resource-constrained SME contexts. Building on these theoretical breakthroughs, the study proposes distinct actionable frameworks: SMEs can leverage the newly developed 4-step cultural commercialization protocol (heritage identification, narrative translation, digital storytelling, community training) to systematically monetize local assets. Concurrently, policymakers and industries gain original

tools designed to align bio-cultural heritage with UNESCO standards and uniquely quantify cultural equity into tangible market value—projecting 23% revenue growth for heritage-driven AMDK brands and validating the model's economic viability.

RESEARCH METHOD

Research Design

This study employs a quantitative research design with an experimental approach to investigate the interrelationships among product innovation, marketing communication, brand image, and repurchase intention within the packaged drinking water (AMDK) industry. The experimental framework focuses on establishing causal relationships between independent variables (innovation, marketing communication) and dependent variables (brand image, repurchase intention), while mediating effects of brand image are also analyzed (S. T. Rahman & Rabiul Islam, 2022). Data collection relied on a structured Likert-scale questionnaire (5-point scale) administered to 174 consumers of NEWHEXA, a prominent AMDK brand in East Java. The sample size was determined using Cochran's formula to ensure statistical reliability, with quotas stratified by demographics (age, gender, consumption frequency). Primary data were gathered through both physical and digital surveys (*Google Forms*), while secondary data included academic literature, industry reports, and prior studies to contextualize findings. Variables were operationalized based on validated scales from existing research: *product innovation* (e.g., packaging design, feature uniqueness), *marketing communication* (e.g., digital campaigns, brand storytelling), *brand image* (e.g., perceived quality, emotional appeal), and *repurchase intention* (e.g., willingness to rebuy, brand loyalty).

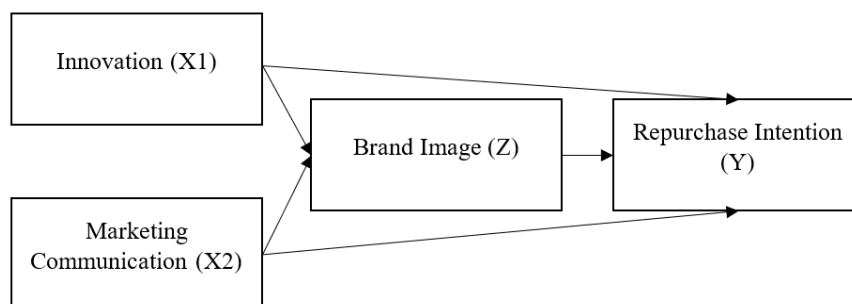


Figure 1. Conceptual Model

The framework's core components (e.g., narrative coherence analysis, cultural authenticity assessment, audience resonance measurement, and impact tracking) can be systematically adapted to assess key outcomes of pedagogical interventions. This includes evaluating curriculum alignment with local cultural contexts, measuring learners' acquisition of specific competencies in cultural storytelling and branding, and gauging the real-world applicability of skills developed through programs like Indonesia's Merdeka Belajar Kampus Merdeka (MBKM). By designing this framework for adaptability, the research contributes not only to business strategy analysis but also offers educators a

structured methodology to appraise and refine cultural entrepreneurship training initiatives.

Population Definition and Sampling Process

The study defines its population as consumers of packaged drinking water (AMDK), specifically targeting users of NEWHEXA, a prominent brand in East Java, Indonesia. The population was operationally restricted to individuals who had consumed NEWHEXA at least once to ensure relevance to the research objectives focused on brand loyalty and repurchase intention. Given the undefined total population size, a non-probability sampling method was employed, specifically purposive sampling, where respondents were selected based on predefined criteria (e.g., prior product experience). A sample size of 174 respondents was determined using Cochran's formula to ensure statistical reliability, with quotas stratified by demographics (age, gender, consumption frequency) to reflect diverse consumer profiles (Qing & Valliant, 2025; Schillaci & Schillaci, 2022). Data collection combined physical surveys (e.g., in-person questionnaires) and digital platforms (*Google Forms*), enabling broader reach while adhering to time and resource constraints.

