

ATTITUDE AS THE GATEWAY: EXTENDING THE THEORY OF PLANNED BEHAVIOR TO MODEL LOW-ALCOHOL BEVERAGE CONSUMPTION AMONG CHINESE GEN Z

Xiangling Lu¹ and Akaraphun Ratasuk^{2*}

^{1,2}International College, Panyapiwat Institute of Management, Thailand

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Abstract

Purpose: This study addressed a critical gap regarding how contemporary lifestyle factors, specifically Health Consciousness, Cultural Trends, and Digital Engagement, affect market demand for low-alcohol beverages among China's digitally native Generation Z. The research expanded the Theory of Planned Behavior (TPB) to examine whether these factors act as direct triggers for behavioral or as upstream antecedents shaping consumer attitude.

Study Design/Methodology/Approach: Using a quantitative, cross-sectional approach, data were gathered through self-administered surveys from Generation Z consumers ($n = 397$) in China's first-tier cities. Partial Least Squares Structural Equation Modeling (PLS-SEM) was used to analyze the structural relationships and mediation pathways between core TPB constructs and extended lifestyle factors.

Findings: Analysis confirmed core TPB antecedents as significant predictors: Attitude ($\beta = .441$, $p < .001$), Subjective Norms ($\beta = .236$, $p < .001$), and Perceived Behavioral Control ($\beta = .162$, $p < .001$). Attitude emerged as the primary factor, accounting for 76% of the variance ($R^2 = .76$). Critically, Health Consciousness, Digital Engagement, and Cultural Trends showed no significant direct effects. However, Health Consciousness and Digital Engagement were entirely mediated by Attitude, indicating that they shape consumer perception rather than trigger direct action.

Originality/Value: This paper extended the TPB by proposing a hierarchical structure where external influences must first be internalized as favorable attitudes to drive intention. This provides empirical evidence clarifying the role of modern lifestyle variables. Managerially, results suggest focusing on emotional branding to strengthen the dominant Attitude factor, the essential gateway to purchase, over generalized digital promotion. The study also offers culture-specific validation of the TPB within the Chinese context.

Keywords: Theory of Planned Behavior (TPB), Consumer Behavior, Purchase Intention, Low-alcohol Beverages, Generation Z, Digital Engagement, Attitude Mediation

*Corresponding Author: Akaraphun Ratasuk
E-mail: akaraphunrat@pim.ac.th

Introduction

The global beverage industry is undergoing a significant transformation driven by the burgeoning mindful drinking movement, characterized by robust growth in the low- and no-alcohol (LoNo) segment (Nicholls, 2023; Nicholls, 2025). This shift, fueled by escalating global health consciousness and a desire for balanced consumption, is acutely pronounced in the Chinese market, which serves as a critical growth engine due to rapid urbanization and the emerging purchasing power of Generation Z (Gen Z) (Su et al., 2024; Wan Mustaffa & Wan Ismail, 2025). Focused on China's first-tier cities, this landscape is intensely competitive. However, despite the sector's expansion, businesses face a significant challenge: Stakeholders urgently need a precise model to guide investment beyond a generic digital presence, as it remains unclear how contemporary factors such as online trends and wellness pursuits translate into market demand (Yi et al., 2021).

This practical challenge reflects a critical gap in the academic literature. Existing consumer behavior research remains predominantly Western-centric and has not adequately modeled the specific influence of modern lifestyle factors within a collectivist Chinese cultural context (Nicholls, 2025; Piatkowski et al., 2024; Shaw et al., 2023). The core theoretical issue is that traditional applications of consumer models fail to clarify the mechanism by which these modern factors operate (Rachmad, 2024). It remains ambiguous whether digital engagement and health consciousness act as direct behavioral triggers or as upstream antecedents that first shape underlying consumer attitudes, leaving a critical void in strategic marketing knowledge for this segment (Pellegrino, 2024; Sağkaya Güngör & Ozansoy Çadırcı, 2022).

To address this gap, this study extends the Theory of Planned Behavior (TPB) by proposing the TPB-Attitude Precedence Model. The TPB is selected for its robust explanatory power in linking cognitive beliefs to behavioral intentions (Ali et al., 2023; Singh et al., 2025). Our extended model refines this theory by positioning Attitude Toward Low-Alcohol Beverages as the central mediator, asserting that for products driven by social and personal lifestyle benefits, external influences must first be successfully internalized as a favorable attitude before they can effectively drive purchase intention (Machaka-Mare et al., 2023; Oviedo-Trespalacios et al., 2021).

Objectives

The primary objectives of this study are therefore to empirically examine the direct and indirect effects of Subjective Norms, Perceived Behavioral Control, Health Consciousness, and Digital Engagement on Purchase Intention among Gen Z consumers in China's first-tier cities (Tang et al., 2024). This research advances academic knowledge by providing a rigorous, culture-specific validation of the TPB and, crucially, establishes the full mediation of Health Consciousness and Digital Engagement through Attitude (Naga et al., 2025; Yeh et al., 2025). The findings offer critical strategies for industry practitioners, providing clear managerial guidance on prioritizing emotional branding and leveraging peer-to-peer digital advocacy to cultivate the consumer attitude that serves as the essential gateway to purchase.

Literature Review

Theoretical Foundation: The Theory of Planned Behavior (TPB)

The foundation of this research is the Theory of Planned Behavior (TPB), a highly cited and empirically validated framework for predicting human behavior based on cognitive beliefs (Ajzen, 1991). The TPB posits that an individual's intention to perform a behavior is determined by three core constructs: Attitude (their favorable or unfavorable evaluation of the behavior), Subjective Norms (the perceived social pressure from significant others), and Perceived Behavioral Control (the perceived ease or difficulty of performing the behavior) (Bosnjak et al., 2020; Zheng et al., 2017). The TPB is selected for this study because it provides a robust, established model of consumer decision-making, offering a stable framework for integrating novel, context-specific variables (Hojjati et al., 2025; Wei et al., 2025). However, traditional TPB applications often treat external variables as background factors. As consumer environments evolve, particularly in lifestyle products where identity is paramount, the precise roles and functions of these external influences within the TPB require careful re-examination.

The Academic Puzzle: Clarifying the Role of Modern Lifestyle Factors

While the TPB is robust, its application to contemporary lifestyle consumption reveals a critical theoretical ambiguity. The core academic puzzle lies not in whether modern factors, such as Health Consciousness and Digital Engagement, have an effect, but in understanding the mechanism through which they operate (Zhou et al., 2022). The existing literature presents conflicting evidence. Some research in functional product categories suggests Health Consciousness can act as a direct driver of purchase intent (Devi et al., 2023; Iqbal et al., 2021; Kaur et al., 2025; Su et al., 2022). Conversely, studies in lifestyle segments hint that its role is more nuanced, primarily shaping brand perception and favorability before a decision is made (Nguyen Tran Cam, 2023).

