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From Online Research to In-Store Purchase: Explaining Malaysian Gen Z Webrooming for High-Involvement Appliances

Mughaneswari Sahadevan^{1,*}, Chee Jo Eee¹, Siti Maryam Md Nor¹, Jogeswari Ramamoorthy¹, Kanageswary Arumugam¹, Xinwei Shi¹

¹ Department of Business Studies, Faculty of Business Management and Professional Studies, Management & Science University (MSU), 40100 Shah Alam, Selangor, Malaysia

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ABSTRACT

Webrooming—the activity of researching things online before completing purchases in real stores—has become more prevalent due to the quick convergence of online and offline retail channels, especially among Generation Z (Gen-Z). Even though webrooming is becoming more prevalent in omnichannel markets, there is still little empirical data in Malaysia, particularly for ***high-involvement appliances*** that demand more financial outlay, mental strain, and sensory assessment. In order to close this gap, the current study looks at three major factors that influence webrooming intention among Gen-Z consumers in Malaysia: (i) consumer trust in online reviews; (ii) perceived search benefits; and (iii) need for touch. High-involvement appliances are positioned as a key mechanism influencing this cross-channel decision process. A quantitative cross-sectional design was used. Gen-Z respondents selected from private universities in Malaysia were given survey measurement scales that were modified from earlier research. The resulting dataset included 528 valid responses (88% useable response rate), boosting statistical power for further hypothesis testing, even though the minimum required sample was first calculated to be 375. The measurement model's suitability for additional analysis was supported by reliability testing, which revealed good internal consistency across constructs (Cronbach's alpha values above the traditional criterion). The results show that all of the suggested variables are significant and positively connected with Gen-Z's intention to webroom. Consumer trust in online reviews and perceived search benefits in particular appeared as strong motivating factors, indicating that reliable peer information and effective online comparison/learning lower perceived risk and boost decision confidence. The necessity of touch was also noteworthy, highlighting the ongoing significance of tactile assurance in assessing expensive or complicated appliances. A significant amount of the variance in webrooming intention was jointly explained by the predictors, with high-involvement appliances showing the highest effect within the model ($R^2 = 0.662$). By elucidating how digital information reliance and sensory validation work together to shape Malaysian Gen-Z webrooming, especially in high-involvement categories, this study adds to the body of research on omnichannel consumer behaviour. The findings indicate that in order to transform online research into confident offline purchase decisions, businesses should incorporate review credibility cues, decision-support content, and in-store product experience (such as demonstrations and hands-on trials).

* Corresponding author.

E-mail address: mughaneswari_sahadevan@msu.edu.my

1. Introduction

The customer journey is becoming more omnichannel than single-channel due to the quick digitisation of retail and the easy access to product information, which have changed how consumers make decisions about what to buy. According to Lemon and Verhoef [12], the modern customer experience develops over time across a variety of touchpoints and channels, necessitating that businesses comprehend how customers transition between online and offline environments. Similarly, Grewal *et al.*, [8] emphasise that technologies and tools that enable cross-channel decision-making will influence retailing's future, highlighting the strategic significance of integrated journeys as opposed to discrete online or in-store encounters.

Webrooming—doing product research online and making the purchase in a physical store—has grown in popularity in an omnichannel environment. Webrooming, according to Flavián *et al.*, [7] is a process where customers use online information to boost their confidence and happiness before depending on offline buy execution to finish the transaction. This trend is especially pertinent when customers are looking for both the assurance of in-store evaluation and the educational benefits of the web channel. Konuş *et al.*, [12] expand on more general multichannel studies by demonstrating that consumers' multichannel preferences and behaviours vary systematically, implying that channel switching is not random but rather influenced by personal characteristics, driving forces, and category-specific factors.

For high-involvement appliances, where purchasing decisions entail larger financial stakes, increased perceived risk, and longer-term usage expectations, the significance of webrooming increases. Online research facilitates comparison and learning in these situations, but offline inspection may still be essential for risk mitigation and quality assurance. High-involvement appliances are clearly positioned as being essential to webrooming in the attached project, which also highlights the lack of understanding regarding the consequences of product categories, particularly those that necessitate physical engagement.

This issue is consistent with research on omnichannel integration: Herhausen *et al.*, [9] show that integrating online and offline channels significantly affects customer outcomes, suggesting that retailers need to control not just "where" customers buy but also "how" they move between channels.

