

Assessing the Drivers of FoMO (Fear of Missing Out) in Online Purchase Behavior Among Malaysian Online Shoppers: The Effect of Scarcity, Social Influence and Promotion

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ABSTRACT

Fear of Missing Out (FoMO) has emerged as a pivotal psychological phenomenon influencing consumer decision-making in digital marketplaces. This study examines the key drivers of FoMO in online shopping among Malaysian shoppers, focusing specifically on the effects of scarcity, social influence, and promotional strategies. Drawing on established theoretical frameworks and prior empirical research, the study explores how these factors interact to shape consumer online purchasing behaviour. By elucidating the mechanisms through which scarcity cues, social influence, and promotional tactics amplify FoMO, the research offers deeper insights into consumer psychology in digital retail and practical implications for marketing strategy. A quantitative research design will be adopted, employing quota sampling to recruit Malaysian online shoppers. Data will be collected via self-administered questionnaires using a five-point Likert scale. Partial Least Squares Structural Equation Modelling (PLS-SEM) will be applied to assess the hypothesized relationships among scarcity, social influence, promotion, FoMO, and online purchase behavior. The findings are anticipated to provide practical insights for digital marketers on designing strategies that leverage FoMO to boost consumer engagement and sales. Theoretically, the study reinforces the applicability of the S-O-R model by positioning FoMO as a key organism mediating the effects of external stimuli on consumer purchasing decisions in the Malaysian e-commerce context.

Keywords—Fear of missing out, Scarcity, Social influence, Promotion, Online purchase behaviour, S-O-R model

INTRODUCTION AND RESEARCH BACKGROUND

The phenomenon of Fear of Missing Out (FoMO) has become a significant driver of online purchase behavior, particularly in the context of Malaysian online shoppers. The rapid evolution of e-commerce and digital platforms has profoundly reshaped consumer behavior, particularly within emerging economies like Malaysia, where online shopping has become ubiquitous [46]. This pervasive digital engagement has, in turn, given rise to novel psychological phenomena influencing purchasing decisions, such as the Fear of Missing Out [39], [50]. FoMO, characterized by a pervasive apprehension that others might be having rewarding experiences from which one is absent, significantly drives compulsive buying and status consumption, particularly among young adults who are highly susceptible to social comparisons propagated through social networking sites [44]. Indeed, the phenomenon of FoMO, initially identified as a psychological response to social media engagement, is rapidly gaining scholarly attention across diverse fields including psychology, management, and education due to its significant implications for consumer behavior [5]. This is particularly pertinent in the context of online purchasing, where digital scarcity, peer endorsements, and promotional tactics are strategically deployed to leverage this inherent anxiety, influencing consumer decisions in real-time [21]. Despite the rapid growth of e-commerce, only a small percentage of Malaysian internet users engage in online purchasing, primarily due to perceived risks such as privacy and delivery concerns [3], [28]. However, the psychological influence of FoMO, driven by factors like scarcity, social influence, and promotional activities, remains underexplored in this demographic. FoMO can significantly impact consumer behavior by creating a sense of urgency and the fear of

missing out on limited-time offers and exclusive deals [5], [51]. This urgency is often amplified by social influence, where consumers mimic the purchasing behaviors of others to avoid feeling left out [63]. Additionally, promotional activities, such as discounts and special offers, can further exacerbate FoMO, leading to impulsive buying decisions [4], [41], [58]. Given the unique cultural and social dynamics of Malaysian consumers, it is crucial to understand how these drivers interact to influence online purchase behavior. Based on the aforementioned arguments, this research aims to fill the gap by assessing the effects of scarcity, social influence, and promotions on FoMO among Malaysian online shoppers. By doing so, it seeks to provide actionable insights for marketers to design effective FoMO-induced strategies that enhance consumer engagement and drive online sales. Understanding these underlying psychological mechanisms is critical for both marketers seeking to optimize engagement strategies and consumers aiming to make more informed decisions in a digitally saturated marketplace.

Research Objectives

RO1: To examine the effect of scarcity on FoMO among Malaysian online shoppers.

RO2: To examine the effect of social influence on FoMO among Malaysian online shoppers.

RO3: To examine the effect of promotion on FoMO among Malaysian online shoppers.