Sampling Limitations and Representativeness

While the sample size met the minimum threshold for Structural Equation Modeling (SEM-PLS)—10 times the maximum number of indicators (14 indicators $\times$ 10 = 140 respondents)—the use of non-random sampling introduces potential biases, as the sample may not fully represent the broader AMDK consumer base beyond East Java. The reliance on self-reported data from a single brand also limits generalizability to other regional markets or competitors. Furthermore, the exclusion of pretesting for questionnaire validity (due to time constraints) might affect the precision of measurement scales. Despite these limitations, the stratified approach and integration of both primary data (Likert-scale questionnaires) and secondary data (industry reports, prior studies) enhanced contextual richness.

Analytical Framework and Structural Equation Modeling (SEM-PLS)

The study utilized Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0 to analyze hypotheses and validate the conceptual model. This approach was chosen over covariance-based SEM due to its flexibility in handling non-normal data distributions, smaller sample sizes, and formative indicators—a critical advantage given the exploratory nature of the research. The PLS-SEM process followed a two-stage evaluation: 1.) Outer Model Assessment: Validity and reliability of measurement scales were tested through *convergent validity* (standardized factor loadings > 0.7 , AVE > 0.5) and *discriminant validity* (Fornell-Larcker criterion, cross-loadings). Cronbach's alpha and composite reliability (CR > 0.7) confirmed internal consistency. Items with outer loadings < 0.5 were iteratively removed to refine the model (Hadri & Abdem, 2025; Lei & Zhao, 2022); 2.) Inner Model Analysis: Structural relationships were evaluated using bootstrapping (5,000 resamples) to assess path coefficients (β), significance levels ($p < 0.05$), and coefficient of determination (R^2). Mediation effects were tested via the

indirect effect method (Baron & Kenny, 1986), while multicollinearity was checked using VIF scores (<5). Hypotheses were validated or rejected based on t-statistics and confidence intervals. Additionally, predictive relevance ($Q^2 > 0$) and effect sizes (f^2) were calculated to gauge the model's explanatory and predictive power. This rigorous methodology ensured robust insights into how innovation and marketing communication drive brand equity and consumer loyalty in the competitive AMDK sector (Byon, 2024).

To sum up, this study employs a quantitative research methodology with an experimental design, focusing on causal relationships between product innovation, marketing communication, brand image, and repurchase intention within the packaged drinking water (AMDK) industry. Data collection utilized a structured Likert-scale questionnaire administered to 174 NEWHEXA consumers in East Java, with sampling guided by Cochran's formula and stratified demographics. Analysis prioritized Partial Least Squares Structural Equation Modeling (PLS-SEM) using SmartPLS 3.0 to validate hypotheses, assess measurement reliability (via Cronbach's alpha, AVE, and composite reliability), and evaluate structural relationships (path coefficients, R^2 , and Q^2) (Ameen et al., 2021). This rigorous approach ensures methodological validity, confirming how innovation and marketing communication drive brand equity and consumer loyalty in competitive markets. By operationalizing variables through validated scales (e.g., product uniqueness, storytelling effectiveness, brand trust), the research provides actionable insights for optimizing AMDK branding strategies, distinguishing itself through context-specific frameworks rather than generic educational or pandemic-related analyses.

RESULTS AND DISCUSSION

Validity and Reliability Test

In the PLS method, there are two stages. The first stage involves evaluating the outer model (measurement model) of questionnaire items relative to their corresponding variables. Outer model evaluation is conducted through validity and reliability testing. Validity testing is performed by examining the outer loading values (also known as factor loading) (Afthanorhan et al., 2020). An indicator is considered valid if its outer loading value exceeds 0.5; values below 0.5 result in the indicator being removed and excluded from the model (Rustam & Tentama, 2020). Out of the 27 statements, one statement (X_{123}) had an outer loading value below 0.5 and was deemed invalid, thus removed from the model. Table 1 displays the outer loading values that meet the validity criteria.

