THE INTERPLAY OF REGRET, BENEFIT PERCEPTIONS AND FINANCIAL WELL-BEING IN ONLINE SHOPPING CART ABANDONMENT

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Abstract: ***This study applies Prospect theory to explain how regret and subjective evaluations of loss avoidance shape online shopping cart abandonment (OSCA). Based on qualitative interviews and a survey of 630 consumers, the model shows that regret predicts abandonment directly and indirectly through perceived benefits of not purchasing. PLS-SEM results confirm that regret strengthens all three benefit perceptions of OSCA. Financial well-being reduces OSCA and moderates personal finance benefits. The findings clarify the emotional-cognitive mechanisms driving OSCA and position regret as a central trigger.***

• Keywords: *online shopping cart abandonment, regret, prospect theory, perceived financial well-being, perceived benefits.*

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1. Introduction

E-commerce continues to grow rapidly in both user base and revenue, yet this expansion is accompanied by persistently high levels of online shopping cart abandonment (OSCA). OSCA refers to the behavior in which consumers place items into their virtual carts but do not complete the purchase during the same session (Kukar-Kinney & Close, 2010). In Vietnam's fast-growing digital market, OSCA has emerged as a significant challenge for retailers. The national abandonment rate in 2024 ranged from 79.0% to 79.5%, meaning that only one in five carts resulted in a transaction (ECDB, 2024). This substantial loss of potential sales places added pressure on firms already competing in a crowded marketplace.

Prior studies have examined OSCA from situational, psychological, and behavioral perspectives. Recent findings highlight the impact of online shopping experiences, showing that complex payment procedures, information overload, strict return policies, and limited delivery options all increase abandonment (Sundjaja et al., 2024). Behavioral theories such as the Theory of Planned Behavior and Expectancy Disconfirmation Theory have further explained the roles of intention, perceived risk, and evaluation of alternatives in OSCA (Sharma & Srivastava, 2025). Nevertheless, several gaps remain in the literature.

First, existing research tends to focus on platform, technological, or service-related factors, while paying limited attention to how consumers process and evaluate outcomes of suboptimal past purchases, particularly regret. Regret is an emotional state that meaningfully affects decision-making, yet its mechanism leading to OSCA behavior has not been thoroughly examined. Evidence from (Cho et al., 2006) indicates that "negative past experience" and "avoid regret/uncertain needs" are key triggers of shopping cart abandonment.

Second, the role of perceived financial well-being has not been explored in OSCA research, even though prior evidence (Netemeyer et al., 2018) shows that subjective financial conditions strongly shape consumers' risk-avoidance tendencies. Building on this insight, perceived financial well-being may influence how consumers evaluate the consequences of abandoning versus completing a purchase. When individuals feel financially secure, they tend to experience lower sensitivity to potential financial losses and may therefore treat abandonment as a low-risk, easily reversible decision.

To address these gaps, this study employs mixed methods and draws on Prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992). We argue that regret shifts consumers toward loss-

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avoidance thinking, increasing the perceived benefits of abandoning the cart, including (i) benefit related to product performance (seeking a better option), (ii) benefit related to purchasing at lower prices (waiting for discounts or comparing prices), and (iii) benefit related to personal finance (maintaining spending discipline). These three dimensions are expected to mediate the effect of regret on OSCA. In addition, perceived financial well-being is proposed as a moderator of these relationships.

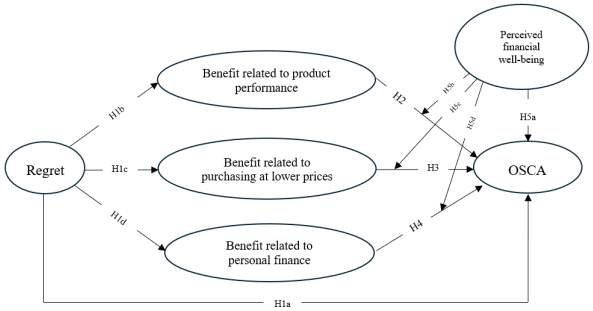
2. Theoretical framework and hypothesis development

2.1. Prospect theory

Prospect theory (Kahneman & Tversky, 1979; Tversky & Kahneman, 1992) argues that individuals evaluate decisions in terms of perceived gains and losses rather than objective expected value. Because losses are psychologically more impactful than equivalent gains, people become loss-averse and prefer choices that minimize the chance of loss, even when such decisions delay or reduce potential benefits. In online shopping, each item placed in a cart represents potential losses, such as choosing an unsuitable product, overpaying, missing a better price, buying something unnecessary, or straining personal finances. When earlier purchases fall short of expectations, consumers may experience regret, a negative emotion triggered by comparisons with better imagined alternatives (Landman & Manis, 1992; Tsiros & Mittal, 2000). Prospect theory suggests that such past losses heighten future risk sensitivity, increasing the preference for inaction or maintaining the status quo (Kahneman & Miller, 1986). In the e-commerce environment, online shopping cart abandonment (OSCA) - placing items in the cart without completing the checkout process (Kukar-Kinney & Close, 2010) can therefore be viewed as a strategic form of loss avoidance achieved by preserving the status quo.