A similar debate surrounds Digital Engagement. While a body of work confirms that digital interactions and e-WOM strongly influence consumer choice (Pang & Wang, 2023; Winarno & Indrawati, 2022), the causal pathway remains a subject of contention. Some models treat digital exposure as a direct-to-purchase trigger, akin to traditional advertising (Sharma et al., 2022). However, this view overlooks the social and narrative-building functions of digital media for Gen Z, suggesting that its primary role may be to cultivate a positive attitude that precedes and enables purchasing (Akhmad et al., 2024; Salguero et al., 2024). This inconsistency highlights a critical gap in the literature and underscores the need for a refined model to clarify these mediated pathways, particularly in the collectivist Chinese context, where social and digital validation are critical.

The debate on attitude precedence. The positioning of Attitude as a central mediator is not merely structural but theoretical. Conflicting findings in recent literature necessitate this investigation. For instance, while functionalist studies model health consciousness as a direct driver of intent (Devi et al., 2023), research on “lifestyle” consumption suggests that, for Gen Z, health is an identity marker rather than a purely functional goal. This implies it must first influence one's attitude, or “liking”, of the product

before a purchase decision is made (Nguyen Tran Cam, 2023). Similarly, recent extensions of the TPB regarding digital identity suggest that online engagement functions to construct a “self-concept” (Attitude) rather than directly triggering a transaction (Akhmad et al., 2024). This study engages with this debate by testing whether these modern factors exert a direct effect (bypassing attitude) or a mediated effect (working through attitude).

Hypothesis Development: Building the TPB-Attitude Precedence Model

This study addresses the aforementioned gap by extending the TPB to a model in which attitude serves as the central mediator for modern lifestyle inputs, while testing both direct and indirect effects for all antecedents (Anubha, 2021; Han et al., 2018). Based on the literature, we posit the following hypotheses:

The central contribution of our model lies in clarifying the role of Health Consciousness, Cultural Trends, and Digital Engagement as Attitude Antecedents. We posit that Health Consciousness and Digital Engagement represent personalized, actionable cues (self-concept and peer advocacy) that are easily internalized as Attitude. Cultural Trends, however, represent a more abstract, societal awareness of a product’s popularity. For a lifestyle product, a consumer must first cognitively process these external cues to form a favorable internal judgment (Attitude) before intent can be formed. Their influence is therefore hypothesized to be primarily indirect.

H1 & H1a: Health Consciousness will have a significant positive indirect effect on Purchase Intention, mediated by Attitude.

H2 & H2a: Cultural Trends will have a significant positive indirect effect on Purchase Intention, mediated by Attitude.

H3 & H3a: Digital Engagement will have a significant positive indirect effect on Purchase Intention, mediated by Attitude.

The foundational relationships of the TPB are expected to hold in this new context. In a collectivist culture, social harmony and peer approval are powerful behavioral drivers, and the practical ability to purchase a product is a necessary condition for intent (Hoffmann et al., 2018; Ky & Ratasuk, 2024; Lyreksmey & Ratasuk, 2024). Therefore, we hypothesize:

H4: Subjective Norms will have a significant positive direct effect on Purchase Intention.

H5: Perceived Behavioral Control will have a significant positive direct effect on Purchase Intention.

Finally, as the most proximal cognitive cause of intent, an individual’s positive feeling toward a product is expected to be the strongest predictor (Ky & Ratasuk, 2024). We posit that both Subjective Norms and Perceived Behavioral Control not only directly influence Purchase Intention but also contribute to the formation of the consumer’s core Attitude. This suggests a powerful dual-path mechanism. Therefore, we hypothesize:

H4a: Attitude mediates between Subjective Norms and Purchase Intention.

H5a: Attitude mediates between Perceived Behavioral Control and Purchase Intention.

H6: Attitude Toward Low-Alcohol Beverages will have a significant positive direct effect on Purchase Intention.

Control Variables

To isolate the actual effects of the theoretical constructs, standard demographic control variables (Gender, Age, Education, and Income Level) and behavioral variables (usage experience and frequency) are incorporated into the model. These variables are known to affect consumption patterns systematically and are included to ensure that the observed relationships are not spurious (Guo et al., 2025).

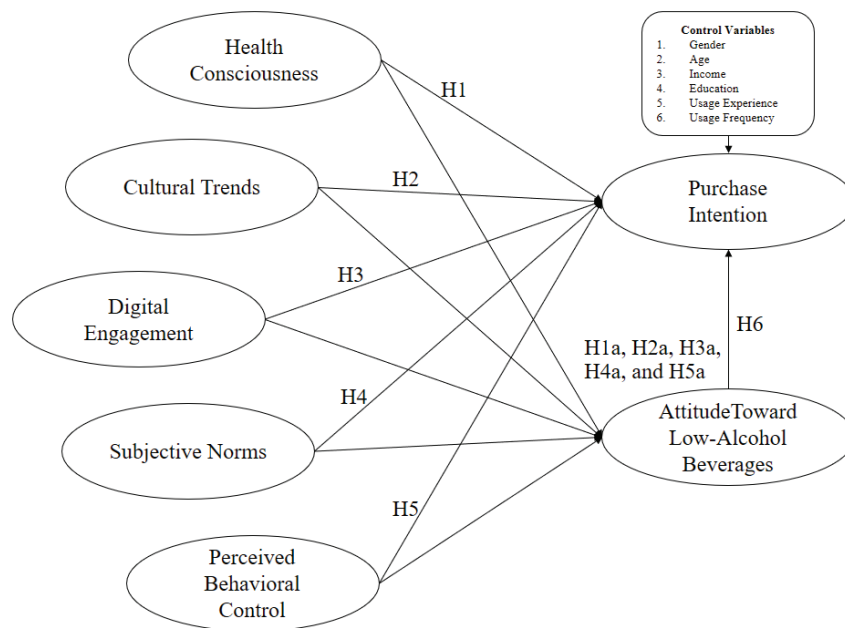


Figure 1 Conceptual Model

Methodology

This chapter outlines the methodological framework for empirically testing the hypothesized relationships within the extended Theory of Planned Behavior (TPB) model.

