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Understanding Consumer Behavior Towards Purchase of Counterfeit Face Masks in An Emerging Market

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Abstract

Purpose: This research explores consumers' motivations for purchasing counterfeit face masks using extended TPB with additional variables. The study investigates how attitude mediates the relationship between subjective norms, health consciousness, perceived risk, and purchase intention.

Design/methodology/approach: Using a quantitative study, data collected from online self-administered questionnaires and analyzing 247 valid responses using Partial Least Square Smart PLS Software.

Findings: The results shed light on the critical factors influencing consumers' intentions to purchase counterfeit face masks, including consumer attitudes, subjective norms, health consciousness, price consciousness, and perceived risk. Notably, perceived behavioral control showed no significant effect on purchase intention. Further analysis revealed that attitude mediates the relationship between subjective norms, health consciousness, perceived risk, and purchase intention.

Research limitations/implications: The study acknowledged limitations in questionnaire distribution, primarily reaching a younger demographic through electronic means. The findings provide compelling insights and underscore the necessity of future research to encompass a more diverse population.

Originality/Value: This study offers valuable insights on how various determinants affect intention to purchase counterfeit face masks, bring significant value for scholar in this realm.

Keyword Extended Theory of Planned Behavior (TPB), Perceived Risk, Health Consciousness, Price Consciousness, Counterfeit face masks, Purchase Intention

Classification: Research paper

Introduction

To date, wearing a face mask is no longer mandatory. However, in some situations, consumers still prefer to wear a face mask, especially when doing daily routines in crowded public areas (i.e., commuting on public transportation), for self-protection since it is more effective to prevent any infection of virus.

Currently, consumers can easily purchase many types of face masks, like surgical face masks, medical face masks, and high filtration face masks like well-known brands N95 and KF94 from significant e-commerce platforms or retail outlets. Nonetheless, in some situations, consumers may be exposed to fake or counterfeit face masks from online vendors of some popular e-commerce platforms. Counterfeit face masks are still being sold in the market, as evidenced by the seizure of over 100,000 fake face masks by ministry officials, as reported by a local Malaysian news portal (Zolkepli, 2021). Counterfeiting products are unethical acts by producers and involve inferior quality. These deceptive practices are pervasive, and raising awareness about the widespread availability of counterfeit face masks is crucial to protecting consumers' rights. It is essential to understand why consumers buy counterfeit face masks despite knowing that their quality does not match that of authentic products.

In this context, counterfeit face masks refer to those not produced by the original manufacturer and are often of lower quality, posing protection risks. Despite their lower quality and pose protection risks, many counterfeit face masks are circulating in the market. Besides product availability, consumers' primary motivation to purchase counterfeit face masks was their lower prices than genuine ones (Samaddar & Menon, 2020). By reducing the quality, counterfeit face masks can lower prices than the market norm and attract many consumers. Besides, some vendors alter the counterfeit face masks to enhance their appearance with additional logos, decorations, or different colors and materials. Hence, counterfeit face masks may not provide adequate protection to consumers and may bring potential risks to consumer health. The question that needs to be empirically explored is: "Why do people purchase counterfeit face masks instead of authentic ones?"Understanding why consumers choose these masks is crucial for identifying gaps in public awareness and education about the risks associated with counterfeit products. This knowledge is crucial for public health agencies and policymakers to tailor effective messaging and interventions. As Shen et al. (2023) highlighted, consumers may need more knowledge to identify counterfeit face masks.

Moreover, consumers may unknowingly purchase counterfeit masks due to lower prices or availability. This research can shed light on the factors influencing these purchase intentions, such as from the original TPB constructs with extended determinants like health consciousness, price consciousness, and perceived risk. Perceived risk, in the consumer behaviour context, is described as an individual subjective assessment in relation to possible negative results of a purchase action. The theoretical contribution of the study lies in extending TPB model to include perceived risk, health consciousness, and price consciousness in the realm of consumers' purchase intentions toward counterfeit face masks. Furthermore, the study delves into the effect of attitude as a mediator for the subjective norms, health consciousness, perceived risk relationship with purchase

intention of counterfeit face masks. These extensions and mediations offers extensive insights into consumer behavior when buying counterfeit face masks, providing valuable insights into consumer behavior theory. The practical contribution of the study lies in its implications for consumer education and public awareness campaigns. By identifying the factors influencing consumers' purchase intentions toward counterfeit face masks, the study provides valuable insights for developing informative campaigns to increase public awareness of identifying counterfeit face masks. These initiatives, aimed at enhancing consumer safety through better regulation, enforcement, and education, can help consumers make more informed decisions and reduce the risks of purchasing counterfeit face masks.