RO4: To investigate the effect of FoMO on online purchase behavior in online shopping.

RO5: To assess the direct effects of scarcity, social influence, and promotion on online purchase behavior.

RO6: To evaluate the mediating role of FoMO in the relationship between scarcity, social influence, promotion, and online purchase behavior.

Research Questions

RQ1: How does scarcity influence FOMO among Malaysian online shoppers?

RQ2: How does social influence affect FOMO among Malaysian online shoppers?

RQ3: How does promotion affect FOMO among Malaysian online shoppers?

RQ4: What is the effect of FOMO on online purchase behavior in online shopping?

RQ5: Do scarcity, social influence, and promotion directly influence online purchase behavior?

RQ6: Does FOMO mediate the relationship between scarcity, social influence, promotion, and online purchase behavior?

LITERATURE REVIEW

Fear of Missing Out (FoMO)

The fear of missing out (FoMO) is a powerful psychological driver shaping consumer purchase behavior, particularly in digital and social media environments [43]. It is associated with increased compulsive buying and impulse purchases, driven by anxiety and materialism [12], [29]. Social media platforms, such as TikTok, intensify FoMO by generating urgency and perceived scarcity, which directly influences shopping intentions [20], [72], while scarcity promotions, including limited-time offers or restricted product availability, leverage FoMO to enhance purchase intentions [16], [61], [69]. FoMO is further amplified by social media engagement, advertising, and influencer endorsements, with live streaming and e-commerce platforms exploiting personalized recommendations and time-limited promotions to drive impulse purchases [11], [22], [31], [42]. Psychologically, FoMO can elicit both positive behaviors, such as increased purchase intentions due to anticipated pleasure, and negative outcomes, such as decreased intentions due to anticipated regret [24]. Conceptually, it has been defined

as a persistent desire to monitor others' seemingly exciting lives online, coupled with anxiety about disconnection or being out of touch with ongoing events, which often leads to excessive digital engagement and maladaptive behaviors [27], [35]. FoMO is particularly prevalent among younger demographics, especially young men [19], and is exacerbated by social media's constant display of curated, idealized portrayals of others' lives, fostering social comparison and heightened anxiety [65]. Overall, FoMO represents a critical determinant of consumer behavior, profoundly shaping how individuals interact with marketing strategies and make purchasing decisions in the digital age [5].

Underpinning Theories

The Stimulus-Organism-Response (SOR) theory, introduced by Mehrabian and Russell in 1974, offers a robust framework for understanding consumer behavior by positing that external stimuli (S) influence the internal states of an organism (O), which in turn drive behavioral responses (R). This model has been widely applied across diverse contexts, including healthcare, e-commerce, live-streaming commerce, and full-service restaurants, demonstrating its versatility in explaining how stimuli shape consumer actions. In healthcare, SOR is frequently combined with other theories such as Flow Theory and the Theory of Reasoned Action to examine how external stimuli affect consumer evaluations and repurchase intentions, highlighting the model's generalizability across service sectors [59]. Similarly, in artificial intelligence and hospitality research, the SOR framework has been used to integrate findings from 81 empirical studies, showing how stimulus factors influence consumer intentions through central and peripheral pathways, while also noting the moderating role of culture-related macro-factors [30]. In the e-commerce domain, SOR theory elucidates the mechanisms behind impulse buying behavior, emphasizing the role of emotional and social stimuli in shaping consumers' internal states, which subsequently influence purchase behavior. Psychological and demographic factors are often introduced as moderators, enriching theoretical understanding and providing actionable insights for marketers and e-retailers [37]. Studies further reveal that promotions, product variety, and quality act as key enablers of online impulse buying, with the SOR model facilitating the development of hierarchical frameworks to simplify complex relationships among these enablers [55]. In full-service restaurants, SOR-based research demonstrates how customer, employee, and physical servicescape dimensions affect consumer behavior, with customer affection mediating these effects and gender differences influencing the relative impact of each servicescape component [6]. Applying the SOR theory to the present study, which investigates the drivers of FoMO in online purchase behavior among Malaysian online shoppers, provides a structured lens to examine how scarcity, social influence, and promotional stimuli trigger internal FoMO states that drive purchasing behaviors. By situating FoMO as the organism mediating the relationship between external marketing stimuli and consumer purchase behavior, this study extends the SOR framework to contemporary digital consumption contexts, offering both theoretical insights and practical guidance for online marketers seeking to enhance engagement and sales outcomes.