Research Design and Analytical Approach

This study employs a quantitative, cross-sectional design to collect data from participants at a single point in time. The analytical approach uses Partial Least Squares Structural Equation Modeling (PLS-SEM) via WarpPLS 8.0. PLS-SEM was chosen over Covariance-Based SEM (CB-SEM) for several critical reasons. Given the model's complexity, which includes multiple mediating pathways, and the primary research objective of identifying the key predictive drivers of Purchase Intention (variance maximization), PLS-SEM is the most appropriate analytical tool (Naing & Ratasuk, 2025; Ratasuk & Naing, 2025). This approach is particularly well-suited for exploratory research aimed at extending established theories, such as the TPB, into new, complex contexts where the emphasis is on identifying key drivers and predictive relevance rather than strictly confirming the theory. It also performs more robustly with non-normalized data compared to CB-SEM (Bono et al., 2017; Ratasuk et al., 2025).

Population and Sampling

The target population consists of Generation Z consumers (born 1995-2010) residing in China's highly digitized, developed first-tier cities, including Beijing, Shanghai, Guangzhou, and Shenzhen. Since the exact size of this market segment is unknown, a non-probability purposive sampling strategy was employed to ensure that all respondents met stringent demographic and geographic criteria. The specific inclusion criteria required respondents to be: (1) born between 1995 and 2010 (Gen Z); (2) current residents of Beijing, Shanghai, Guangzhou, or Shenzhen; and (3) consumers who are cognizant of low-alcohol beverage products. Based on established guidelines for achieving sufficient statistical power in PLS-SEM and accommodating the model's complexity, the final sample analyzed consisted of 397 respondents, whose characteristics are presented in Table 1.

Table 1 Respondent Characteristics

Characteristics	Categories	Descriptive Statistics	
		Frequency (f)	Percentage (%)
Gender	Female	235	59.20
	Male	162	40.80
Age	18-20	57	14.40
	21-23	112	28.20
	24-26	99	24.90
	27-29	52	13.10
	30-32	77	19.40
City	Beijing	92	23.20
	Shanghai	102	25.70
	Guangzhou	110	27.70
	Shenzhen	93	23.40
Degree	High School	100	25.19
	Vocational Diploma	62	15.62
	Bachelor's Degree	141	35.52
	Master's Degree	67	16.88
	Doctor's Degree	27	6.80
Income	Less than 5000 RMB	161	40.60
	5000-9000 RMB	143	36.00
	10000-14999 RMB	48	12.10
	15000-19999 RMB	12	3.00
	20000-24999RMB	15	3.80
	25000 RMB or more	18	4.50

Data Collection and Measurement Instrument

Data were collected online via a self-administered questionnaire distributed in popular Chinese social media community groups, a format that facilitates efficient access to the digitally native Gen Z cohort. To ensure sample validity, screening questions regarding the respondent's age and current city of residence were implemented at the beginning of the survey. The data collection took place from July to August 2023. The questionnaire was systematically structured into four sections: (1) screening questions; (2) demographic and control variables; (3) behavioral context related to low-alcohol beverage consumption; and (4) core construct measures. All constructs were measured using 5-point Likert scales (1 = Strongly Disagree, 5 = Strongly Agree) adapted from established literature. Specifically, the scales for Attitude, Subjective Norms, and Perceived Behavioral Control were adapted from Ajzen (1991). The Health Consciousness scale was adapted from Sakib et al. (2020), and the Digital Engagement items were derived from Kim et al. (2021). All scales were translated and back-translated to ensure linguistic and conceptual equivalence for the local context.

Data Analysis

Data analysis was performed using PLS-SEM in a two-stage process. Factor loadings, Composite Reliability (CR), and Average Variance Extracted (AVE) were tested for convergent validity (Cheung et al., 2023; Ratasuk, 2024; Zhu & Ratasuk, 2024), and the Heterotrait-Monotrait Ratio (HTMT) criterion for discriminant validity (Ab Hamid et al., 2017; Yang & Ratasuk, 2024). CR and Cronbach's Alpha (CA) were used to test reliability. The hypothesized pathways were evaluated using PLS-SEM and bootstrapping (1,000 subsamples) for mediation. Path coefficients (β), p-values, and the model's explanatory power (R^2) were reported. Multicollinearity was assessed using the Variance Inflation Factor (VIF), with values <5 considered acceptable (Kim, 2019; Lyu & Ratasuk, 2024). Mediation analysis was conducted by examining the significance of the indirect effects. Finally, Common Method Bias (CMB) was assessed using the full collinearity VIF approach (Ratasuk, 2023).

Ethical Considerations

Strict ethical guidelines were maintained throughout the study. Participants received an informed consent statement detailing the research purpose, the use of their data, and the duration of the study. Complete anonymity and data confidentiality were guaranteed. Participation is entirely voluntary, and participants retain the right to withdraw at any time without penalty. Data were secured on an encrypted server and used solely for academic purposes.

Results

The measurement model was rigorously assessed for reliability and validity using Partial Least Squares Structural Equation Modeling (PLS-SEM), with the key metrics summarized in Table 2. The internal consistency and reliability of all reflective constructs were strongly confirmed, as the Composite Reliability (CR) values (ranging from .877 to .955) and Cronbach's Alpha (CA) values all significantly exceeded the conventional threshold of .70.

Convergent validity was successfully established through two criteria: First, the majority of item Factor Loadings were well above the ideal .70 benchmark, while three indicators (HealthC 1, Trend 1, and Control 1) exhibited loadings between .50 and .70, they were retained because their removal did not significantly improve the Average Variance Extracted (AVE) and they were deemed essential for preserving the content validity of their respective constructs. Second, the AVE for all constructs ranged from .58 to .81, comfortably surpassing the minimum .50 threshold, confirming that each latent construct explains more than half of the variance of its indicators (Cheung et al., 2023). Furthermore, the model exhibited robust structural integrity: all Variance Inflation Factor (VIF) values, which ranged from 1.624 to 4.677, were well below the critical threshold of 5, confirming the absence of severe multicollinearity. Since all VIF scores were below the critical threshold, these results concurrently indicate that Common Method Bias (CMB) is not a substantial concern in the collected data based on the full collinearity test (Kim, 2019; Kock, 2017; Ratasuk et al., 2025).