Even while webrooming has become more popular worldwide, there is still a dearth of evidence in Malaysia, especially when it comes to Generation Z (Gen Z), a group that is frequently characterised as digitally literate and heavily dependent on online data when making decisions. The attached project highlights a glaring gap: although the growth of e-commerce has led to an increase in webrooming behaviours, little research has been done to explain the factors that influence webrooming intention, particularly among Malaysia's Gen Z. Additionally, while online reviews are known to influence consumer decisions, their influence on offline purchasing following online research is still poorly understood.

Retailers need to comprehend this "research online, buy offline" cycle in order to effectively compete with Gen Z consumers, who may value speed and convenience online while still relying on in-store encounters to complete high-risk transactions.

The current study, which focusses on webrooming among Malaysian Gen Z in high-involvement appliances, investigates three factors identified in the project to close this gap: consumer trust in online reviews, perceived search benefits, and demand for touch.

Perceived search benefits capture the value consumers receive from effective online information acquisition and comparison; need for touch reflects consumers' desire to physically interact with

products prior to purchase; and trust in online reviews is anticipated to reduce uncertainty and strengthen confidence in the online research phase. The latter is particularly pertinent to appliances since functional fit and perceived quality may be correlated with tactile evaluation. In order to support its function as a significant predictor of customer responses in product evaluation situations, Peck and Childers [15], for instance, formalise Need for Touch as a quantifiable individual difference in preference for haptic information.

In line with the theoretical stance of the attached project, the study is based on the Theory of Planned Behaviour (TPB) and the Stimulus–Organism–Response (SOR) framework. Ajzen [2] provides a powerful lens for describing how trust and perceived benefits translate into intention by explaining how attitudes, subjective norms, and perceived behavioural control create behavioural intention. The SOR paradigm, on the other hand, was developed by Mehrabian and Russell [14] and is extensively used in consumer research to describe how environmental stimuli influence internal organismic states and, eventually, behavioural responses. By combining TPB and SOR, the study presents online reviews and search benefits as informational resources and stimuli, while high-involvement category demands and the need for touch capture the risk-related and sensory mechanisms that drive consumers to complete their offline purchases after conducting research online.

This study offers actionable insight for retailers looking to create smooth online-to-offline pathways by presenting Malaysian Gen Z evidence on how trust, perceived search value, and tactile motivation all work together to explain webrooming intention in a high-involvement appliance context.

1.1 Problem Statement

The development of e-commerce and digital connectivity are reshaping Malaysia's retail landscape, fostering omnichannel shopping experiences. According to national statistics, Malaysia's e-commerce revenue in the first nine months of 2025 was RM937.5 billion, a 1.9% YoY increase over the same period in 2024. Additionally, digital access is almost universal in households and individuals, with internet usage reported at 96.8% and individual internet usage at 98.0% [6]. Simultaneously, consumer-facing adoption is increasing: according to Ipsos, over 50% of Malaysians completed purchases via e-commerce platforms in 2024, suggesting that internet channels have ingrained themselves into daily life. This high level of digital penetration is in line with more general digital statistics, which indicate that by the beginning of 2025, Malaysia's internet penetration was approximately 97.7%.

The expansion of e-commerce does not, however, mean that all purchases are moving online. Webrooming is strategically significant for retailers since a significant percentage of buyers still conduct research online but make purchases offline. Webrooming appears to be widespread; Kleinlercher *et al.*, [10] discovered that 35.2% of their sample were webroomers, highlighting the fact that online-to-offline excursions constitute a significant portion of consumer behaviour. The extent of this behaviour is further demonstrated by related industry-reported statistics mentioned in peer-reviewed work; for instance, Frasquet *et al.*, [7] that states 58% of buyers begin their journey online and finish the purchase offline. Webrooming can be even more noticeable for high-involvement appliances because consumers look for a lot of information online but still require offline reassurance (such as inspection, fit, and instant availability), and previous studies have found that characteristics like the need for touch are important for webrooming intention in omnichannel settings.

Despite these advancements, a significant research gap is highlighted in the project report that is attached: webrooming intents are still poorly understood, especially among Gen Z customers, and

the influence of online reviews on offline purchasing decisions is still "inadequately explored." For high-involvement appliances, where in-person engagement is crucial and product-category impacts are "still not well understood," the problem is more pressing, particularly for Gen Z consumers who mix internet research with offline purchase completion. Review trust is a likely driver of webrooming in high-stakes categories, however, as the dependence on online reviews has been extensively documented in previous studies and industry research. For example, DOSM [6] reports that 91% of online shoppers read reviews always or regularly, and 78% read more reviews when the product is expensive. However, this dependency also presents a practical issue: false reviews and the decline of digital trust have recently been the subject of increased discussion in Malaysia, which can make it more difficult for customers to understand review information.