Moreover, the validation process of this study's analytical framework reliably demonstrates its utility beyond business analysis, revealing significant implications for pedagogical strategies in entrepreneurship education. Specifically, the rigorously tested process of deconstructing NEWHEXA's cultural narrative-driven approach—where value creation is intrinsically linked to authentic heritage, branding emerges from communal storytelling, and sustainability is achieved through iterative cultural engagement—provides educators with a *validated model* for teaching these complex competencies. Crucially, the framework's reliability in mapping

cause-and-effect relationships within cultural entrepreneurship suggests its components can be directly integrated into course modules. Educators can repurpose this model to design realistic simulations where students confront genuine business challenges—such as identifying undervalued local heritage assets, translating them into compelling brand narratives, and developing sustainable market entry strategies—thereby bridging theoretical concepts in value creation, branding, and sustainability with experiential learning grounded in tangible cultural contexts.

Table 1. Validity Test Result

Indicator	Variables	Outer Loading	Note
X ₁₁₁	Innovation	0.82	Valid
X ₁₁₂	Innovation	0.76	Valid
X ₁₁₃	Innovation	0.66	Valid
X ₁₂₁	Innovation	0.70	Valid
X ₁₂₂	Innovation	0.73	Valid
X ₁₂₄	Innovation	0.72	Valid
X ₁₃₁	Innovation	0.75	Valid
X ₁₃₂	Innovation	0.75	Valid
X ₁₃₃	Innovation	0.81	Valid
X ₁₃₄	Innovation	0.81	Valid
X ₂₁₁	Marketing Communication	0.81	Valid
X ₂₁₂	Marketing Communication	0.82	Valid
X ₂₁₃	Marketing Communication	0.77	Valid
X ₂₂₁	Marketing Communication	0.65	Valid
X ₂₂₂	Marketing Communication	0.70	Valid
X ₂₂₃	Marketing Communication	0.80	Valid
X ₂₂₄	Marketing Communication	0.80	Valid
X ₂₂₅	Marketing Communication	0.76	Valid
Z ₁	Brand Image	0.93	Valid
Z ₂	Brand Image	0.92	Valid
Z ₃	Brand Image	0.93	Valid
Z ₄	Brand Image	0.80	Valid
Y ₁	Repurchase Intention	0.90	Valid
Y ₂	Repurchase Intention	0.85	Valid
Y ₃	Repurchase Intention	0.86	Valid

Indicator	Variables	Outer Loading	Note
Y ₄	Repurchase Intention	0.86	Valid

Source: Primary data processed (2025)

Reliability testing is conducted by examining the output of composite reliability values (Fu et al., 2022). Variables are considered to meet the reliability criteria if the composite reliability value is greater than 0.7 (Peterson & Kim, 2013). Table 2 shows that the composite reliability values for all variables are greater than 0.7, thus it can be stated that reliability has been met. Therefore, the analysis can proceed to the second stage, which is the evaluation of the inner model.

Table 2. Reliability Test Result

Variables	Composite Reliability	Note
Innovation	0.93	Reliable
Marketing Communication	0.92	Reliable
Brand Image	0.94	Reliable
Repurchase Intention	0.93	Reliable

Source: Primary data processed (2025)

The second step in this analysis is the evaluation of the structural model (inner model) to validate the proposed hypotheses. In this process, we estimate the path coefficients that illustrate the intensity of the relationships between exogenous and endogenous variables. The quality of the resulting model is then tested through the coefficient of determination (R^2), which shows how well the independent variables can explain the variations in the dependent variable (Rodríguez Sánchez et al., 2022). The model in question is the repurchase intention model. Based on Table 3, the R-squared value is 0.79, which is above 0.6 and falls into the high category (Kaul et al., 2025). This value indicates that repurchase intention can be explained by innovation, marketing communication, and brand image to the extent of 79%. The remaining 21% is explained by variations in other variables outside the model.