Table 2 Data Quality

Construct / Item	Factor Loadings	CR	CA	AVE	VIF
Purchase Intention (Purchase)		.955	.941	.810	3.599
Purchase 1: I intend to purchase low-alcohol beverages in the near future.	.890				
Purchase 2: I plan to buy low-alcohol beverages when I next purchase a drink.	.913				
Purchase 3: I would prefer low-alcohol beverages over traditional alcoholic beverages.	.910				
Purchase 4: I am willing to spend money on low-alcohol beverages.	.889				
Purchase 5: I would recommend low-alcohol beverages to others.	.897				
Health Consciousness (HealthC)		.890	.849	.580	1.624
HealthC 1: I have the impression that I sacrifice a lot for my health.	.509				
HealthC 2: I consider myself very health-conscious.	.813				
HealthC 3: I think that I take health into account a lot in my life.	.767				
HealthC 4: I think it is important to know how to eat healthily.	.852				
HealthC 5: I am prepared to make significant sacrifices to eat as healthily as possible.	.817				
HealthC 6: I am aware of my health status throughout the day.	.762				
Cultural Trends (Trend)		.902	.862	.653	2.665
Trend 1: Low-alcohol beverages are becoming trendy in society.	.592				
Trend 2: People in my cultural background are increasingly consuming low-alcohol beverages.	.823				
Trend 3: I believe consuming low-alcohol beverages is considered fashionable.	.868				
Trend 4: Media and influencers promote low-alcohol drinks as part of modern lifestyle trends.	.874				
Trend 5: Consuming low-alcohol beverages reflects a modern, responsible choice.	.848				

Table 2 Data Quality (Cont.)

Construct / Item	Factor Loadings	CR	CA	AVE	VIF
Digital Engagement (Digital)		.925	.903	.673	3.290
Digital 1: I often read online reviews before purchasing low-alcohol beverages.	.811				
Digital 2: Social media platforms influence my choice of low-alcohol drinks.	.833				
Digital 3: I frequently engage with content related to low-alcohol beverages online.	.813				
Digital 4: Digital advertisements affect my intention to buy low-alcohol beverages.	.844				
Digital 5: I follow social media accounts that promote low-alcohol beverage brands.	.797				
Digital 6: I use search engines to find information about new low-alcohol beverage products.	.823				
Subjective Norms (Norms)		.948	.934	.752	4.595
Norms 1: People important to me think I should drink low-alcohol beverages.	.873				
Norms 2: My family and friends encourage me to choose low-alcohol beverages.	.890				
Norms 3: Most people I know approve of consuming low-alcohol beverages.	.832				
Norms 4: I feel social pressure to choose low-alcohol beverages over regular alcoholic drinks.	.880				
Norms 5: My peers often choose low-alcohol options when we socialize.	.880				
Norms 6: The decision to purchase low-alcohol beverages is positively viewed by my social circle.	.846				
Perceived Behavioral Control (Control)		.877	.824	.591	2.697
Control 1: I can easily access low-alcohol beverages when I want.	.648				
Control 2: I have control over whether I consume low-alcohol beverages.	.717				
Control 3: I can easily substitute regular alcoholic beverages with low-alcohol beverages.	.830				
Control 4: I am confident I can regularly choose low-alcohol beverages.	.823				
Control 5: I find it easy to maintain my consumption of low-alcohol beverages.	.808				
Attitude Toward Low-Alcohol Beverages (Attitude)		.947	.930	.781	4.677
Attitude 1: Consuming low-alcohol beverages is a positive choice for me.	.868				
Attitude 2: I enjoy drinking low-alcohol beverages.	.916				
Attitude 3: Low-alcohol beverages suit my lifestyle preferences.	.910				
Attitude 4: Drinking low-alcohol beverages is beneficial for my social activities.	.857				
Attitude 5: Overall, I have a very positive attitude towards low-alcohol beverages.	.866				

Remarks: CR = Composite Reliability, CA = Cronbach's Alpha, AVE = Average Variance Extracted, and VIF = Variance Inflation Factor.

The measurement model assessment concluded with a rigorous evaluation of discriminant validity using the Heterotrait-Monotrait Ratio (HTMT) criterion, as detailed in Table 3. To establish validity, all HTMT ratios must ideally be below .85. The results confirm this, as every inter-construct value (ranging from .341 to .841) fell well beneath the threshold, thereby confirming that all latent variables are empirically distinct and measure unique phenomena (Ab Hamid et al., 2017; Naing & Ratasuk, 2025). Furthermore, the dataset's systematic nonparametric nature provides strong justification for the choice of analytical technique. The normality checks (Normal-JB and Normal-RJB, shown as "No" across all constructs in Table 3) confirm that the data are significantly non-normally distributed. Given this non-normal structure, Partial Least Squares Structural Equation Modeling (PLS-SEM) is definitely the appropriate and robust statistical tool, as it is a distribution-free technique ideally suited for handling nonparametric data while simultaneously prioritizing the maximization of explained variance (R^2) and predictive relevance in the target construct (Bono et al., 2017; Ratasuk & Naing, 2025).

Table 3 HTMT Ratios

	Purchase	HealthC	Trend	Digital	Norm	Control	Attitude
Purchase							
HealthC	.341***						
Trend	.616***	.708***					
Digital	.73***	.578***	.795***				
Norm	.838***	.413***	.739***	.806***			
Control	.796***	.495***	.74***	.813***	.841***		
Normal-JB	No	No	No	No	No	No	No
Normal-RJB	No	No	No	No	No	No	No

Remarks: * = $p \leq .05$, ** = $p \leq .01$, *** = $p \leq .001$, Purchase = Purchase intention, HealthC = Health consciousness, Trend = Cultural trends, Digital = Digital engagement, Norm = Subjective Norms, Control = Perceived behavioral control, and Attitude = Attitude toward Low-Alcohol Beverages

The overall quality and fit of the proposed conceptual framework were rigorously assessed, yielding strong evidence of robustness. The Tenenhaus Goodness of Fit (GoF) was .813 (classified as large, threshold $> .36$), confirming high global model validity and predictive relevance. This excellent fit is underpinned by the model's strong explanatory power, evidenced by the Average R^2 (ARS) of .792 ($p < .001$) and Average Adjusted R^2 (AARS) of .787 ($p < .001$), indicating that the model successfully explains a significant portion of the variance in the dependent constructs. Furthermore, model integrity was confirmed by the low collinearity observed: the Average Block VIF (2.322) and Average Full Collinearity VIF (2.348) were both significantly below the critical threshold of 5.0, mitigating concerns over multicollinearity and supporting the consistency of the structural paths. Additional indices, including

the Simpson's Paradox Ratio ($SPR = .882$), R^2 Contribution Ratio ($RSCR = .993$), and Statistical Suppression Ratio ($SSR = 1.000$), all met or exceeded their respective acceptable thresholds, affirming the directional validity and stability of the relationships derived from the PLS-SEM approach.