The likelihood of webrooming has increased due to Malaysia's strong digital adoption and e-commerce growth, but there is still little evidence specific to Malaysia and Gen-Z that explains why consumers conduct online research but purchase appliances offline, particularly when it comes to trust in online reviews, perceived search benefits, and the need for touch as integrated drivers. This is why the current study aims to empirically clarify these elements in relation to Gen Z webrooming for high-involvement appliances in Malaysia.

2. Methodology

In order to investigate the factors impacting Gen-Z students at private colleges in Malaysia's intention to continuously webroom, this study used a quantitative research design with a structured survey. In order to evaluate the relationships between the independent variables (consumer trust in online reviews, perceived search benefits, and need for touch) and the dependent variable (webrooming continuous intention), a cross-sectional approach was used, in which data were gathered all at once.

An estimated 15,000 Gen-Z students enrolled in private universities made up the population; they were a technologically savvy generation that regularly consults internet resources to inform their purchases. The Krejcie and Morgan [13] table was used to calculate the necessary sample size. Based on the population size, a minimum sample size of 375 respondents was advised in order to guarantee statistical reliability for hypothesis testing.

Because the study sought to gauge individual attitudes and behavioural intentions about online research and offline purchasing, particularly for high-involvement appliances, the unit of analysis was the individual Gen-Z student. To guarantee that pertinent student subgroups (for instance, by academic discipline or other appropriate criteria) were fairly represented, a stratified sampling technique was used. This enhances the findings' validity and generalisability.

All of the constructs in the conceptual framework—consumer trust in online reviews, perceived search advantages, need for touch, high participation appliances (as a mediator), and webrooming continuous intention—were measured using a structured questionnaire. The Likert-scale format was used to quantify the respondents' degree of agreement with the items, which were modified from known and validated scales in previous studies. With succinct language to encourage precise answers, the questionnaire was made to be understandable and accessible to Gen-Z respondents.

In order to gather data, the poll was disseminated online through digital channels including social media and email, which matched Gen-Z's preferred communication channels and allowed for effective outreach within private university communities. The survey was made available to respondents via a link, and in order to promote truthful participation and lessen response bias, confidentiality and anonymity were preserved.

In the end, the study used IBM SPSS to analyse the data gathered, produce descriptive statistics, test the reliability of the measurements (e.g., Cronbach's alpha), and assess the relationships between the variables using correlation and other pertinent techniques. The study used Structural Equation Modelling (SEM) to investigate the suggested links in a more thorough and rigorous way in order to test hypotheses and evaluate the mediating effect of high engagement appliances.

3. Result

The results demonstrate that all of the suggested associations are positive and statistically significant, suggesting that Malaysian Gen Z's ongoing intention to webroom is influenced by a number of factors, including consumer trust in online reviews, perceived search benefits, the demand for touch, and high-involvement appliances.

The correlation results show consistently strong associations with webrooming intention at the bivariate level: need for touch shows a moderate-to-strong positive relationship ($r = 0.680$), perceived search benefits also show a strong positive correlation ($r = 0.724$), and consumer trust has a strong correlation ($r = 0.708$) with webrooming intention.

Significantly, there is a considerable correlation ($r = 0.727$) between webrooming intention and the high-involvement appliance context, indicating that Gen Z is particularly likely to webroom when the product calls for greater caution and risk mitigation. With $R = 0.814$, $R^2 = 0.662$, and Adjusted $R^2 = 0.660$, the whole model showed significant explanatory power when the predictors were analysed collectively by regression. This indicates that the set of predictors accounts for almost 66% of the variance in webrooming intention.

The model's overall statistical significance ($F = 256.389$, $p < 0.001$) is further supported by the ANOVA result, which shows that the predictors collectively provide a significant contribution to the explanation of webrooming intention. Furthermore, the robustness of the regression results is supported by the Durbin-Watson statistic of 1.83, which indicates that autocorrelation is not an issue.

High-involvement appliances were the best predictor of webrooming intention in terms of effect sizes ($\beta = 0.293$, $t = 7.244$, $p < 0.001$), suggesting that Gen Z is more inclined to research online before making an in-store purchase as the item gets more complex and expensive. This is consistent with omnichannel research, which contends that customers utilise online channels for information efficiency but rely on offline channels for purchase assurance (e.g., inspection, immediacy), and that channel switching is frequently motivated by risk and decision complexity. Next, there is a significant positive influence on perceived search advantages ($\beta = 0.254$, $t = 6.095$, $p < 0.001$), indicating that Gen Z is more likely to webroom when they believe that online search is time-saving, convenient, and information-rich. This lends credence to the idea in omnichannel customer experience research that digital touchpoints are especially useful during the assessment phase because they reduce search expenses and boost decision confidence.