Literature Review

Behavioral Intention in TPB

Ajzen (1991) introduced and explained TPB theory as an individual's behavior that is influenced by their intention, which is then guided by the person attitude, subjective norm, and perceived behavioral control. Numerous studies across various product categories have consistently supported TPB's ability to anticipate intention to purchase counterfeit goods. These studies have revealed that actual behavior could be predicted by behavioral intention and are linked to an individual attitude, subjective norms, and perceived behavioral control. Moreover, it is required to pay attention that the effect on the significant relationship varies for different product categories (Ajzen, 1991; Armitage & Conner, 2001). The TPB builds upon Ajzen and Fishbein's Theory of Reasoned Action (TRA) from 1980. It posits that an individual's behavioral intention is influenced by their attitude toward the behavior and subjective norm (Ajzen & Fishbein, 1980). Compared to TRA, TPB includes on one important predictor, i.e. PBC, allowing for predicting behaviors that are not entirely within one's control (Ajzen, 2020; Armitage & Conner, 2001; Chiu & Leng, 2015), for example, access to counterfeit products, which is ubiquitously available. Hence, based on the aforementioned literature on consumer behavior that adopted TPB, TPB is a suitable theoretical framework for studying counterfeit purchase intention.

Attitude

Attitude, an "educated inclination to react to a situation constructively or adversely," is a crucial determinant of purchaser intention (Jiang et al., 2019). Past research in counterfeit products has extensively explored the relationship between consumers attitude and their purchase intention often using attitude-behavior models like the TRA and TPB to explain consumers' decision-making process during counterfeit purchasing (Khan et al., 2020). The attitude towards counterfeiting is a significant predictor in studying the purchase intention of counterfeit products (Mayasari et al., 2022; Yaakob et al., 2021) and has been extensively examined in consumer behavior literature. Various studies have found that counterfeit products purchase can be explained mainly by attitude, regardless of product categories, such as on counterfeit outdoor products (Tseng et al., 2021), counterfeit face masks (Olivia, 2021), counterfeit fashion products (Bhatia, 2018), and counterfeit luxury goods (Jiang et al., 2019; Khan et al., 2020; Ting et al., 2016). As a fundamental driver of human decision-making, attitude plays a significant role in predicting customer behavior (Ajzen & Fishbein, 1980). This is particularly true in the case of counterfeit

goods, where having positive attitude induce purchase and negative attitude deters it. Based on these observations, see hypothesis one:
H1. Attitudes towards purchasing counterfeit face masks positively influence the purchase intention of counterfeit face masks.

Perceived Behavioral Control (PBC)

PBC, a novel concept in consumer behavior, Ajzen (1991) refers it as the extend of individual control and capability that an individual's perceptions of whether it would be easy or required great effort to perform a specific behaviour. In addition, PBC is also based on accessible control beliefs, defined as a given facilitating or impeding factor that will be present in the interested situation (Ajzen, 2020). In the case of counterfeit purchase, those factors include ease or difficulty of access to counterfeit products, information regarding counterfeit products, knowledge about the counterfeit products, and an individual's ability to access and purchase counterfeit products (Molina-Castillo et al., 2021). The more people can act, the likelier they are to intend to act. Consequently, the hypothesis is as follows:
H2: PBC positively influences the intention to purchase for counterfeit face masks.

Subjective Norm

Subjective norms, as stated in the TPB, are the perceived social pressures an individual feels from people they consider important in influencing a specific behavior (Ajzen, 1991). These norms are based on normative beliefs, which are the expectations or subjective probabilities that a given reference group, such as friends and family, agree or disagree on performing a specific behavior (Ajzen, 2020). In essence, subjective norms capture individuals' feelings about the social pressure they experience regarding a particular behavior (Jain, 2020). Therefore, the social pressure exerted by others is a critical component of subjective norms. The roles of family members and friend to shape an individual intention to purchase should not be underestimated. Social pressure influences on consumer behavior is well-documented in numerous studies. An individual may engage in deviant behavior not only because his friend or family is exhibiting the same behavior but also because he could tolerate and accept such behavior if he found peer support. Prior research has also identified that subjective norms significantly correlate with consumer attitudes (Singh et al., 2021) and affect intention to purchase counterfeit face masks (Olivia, 2021). Hence, when family members or friends purchase counterfeit face masks, he or she will tends to demonstrate a likeable attitude that subsequently generate intention to purchase.As such, refer to proposed hypothesis:

H3: Subjective norms positively influence the intention to purchase for counterfeit face masks.
H4: Subjective norms positively influence consumer attitudes towards counterfeit face masks.