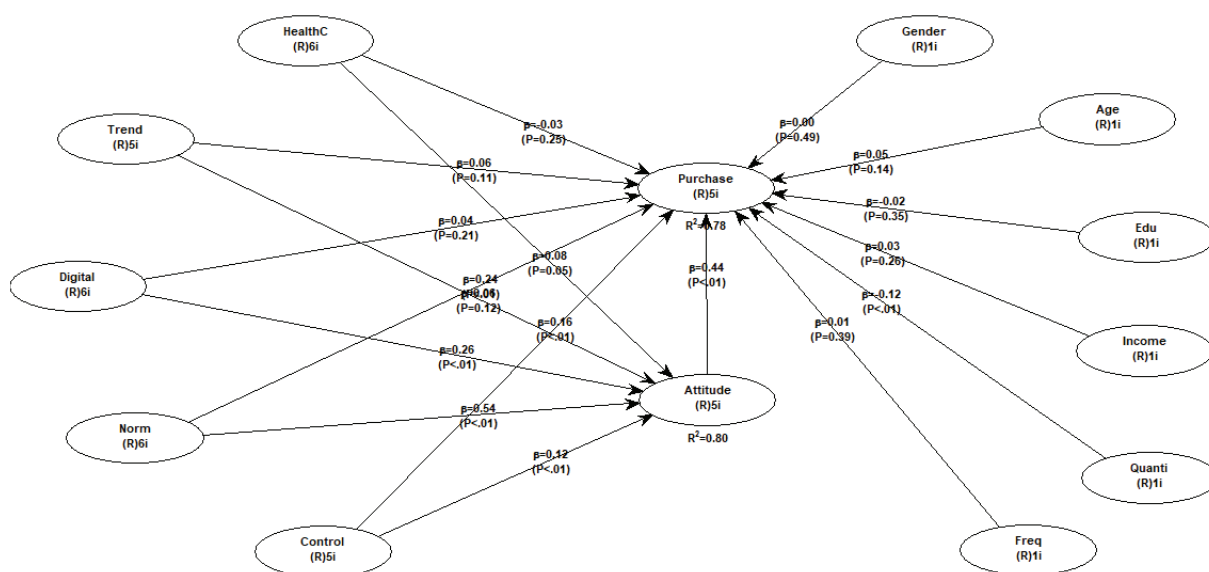


Figure 2 Direct Effects from PLS-SEM Analysis

Table 4 Direct Impacts

	HealthC	Trend	Digital	Norm	Control	Attitude
Beta	-.033	.062	.041	.236	.162	.441
P-Value	.252	.108	.207	< .001	< .001	< .001

Remarks: Purchase = Purchase Intention, HealthC = Health Consciousness, Trend = Cultural Trends, Digital = Digital Engagement, Norm = Subjective Norms, Control = Perceived Behavioral Control, and Attitude = Attitude toward Low-Alcohol Beverages

Shown in Table 4, the hypothesis testing confirmed that the core elements of the Theory of Planned Behavior were the dominant predictors: Attitude ($H6: \beta = .441, p < .001$), Subjective Norms ($H4: \beta = .236, p < .001$), and Perceived Behavioral Control ($H5: \beta = .162, p < .001$ from Table 4) were all highly significant direct drivers of Purchase Intention. In contrast, Health Consciousness ($H1$), Cultural Trends ($H2$), and Digital Engagement ($H3$) had no significant direct effect.

Table 5 Mediation of Attitude between the Variable and Purchase Intention

Predictor	HealthC	Trend	Digital	Norm	Control
Beta	.036	.026	.117	.238	.055
P-Value	.008	.125	<.001	<.001	.019
St.Er.	.015	.022	.034	.047	.026
Effect Sz.	.012	.015	.079	.187	.038

Remarks: Purchase = Purchase intention, HealthC = Health Consciousness, Trend = Cultural trends, digital = digital engagement, Norm = Subjective norms, Control = Perceived behavioral control

Crucially, Table 5 shows that the mediation analysis revealed a full mediation effect for both Health Consciousness (H1a: $p = .008$) and Digital Engagement (H3a: $p < .001$) through Attitude, confirming that their influence must first be internalized as a favorable perception before affecting purchase intent. Finally, Subjective Norms (H4a) and Perceived Behavioral Control (H5a) partially mediated.

Analysis of Control Variables To ensure robustness, the influence of demographic and behavioral control variables was analyzed. Quantitative usage experience was the only control variable with a significant effect ($\beta = -.119$, $p = .008$), indicating a slight reduction in future purchase intent among users who used the product more frequently. All other demographic controls (Gender, Age, Education, Income) were non-significant ($p > .138$), validating that the theoretical effects are independent of the sample's basic profile.

Discussion

This study aimed to resolve a key ambiguity in consumer behavior theory: understanding the precise mechanism by which modern lifestyle factors, such as digital engagement and health consciousness, influence purchase intention. The empirical results provide substantial evidence that their influence is not direct, but is fully mediated by Attitude, a finding that forms the cornerstone of the proposed extended TPB model.

The analysis supported the TPB's foundational elements, with Attitude toward low-alcohol beverages (H6) emerging as the dominant psychological predictor ($\beta = .441$), alongside significant direct effects of Subjective Norms (H4) and Perceived Behavioral Control (H5). These findings support the classic TPB model (Ajzen, 1991) in this novel context. Specifically, the observed strength of Subjective Norms ($\beta = .236$) aligns with prior research highlighting the enduring influence of social compliance and peer approval in collectivist Chinese culture, where external validation is often paramount to personal choice (Hoffmann et al., 2018). This highlights the crucial role of social pressure, market accessibility, and personal preference.

Conversely, the rejection of Health Consciousness (H1), Cultural Trends (H2), and Digital Engagement (H3) as direct drivers was a pivotal finding. Their role was clarified through mediation analysis, which revealed that the impact of Health Consciousness and Digital Engagement must first be cognitively processed and integrated into a favorable Attitude before motivating purchase intent. This result addresses the existing theoretical ambiguity in the literature. While some studies in functional product categories posit a direct link from health consciousness to intention (Devi et al., 2023; Iqbal et al., 2021), our findings align with research suggesting that in lifestyle segments, these inputs function as upstream antecedents that primarily shape brand perception and favorability (Nguyen Tran Cam, 2023). Similarly, we clarify that digital interaction does not act as a direct-to-purchase trigger, as some models suggest (Sharma et al., 2022), but rather as a mechanism to cultivate the positive Attitude that precedes and enables purchase (Akhmad et al., 2024).

Notably, Cultural Trends (H2/H2a) failed to show a significant direct or indirect effect. A rival explanation for this non-significance is that generalized societal awareness or perception of “trendiness” is too abstract to be internalized as a personal attitude or a direct behavioral trigger. For Gen Z, the specific, peer-driven validation found in Digital Engagement and the personal, self-directed motivation of Health Consciousness are likely more salient precursors to attitude formation than a broad cultural trend.

This finding is best understood through the lens of the product’s function as lifestyle iconography. For Chinese urban Gen Z, a low-alcohol beverage is not merely a drink but a component of identity construction. External information from social media or health trends serves as raw material to build a favorable, “responsible indulgence” self-concept (Attitude), with the final purchase serving as validation of that identity.