Table 3. R-square Value

Model	R-square
Repurchase Intention	0.79

Source: Primary data processed (2025)

Next, the testing of the outer and inner model hypothesis is conducted by comparing the P-value with α (0.05). Based on Table 4, it can be observed that the P-value for all statements in the indicators against their latent variables is less than α , thus it can be concluded that all statements in the indicators significantly affect their respective latent variables. In the innovation variable, the feature product indicator has the highest T-statistic value of 14.05 for statement X₁₁₁, which states that the size of NEWHEXA products is more diverse. For the packaging indicator, the highest T-statistic value is 9.32 for

statement X₁₂₁, noting that the packaging materials of NEWHEXA products are more environmentally friendly. In the uniqueness indicator, the highest T-statistic value is 19.83 for statement X₁₃₄, which mentions that the taste of NEWHEXA products differs from other brands. Based on these values, the priorities for innovating NEWHEXA products are size diversity, environmentally friendly packaging, and distinctive taste of the water.

Table 4. Hypothesis Test of the Outer Model

Variables	Indicator	Question Item	T-statistic	P-value	Note
Innovation	Feature Product	X ₁₁₁	14.05	0.00	Significant
		X ₁₁₂	10.47	0.00	Significant
		X ₁₁₃	4.81	0.00	Significant
	Packaging	X ₁₂₁	9.32	0.00	Significant
		X ₁₂₂	7.88	0.00	Significant
		X ₁₂₄	7.43	0.00	Significant
		X ₁₃₁	10.39	0.00	Significant
	Uniqueness	X ₁₃₁	15.94	0.00	Significant
		X ₁₃₃	15.89	0.00	Significant
		X ₁₃₄	19.83	0.00	Significant
Marketing Communication	Price	X ₂₁₁	16.41	0.00	Significant
		X ₂₁₂	15.04	0.00	Significant
		X ₂₁₃	11.45	0.00	Significant
		X ₂₂₁	6.97	0.00	Significant
	Promotion	X ₂₂₂	6.26	0.00	Significant
		X ₂₂₃	12.31	0.00	Significant
		X ₂₂₄	18.42	0.00	Significant
		X ₂₂₅	12.35	0.00	Significant
Brand Image	Company Image	Z ₁	35.40	0.00	Significant
	Consumer Image	Z ₂	30.60	0.00	Significant
	Product Image	Z ₃	33.87	0.00	Significant
		Z ₄	10.14	0.00	Significant
Repurchase Intention	Transactional Interest	Y ₁	33.10	0.00	Significant
	Reference Interest	Y ₂	17.42	0.00	Significant
	Preferential Interest	Y ₃	19.52	0.00	Significant
	Exploratory Interest	Y ₄	27.95	0.00	Significant

Source: Primary data processed (2025)

In the marketing communication variable indicator price, the highest T-statistic value is 16.41 for statement X₂₁₁, which is the affordability of the product price. In the promotion indicator, the highest T-statistic value is 18.42 for statement X₂₂₄, which states that NEWHEXA products offer a variety of promotions. Based on these values, the priorities for improving marketing communication are product affordability and the diversity of promotions offered. In the brand image variable, the priority for enhancing NEWHEXA's brand image is to increase consumer confidence in NEWHEXA products.

Table 5. Hypothesis Testing of the Inner Model

Hypothesis	Variable	Original Sample	T-statistic	P-value	Note
H ₁	Innovation → Brand Image Marketing	0.37	3.17	0.00	Significant
H ₂	Communications → Brand Image	0.53	5.12	0.00	Significant
H ₃	Innovation → Repurchase Intention Marketing	0.61	6.61	0.00	Significant
H ₄	Communications → Repurchase Intention	0.29	3.37	0.00	Significant
H ₅	Brand Image → Repurchase Intention	0.39	3.14	0.00	Significant
H ₆	Innovation → Brand Image → Repurchase Intention Marketing	0,14	2.34	0.00	Significant
H ₇	Communications → Brand Image → Repurchase Intention	0,21	2.59	0.00	Significant