Inclusion of Additional Constructs in TPB

The inclusion of constructs on original TPB are well documented in the past and are acknowledges by Ajzen's (1991) to have a greater understanding on human behavior. It can include additional predictors to enhance our understanding of an individual's behavior (Ajzen, 2020). TPB is well-known for predicting intention or behavior based on attitude, subjective norm, and perceived behavioral control, and recent evidence from the literature suggests the inclusion of additional

elements in TPB to predict better individual intention and behavior (Chiu & Leng, 2015; Jiang et al., 2019; Khan et al., 2020; Molina-Castillo et al., 2021). Therefore, this study aims to add additional constructs to TPB to predict counterfeit face masks intention to purchase : price consciousness, health consciousness, and perceived risk.

Health Consciousness

Health consciousness refers to the extend a person's life is integrated by health concerns (Xin & Seo, 2019). Consumers with high health consciousness are aware and concerned about their willingness. They will actively engage in activities to maintain and enhance their health and sustain a healthy life to prevent illness (Teng & Lu, 2016). Shah et al. (2020) state that health consciousness significantly affects masking attitude and mask purchase intention. However, there is a high possibility that counterfeit face masks provide inadequate protection and are likely poor quality. Hence, there is a high chance of infection risk with the use of counterfeit face masks. This could have a severe impact on the overall health of the consumer. Based on the above discussion, consumers with high health consciousness will likely refuse the use of low-quality counterfeit face masks, potentially affecting their overall health and exposure to the risk of infection. Therefore, this study hypothesized:
H5: Health Consciousness negatively influences attitudes toward purchasing counterfeit face masks.
H6: Health Consciousness negatively influences the intention to purchase counterfeit face masks.

Perceived Risk

Perceived risk refers to uncertainty when deciding about potential outcomes and associated losses. It is a vital factor in the proses of purchase decisions. An individual aim to minimize the chances of making mistakes, dealing with uncertainty, and facing unfavorable consequences when making buying choices (Bhatia, 2018). The concept of perceived risk is particularly significant in the context of counterfeit purchases. Numerous studies have been carried out to investigate the impact of perceived risk on consumers' intentions and behaviors when it comes to buying counterfeit goods or products (e.g., Mayasari et al., 2022)

These studies have consistently shown that perceived risk substantially negatively influences consumers' attitudes toward and intentions to purchase counterfeit products (Ting et al., 2016; Tseng et al., 2021). Counterfeit products are low-quality imitations of genuine products. When purchasing counterfeit items, consumers anticipate various inherent risks (Tseng et al., 2020). These risks include performance risk, where the products may not function as well as genuine ones, and social risk, where there is a risk of others forming negative opinions about the consumer using counterfeit products (Koay, 2018). In the case of counterfeit face masks, there are performance risks as they may not provide sufficient protection from disease infection. Consequently, risk-averse consumers will likely have a negative attitude toward counterfeit face masks and refrain from purchasing them. See H7 and H8:
H7: Perceived risk has a negative impact on attitudes toward purchasing counterfeit face masks.
H8: Perceived risk negatively influences the intention to purchase counterfeit face masks.