Scarcity

Scarcity is a significant driver of online purchase behavior, particularly in the context of FOMO. Scarcity cues, such as limited-time and limited-quantity offers, are commonly used by online retailers to create a sense of urgency and drive impulsive purchases. Research indicates that these scarcity messages can significantly increase perceived arousal, leading to higher impulsive buying behavior [25], [26]. Additionally, scarcity messages, especially those indicating limited quantity, tend to capture greater visual attention, which can further enhance the likelihood of purchase [47]. However, the effectiveness of scarcity cues can vary based on the context, such as the type of product and the consumer's cultural background [14]. For instance, limited-time offers may not directly increase purchase intention but can create a sense of competition and perceived scarcity, indirectly boosting purchase intentions [14]. Overall, scarcity cues are powerful tools in online marketing, effectively leveraging consumers' fear of missing out to drive sales.

Social Influence

Social influence plays a crucial role in shaping online purchase behavior, particularly through mechanisms such as informational social influence and social interactions. Positive social influence, such as favorable messages in online forums, can reinforce consumers' beliefs and attitudes towards online shopping, thereby increasing their intention to purchase [33], [34]. Informational social influence, where consumers rely on others' shopping

experiences, significantly impacts decision-making processes, especially in trust-based online shopping models [18], [71]. Moreover, social media influencers (SMIs) can mediate shopping intentions, with brand credibility and individual shopping values moderating this effect [2]. Offline social networks also contribute to online purchasing behavior, with strong social ties amplifying the influence of peers on purchase quantity, frequency, and expenditure [36]. These findings highlight the multifaceted nature of social influence, demonstrating its ability to shape consumer behavior through various channels and interactions.

Promotions

Promotions are a key driver of online purchase behavior, often stimulating both planned and unplanned buying. Online promotions, such as price discounts and limited-time offers, can significantly influence consumer behavior by creating a sense of urgency and enhancing perceived value [73], [74]. Research shows that frequent and continuous online promotions can lead to the formation of 'online promotion habits, which increase customer value but may also have diminishing returns if overused [66]. Additionally, the effectiveness of promotions can vary based on the type of incentive and the consumer's level of experience with online shopping [8]. For instance, utilitarian promotions (e.g. discounts) may be more effective for experienced online shoppers, while hedonic promotions (e.g. free gifts) may appeal more to less experienced users [8]. Furthermore, the impact of promotions can differ across online and offline channels, with online promotions often having a more significant effect on impulsive buying behavior [10], [70]. These insights underscore the importance of strategic promotion planning to maximize consumer engagement and sales.

Online Purchase Behavior

Online purchase behavior is influenced by an intricate interplay of product, consumer, and retailer related factors. Product attributes, including variety and quality, strongly shape consumer decisions, as a diverse selection of goods often motivates engagement in online shopping [43], [64]. Psychological determinants, such as attitudes, perceived benefits, and subjective norms, further drive purchase intentions, with positive attitudes and perceived advantages increasing the likelihood of transactions [41], [52]. Trust and perceived risk are critical in this context, as higher trust levels and lower perceived risks consistently correlate with greater online purchasing behavior [7]. The COVID-19 pandemic has further highlighted the role of external circumstances, such as self-isolation, in accelerating the adoption of e-commerce channels [52]. Technological factors including website usability, quality of product information, and transaction security are essential for fostering consumer satisfaction and reinforcing trust [17], [62]. Social influences, reflected through social media engagement and peer reviews, significantly shape purchase intentions, emphasizing the importance of social proof in digital shopping environments [40]. Additionally, demographic characteristics, such as age and income, moderate online shopping behavior, with younger consumers exhibiting higher engagement in e-commerce activities [43].

Proposed Conceptual Framework and Hypotheses Development

The conceptual framework proposed for this study is shown in Figure 1, showing the relationship between scarcity, social influence, promotion, FoMO, and online purchase behavior.