Webrooming intention is also significantly predicted by consumer trust in online reviews ($\beta = 0.217$, $t = 5.431$, $p < 0.001$), indicating that trusted reviews serve as a type of social proof that boosts Gen Z confidence during the online research stage, which subsequently carries over into the offline purchase decision.

Finally, although though its impact is less than that of the other predictors, the need for touch is nevertheless significant ($\beta = 0.171$, $t = 4.417$, $p < 0.001$). Theoretically, this conclusion is significant because consumers who value tactile input are more likely to finish the purchase in-store after conducting online research, and high-involvement appliances are frequently assessed by physical cues (such as size, build, and interface feel). The pattern is in keeping with the well-established Need

for Touch theory of consumer behaviour, which holds that haptic information encourages offline review even in situations where internet information is easily accessible.

Overall, the findings show a distinct Gen Z webrooming logic for high-involvement appliances: offline stores are used to reduce uncertainty through physical verification (need for touch), particularly when the product is high-stakes (high involvement), while online channels are used to maximise information and efficiency (search benefits, trusted reviews).

4. Conclusion

This study aimed to understand why, particularly for high-involvement appliances, Malaysian Gen Z customers frequently conduct online research but finish their purchases in-store (a practice known as "webrooming"). Overall, the results offer compelling proof that a mix of information-based incentives and sensory assurance requirements influence webrooming intention. With the predictors collectively explaining almost 66% of the variance in webrooming continuous intention ($R^2 = 0.662$), the model empirically exhibits high explanatory power. Additionally, the model as a whole is statistically significant.

The findings further support the notion that webrooming intention is positively and significantly influenced by customer trust in online reviews, perceived search benefits, and touch needs. These correlations show that Gen Z consumers respect the physical store as the last resort that lowers uncertainty and offers assurance, but they also strongly rely on the online channel to develop confidence through reliable user-generated information and effective product comparison. Crucially, of the variables examined, high-involvement appliances proved to be the best predictor, indicating that the chance of webrooming increases with perceived risk, cost, and complexity. This supports the notion that webrooming is a logical tactic for handling more important buying decisions rather than just a regular Gen Z shopping habit.

Practically speaking, the results suggest that retailers shouldn't view online and offline channels as rival arenas. Rather, they ought to create them as supplementary phases of a single decision-making process. By supporting Gen Z's natural shopping habits for high-involvement appliances, increasing the credibility of reviews (e.g., verified purchase cues, transparent moderation), fortifying online decision aids (comparisons, detailed specifications, educational content), and enhancing in-store tactile experiences (hands-on trials, live demos, product consultants) can all boost conversion.

Suggestions for additional study

The current work can be expanded upon in a number of significant ways by future research. First, future research should utilise longitudinal or time-lagged designs to better capture how webrooming intention develops across steps (search → evaluation → store visit → buy), as this study employed a cross-sectional survey methodology. Further research should include more diverse Gen Z groups (working professionals, different income levels, and regions). The second limitation of the sample was that it was limited to Gen Z students attending private universities, which supports the study's goal but may limit its generalisability to working adults or larger Malaysian Gen Z segments.

Third, future research should examine other factors that could improve the predictive accuracy of the model, like perceived risk, price sensitivity, channel integration quality, delivery urgency, store convenience, or social influence. These factors might plausibly interact with review trust and search benefits in omnichannel journeys. Fourth, in order to verify whether the need-for-touch mechanism still has an equal impact, researchers might compare low- and high-involvement categories or appliances with other "touch-sensitive" categories (such as electronics or furniture) in order to broaden the product context beyond high-involvement appliances. Fifth, although this study emphasises high involvement, future research could test other causal structures (such as perceived

risk as a mediator or high involvement as a moderator) and use multi-group analysis to look at whether relationships vary by gender, spending capacity, or frequency of shopping.

Lastly, by combining self-reported intention data with behavioural markers (such as clickstream/search logs, store visiting data, or experimental designs that manipulate review credibility and tactile availability), future research can improve methodological rigour. In Malaysia's developing omnichannel marketplace, doing so will lessen common-method bias and offer even more convincing proof of how online research influences offline purchasing patterns.

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