Price Consciousness

Price consciousness explained a consumers' intention to seek the best and most reasonable product price in the market. An individual with high price consciousness will tend to compare and search for the lowest-priced products before making a purchase decision. Counterfeit products usually have lower prices than genuine products, offering a price advantage that attracts consumers with high price consciousness to purchase such products. Despite being considered a significant factor in buying counterfeit products, some studies found that price consciousness has a positive but insignificant effect on consumer purchase intention towards counterfeit products in Malaysia (Hashim et al., 2020; Ramli et al., 2018). Hence H9 was hypothesizes as follow:

H9: Price consciousness positively influences intention to purchase counterfeit face masks

The Mediating Role of Attitude

The importance of attitude as a critical element of the consumer decision-making process influencing consumer's purchase intention and behavior has been discussed extensively in the extant literature. Prevailing theory shows that values and norms influence attitude, which modifies behavioral intention (Ajzen, 1991). Previous studies regarding counterfeit purchases found that attitudes exhibit a mediation effect between subjective norms and purchase intention of counterfeit products, including counterfeit luxury goods (Ting et al., 2016), counterfeit sports (Xi & Cheng, 2017), and counterfeit luxury fashion products (Singh et al., 2021). Hence, the same mediation effect is expected in the context of counterfeit face masks. Subjective norms will influence consumers' attitudes toward counterfeit face masks, and the attitude will mediate the purchase intention. This study significantly contribute to the understanding of consumer behavior and purchase intention in the context of counterfeit face masks, making a substantial impact on the field.

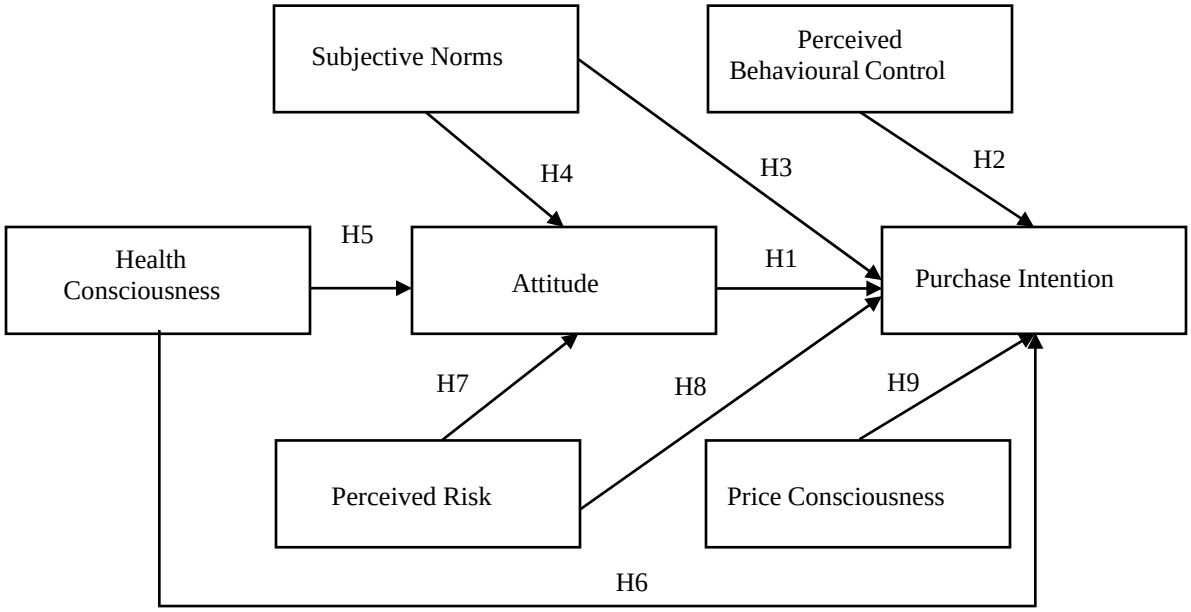
In terms of perceived risk, previous research found that perceived risk exerts a significant indirect effect on consumers' purchase intention towards food through attitude. It concluded that consumers perceive more risks as their attitude is affected by the hygienic dangers of food. However, Ting et al. (2016) found that attitude does not show a mediation effect between perceived risk and consumer purchase intention toward counterfeit luxury goods. In addition, previous research has shown that attitude does not mediate perceived risk to the purchase intention of counterfeit fashion products. This could be due to the inherent risk of purchasing counterfeit luxury goods and fashion products, unlike counterfeit face masks, which do not pose significant health concerns. The latter could affect consumer health and wellness, indirectly influencing the purchase intention. This unique challenge posed by counterfeit face masks underscores the need for specific research in this area, highlighting the urgency and importance of our study.

