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# SECOND-HAND CLOTHING PURCHASE INTENTIONS IN SHANGHAI: A RISK–VALUE EXTENSION OF THE THEORY OF PLANNED BEHAVIOR

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## ABSTRACT

***The global governance on textile and fashion is moving from corporate voluntary initiatives to a more institutionalized and policy-based approach, with circularity strategies focusing on durability, reparability, recyclability, traceability, and accountability (European Commission, 2022; UNEP, 2023). In the megacities of China, the reuse strategy is acknowledged as an important pathway in implementing circular fashion strategies; however, second-hand clothing trade is limited by hygiene quality issues, asymmetric information, and lack of trust, which may inhibit purchase intentions (Wang et al., 2022; Negash and Akhbar, 2024). In this research, a parsimonious and mechanism-based model of second-hand clothing purchase intentions is developed and tested using an online sample specifically targeted at Shanghai residents. The current Shanghai resident status was determined based on self-reporting (A5); however, the Shanghai IP addresses recorded by the online platform were only used as additional screening criteria. Design/methodology/approach: The survey was conducted through an online questionnaire posted on WeChat. Shanghai residency was set up based on self - reported data and platform - recorded IP addresses were used as a second means of verification for screening, and the ultimate analytical sample consisted of 104 valid responses, and this study presented a new theoretical model which expanded the Theory of Planned Behavior. which proposes purchase intentions (INT) to be a result of attitudes (ATT), perceived risks (PR), and perceived values (PV). Environmental knowledge (EK) is tested as a cross-path moderator. Originality: The model combines attitudinal appraisal with PR-PV processes triggered by uncertainty into a single intention model and explores EK as a capability-based moderating variable that could account for variability in intention formation amid information imperfections. (Koay et al., 2022, 2024; Zhou et al., 2025). Practical implications: The study is positioned to inform platform governance and circular-fashion policy design by highlighting actionable levers-particularly transparency, credible labeling/verification, and risk-mitigation mechanisms-that can strengthen consumer trust and support "reuse-through-purchase" behaviors in megacity second-hand markets (UNEP, 2023; European Parliament, 2024).***

**KEYWORDS:** Purchase Intention; Environmental Knowledge; Circular Fashion; Green Consumption; Circular Economy.

## 1. INTRODUCTION

The governance pattern for the global textiles and fashion industry has developed from voluntary, pledge - based methods to institutionalized, policy - guided systems (Acquaye et al., 2023) and corresponding plan proposals and policies, like those specified by the United Nations (1993), give priority to systemic alteration via strategic steps including eco - design requirements, Digital Product Passports (DPP), and Extended Producer Responsibility (EPR), particularly concentrating on strengthening durability, reparability, recyclability, trackability, and answerability (Chien Bong et al., 2017; European Commission, 2022; UNEP, 2023) so this change in governance emphasizes that circular changes require not only innovations on the supply side but also matching behavioral adjustments among consumers.

Shanghai has an appealing large - city setting where dealing with textile waste poses challenges and the goals of the circular economy come into play, although it was well - known from theory that secondhand markets could lengthen product lifespans and lessen the need for new production (Tymoshchuk et al., 2024), real - world evidence showed major obstacles during transactions and these markets had great difficulties which couldn't be fully dealt with just by general environmental - friendly messages (Brick et al., 2024), particularly consumers' decision - making was hampered because they were uncertain about product cleanliness and state, there were differences in information regarding quality and genuineness, and they lacked trust in market management and platform fairness, and all these things weakened purchasing desires (Wang et al., 2022), so the act of forming purchase intention in secondhand markets should be thought of as a decision - making process full of uncertainties instead of being directly related to environmental - friendly attitudes.