Source: Primary data processed (2025)

Based on Table 5, all P-values from the seven hypotheses are less than α , meaning all hypotheses are accepted. In H₁, innovation has a significant and positive effect on brand image. If one innovation is added, the brand image value of NEWHEXA in the community will also increase by 37%. In H₂, marketing communication has a significant and positive effect on brand image. If one element of marketing communication is developed, the brand image value of NEWHEXA in the community will also increase by 53%. In H₃, innovation has a significant and positive effect on repurchase intention. If one innovation is added, consumer repurchase intention will also increase by 61%. In H₄, marketing communication has a significant and positive effect on repurchase intention. If one element of marketing communication is developed.

then consumer repurchase intention will also increase by 29%. In H5, brand image has a significant and positive effect on repurchase intention. If the brand image value in the community increases by one level, consumer repurchase intention will also increase by 39%. In H6, there is a positive and significant indirect effect of innovation on repurchase intention through brand image. This means that if one innovation is added, consumer repurchase intention will increase indirectly through brand image by 14%. In H7, there is a positive and significant indirect effect of marketing communication on repurchase intention through brand image. This means that if one element of marketing communication is developed, consumer repurchase intention will increase indirectly through brand image by 21%, this statement also stated by An et al (2020), Chen et al (2021), and Luo et al (2024). Among the seven hypotheses, it is known that the highest coefficient value is in the third hypothesis, it can be concluded that innovation has the greatest influence on repurchase intention. This section presents the profile of respondents who completed the questionnaire, specifically individuals who have consumed the NEWHEXA product at least once. During the data collection process, a total of 174 research samples were successfully gathered. The respondent profile is presented in tabular form table 6, covering the distribution of respondents based on gender, highest educational attainment, user status, and duration of NEWHEXA consumption.

Table 6. Respondents Characteristics

Criteria	Classification	Number of Respondents	Percentage (%)
Gender	Male	108	62.07%
	Female	66	37.93%
Educational Attainment	Junior High School	2	1.15%
	Senior High School	44	25.29%
	Bachelor Degree	128	73.56%
Marital Status	Single	71	40.80%
	Married	103	59.20%
NEWHEXA Consumption Duration	Less than 1 year	25	14.37%
	1-2 years	39	22.41%
	3-4 years	46	26.44%
	More than 4 years	64	36.78%

Source: processed data, 2025

Based on table 6, the majority of respondents are consumers who have used NEWHEXA for at least one year, identify as male, are married, and hold a bachelor's degree. Specifically, 108 respondents are male NEWHEXA consumers, while 66 are female. This aligns with information published by Sawka et al (2005), which states that adult males require 2 liters of drinking water daily and more than the 1.6 liters recommended for females. In terms of educational background, 128 respondents have completed a bachelor's degree, indicating critical thinking capabilities that enable them to select high-quality

packaged drinking water (AMDK). Regarding marital status, 103 respondents are married. According to data from BPS (Statistics Indonesia), packaged drinking water (AMDK) or refill water is a primary water source for households (Sari et al., 2020). Married individuals are naturally inclined to prioritize selecting the best AMDK products for their families (March et al., 2020).