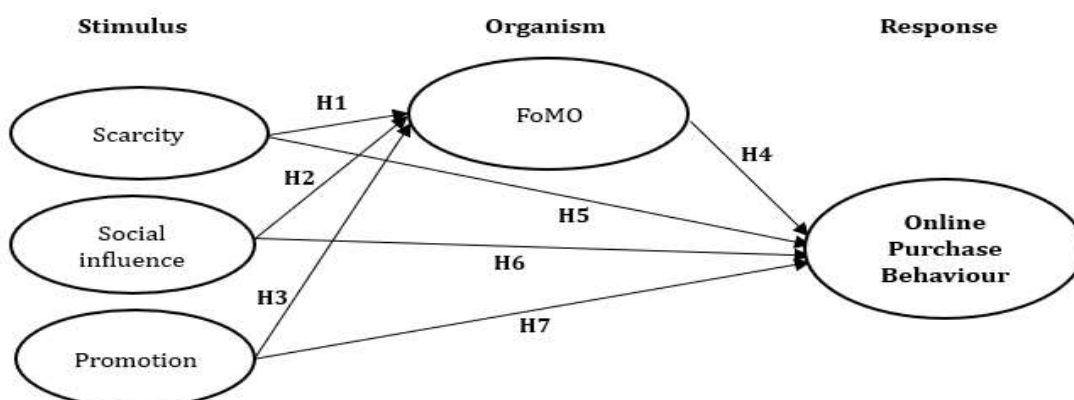


Figure 1: Proposed Conceptual Framework

Relationship between Scarcity with FoMO

Scarcity promotions, such as limited-time and limited-quantity offers, significantly impact consumer purchase intentions. These promotions create a sense of urgency and exclusivity, which can drive consumers to make quicker purchasing decisions to avoid missing out on the opportunity [16], [61], [69]. The psychological mechanism behind this is often linked to FoMO, which amplifies the perceived value of scarce products and increases the likelihood of impulse buying [16], [61]. Different types of scarcity messages, such as limited quantity scarcity and limited time scarcity, have been studied to understand their effects on consumer behavior. Research indicates that both limited quantity scarcity and limited time scarcity conditions increase impulse buying tendencies, with FoMO partially mediating this relationship [16]. However, the impact of these scarcity messages can be context-specific, varying by product category and cultural context [16].

H1: Scarcity has a positive impact on FoMO among Malaysian online shoppers

Relationship between Social Influence with FoMO

The relationship between social influence and FoMO significantly shapes online purchase behavior, particularly through social media and live-streaming platforms. Social media addiction has been linked to heightened FoMO, which in turn drives compulsive buying behaviors among youths, as constant exposure to others' activities fosters a need for social validation [13], [56]. Live-streaming shopping further amplifies FoMO, as the real-time engagement and social presence create urgency and increase purchase intentions [31], [53]. Various factors mediate and moderate this relationship; for instance, customer experience influences impulsive buying, while mindfulness can mitigate the adverse effects of FoMO on compulsive purchases [29], [53]. Additionally, influencers on social media amplify FoMO, enhancing the perceived urgency and desirability of products, which drives purchase intentions [54]. Cultural and psychological dimensions also play a role, as collectivism and ethnic identity predict FoMO, while psychological states like anxiety and materialism mediate its effects on buying behavior [13], [32], [49]. Understanding these dynamics allows marketers to develop effective strategies to manage the impact of FoMO on consumer behavior in the digital marketplace.

H2: Social influence has a positive impact on FoMO among Malaysian online shoppers Relationship between Promotion with FoMO

FOMO significantly impacts online repurchase intentions, particularly when combined with personalized recommendations and time-limited promotions, which enhance perceived value and trust, thereby driving repurchase intentions [42]. Scarcity promotions, such as limited-time offers, are particularly effective in leveraging FOMO to boost purchase motivation, as they create a sense of urgency and competition among consumers [14], [69]. Additionally, live-streaming platforms utilize FOMO to heighten purchase intentions by presenting products in a way that emphasizes scarcity and immediacy, thus disrupting consumer inertia and encouraging immediate purchases [31]. The emotional and psychological drivers behind FOMO, such as materialism and hedonic motivation, further contribute to impulsive buying behaviors, especially when consumers are exposed to flash sales and other promotional events [45], [57]. Moreover, the integration of AI-driven personalization and gamification elements in e-commerce platforms can strategically amplify FOMO, enhancing customer engagement and retention [42]. Studies also indicate that FOMO mediates the relationship between social media addiction and compulsive buying, suggesting that promotional strategies on social media can significantly influence purchasing behaviors by exploiting FOMO [56]. Overall, the interplay between promotional strategies and FOMO is a critical factor in shaping online purchase behavior, with implications for developing targeted marketing strategies that effectively harness the psychological triggers of FOMO to drive sales and customer loyalty [9].