### *1.2. Problem Statement*

While there has been increasing interest in circular textiles in policy-making circles, turning "reusability" into an established "purchase and reuse" cycle necessarily hinges upon how customers intend to buy under conditions of uncertainty (European Commission, 2022; Tymoshchuk et al., 2024). The secondhand clothing market is especially prone to issues of information asymmetry because the buyer does not always know whether the goods purchased have been washed properly or not, whether the seller has established quality criteria that he/she adheres to, and whether the signaling mechanisms employed by the online platforms used for the transactions convey credibility (Akerlof, 1970; Slaton, 2025). Such circumstances imply higher verification costs as well as greater necessity for trust on behalf of the consumer before proceeding with buying. Intention formation in platform-based interactions is thus likely to involve more than one element; attitude together with risk-value assessment under uncertainty are reasonable candidates. (Pavlou, 2003; Koay et al., 2024).

Accordingly, this study positions second-hand clothing purchase intention (INT) as the focal outcome variable and tests a mechanism-oriented model in which attitude (ATT), perceived risk (PR), and perceived value (PV) jointly explain intention, while environmental knowledge (EK)will act as a moderator in the analysis process. This research aims to determine the effect sizes of transaction-specific and evaluative processes that consumers go through when evaluating products, specifically in translating the information received from the products' evaluation to purchase intention in times of information friction (Al-Wabel et al., 2022; Anisah et al., 2024; Xiong et al., 2024). he findings of the study will help inform policymakers about how governance and regulatory policies on platform-based second-hand consumption can enhance trust among consumers. (Manaf et al., 2009; Arfanuzzaman and Dahiya, 2019; UNEP, 2023).

## 2. THEORETICAL FOUNDATION AND RESEARCH GAPS

### *2.1. Attitude as an Evaluative Driver of Intention*

Attitudes denote an overall state of readiness of an individual towards engaging in the target behavior. In the TPB framework, attitude is a central factor influencing intention (Ajzen, 1991; Afroz et al., 2017; Almasi et al., 2017; Alex et al., 2025). Nonetheless, in the case of second-hand clothes, positive attitudes do not necessarily imply intentions if the transactions are clouded by uncertainties and trust-related conflicts; therefore, attitude may be a necessary but not sufficient condition for the creation of intention under such circumstances(Zhou et al., 2025).

### *2.2. Perceived Risk–Perceived Value Trade-offs under Transaction Uncertainty*

Second-hand clothing purchases typically involve elevated uncertainty and information asymmetry. Under such conditions, perceived risk (PR) and perceived value (PV) operate as proximal mechanisms shaping intention. Risk perceptions related to hygiene/quality uncertainty, authenticity

concerns, social image and psychological discomfort can suppress intention, whereas perceived value-such as economic attractiveness and overall benefit evaluation-can enhance it (Koay et al., 2024). Prior work further indicates that second-hand purchase intention is better explained when risk - value trade-offs are modeled explicitly as part of the decision process rather than being implicitly absorbed into general attitudes (Koay et al., 2022). A remaining gap concerns clearer theoretical specification of how attitudinal evaluation operates alongside PR-PV trade-offs within a unified intention framework, particularly under market frictions where credibility cues and governance signals shape consumer interpretation and confidence (Koay et al., 2024).

### *2.3. Environmental Knowledge as a Cross-path Moderating Boundary Condition*

Environmental knowledge (EK) is conceptually relevant as a capability-related boundary condition for decision-making under informational frictions. EK reflects consumers' ability to recognize sustainability-relevant cues, interpret environmental/circular claims, and integrate value-related information when uncertainty is present (Cui et al., 2024). In secondhand markets where trust and verification are central, consumer-side environmental awareness/knowledge can plausibly shape how trust-building signals translate into engagement, implying that individual-level "green cognition" may strengthen or weaken key paths in intention formation (Negash and Akhbar, 2024; Ven et al., 2026). Accordingly, this study specifies EK as a cross-path moderator and tests whether EK conditions the effects of ATT, PR, and PV on INT in the second-hand clothing context.

## 3. RESEARCH MODEL AND HYPOTHESES

### *3.1. Research Objectives （RO）*

RO1: To examine the effects of attitude, Perceived Risk and Perceived Value on second-hand clothing purchase intention among online consumers in Shanghai under transactional uncertainty.