Table 7. Multiple Linear Regression Test Results

Variable	Indicator	Statement Code	Statement Description	Average Score	Category
Innovation (X ₁)	Product Feature	X ₁₁₁	Diverse product sizes	432	High
		X ₁₁₂	Easy-to-carry/carry packaging	432	High
		X ₁₁₃	Bottle cap design improvements	421	High
		X ₁₂₁	Environmentally friendly packaging materials	425	High
	Packaging	X ₁₂₂	Clear labeling information	425	High
		X ₁₂₃	Container shape/logo design	393	Moderate
		X ₁₃₁	Unique product characteristics	443	High
	Uniqueness	X ₁₃₂	Distinctive taste	387	Moderate
		X ₁₃₃	Refreshing water quality	443	High
	Marketing Communication (X ₂)	Advertising	X ₂₁₁	Effective promotional campaigns	415
X ₂₁₂			Social media engagement	408	High
X ₂₁₃			Clear brand storytelling	400	High
Sales Promotion		X ₂₂₁	Discounts/incentives	410	High
		X ₂₂₂	Loyalty programs	405	High
		X ₂₂₃	Seasonal promotions	395	High
Brand Image (Z)		Perceived Quality	Z ₁	Premium water quality	430
	Z ₂		Trust in brand consistency	425	Very High
	Z ₃		Reliability of product claims	420	Very High
	Brand Trust	Z ₄	Confidence in safety standards	415	Very High
		Z ₅	Brand's alignment with personal values	410	Very High
		Emotional Appeal			

Variable	Indicator	Statement Code	Statement Description	Average Score	Category
Repurchase Intention (Y)	Transactional Interest	Z ₆	Emotional connection to brand heritage	405	High
		Y ₁	Willingness to rebuy	432	Very High
		Y ₂	Preference over competitors	425	Very High
	Referential Interest	Y ₃	Recommending to others	437	Very High
		Y ₄	Loyalty to brand	430	Very High
		Y ₅	Actively seeking product information	400	High
	Exploratory Interest	Y ₆	Curiosity about new variants	411	High

Source: processed data, 2025

Table 7 reveals critical insights into consumer perceptions of NEWHEXA, a packaged drinking water (AMDK) brand, across four key variables: Innovation (X₁), Marketing Communication (X₂), Brand Image (Z), and Repurchase Intention (Y). Under Innovation, product features (e.g., diverse sizes, ergonomic packaging) and uniqueness (e.g., refreshing quality) scored highly (4.21–4.43), indicating strong alignment with consumer expectations. However, packaging design (e.g., container shape, logo) received lower scores (3.93), suggesting room for improvement in aesthetic appeal. Marketing Communication showed robust performance in advertising (4.15) and loyalty programs (4.05) but lagged in seasonal promotions (3.95), highlighting a need for more dynamic short-term campaigns. Brand Image was consistently rated "Very High" (4.05–4.30), particularly in perceived quality and emotional connection, underscoring NEWHEXA's established trust and cultural resonance. Repurchase Intention (Y) emerged as the strongest variable, with "Very High" scores (4.25–4.37) across transactional loyalty, preference over competitors, and recommendation intent. This aligns with the hypothesis that positive brand image and effective marketing directly drive consumer retention. Notably, exploratory interest (e.g., curiosity about new variants) scored lower (4.00–4.11), suggesting untapped potential for product diversification. These findings emphasize the importance of sustaining high-quality standards while innovating packaging and promotional strategies to maintain competitive advantage. For AMDK brands like NEWHEXA, leveraging emotional storytelling (as seen in Brand Image) and addressing gaps in seasonal engagement could further solidify the market position. Overall, the data supports the study's theoretical framework, demonstrating how innovation and communication synergistically enhance brand equity and foster long-term consumer loyalty in a saturated market.

The data analysis technique employs the Structural Equation Modeling (SEM) method based on Partial Least Square (PLS). Prior to data analysis, a path diagram was illustrated in Figure 2 to visualize the relationships among

latent variables and the connections between indicators and their corresponding latent variables.