Building on this perspective, we propose that regret serves as a key antecedent of OSCA, functioning as a protective response intended to prevent repeated mistakes. Regret also reshapes how consumers interpret the benefits of abandonment, reframing them as "loss-prevention gains" rather than missed opportunities. Prior work by Cho et al. (2006) notes that negative past experiences increase abandonment but does not explain the underlying mechanism. Our model addresses this gap by proposing that regret influences OSCA both directly and indirectly through three perceived benefit dimensions: product-performance benefits, price-related benefits, and personal-finance benefits. Furthermore, perceived financial well-being is introduced as a moderator that shapes the strength of these relationships. This study proposes the research model shown in Figure.

Figure 1. Research model



The following section on hypothesis development will incorporate propositions from prospect theory, the literature on online shopping cart abandonment, and findings from the interview research to propose hypotheses for this study.

2.2. Hypotheses development

2.2.1. Regret and online shopping cart abandonment

Regret is one of the key negative emotions that individuals seek to avoid when making decisions (Inman et al., 1997; Loomes & Sugden, 1982). When regret arises, consumers become more cautious and tend to maintain the current state to minimize the risk of another loss (Kahneman & Miller, 1986; Tsiros & Mittal, 2000). In the context of online shopping, failing to complete the transaction and leaving the items in the shopping cart serves as a way for consumers to postpone the decision and avoid emotional discomfort.

H1a: Regret positively affects OSCA behaviour

2.2.2. Perceived benefits of OSCA and OSCA behavior

Perceived benefits play an important role in shaping loss avoidance behavior. When consumers recognize that abandoning the shopping cart helps them avoid the risks of choosing the wrong product, overpaying, or experiencing financial strain, they are more inclined to adopt OSCA. In line with Prospect theory, the three dimensions of OSCA benefits have the potential to direct consumers toward abandoning their online shopping carts.

First, in-depth interviews reveal that consumers often abandon carts when they believe a better product is available, expect higher quality elsewhere, or wish to avoid unnecessary purchases by using what they already own. Consumer choice theory suggests that individuals seek to maximize utility within budget and preference constraints (Nicholson & Snyder, 2010; Varian, 2014). Much cart abandonment occurs during exploration and comparison, as consumers research options before committing (Xu & Huang, 2015). This comparative process helps them select better products and avoid premature, dissatisfying purchases. Thus, more substantial perceived product-performance benefits are likely to increase the pull toward online shopping cart abandonment.

H2: Benefit related to product performance positively affects OSCA behaviour

Secondly, more than half of the interviewees reported abandoning their carts to obtain better prices. Cart abandonment enables consumers to wait for discounts or seek lower prices on other platforms. Prior research shows that many abandon online carts but later buy the same item offline to avoid delivery (Wang, Cheah, et al., 2022). In Vietnam, in-store purchases may also be exempt from certain taxes. Studies consistently identify waiting for discounts as a key driver of OSCA (Kukar-Kinney & Close, 2010; Wang, Ye, et al., 2022). Thus, the perceived benefit of securing a lower price is likely to increase the pull toward abandonment.

H3: Benefit related to purchasing at lower prices positively affects OSCA behaviour

Thirdly, the interviewees explained that they abandon carts to control budgets, avoid unnecessary spending, and prevent credit strain. This aligns with evidence that financially literate consumers regulate expenditures more effectively, whereas those with lower financial knowledge are more prone to impulsive online purchases (Suyanto et al., 2025). In-depth interviews show that OSCA serves as a self-regulation strategy to limit overspending, save money, and avoid debt. Therefore, stronger perceptions of financial-related benefits are likely to increase the likelihood of online shopping cart abandonment.

H4: Benefit related to personal finance positively affects OSCA behaviour

2.2.3 The mediating role of perceived benefits of OSCA

Prospect theory suggests that past poor purchases heighten regret, increasing consumers' sensitivity to potential losses in later decisions. This makes them more cautious about product fit, quality, and price, leading them to view cart abandonment as a safe delay while seeking better options. Regret over overpaying or overspending also amplifies attention to price and budget protection, making abandonment a strategy to wait for discounts or avoid unnecessary expense. Overall, regret strengthens loss-avoidance motives and enhances perceived benefits of abandoning the cart.