RO2: To determine whether Environmental Knowledge has a significant direct influence on Purchase Intention.

RO3: To determine whether Environmental Knowledge moderates the relationships between attitude and purchase intention.

### *3.2. Research Hypotheses (Hs)*

H1: There exists a positive relationship between Attitude (ATT) and the purchase intentions (INT) of second-hand clothing among Shanghai residents.

H2: Perceived Risk (PR) has a significant positive impact on the purchase intention for second-hand clothing among Shanghai residents.

H3: Perceived Value (PV) has a significant positive impact on the intention of Shanghai residents to purchase second-hand clothing.

H4: Environmental knowledge (EK) moderates the relationship between attitude (ATT) and Shanghai residents' second-hand clothing purchase intention.

### *3.3. Methodology*

A cross-sectional online questionnaire survey was administered via WeChat (Jaeger and Cardello, 2022; Zhang et al., 2022). Shanghai residency was determined through self-reporting, supplemented by platform-recorded IP addresses as an additional screening criterion (Xie et al., 2023; Kaine and Wright, 2024). The final dataset comprised 104 valid responses (Kish, 1965; Yamane, 1967; Nießen et al., 2023).

Descriptive statistics indicate that the study obtained 104 valid responses. Among the respondents, 54 (51.92%) were male and 50 (48.08%) were female, indicating a relatively balanced gender distribution.

***Table 1: Gender distribution (N=104).***

| Gender (code) | Frequency (n) | Percentage (%) |
|---|---|---|
| Male | 54 | 51.92% |
| Female | 50 | 48.08% |
| Total | 104 | 100.00% |

The age distribution of respondents is as follows: 18–25 years (30.77%), 26–35 years (31.73%), 36–45 years (20.19%), and 46–50 years (17.31%). The majority of respondents are aged 26–35, followed by those aged 18–25. This distribution provides a demographic overview of the sample and supports subsequent analyses.

***Table 2: Age distribution (N=104).***

| Age (code) | Frequency (n) | Percentage (%) |
|---|---|---|
| 18-25 | 32 | 30.77% |
| 26-35 | 33 | 31.73% |
| 36-45 | 21 | 20.19% |
| 46-50 | 18 | 17.31% |

| | | |
|---|---|---|
| Total | 104 | 100.00% |

***Table 3: Reliability Statistics***

| Cronbach's Alpha | Number of items |
|---|---|
| 0.875 | 22 |

Cronbach's alpha was utilized to assess the internal consistency (i.e., reliability) of the questionnaire (Koo & Yang, 2025). This coefficient ranges between 0 and 1 and provides a numerical measure of internal consistency, with higher values indicating greater reliability (Cruchinho et al., 2024). The analysis yielded a Cronbach's alpha of 0.875 for the 22-item scale, indicating strong internal consistency and confirming its suitability for further analyses.

The Kaiser–Meyer–Olkin (KMO) measure of sampling adequacy was employed to evaluate the suitability of the data for factor analysis. The KMO value of 0.730 exceeded the recommended threshold of 0.70, indicating that factor analysis was appropriate. In addition, Bartlett's test of sphericity was conducted to examine whether the variables were uncorrelated in the population. The results were statistically significant ($\chi^2 = 1289.359$, df = 253, $p < .001$), leading to the rejection of the null hypothesis and confirming that the correlation matrix was not an identity matrix. Collectively, these results support the application of factor analysis for the present dataset.

***Table 4: KMO and Bartlett's Test of Sphericity.***

| Test | Statistic | Value |
|---|---|---|
| KMO | KMO Measure of Sampling Adequacy | 0.730 |
| Bartlett's Test of Sphericity | Approx. Chi-Square | 1289.359 |
| | df | 253 |
| | Sig. (p) | 0.000 |

Based on the total variance explained, five components with eigenvalues greater than 1 (6.508, 3.150, 2.047, 1.816, and 1.336) were retained, collectively accounting for 64.597% of the total variance. Following rotation, the variance explained by the five factors was 16.842%, 13.630%, 13.129%, 11.713%, and 9.283%, respectively, with a cumulative variance of 64.597%.