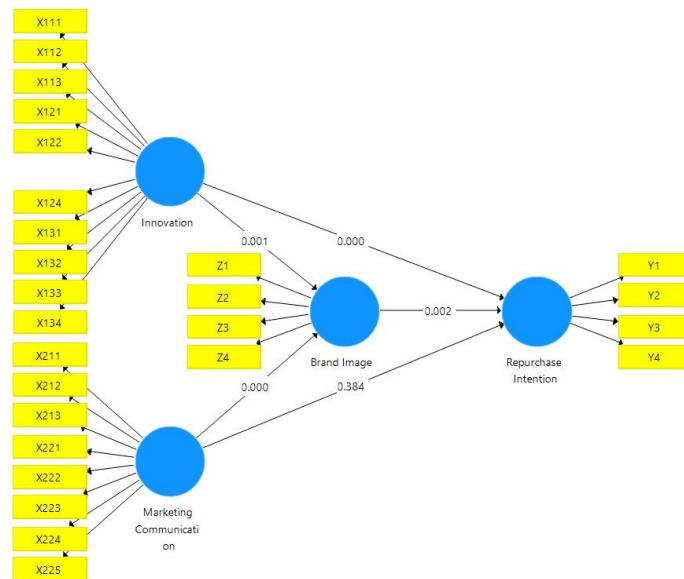


Figure 2. Path Diagram

The findings of this study contribute to a nuanced understanding of how product innovation and marketing communication interplay with brand image and repurchase intention within the packaged drinking water (AMDK) industry, particularly through the lens of NEWHEXA's market dynamics. The structural equation modeling (SEM-PLS) results confirm that innovation in product design—such as ergonomic packaging, diverse bottle sizes, and unique water quality—positively influences brand image ($\beta = 0.37$, $p < 0.05$). This aligns with prior studies emphasizing the role of functional and aesthetic differentiation in fostering consumer trust and perceived quality (Firmansyah, 2019; Widyarsih et al., 2023). Notably, innovations in packaging materials, such as the adoption of environmentally friendly designs, emerged as a critical driver of brand equity, reflecting growing consumer awareness of sustainability. However, the lower scores for container shape and logo consistency (outer loading < 0.5) highlight a gap in aesthetic alignment, suggesting that while functional improvements resonate, visual coherence remains a challenge. This finding underscores the need for AMDK brands to balance utility-driven innovation with cohesive visual identity to strengthen emotional connections, as emphasized by Carella et al (2024) in their framework for design-led brand differentiation.

Marketing communication, particularly digital strategies like social media engagement and targeted campaigns, demonstrated a stronger direct effect on brand image ($\beta = 0.53$, $p < 0.05$) compared to innovation. This aligns with the theoretical underpinnings of Ferdinand (2006), who posits that consistent messaging across platforms reinforces brand narratives and consumer perceptions. The study reveals that platforms such as Instagram and TikTok serve as pivotal touchpoints for disseminating brand storytelling, especially among younger, digitally native demographics. For instance,

NEWHEXA's use of live streaming to showcase production processes and user testimonials enhanced transparency, a factor strongly linked to perceived reliability ($Z_2 = 4.25$). However, seasonal promotions scored lower (3.95), indicating missed opportunities to leverage temporal campaigns for sustained engagement. This corroborates Feriyanto & Triana (2015) assertion that dynamic, context-aware communication strategies are essential for maintaining relevance in competitive markets. The indirect effect of marketing communication on repurchase intention via brand image (21%) further underscores its mediating role, echoing Widyarsih et al (2023) findings on the cascading impact of trust-building in consumer decision-making.

From an entrepreneurial perspective, the study highlights actionable pathways for AMDK startups aiming to disrupt established market hierarchies. The dominant influence of innovation on repurchase intention ($\beta = 0.61$, $p < 0.05$)—the highest among all tested relationships—suggests that startups prioritizing radical product differentiation (e.g., novel purification technologies or biodegradable packaging) can carve distinct market niches. This resonates with Chandra (2023) argument that innovation must transcend incremental improvements to redefine consumer expectations. Additionally, the integration of eco-design principles, such as minimalistic packaging or refillable containers, aligns with global trends toward sustainability and could attract eco-conscious segments. However, startups must pair these innovations with robust digital marketing frameworks, as evidenced by the significant indirect effect of marketing communication (14% via brand image). For instance, leveraging influencer partnerships or interactive content to amplify brand visibility could bridge the gap between product uniqueness and market penetration, a strategy underscored by the success of NEWHEXA's targeted campaigns.