H3: Promotion has a positive impact on FoMO among Malaysian online shoppers Relationship between FoMO with Online Purchase Behavior

FoMO has been shown to positively influence compulsive buying behavior and online impulse buying, often mediated by factors such as social media addiction, materialism, and customer experience [29], [53], [56]. In the context of live-streaming social commerce platforms, FoMO significantly impacts impulse buying by increasing

the perceived value of products and driving purchase intentions through heightened attention to product scarcity and promotional offers [31], [53]. Additionally, FoMO's role as a mediator in the relationship between parasocial relationships, self-congruity, and online purchasing decisions underscores its importance in consumer behavior [58]. The emotional aspect of FoMO, including anticipated elation and self-enhancement, further strengthens purchase intentions, particularly in response to FOMO-laden marketing appeals [24]. Moreover, personalized recommendations and time-limited promotions amplify FoMO, enhancing repurchase intentions in online marketplaces [42]. FoMO also drives impulse purchases in live streaming environments, mediated by social validation and stimuli such as visual appeal and price [72]. Overall, FoMO's influence extends across various online purchasing contexts, from impulsive buys to repurchase intentions, highlighting its critical role in shaping consumer behavior in the digital age.

H4: FoMO has a positive effect on online purchase behaviour among Malaysian online shoppers Relationship Scarcity, Social Influence and Promotion with Online Purchase Behavior

The relationship between scarcity, social influence, and promotion with online purchase behavior is multifaceted and significantly impacts consumer decisions. Scarcity, often implemented through limited-quantity and limited-time promotions, has been shown to increase perceived arousal, which in turn leads to impulsive purchases [26], [67]. This effect is further amplified by the FoMO, which enhances purchase motivation and deal-seeking behavior [49], [69]. Social influence also plays a crucial role, with different types of social ties (weak vs. strong) affecting purchase intentions at various stages of the shopping process, particularly when scarcity is involved [60]. Additionally, social influence processes such as compliance, internalization, and identification positively influence online impulse buying behavior, especially when moderated by individual traits like impulsiveness [1]. Promotions, including sales and influencer marketing, further drive online purchases by leveraging psychological triggers and enhancing consumer engagement [68]. The integration of these elements; scarcity, social influence, and promotional strategies creates a compelling environment that encourages online impulse and compulsive buying behaviors, as evidenced by various studies employing models like the Unified Theory of Acceptance and Use of Technology and the Stimulus-Organism-Response framework [23], [38]. Overall, the interplay of these factors underscores the importance of strategically designed online marketing campaigns to effectively influence consumer behaviour and drive sales.

H5: Scarcity has a direct influence on online purchase behaviour among Malaysian online shoppers.

H6: Social influence has a direct influence on online purchase behaviour among Malaysian online shoppers.

H7: Promotion has a direct influence on online purchase behaviour among Malaysian online shoppers.

The Mediating Effect of FoMO on the Relationship Between Scarcity, Social Influence, and Promotion and Online Purchase Behavior

FoMO significantly enhances the perceived value of products, particularly in situations of product scarcity, thereby driving consumer action and purchasing intent [31], [69]. Scarcity cues, whether due to product limitations or merchant-created urgency, increase FoMO, which in turn positively impacts consumers' willingness to pay and purchase motivation [48], [69]. Social influence also plays a crucial role; social media addiction significantly influences FoMO, which then elevates compulsive buying behavior [56]. Additionally, social media marketing dimensions such as entertainment, interaction, trend, customization, and electronic word of mouth (e-WOM) significantly influence FoMO, which subsequently impacts purchase intention [54]. The presence of influencers further amplifies this relationship, enhancing FoMO and thus increasing purchase intention [54]. Promotions, particularly those involving live streaming, also leverage FoMO to boost purchase intentions. Live streaming participation heightens viewers' FoMO, leading to increased attention and a higher likelihood of purchase [31]. Moreover, FoMO mediates the relationship between social media usage and online self-promotion behaviors, which can lead to decreased self-esteem and increased online vulnerability [15]. Hence, FoMO acts as a critical mediator that links scarcity, social influence, and promotional strategies to online purchase behavior, significantly enhancing consumer engagement and driving purchasing decisions through heightened perceived value and urgency [15], [31], [48], [54], [56], [69].