***Table 5: Total Variance Explained (Components with Eigenvalues > 1).***

| Component | Initial Eigenvalues | | | Extraction Sums of Squared Loadings | | | Rotation Sums of Squared Loadings | | |
|---|---|---|---|---|---|---|---|---|---|
| | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % | Total | % of Variance | Cumulative % |
| 1 | 6.508 | 28.294 | 28.294 | 6.508 | 28.294 | 28.294 | 3.874 | 16.842 | 16.842 |
| 2 | 3.150 | 13.695 | 41.989 | 3.150 | 13.695 | 41.989 | 3.135 | 13.630 | 30.472 |
| 3 | 2.047 | 8.901 | 50.890 | 2.047 | 8.901 | 50.890 | 3.020 | 13.129 | 43.601 |
| 4 | 1.816 | 7.897 | 58.787 | 1.816 | 7.897 | 58.787 | 2.694 | 11.713 | 55.314 |
| 5 | 1.336 | 5.810 | 64.597 | 1.336 | 5.810 | 64.597 | 2.135 | 9.283 | 64.597 |

The rotated component matrix indicated that all items exhibited primary factor loadings above 0.40 on their respective constructs, and all communalities exceeded the 0.40 threshold. This demonstrates strong item–factor correspondence and supports the construct validity of the measurement model.

Multiple linear regression analysis was conducted to examine the effects of the predictors on purchase intention (H1). The overall model was statistically significant ($F(12, 91) = 2.044$, $p = 0.029$), with an $R^2$ of 0.212 and an adjusted $R^2$ of 0.108. The Durbin–Watson statistic was 2.105, indicating no serious autocorrelation. Collinearity diagnostics were within acceptable limits (VIF = 1.338–3.680; tolerance = 0.272–0.748). However, none of the predictors were statistically significant at the 0.05 level, although G1 approached significance ($p = 0.051$).

***Table 6: Model Fit for Multiple Linear Regression Predicting Purchase Intention (INT).***

| Model | N | $R^2$ | Adj. $R^2$ | F(12, 91) | p |
|---|---|---|---|---|---|
| 1 | 104 | .212 | .108 | 2.044 | .029 |

***Note. DV = Purchase Intention (INT). Durbin–Watson = 2.105.***

*Table 7: Multiple Linear Regression Results (DV)*

| Predictor | B | SE | β | t | p | VIF |
|---|---|---|---|---|---|---|
| Constant | 0.993 | 0.657 | — | 1.513 | .134 | — |
| ATT1 | 0.129 | 0.121 | 0.138 | 1.066 | .289 | 1.926 |
| ATT2 | 0.224 | 0.171 | 0.234 | 1.314 | .192 | 3.680 |
| ATT3 | -0.200 | 0.145 | -0.238 | -1.381 | .171 | 3.442 |
| ATT4 | -0.095 | 0.133 | -0.099 | -0.716 | .476 | 2.210 |
| PV1 | 0.208 | 0.122 | 0.207 | 1.697 | .093 | 1.725 |
| PV2 | -0.027 | 0.171 | -0.027 | -0.158 | .875 | 3.315 |
| PV3 | 0.142 | 0.124 | 0.152 | 1.142 | .256 | 2.056 |
| PV4 | 0.004 | 0.160 | 0.004 | 0.026 | .980 | 2.701 |
| PV5 | 0.202 | 0.133 | 0.184 | 1.519 | .132 | 1.687 |
| EK1 | 0.205 | 0.104 | 0.213 | 1.975 | .051† | 1.338 |
| EK2 | -0.055 | 0.135 | -0.054 | -0.410 | .683 | 1.994 |
| EK3 | -0.057 | 0.132 | -0.057 | -0.434 | .665 | 2.008 |

***Notes. B = unstandardized coefficient; SE = standard error; β = standardized coefficient. † p < .10, * p < .05, ** p < .01, *** p < .001.***

Coding. ATT1–ATT4 = Attitude items; PV1–PV5 = Perceived Value items; EK1–EK3 = Environmental Knowledge items.