H1b: Regret positively affects perceived benefits related to product performance.

H1c: Regret positively affects perceived benefits related to purchasing at lower prices.

H1d: Regret positively affects perceived benefits related to personal finance

2.2.4 The moderate role of Perceived financial well-being

Perceived financial well-being (Brüggen et al., 2017) reflects individuals' sense of security and control over their finances and is known to shape spending behavior (Hojman et al., 2016; Serido et al., 2013) and online shopping tendencies (Hampson et al., 2018; Tanoto & Evelyn, 2019). Those experiencing financial strain often prioritize saving and cutting non-essential expenses, making OSCA more likely. Interviewees similarly reported buying more readily when financially comfortable and delaying purchases when budgets felt tight. Beyond its direct influence, perceived financial well-being also moderates the extent to which perceived benefits translate into OSCA: saving money, avoiding waste, and delaying unnecessary purchases, which strengthens the influence of these benefits on OSCA, whereas financial security weakens them.

H5a: Perceived financial well-being negatively affects OSCA behaviour

H5b: Perceived financial well-being moderates the relationship between benefit related to product performance and

H5c: Perceived financial well-being moderates the relationship between benefits related to purchasing at lower prices and OSCA

H5d: Perceived financial well-being moderates the relationship between benefit related to personal finance and OSCA

3. Research methodology

Phase 1. Qualitative study

This study builds on the authors' prior research project examining psychological and behavioral drivers of online shopping cart abandonment. To align with the current Prospect theory framework, the original qualitative dataset was revisited and reanalyzed. The in-depth interviews with 30 Vietnamese online shoppers revealed that all five key factors proposed in the research model were consistent with Prospect theory. Together, these factors help explain why consumers choose to abandon their carts.

Phase 2. Quantitative study

Table 1. Measurement items

Factors	Sources
Regret (REG)	
REG_1: Many times, I misjudged the product when I purchased it online.	(David Clarke & Mortimer, 2013)
REG_2: Many times, I chose the wrong product while shopping online.	
REG_3: Many times I thought that I should have bought a different product.	
REG_4: I have often regretted some of my choices when shopping online.	
REG_5: I have often felt that I spent beyond my means when shopping online.	
Benefit related to purchasing at lower prices (BLP)	
BLP_1: Abandoning the online shopping cart may provide an opportunity to purchase the products at a later time with better promotions.	Benefit related to purchasing at lower prices (BLP) (Kukar-Kinney & Close, 2010)
BLP_2: Abandoning the online shopping cart may lead to buying the products from another online store or platform with more attractive offers.	
BLP_3: Abandoning the online shopping cart may result in purchasing the products from a physical (offline) store with better promotions.	
BLP_4: Abandoning the online shopping cart may allow for purchasing the products elsewhere at lower or free shipping costs.	
BLP_5: Abandoning the online shopping cart may help buy the products from another place without being subject to taxes.	
Benefit related to product performance (BPP)	
BPP_1: Abandoning the online shopping cart can lead to purchasing the products with better quality afterward.	Benefit related to product performance (BPP) Newly developed
BPP_2: Abandoning online shopping cart can lead to buying the products elsewhere with better after-sales service.	
BPP_3: Abandoning online shopping cart provides an opportunity to choose more satisfying products by shopping at physical stores (due to hands-on experience with the product).	
BPP_4: Abandoning online shopping cart helps optimize the use of existing products at home.	
BPP_5: Abandoning online shopping cart can lead to purchasing products that better suits actual usage needs.	
Benefit related to personal finance (BPF)	
BPF_1: Abandoning online shopping cart helps avoid unnecessary spending.	Benefit related to personal finance (BPF) Newly developed
BPF_2: Abandoning online shopping cart helps save money for long-term goals	
BPF_3: Abandoning online shopping cart helps avoid accumulating debt from credit cards	
BPF_4: Abandoning online shopping cart helps prevent overspending beyond one's financial means.	
Perceived financial well-being (FWE)	
FWE_1: How do you feel about your current financial situation?	Perceived financial well-being (FWE) (Gerrans et al., 2014; Hoang et al., 2023; Losada-Otálora & Alkire (Née Nasr), 2019)
FWE_2: How frequently do you find yourself just getting by financially and living from pay slip to pay slip?	
FWE_3: How confident are you that you could find the money to pay for a financial emergency that costs more than your monthly income?	
FWE_4: How often do you worry about being able to meet normal monthly living expenses?	
FWE_5: How satisfied are you with your present financial situation?	
Online shopping cart abandonment behavior (OSCA)	
OSCA_1: How often do you leave items in your online shopping cart without buying them?	Online shopping cart abandonment behavior (OSCA) (Kukar-Kinney & Close, 2010)
OSCA_2: How often do you place an item in the online shopping cart, but do not buy it during the same Internet session?	
OSCA_3: How often do you exit the page or close the app before completing your purchase?	
OSCA_4: How often do you abandon your online shopping cart?	
OSCA_5: How often do you review your online shopping cart and remove items before proceeding to checkout?	