The partial mediation of Subjective Norms (H4a) and PBC (H5a) is further reinforced by the confirmation of the structural paths leading to Attitude (Norms-Attitude, H4b: $\beta = .54, p < .01$; Control-Attitude, H5b: $\beta = .12, p < .01$). This structural confirmation reveals a powerful reinforcing loop: peer approval and ease of access directly strengthen the core positive Attitude, which then drives the final intention, underscoring the interconnected nature of social influence and self-efficacy in this consumer segment.

Conclusions

Theoretical Contributions

This study provides three key contributions to consumer behavior theory. First, it offers a robust cultural refinement of the TPB by confirming the strong, enduring direct effect of Subjective Norms (H4) within the digitally connected, collectivist Chinese context. Second, it provides empirical clarity in the literature by establishing that Health Consciousness, Cultural Trends, and Digital Engagement fully mediate through Attitude, clarifying their function as antecedents of Attitude rather than direct behavioral triggers. Third, based on these findings, we propose the TPB-Attitude Precedence Model. The significance

of this model lies in its formal assertion that, for identity-relevant, lifestyle-driven consumption, Attitude is not merely one of three predictors but a critical gateway through which external marketing and cultural inputs must pass. This refines the classic TPB by adding a hierarchical dimension to its predictive structure in such contexts, offering a more nuanced framework for the digital age.

Practical Implications

The findings offer actionable managerial strategies for the low-alcohol beverage industry. First, Prioritize Emotional Branding (Attitude): Marketing budgets should focus on aesthetic design and emotional positioning, treating the product as a trendy lifestyle accessory rather than just a functional low-alcohol alternative, thereby building the dominant Attitude factor. Second, Strategic Digital Advocacy: Digital efforts must use platforms like Douyin (TikTok) and Xiaohongshu not for direct sales but to create peer-based social proof and narrative justification. Firms must invest in content that fosters a positive Attitude and leverages the strong Subjective Norms by showcasing group consumption. Third, Optimize Convenience: The significant role of Perceived Behavioral Control necessitates a strategic investment in seamless e-commerce integration and rapid fulfillment logistics in first-tier cities, treating low-friction accessibility as a core product feature.

Limitations and Future Research

The study is limited by its cross-sectional design, which cannot fully confirm if stated intentions translate into actual sales behavior, and by its reliance on convenience sampling exclusively in first-tier Chinese cities, which limits generalizability. Additionally, data were collected in August 2023; given the rapid evolution of digital trends and consumer emotions in China, the influence of specific digital platforms may have shifted since then. Future research should prioritize longitudinal studies to definitively close the intention-behavior gap. Additionally, it should conduct cross-cultural comparisons of the TPB-Attitude Precedence Model in both collectivist markets, such as Vietnam, and individualistic markets, such as Germany, to isolate the differential impact of cultural norms on the model. Further moderation analysis, focusing on variables such as product experience and income level, is recommended to refine segmentation strategies.

References

- Ab Hamid, M. R., Sami, W., & Mohmad Sidek, M. H. (2017). Discriminant validity assessment: Use of Fornell & Larcker criterion versus HTMT criterion. *Journal of Physics: Conference Series*, 890(1), 012163. <https://doi.org/10.1088/1742-6596/890/1/012163>
- Ajzen, I. (1991). The Theory of Planned Behavior. *Organizational Behavior and Human Decision Processes*, 50(2), 179-211. [https://doi.org/10.1016/0749-5978\(91\)90020-T](https://doi.org/10.1016/0749-5978(91)90020-T)
- Akhmad, M. A., At, M. R., & Muhammad, S. (2024). Reconstructing Generation Z's digital identity: Self-presentation and impression management strategies in second account Instagram. *Thammasat Review*, 27(2), 335-350.

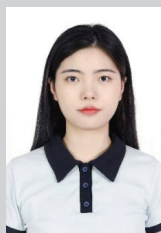
- Ali, N., Nakayama, S., & Yamaguchi, H. (2023). Using the extensions of the Theory of Planned Behavior (TPB) for behavioral intentions to use Public Transport (PT) in Kanazawa, Japan. *Transportation Research Interdisciplinary Perspectives*, 17, 100742. <https://doi.org/10.1016/j.trip.2022.100742>
- Anubha. (2021). Mediating role of attitude in halal cosmetics purchase intention: An ELM perspective. *Journal of Islamic Marketing*, 14(3), 645-679. <https://doi.org/10.1108/JIMA-04-2021-0112>
- Bono, R., Blanca, M. J., Arnau, J., & Gomez-Benito, J. (2017). Non-normal distributions commonly used in health, education, and social sciences: A systematic review. *Frontiers in Psychology*, 8, 1602. <https://doi.org/10.3389/fpsyg.2017.01602>
- Bosnjak, M., Ajzen, I., & Schmidt, P. (2020). The Theory of Planned Behavior: Selected recent advances and applications. *Europe's Journal of Psychology*, 16(3), 352-356. <https://doi.org/10.5964/ejop.v16i3.3107>
- Cheung, G. W., Cooper-Thomas, H. D., Lau, R. S., & Wang, L. C. (2023). Reporting reliability, convergent and discriminant validity with Structural Equation Modeling: A review and best-practice recommendations. *Asia Pacific Journal of Management*, 41(2), 745-783.
- Devi, K., Singh, G., Roy, S. K., & Cúg, J. (2023). Determinants of organic food purchase intention: The moderating role of health consciousness. *British Food Journal*, 125(11), 4092-4122. <https://doi.org/10.1108/BFJ-03-2023-0220>
- Guo, L., Burke, M. G., & Griggs, W. M. (2025). A new framework to predict and visualize technology acceptance: A case study of shared autonomous vehicles. *Technological Forecasting and Social Change*, 212, 123960. <https://doi.org/10.1016/j.techfore.2024.123960>
- Han, B., Kim, M., & Lee, J. (2018). Exploring consumer attitudes and purchasing intentions of cross-border online shopping in Korea. *Journal of Korea Trade*, 22(2), 86-104. <https://doi.org/10.1108/JKT-10-2017-0093>
- Hoffmann, S., Balderjahn, I., Seegebarth, B., Mai, R., & Peyer, M. (2018). Under which conditions are consumers ready to boycott or buycott? The roles of hedonism and simplicity. *Ecological Economics*, 147, 167-178. <https://doi.org/10.1016/j.ecolecon.2018.01.004>
- Hojjati, M., Mirzaei, A., Hemmati, N., & Shamsabadi, B. G. (2025). Predicting consumers' intention and behavior towards industrial dairy products: A study based on an extended Theory of Planned Behavior. *Applied Food Research*, 5(2), 101129. <https://doi.org/10.1016/j.afres.2025.101129>
- Iqbal, J., Yu, D., Zubair, M., Rasheed, M. I., Khizar, H. M. U., & Imran, M. (2021). Health consciousness, food safety concern, and consumer purchase intentions toward organic food: The role of consumer involvement and ecological motives. *SAGE Open*, 11(2), 1-14. <https://doi.org/10.1177/21582440211015727>
- Kaur, M., Singh, R., Singh, M., & Singh, K. (2025). Can health consciousness drive purchase intention toward packaged immunity boosting food products? *Journal of Foodservice Business Research*, 28(5), 1163-1184. <https://doi.org/10.1080/15378020.2023.2298614>