## 4. DISCUSSION OF FINDINGS

### *4.1. Sample profile and representativeness*

The study collected a total of 104 valid responses, with a relatively balanced gender distribution comprising 51.92% male and 48.08% female respondents. The largest proportions of participants were aged 26–35 (31.73%) and 18–25 (30.77%), collectively accounting for slightly over 60% of the sample. These demographic characteristics are appropriate for examining second-hand clothing purchase intentions in Shanghai, as younger and early-career individuals are generally more engaged with online purchasing platforms and may exhibit a pronounced attitude–intention gap in sustainability-oriented consumption (Bruvoll et al., 2000).

### *4.2. Measurement quality: reliability and validity as a basis for inference*

The measurement instrument demonstrated good reliability, with a Cronbach's alpha of 0.875, indicating strong internal consistency. The diagnostics for construct validity were also satisfactory. The Kaiser–Meyer–Olkin (KMO) measure was 0.730, exceeding the recommended threshold and indicating adequate sampling suitability. Bartlett's test of sphericity was statistically significant ($\chi^2 = 1289.359$, df = 253, $p < .001$), supporting the appropriateness of factor analysis.

Exploratory factor analysis (EFA) identified five factors with eigenvalues greater than 1, collectively explaining 64.597% of the total variance. Following rotation, the variance explained by each factor was 16.842%, 13.630%, 13.129%, 11.713%, and 9.283%, respectively. The rotated component matrix further indicated acceptable item validity, with all items demonstrating primary factor loadings ≥ 0.40 and communalities ≥ 0.40.

Overall, these results confirm the adequacy and appropriateness of the measurement structure (Fisher, 1993; AAPOR, 2022).

### *4.3. Regression results: significant overall model with attenuated item-level effects*

Multiple linear regression analysis was conducted to examine the predictors of purchase intention. The results indicate that the overall regression model is statistically significant ($F(12, 91) = 2.044$, $p = .029$), with an $R^2$ of 0.212 and an adjusted $R^2$ of 0.108, suggesting modest explanatory power. Diagnostic statistics indicate no serious violations of assumptions, as reflected by a Durbin–Watson value of 2.105 and acceptable collinearity levels (VIF = 1.338–3.680; tolerance = 0.272–0.748).

Although the overall model is statistically significant, none of the individual item-level predictors reached statistical significance at the 0.05 level. Only one environmental knowledge item (G1: knowledge of the environmental effects of the fashion industry) approached significance ($\beta = 0.213$, $t = 1.975$, $p = 0.051$). This pattern may be attributed to the joint explanatory power of the predictors, whereby correlated variables share variance and distribute their effects across the model, thereby attenuating individual coefficient significance despite acceptable collinearity diagnostics.

In addition, the relatively modest sample size (n = 104) may have limited the statistical power to detect significant individual effects. Accordingly, the findings suggest that item-level direct effects are not supported at the 0.05 significance level within the current model specification. However, the significant overall model and the marginal effect of environmental knowledge indicate the presence of potentially meaningful relationships that may become more evident under construct-level operationalization and/or a more parsimonious model structure (Bennett and Robinson, 2000; Podsakoff et al., 2024). Overall, the model demonstrates explanatory relevance, although the individual contributions of predictors should be interpreted with caution.

### *4.3. Implications: What the Findings Suggest (and What They Do Not)*

The absence of statistically significant predictors at the item level should not be interpreted as a

rejection of the underlying theoretical framework. Rather, it suggests that reuse intentions are multifaceted and influenced by a constellation of interrelated factors, the effects of which may be diffused across associated evaluative dimensions. As such, these relationships may be more appropriately captured at the construct level (e.g., attitude, perceived value, environmental knowledge, and perceived risk) rather than at the item level.