H8a: FoMO mediates the relationship between scarcity and online purchase behaviour among Malaysian online shoppers.

H8b: FoMO mediates the relationship between social influence and online purchase behaviour among Malaysian online shoppers.

H8c: FoMO mediates the relationship between promotion and online purchase behaviour among Malaysian online shoppers.

METHODOLOGY

The study employs a quantitative research approach to examine the drivers of FoMO and its impact on online purchasing behavior among Malaysian shoppers. A quota sampling technique will be used to recruit participants who are active online shoppers, ensuring representation across key demographic characteristics such as age, gender, and income. Data collection will be conducted through self-administered questionnaires, with items measured on a five-point Likert scale ranging from strongly disagree to strongly agree. The survey instrument will include constructs related to scarcity, social influence, promotion, FoMO, and online purchase behavior. To test the hypothesized relationships, Partial Least Squares Structural Equation Modelling (PLS-SEM) will be applied, enabling the assessment of both direct and mediating effects among the variables. This methodology allows for robust evaluation of the proposed framework, providing both practical insights for digital marketers seeking to leverage FoMO in online retail and theoretical contributions by reinforcing the applicability of the S-O-R model, with FoMO conceptualized as the organism mediating the effects of environmental stimuli on consumer decision-making.

Research Implications

This study outlines the practical and theoretical implications of this study's findings for various stakeholders, including e-commerce businesses, policymakers, and future researchers. For e-commerce businesses, the findings illuminate how specific marketing tactics, such as limited-time offers or influencer collaborations, directly capitalize on FOMO to accelerate purchase decisions, necessitating a critical re-evaluation of current promotional frameworks. Policymakers, on the other hand, can utilize this research to develop ethical guidelines for digital marketing practices, ensuring consumer protection against manipulative strategies that exploit psychological vulnerabilities. Furthermore, academics can leverage these insights to refine theoretical models of consumer behavior by incorporating the nuanced dynamics of FOMO within online environments, thereby advancing the understanding of digital consumer psychology. Additionally, the identification of key drivers such as scarcity, social influence, and promotions provides a foundation for future research to explore the moderating roles of individual differences, such as personality traits and digital literacy, in shaping susceptibility to FOMO-driven purchasing behaviors. Moreover, understanding the cultural nuances of FOMO within the Malaysian context offers valuable insights for tailoring culturally sensitive interventions and marketing strategies that resonate effectively with the local population. Finally, this research highlights the dynamic interplay between global digital phenomena and local cultural contexts, underscoring the necessity of culturally informed approaches in consumer psychology and digital marketing research.

CONCLUSION

The assessment of the drivers of Fear of Missing Out (FoMO) in online purchase behavior among Malaysian online shoppers reveals a complex interplay between scarcity, social influence, and promotional strategies. The literature indicates that scarcity significantly heightens FoMO, leading to increased urgency and impulsive purchasing decisions, as consumers perceive limited availability as a cue for immediate action. Social influence, particularly through social media platforms, amplifies this effect by fostering a sense of community and shared experiences, which further intensifies FoMO and compels consumers to engage in compulsive buying behaviors. Additionally, promotional tactics, such as time-limited offers and influencer endorsements, effectively leverage FoMO to enhance consumer engagement and drive purchase behavior, as shoppers are motivated by the fear of missing out on exclusive deals and trends. The findings underscore the importance of understanding these

dynamics in the context of Malaysian online shopping behavior, as marketers can strategically design campaigns that tap into the psychological triggers of FoMO, ultimately leading to increased sales and customer loyalty. By recognizing the mediating role of FoMO, businesses can better tailor their marketing strategies to resonate with consumers' emotional and social needs, thereby enhancing the overall online shopping experience.

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