- Kim, J. H. (2019). Multicollinearity and misleading statistical results. *Korean Journal of Anesthesiology*, 72(6), 558-569. <https://doi.org/10.4097/kja.19087>
- Kim, N. L., Shin, D. C., & Kim, G. (2021). Determinants of consumer attitudes and re-purchase intentions toward Direct-to-Consumer (DTC) brands. *Fashion and Textiles*, 8(1), 1-22. <https://doi.org/10.1186/s40691-020-00224-7>
- Kock, N. (2017). Common method bias: A full collinearity assessment method for PLS-SEM. In H. Latan, & R. Noonan (Eds.), *partial least squares path modeling: Basic concepts, methodological issues and applications* (pp. 245-257). Springer International Publishing. <https://shorturl.asia/fhVdH>
- Ky, S., & Ratasuk, A. (2024). Psychological factors influencing millennials' purchase intentions of landed residential property in Phnom Penh, Cambodia. In *The 1st International Conference on Aviation, Tourism, and Service Business 2024* (pp. 145-161). Thai Flight Training Co., Ltd. <https://www.researchgate.net/publication/383647663>
- Lyreaksmey, N., & Ratasuk, A. (2024). Social media marketing drive customer purchase intention for dietary supplement products in Phnom Penh, Cambodia. The mediating role of brand image. In *The 1st International Conference on Aviation, Tourism, and Service Business 2024* (pp. 1-145). Thai Flight Training Co., Ltd. <https://www.researchgate.Net/publication/383647663>
- Lyu, J., & Ratasuk, A. (2024). Determinants of customer trust in rural e-commerce in Zhengzhou, China: A case study of Taobao villages. *Panyapiwat Journal*, 16(2), 105-124. <https://so05.tci-thaijo.org/index.php/pimjournal/article/view/272351>
- Machaka-Mare, Z. M., Mpinganjira, M., & Maduku, D. K. (2023). Understanding binge drinking quitting intention and behaviour using an extended TPB. *Social Marketing Quarterly*, 29(2), 107-126. <https://doi.org/10.1177/15245004231171888>
- Naga, J., Quidato, M., Pascual, M. C. G. P., & Ebardo, R. (2025). Engagement dynamics in online mental health communities: The role of trust and social support in young adults' attitudes and norms. *SAGE Open*, 15(3), 1-19. <https://doi.org/10.1177/21582440251376147>
- Naing, N. L., & Ratasuk, A. (2025). Contributions of the SERVQUAL model in promoting patients' revisit intentions through trust and brand image in the private hospital in Yangon. *Asia Social Issues*, 18(5), e275055. <https://doi.org/10.48048/asi.2025.275055>
- Nguyen Tran Cam, L. (2023). A rising trend in eco-friendly products: A health-conscious approach to green buying. *Heliyon*, 9(9), e19845. <https://doi.org/10.1016/j.heliyon.2023.e19845>
- Nicholls, E. (2023). 'Not just living in the moment': Constructing the 'enterprising' and future-oriented self through the consumption of No-and-Low-alcohol drinks. *Sociological Research Online*, 29(3), 544-560. <https://doi.org/10.1177/13607804231191063>
- Nicholls, E. (2025). "A sporty, healthy twist?": Interrogating the deployment of health and wellness discourses in No and Low alcohol (NoLo) marketing and consumer practices. *Journal of Marketing Management*, 41(7-8), 734-759. <https://doi.org/10.1080/0267257X.2025.2495339>

- Oviedo-Trespalacios, O., Çelik, A. K., Marti-Belda, A., Włodarczyk, A., Demant, D., Nguyen-Phuoc, D. Q., Rubie, E., Oktay, E., Argandar, G. D., Rod, J. E., Natividade, J. C., Park, J., Bastos, J. T., Martínez-Buelvas, L., Pereira da Silva, M. D. F., Velindro, M., Sucha, M., Orozco-Fontalvo, M., Barboza-Palomino, M., ... King, M. (2021). Alcohol-impaired walking in 16 countries: A theory-based investigation. *Accident Analysis & Prevention*, 159, 106212. <https://doi.org/10.1016/j.aap.2021.106212>
- Pang, H., & Wang, J. (2023). Determining multi-dimensional motivations driving e-WOM intention and purchase intention on WeChat: The significant role of active participation. *Aslib Journal of Information Management*, 77(1), 113-132. <https://doi.org/10.1108/AJIM-02-2023-0052>
- Pellegrino, A. (2024). *Decoding digital consumer behavior: Bridging theory and practice*. Springer Nature.
- Piatkowski, T., Patel, M., Puljević, C., Davies, E. L., Barratt, M. J., Winstock, A. R., & Ferris, J. A. (2024). Why, where, and with whom? Understanding the set and setting influencing the consumption of NoLo beverages. *Drugs: Education, Prevention and Policy*, 32(6), 1-13. <https://doi.org/10.1080/09687637.2024.2376086>
- Rachmad, Y. E. (2024). *The evolution of consumer behavior: Theories of engagement, influence, and digital interaction (Sepriano Efitra & Inaya Uzma, Eds.)*. Sonpedia Publishing Indonesia.
- Ratasuk, A. (2023). The roles of local employment and environmental sustainability on business performance: The mediating role of brand image in the modern trade business in rural areas in Thailand. *NIDA Development Journal*, 63(2), 34-63. <https://doi.org/10.14456/ndj.2023.2>
- Ratasuk, A. (2024). The structural equation model development of how mindfulness promotes employee creativity in the restaurant business. *Humanities, Arts and Social Sciences Studies*, 24(2), 326-340. <https://doi.org/10.69598/hasss.24.2.267535>
- Ratasuk, A., Naing, N. L., & Tantaworranart, P. (2025). Enhancing patient trust in Yangon's private hospitals: Impact of service quality using SERVQUAL model on brand image. *University of the Thai Chamber of Commerce Journal Humanities and Social Sciences*, 45(2), 1-14. <https://so06.tci-thaijo.org/index.php/utccjournalhs/article/view/278544>
- Ratasuk, A., & Naing, N. L. (2025). Can communication effectiveness promote patients' revisit intentions through trust and perceived value? A study of private hospitals in Yangon. *Journal of Public Health and Development*, 23(3), 212-229. <https://doi.org/10.55131/jphd/2025/230317>
- Sağkaya Güngör, A., & Ozansoy Çadırcı, T. (2022). Understanding digital consumer: A review, synthesis, and future research agenda. *International Journal of Consumer Studies*, 46(5), 1829-1858. <https://doi.org/10.1111/ijcs.12809>
- Sakib, M. D. N., Zolfagharian, M., & Yazdanparast, A. (2020). Does parasocial interaction with weight loss vloggers affect compliance? The role of vlogger characteristics, consumer readiness, and health consciousness. *Journal of Retailing and Consumer Services*, 52, 101733. <https://doi.org/10.1016/j.jretconser.2019.01.002>