In this context, the non-significant effect of environmental knowledge does not imply that sustainability-related cognition is irrelevant to decision-making. Instead, it indicates that its influence may be indirect or contingent upon contextual factors. Specifically, the impact of environmental knowledge may depend on the extent to which online platforms effectively translate environmental benefits into tangible and credible cues, such as product authenticity, hygiene standards, detailed product specifications, and flexible return policies.

### *4.4. Boundary of interpretation for H4 (moderation)*

In such a scenario, the findings should not be interpreted as a refutation of the theoretical framework. Rather, they suggest that reuse intention is a multidimensional construct, with its influence distributed across related evaluative dimensions, and therefore more appropriately examined at the construct level (e.g., attitude, perceived value, environmental awareness, and perceived risk). In this context, the non-significant effect of environmental awareness does not imply irrelevance; instead, it indicates that its influence on decision-making may be indirect or contingent upon contextual factors. Specifically, its impact may depend on how effectively online platforms translate environmental benefits into tangible and credible cues. This finding is consistent with prior research indicating that the effectiveness of marketing strategies, particularly the transformation of the marketing mix, depends on how well firms translate value propositions into tangible and credible signals for consumers (Lim et al., 2024).

## 5. CONCLUSION

The present study examined purchase intention toward second-hand clothing among residents of Shanghai by assessing attitudes, perceived value, and environmental knowledge, while considering perceived risk as a potential constraint in second-hand purchasing. The measurement results indicate that the instrument is reliable and valid, as evidenced by a high Cronbach's alpha (0.875), adequate sampling suitability (KMO = 0.730), and a significant Bartlett's test of sphericity ($p < .001$). Furthermore, the extracted factor structure accounted for a substantial proportion of variance (cumulative variance explained = 64.597%), supporting the adequacy of the measurement model.

At the model level, the regression results indicate that the set of predictors collectively explains a modest proportion of variance in purchase intention ($R^2 = 0.212$; adjusted $R^2 = 0.108$), and the overall model is statistically significant ($F(12, 91) = 2.044$, $p = .029$). However, none of the individual item-level predictors reached statistical significance at the 0.05 level, with only one environmental knowledge item approaching significance ($p = .051$). These findings suggest that item-level effects are not strongly supported, and that the explanatory power of the model arises from the combined influence of multiple factors rather than distinct individual effects.

Substantively, the marginal effect of environmental knowledge suggests that sustainability-related awareness may play a role in shaping purchase intention, potentially through its influence on evaluation processes. However, intention formation appears to be contingent upon uncertainty reduction, particularly in relation to product authenticity, cleanliness/condition, and post-purchase support in secondary markets. Even when consumers hold favourable attitudes or perceive economic and environmental value, unresolved uncertainties may hinder the translation of evaluation into purchase intention.

From a practical perspective, the findings suggest that stakeholders should adopt a dual strategy to promote second-hand clothing adoption. First, platforms should enhance the communication of value across multiple dimensions, including economic, experiential, and sustainability benefits. Second, transactional uncertainties should be reduced through mechanisms such as authenticity verification, clear disclosure of product condition and hygiene standards, and the provision of reliable after-sales support and return policies.

Finally, the present study highlights several avenues for future research. The potential conditional or interaction effects between attitudes, environmental knowledge, and purchase intention warrant further investigation using hierarchical or moderated regression approaches. In addition, future studies should consider construct-level modelling with more parsimonious specifications, as well as larger sample sizes, to improve statistical

power and yield more robust and interpretable findings.

**REFERENCES**

AAPOR, 2022. Best Practices for Survey Research. Am. Assoc. Public Opin. Res. URL https://aapor.org/standards-and-ethics/best-practices/ (accessed 3.29.26).