Source(s): Authors' own work

A quantitative survey was conducted to validate the measurement scales and test the proposed model, building on insights from the qualitative phase (See Table 1). All constructs were measured with five-point Likert scales, and a pilot test with 20 respondents ensured clarity. The main cross-sectional survey took place from December 2024 to February 2025 across five major Vietnamese cities (Hanoi, Ho Chi Minh, Danang, Hue, Bien Hoa). Using convenience sampling, eligible participants were required to have at least six months of online shopping experience and a history of cart abandonment. Trained assistants recruited respondents in public areas and administered both paper-based and online questionnaires, checking submissions to reduce missing data. Of the 676 collected surveys, 630 valid cases were retained. The demographic profile reflects Vietnam's online consumer population, with most respondents living in Hanoi and Ho Chi Minh City, high levels of tertiary education, and varied income levels. More than 60% reported over five years of online shopping experience, indicating a well-informed sample suitable for analyzing OSCA behavior.

4. Empirical results

4.1. Assessment of the measurement scales

The measurement model was evaluated following the guidelines of (Hair & Alamer (2022). Results show that most indicator loadings exceeded 0.70, demonstrating adequate indicator reliability. Loadings ranged from 0.712 to 0.871 for the predictor constructs and from 0.697 to 0.817 for OSCA, indicating stable item contributions. Construct reliability was supported, with Cronbach's alphas ranging from 0.810 to 0.854 and composite reliabilities ranging from 0.868 to 0.902, confirming strong internal consistency. Convergent validity was achieved, as all AVE values exceeded 0.50, ranging from 0.570 to 0.696.

Discriminant validity was established using both the Fornell-Larcker criterion and HTMT ratios. The square roots of the AVEs were greater than the inter-construct correlations, and all HTMT

values remained below 0.85, which is appropriate for theory-driven studies. Collectively, these results confirm that the measurement model demonstrates satisfactory reliability and validity, allowing progression to the structural model assessment.

4.2. Structural model evaluation

The structural model was assessed using PLS-SEM. Multicollinearity was not a concern, as all VIF values ranged from 1.028 to 2.252, well below the threshold of 5. Path analysis results (Table 2) show that regret had a significant direct effect on online shopping cart abandonment (OSCA) (β = 0.416, $p < 0.001$), confirming its role as a primary driver of abandonment behavior. Regret also exerted significant positive effects on all three perceived benefit dimensions: benefits related to personal finance (β = 0.296, $p < 0.001$), benefits related to purchasing at lower prices (β = 0.303, $p < 0.001$), and benefits related to product performance (β = 0.297, $p < 0.001$). These results support hypotheses H1b to H1d.

All three perceived benefit dimensions were significant predictors of OSCA. Benefits related to product performance (β = 0.129, p = 0.008), lower prices (β = 0.155, p = 0.001), and personal finance (β = 0.128, p = 0.002) each showed positive effects, supporting hypotheses H2 through H4.

Perceived financial well-being (FWE) had a meaningful direct effect on OSCA (β = -0.113, p = 0.001), indicating that individuals who feel more financially secure are less likely to abandon their carts, consistent with hypothesis H5a. However, its moderating influence was only partially supported. FWE did not significantly moderate the relationships between lower-price benefits and OSCA (β = 0.046, p = 0.324) or between product-performance benefits and OSCA (β = -0.023, p = 0.675). In contrast, FWE significantly moderated the effect of personal-finance benefits on OSCA (β = -0.079, p = 0.038), supporting hypothesis H5d. Thus, financial well-being shapes only selected benefit-behavior links rather than exerting a uniform moderating effect.

The model accounted for 29.4 percent of the variance in OSCA (R^2 = 0.294), an acceptable level given the complexity of consumer decision making. Overall, the structural model provides robust empirical support for the central role of regret and perceived benefits in explaining OSCA, alongside the direct influence of financial well-being.