- Salguero, R. B., Bogueva, D., & Marinova, D. (2024). Australia's university Generation Z and its concerns about climate change. *Sustainable Earth Reviews*, 7(1), 8. <https://doi.org/10.1186/s42055-024-00075-w>
- Sharma, A., Dwivedi, R., Mariani, M. M., & Islam, T. (2022). Investigating the effect of advertising irritation on digital advertising effectiveness: A moderated mediation model. *Technological Forecasting and Social Change*, 180, 121731. <https://doi.org/10.1016/j.techfore.2022.121731>
- Shaw, C. L., Dolan, R., Corsi, A. M., Goodman, S., & Pearson, W. (2023). Exploring the barriers and triggers towards the adoption of Low and No-alcohol (NOLO) wines. *Food Quality and Preference*, 110, 104932. <https://doi.org/10.1016/j.foodqual.2023.104932>
- Singh, A., Goel, U., Kumar, S., & Johri, A. (2025). Unveiling the attitudinal factors: An integration of TPB and SCT in understanding investor intention towards equity investments. *Humanities and Social Sciences Communications*, 12(1), 1516. <https://doi.org/10.1057/s41599-025-05478-4>
- Su, Y., Khaskheli, A., Raza, S. A., & Yousufi, S. Q. (2022). How health consciousness and social consciousness affect young consumers purchase intention towards organic foods. *Management of Environmental Quality: An International Journal*, 33(5), 1249-1270. <https://doi.org/10.1108/MEQ-12-2021-0279>
- Su, Z., Bennett, B., Zhang, R., Jiang, J., Liu, Y., Yu, X., McDonnell, D., Šegalo, S., Nie, J. -B., da Veiga, C. P., & Xiang, Y. -T. (2024). Drunk in China? The imperative for effective interventions against alcohol abuse. *Substance Use & Misuse*, 59(14), 2151-2155. <https://doi.org/10.1080/10826084.2024.2392542>
- Tang, D., Li, Q., Zhu, T., & Huang, Y. (2024). Young consumers' behavioral intention to participate in heritage districts based on extended Theory of Planned Behavior: A case study in Shanghai, China. *Journal of Urban Planning and Development*, 150(4), 0502403. <https://doi.org/10.1061/JUPDDM.UPENG-4993>
- Wan Mustaffa, W. I., & Wan Ismail, W. R. (2025). Gen-Z online purchase intention of .0% alcohol beverages in Malaysia: A Stimulus-Organism-Response perspective. *Journal of Islamic Marketing*, 16(11), 3173-3201. <https://doi.org/10.1108/JIMA-12-2024-0586>
- Wei, W., Prasetyo, Y. T., Belmonte, Z. J. A., Cahigas, M. M. L., Nadlifatin, R., & Gumasing, M. J. J. (2025). Applying the Technology Acceptance Model—Theory of Planned Behavior (TAM-TPB) model to study the acceptance of Building Information Modeling (BIM) in green building in China. *Acta Psychologica*, 254, 104790. <https://doi.org/10.1016/j.actpsy.2025.104790>
- Winarno, K. O., & Indrawati, I. (2022). Impact of social media marketing and Electronic Word of Mouth (e-WOM) on purchase intention. *Jurnal Aplikasi Manajemen*, 20(3), 668-683. <https://doi.org/10.21776/ub.jam.2022.02.03.15>
- Yang, X., & Ratasuk, A. (2024). Determinants of Gen Z customers' loyalty in the restaurant business in Dongguan City, China: A case study of Haidilao hotpot restaurant. *Panyapiwat Journal*, 16(3), 29-44. <https://so05.tci-thaijo.org/index.php/pimjournal/article/view/272310>

- Yeh, P. -C., Wu, C. -C., Huang, K. -C., & Chang, J. -Y. (2025). Factors influencing public engagement in fire protection: Applying TPB with moderating effects of participant attributes via PLS-SEM. *Acta Psychologica*, 260, 105707. <https://doi.org/10.1016/j.actpsy.2025.105707>
- Yi, P., Li, W., & Zhang, D. (2021). Sustainability assessment and key factors identification of first-tier cities in China. *Journal of Cleaner Production*, 281, 125369. <https://doi.org/10.1016/j.jclepro.2020.125369>
- Zheng, Y., Mancino, J., Burke, L. E., & Glanz, K. (2017). Chapter 9-current theoretical bases for nutrition intervention and their uses. In A. M. Coulston, C. J. Boushey, M. G. Ferruzzi, & L. M. Delahanty (Eds.), *Nutrition in the prevention and treatment of disease (fourth edition)* (pp. 185-201). Academic Press. <https://doi.org/10.1016/B978-0-12-802928-2.00009-6>
- Zhou, P., Zhao, Y., Xiao, S., & Zhao, K. (2022). The impact of online health community engagement on lifestyle changes: A serially mediated model. *Frontiers in Public Health*, 10, 1-13. <https://doi.org/10.3389/fpubh.2022.987331>
- Zhu, Q., & Ratasuk, A. (2024). Impacts of key opinion consumers on customer purchase intention: A study of social commerce platforms in China. *Journal of ASEAN PLUS+ Studies*, 5(2), 55-74. <https://so06.tci-thaijo.org/index.php/aseanplus/article/view/274148>



Name and Surname: Xiangling Lu

Highest Education: Doctoral Candidate

Affiliation: International College, Panyapiwat Institute of Management, Thailand

Field of Expertise: Engineering and Marketing



Name and Surname: Akaraphun Ratasuk

Highest Education: Doctoral Degree

Affiliation: International College, Panyapiwat Institute of Management, Thailand

Field of Expertise: Intercultural Management, Marketing, and Social Sciences