Afroz, R., Rahman, A., Masud, M.M., Akhtar, R., 2017. The knowledge, awareness, attitude and motivational analysis of plastic waste and household perspective in Malaysia. Environ. Sci. Pollut. Res. 24, 2304–2315. https://doi.org/10.1007/s11356-016-7942-0

Ajzen, I., 1991. The theory of planned behavior. Organ. Behav. Hum. Decis. Process. 50, 179–211. https://doi.org/10.1016/0749-5978(91)90020-T

Alex, J., Krishnasamy, H.N., Senathirajah, A.R.B.S., Qazi, S.Z., Haque, R., Periasamy, U., Lertatthakornkit, T., 2025. Multidimensional factors influencing consumers' purchase intention of green products: A company's strategy study. Corp. Bus. Strategy Rev. 6, 328. https://doi.org/10.22495/cbsrv6i3siart9

Almasi, A., Dargahi, A., Mohammadi, M., Asadi, F., Poursadeghiyan, M., Mohammadi, S., 2017. Knowledge, Attitude and Performance of Barbers about Personal Health and Occupational Health. Arch. Hyg. Sci. 6. https://doi.org/10.29252/ArchHygSci.6.1.75

Al-Wabel, M.I., Ahmad, M., Rasheed, H., Rafique, M.I., Ahmad, J., Usman, A.R.A., 2022. Environmental Issues Due to Open Dumping and Landfilling, in: Pathak, P., Palani, S.G. (Eds.), Circular Economy in Municipal Solid Waste Landfilling: Biomining & Leachate Treatment, Radionuclides and Heavy Metals in the Environment. Springer International Publishing, Cham, pp. 65–93. https://doi.org/10.1007/978-3-031-07785-2_4

Anisah, T.N., Luthfiana, D.N., Kumar, V., Ernestivita, G., Harnaji, B., Najmudin, M., 2024. Green threads: Unveiling sustainable fashion preferences among Indonesian gen Z consumers. Asian Manag. Bus. Rev. 376–393. https://doi.org/10.20885/AMBR.vol4.iss2.art13

Arfanuzzaman, Md., Dahiya, B., 2019. Sustainable urbanization in Southeast Asia and beyond: Challenges of population growth, land use change, and environmental health. Growth Change 50, 725–744. https://doi.org/10.1111/grow.12297

Bennett, R.J., Robinson, S.L., 2000. Development of a measure of workplace deviance. J. Appl. Psychol. 85, 349–360. https://doi.org/10.1037/0021-9010.85.3.349

Bruvoll, A., Halvorsen, B., Nyborg, K., 2000. Household sorting of waste at source. Econ. Surv. 4, 26–35.

Cui, M., Li, Y., Wang, S., 2024. Environmental Knowledge and Green Purchase Intention and Behavior in China: The Mediating Role of Moral Obligation. Sustainability 16, 6263. https://doi.org/10.3390/su16146263

European Commission, 2022. EU Strategy for Sustainable and Circular Textiles, Document 52022DC0141.

European Parliament, 2024. Digital product passport in the textile sector., Directorate General for Parliamentary Research Services. Publications Office, LU. https://doi.org/10.2861/947638

Fisher, R.J., 1993. Social Desirability Bias and the Validity of Indirect Questioning. J. Consum. Res. 20, 303. https://doi.org/10.1086/209351

Jaeger, S.R., Cardello, A.V., 2022. Factors affecting data quality of online questionnaires: Issues and metrics for sensory and consumer research. Food Qual. Prefer. 102, 104676. https://doi.org/10.1016/j.foodqual.2022.104676

Kaine, G., Wright, V., 2024. Social Desirability Bias and the Prevalence of Self-Reported Conservation Behaviour Among Farmers. Sustainability 16, 9658. https://doi.org/10.3390/su16229658

Kish, L., 1965. Survey sampling, A Wiley Interscience Publication. John Wiley & Sons, New York.