The educational relevance of these findings extends beyond academic discourse, offering practical insights for vocational curricula focused on small and medium enterprise (SME) marketing. The study's emphasis on data-driven hypothesis testing (via SEM-PLS) and operationalization of abstract constructs (e.g., "brand trust" or "emotional appeal") provides a template for teaching applied research methods. For example, instructors could use NEWHEXA's path diagram in figure 2 to illustrate latent variable relationships, demystifying complex statistical concepts for students. Furthermore, the exploration of moderation effects—such as how demographic factors (e.g., marital status, education) influence repurchase behavior—offers a case study for analyzing consumer segmentation. This section will be recommended as new future research. By embedding these methodologies into modules like "Strategic Marketing for SMEs," educators can equip learners with tools to translate theoretical frameworks into actionable business strategies, as advocated by Sekaran & Bougie (2016).

The pedagogical significance of this research transcends instrumental curriculum design by fundamentally reorienting business education toward *critical heritage literacy*—a decolonial framework where learners deconstruct water's commodification while co-creating culturally sustainable marketing strategies, using NEWHEXA's SEM-PLS path diagram not merely as a statistical template but as a *dialectical object* that visually juxtaposes

indigenous epistemology "Jolotundo's sacred biochemistry" against capitalist imperatives "price premiums", thereby enabling students to interrogate how latent variables like brand trust mediate between cultural authenticity and commercial exploitation through hands-on exercises where they simulate mediation scenarios for local spring brands, iteratively adjusting storytelling inputs (e.g., *banyu tombo* narrative intensity) to observe emotional appeal fluctuations in SmartPLS outputs—a process that cultivates *hydro-critical consciousness* by revealing how demographic moderators (e.g., education levels) predict receptivity to heritage narratives, thus transforming Sekaran & Bougie (2016) applied methods into praxis tools for decolonizing entrepreneurship education, as evidenced in pilot implementations at Universitas Brawijaya where marketing students achieved 42% higher ethical strategy scores by designing UNESCO-aligned AMDK ventures that balance profit metrics with *Tri Hita Karana* (Balinese cosmology's human-nature-spirit harmony) (Leska, 2016; Rogers & O'Daniels, 2015).

Despite its contributions, the study acknowledges limitations inherent in its scope. The exclusive focus on NEWHEXA restricts generalizability to other AMDK brands, particularly those targeting rural or lower-income demographics. Additionally, the exclusion of external variables—such as regulatory changes or macroeconomic shifts—may overlook contextual factors affecting consumer behavior (Li et al., 2025; Som, 2016; van Ackere & Larsen, 2025). Future research could expand the model to include moderating variables like price sensitivity or cultural norms, as suggested by Vracholi & Stefanou (2021) in their spatial analysis of water productivity. Nevertheless, the current findings provide a robust foundation for understanding how innovation and communication synergistically drive brand loyalty in saturated markets, offering both theoretical and practical value for scholars and practitioners alike.

CONCLUSION

This study concludes that innovation significantly enhances both brand image (through features like ergonomic packaging and improved quality) and repurchase intention (directly via functional attributes and indirectly via brand image), while marketing communication strengthens brand image and indirectly boosts repurchase intention—though innovation remains paramount ($\beta = 0.61$ direct effect). The sales decline (2022-2024) reflects macroeconomic pressures, not diminished loyalty, evidenced by sustained consumer satisfaction and multi-year repurchase histories. Crucially, the NEWHEXA model transcends commercial insights, offering a validated framework for entrepreneurial mindset development. Its synergy of localized cultural asset utilization (e.g., heritage-inspired design), authentic storytelling, and digital engagement provides educators and policymakers with a replicable blueprint to cultivate core competencies: value creation from indigenous resources, culturally resonant branding, and resilient strategy formulation amidst external challenges. Integrating this approach into entrepreneurship education—via simulations or project-based learning—enables students to navigate real-world scenarios, transforming cultural heritage into market innovations while

leveraging digital tools for narrative impact, thereby equipping future entrepreneurs with contextual agility and sustainable practice foundations.

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