Table 2: Results of partial least squares - structural equation modeling

Path	VIF	Path coefficients	p value	R^2	Hypothesis	Decision
FWE -> OSCA	1.028	-0.113	0.001		H5a	Supported
FWE*BLP -> OSCA	2.159	0.046	0.324		H5c	Not supported
FWE*BPF -> OSCA	1.425	-0.079	0.038		H5d	Supported
FWE*BPP -> OSCA	2.252	-0.023	0.675		H5b	Not supported
BLP -> OSCA	1.803	0.155	0.001		H3	Supported
BPF -> OSCA	1.352	0.128	0.002	0.294	H4	Supported
BPP -> OSCA	1.795	0.129	0.008		H2	Supported
REG -> BLP	1	0.303	0.000		H1c	Supported
REG -> OSCA	1.158	0.416	0.000		H1a	Supported
REG-> BPF	1	0.296	0.000		H1d	Supported
REG-> BPP	1	0.297	0.000		H1b	Supported

Note: BLP: Benefit related to purchasing at lower prices; BPP: Benefit related to product performance; BPF: Benefit related to personal finance; FWE: Perceived financial well-being; REG: Regret; OSCA: Online shopping cart abandonment behavior.

Source(s): Authors' own work

The model's predictive performance was assessed using PLS-Predict following Hair & Alamer (2022) followed by a discussion of situations in which PLS-SEM should be the method of choice for structural equation modeling. It is argued that PLS-SEM is appropriate when complex models are analyzed, when prediction is the focus of the research – particularly out-of-sample prediction to support external validity, when data do not meet normal distribution assumptions, when formative constructs are included, and when higher-order constructs facilitate better understanding of theoretical models. The most up-to-date guidelines for applying PLS-SEM are provided, and step-by-step guidance is offered on how to apply the method using an R statistical package (i.e., SEMinR. All OSCA indicators showed positive Q^2 values (0.076-0.129), demonstrating that the PLS model outperformed the linear benchmark. PLS RMSE values were equal to or lower than those of the LM model, indicating stable predictive accuracy. Blindfolding yielded an overall Q^2 of 0.16, surpassing the recommended threshold for behavioral research. These results confirm that the model demonstrates satisfactory predictive validity.

5. Conclusion

5.1. Discussion

This study extends the consumer behavior perspective in the context of online shopping cart abandonment by applying Prospect theory to explain the role of regret and how this emotion shapes consumers' perceptions of the benefits of abandoning the shopping cart. Regret also emerged as a positive driver, suggesting that negative prior purchase experiences heighten hesitation and avoidance (Cho et al., 2006). The quantitative results reinforce the

theoretical argument by showing that regret not only exerts a direct effect on OSCA but also strengthens three dimensions of perceived benefits, including product performance, lower prices, and personal finance. These benefit dimensions, therefore, serve as important mechanisms that translate regret into a preference for maintaining the status quo rather than completing the purchase.

The findings also reveal that lower perceived financial well-being was associated with higher abandonment, aligning with evidence that financial constraints prompt consumers to prioritise essential purchases and defer discretionary spending (Durante & Laran, 2016; Serido et al., 2013). However, the moderating effect of perceived financial well-being appeared only for the personal finance benefit dimension, suggesting that consumers with weaker financial conditions are more sensitive to the risk of overspending and thus place greater emphasis on the benefit of not buying as a way to preserve short-term financial security.

Overall, these findings help clarify the decision-making mechanism of consumers in online shopping cart contexts, a process shaped by emotions, subjective risk assessments, and self-protective motivations.

5.2. Academic and practical implications

This study advances OSCA research in three ways. It integrates regret into Prospect theory to clarify how emotional and cognitive loss-avoidance mechanisms operate in online shopping. It also validates three perceived benefits of cart abandonment as mediators, offering a broader explanatory structure beyond risk or cost-based models. Finally, it highlights the dual role of perceived financial well-being as both a direct predictor and a moderator in shaping digital purchase decisions. Practically, the findings suggest improving post-purchase experiences, enhancing price and product transparency, and offering supportive financial features to reduce regret-driven loss avoidance and lower cart abandonment.

5.3. Limitations and future research direction

This study has several limitations. The sample, collected from five major Vietnamese cities, may not capture regional differences, indicating the value of comparisons with rural areas or other countries. The cross-sectional design also restricts understanding of how regret or financial well-being evolves over time, and studies using longitudinal or experimental methods could strengthen causal interpretations. Although the model demonstrates acceptable predictive power, the modest R^2 for OSCA suggests that other factors, such as social influence, shopping habits, or perceived risks, may also play an important role in shaping abandonment behavior.

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