Koay, K.Y., Cheah, C.W., Lom, H.S., 2022. An integrated model of consumers' intention to buy second-hand clothing. Int. J. Retail Distrib. Manag. 50, 1358–1377. https://doi.org/10.1108/IJRDM-10-2021-0470

Koay, K.Y., Cheung, M.L., Lom, H.S., Leung, W.K.S., 2024. Perceived risk and second-hand clothing consumption: a moderated-moderation model. J. Fash. Mark. Manag. Int. J. 28, 240–253. https://doi.org/10.1108/JFMM-01-2023-0001

Lim, S. T., Safiyuddin, F. S., Haque, R., Noordin, N. B. M., Manickam, L., & Hakimi, N. B. (2024). Exploring the impact of marketing mix products transformation strategies in glove manufacturing industries: A case study. Pakistan Journal of Life and Social Sciences, 22(2), 1477–1492. https://doi.org/10.57239/PJLSS-2024-22.2.00104

Manaf, L.A., Samah, M.A.A., Zukki, N.I.M., 2009. Municipal solid waste management in Malaysia: Practices and challenges. Waste Manag. 29, 2902–2906. https://doi.org/10.1016/j.wasman.2008.07.015

Negash, Y.T., Akhbar, T., 2024. Building consumer trust in secondhand fashion: A signaling theory perspective

on how consumer orientation and environmental awareness shape engagement. Clean. Responsible Consum. 14, 100211. https://doi.org/10.1016/j.clrc.2024.100211

Nießen, D., Hadler, P., Neuert, C., 2023. Questionnaire Design Decisions When Transitioning from an Interviewer-Administered to a Self-Administered Online Mode (GESIS Survey Guidelines). GESIS - Leibniz Institute for the Social Sciences. https://doi.org/10.15465/GESIS-SG_EN_046

Pavlou, P.A., 2003. Consumer Acceptance of Electronic Commerce: Integrating Trust and Risk with the Technology Acceptance Model. Int. J. Electron. Commer. 7, 101–134. https://doi.org/10.1080/10864415.2003.11044275

Podsakoff, P.M., Podsakoff, N.P., Williams, L.J., Huang, C., Yang, J., 2024. Common Method Bias: It's Bad, It's Complex, It's Widespread, and It's Not Easy to Fix. Annu. Rev. Organ. Psychol. Organ. Behav. 11, 17–61. https://doi.org/10.1146/annurev-orgpsych-110721-040030

UNEP, 2023. Sustainability and Circularity in the Textile Value Chain - A Global Roadmap | UNEP - UN Environment Programme [WWW Document]. U. N. Environ. Programme. URL https://www.unep.org/resources/publication/sustainability-and-circularity-textile-value-chain-global-roadmap (accessed 3.29.26).

Ven, C., Hoo, W., Raman, A., 2026. Innovation for Sustainability: Convergent Mixed Method Strategies for Instrument Development in Impulsive Buying. World J. Entrep. Manag. Sustain. Dev. 22, 283. https://doi.org/10.47556/J.WJEMSD.22.3.2026.7

Wang, B., Fu, Y., Li, Y., 2022. Young consumers' motivations and barriers to the purchase of second-hand clothes: An empirical study of China. Waste Manag. 143, 157–167. https://doi.org/10.1016/j.wasman.2022.02.019

Xie, Y., Zhang, Z., Liu, Y., Chen, E., Li, N., 2023. Evaluation Method of IP Geolocation Database Based on City Delay Characteristics. Electronics 13, 15. https://doi.org/10.3390/electronics13010015

Xiong, H., Hu, W., Xu, M., Zhan, J., 2024. Revisiting heterogenous social desirability bias in consumer willingness to pay for food carbon label: Social norms and environmental concerns. Food Policy 128, 102690. https://doi.org/10.1016/j.foodpol.2024.102690

Yamane, T., 1967. Statistics: An Introductory Analysis. Harper & Row.

Zhang, J., Wu, Q., Wang, X., Zhang, Y., Helena Van Velthoven, M., 2022. High response rate and low cost of WeChat-based data collection of infant and young child feeding data in rural Qinghai Province, China. J. Glob. Health 12, 11011. https://doi.org/10.7189/jogh.12.11011

Zhou, Q., Ji, X., Li, N., Zhou, L., 2025. Consumers' second-hand clothing purchase intention: integrating TPB, face consciousness and past purchase experience. Front. Psychol. 16, 1645116. https://doi.org/10.3389/fpsyg.2025.1645116.