Although there is less evidence on the mediation effect of attitude between health consciousness and consumer purchase intention of counterfeit health products, previous research on health products such as organic food, functional food, and gym supplements shows a significant mediation influence of attitude between health consciousness and purchase intention (Nagar, 2020). Thus, this study includes the relationship of how attitude mediates between subjective norms, health consciousness, perceived risk, and intention to purchase counterfeit face masks (i.e. refer Figure 1).

H10a: The effect of subjective norms on intention to purchase counterfeit face masks mediated by attitude.

H10b: The effect of health consciousness on intention to purchase counterfeit face masks mediated by attitude.

H10c: The effect of perceived risk on intention to purchase counterfeit face masks mediated by attitude.



Mediation Hypotheses: H10a - H10c

Figure 1: Research Model

Method

This study adopts a quantitative cross-sectional approach using convenience sampling to select individuals representing the entire population. Quantitative research is ideal for this research as it quantifies and analyzes variables to predict the relationship between dependent and independent variables with hypothesis investigation (Saunders et al., 2019). Several filtering questions are included in the questionnaire to ensure respondents are aware of counterfeit face masks.
For example, a short description of counterfeit face masks and an image are included on the questionnaire's cover page to elevate respondent knowledge and awareness of counterfeit face masks. The target population included Malaysian consumers above 18 years old, and the unit of analysis is individual consumers. An online survey distributed through a Google Form is chosen to collect data. Online surveys will be distributed through Facebook, Shopee, and Lazada platforms. The G*Power method is used to calculate sample size required in this study. With 6 predictors, minimum size for sample required is 146. The measurement items used were based on

previous study and modified to match the study scope. Some changes were made to the instruments to suit the context of counterfeit purchases. The independent variables, including attitudes, perceived behavioral control, subjective norms, health consciousness, perceived risk, and price consciousness, were rated on a 5 point Likert Scale and 7 point for purchase intention. All scales ranging from strongly disagree to strongly agree (i.e. details refer Table 2). Data collection was completed in 2022 in Malaysia during the pandemic, and it took two months to complete. This study received 251 responses but removed four respondents who still needed to meet the study criteria. After filtering, 247 valid responses (i.e. refer Table 1) were received between February and April 2022. The collected data were analyzed using SPSS and Smart PLS software.

Table 1: Valid Responses Profile

Demographic Characteristic	Category	Number of Samples	Percent (%)
Gender	M	129	56.27
	F	118	43.73
Age	18 - 29	123	49.80
	30 - 39	64	25.91
	40 - 49	44	17.81
	50≥	16	6.48
Education	SPM	30	12.15
	STPM/Matriculation/Diploma	44	17.81
	Master's Degree	41	16.60
	PhD	6	2.43
Marital Status	Single	160	64.78
	Married	87	35.22
Monthly Income	< RM1k	47	19.03
	RM1,001 - RM2,500	23	9.31
	RM2,501 - RM5,000	83	33.60
	RM5,001 - RM7,500	61	24.70
	RM7,501 - RM10,000	25	10.12
	> RM10k	8	3.24

This study used PLS-SEM to assess the proposed conceptual framework's structural and measurement models. PLS-SEM has several advantages, such as employing a composite-based approach and offering greater modeling flexibility with minimal sample size requirements. To analyze the collected data and predict the relationship between dependent and independent variables, we utilized SmartPLS version 3.3.9 (Ringle et al., 2015). SmartPLS is a leading software application for PLS-SEM, known for its user-friendly interface and advanced reporting features. The reflective measurement model's suitability was confirmed in this study by ensuring that the loadings, composite reliability and Alpha's above 0.7 and convergent validity (>0.5) values met the criteria suggested by Hair et al. (2014; 2017). All the values exceeded 0.80, indicating strong internal consistency and high reliability and validity of the measures (refer Table 2)

Additionally, discriminant validity was confirmed by evaluating the HTMT) value (<0.9), as shown in Table 3, in line with the criteria by Henseler et al. (2015). This study used a marker variable (MV), the attitude toward the blue color, to mitigate common method variance bias during data collection (Simmering et al., 2015). A thorough examination of the self-reported questionnaires was crucial, mainly because the same individual answered the predictors and criterion variables. According to Malhotra et al. (2017), the R^2 change before and after including the marker variable in the research model should be at most 10% to verify the absence of (CMV). In this research, the increase rate for purchase intention and attitude was 2.48% and 0%, respectively, less than 10%, indicating the absence of CMV in the study.

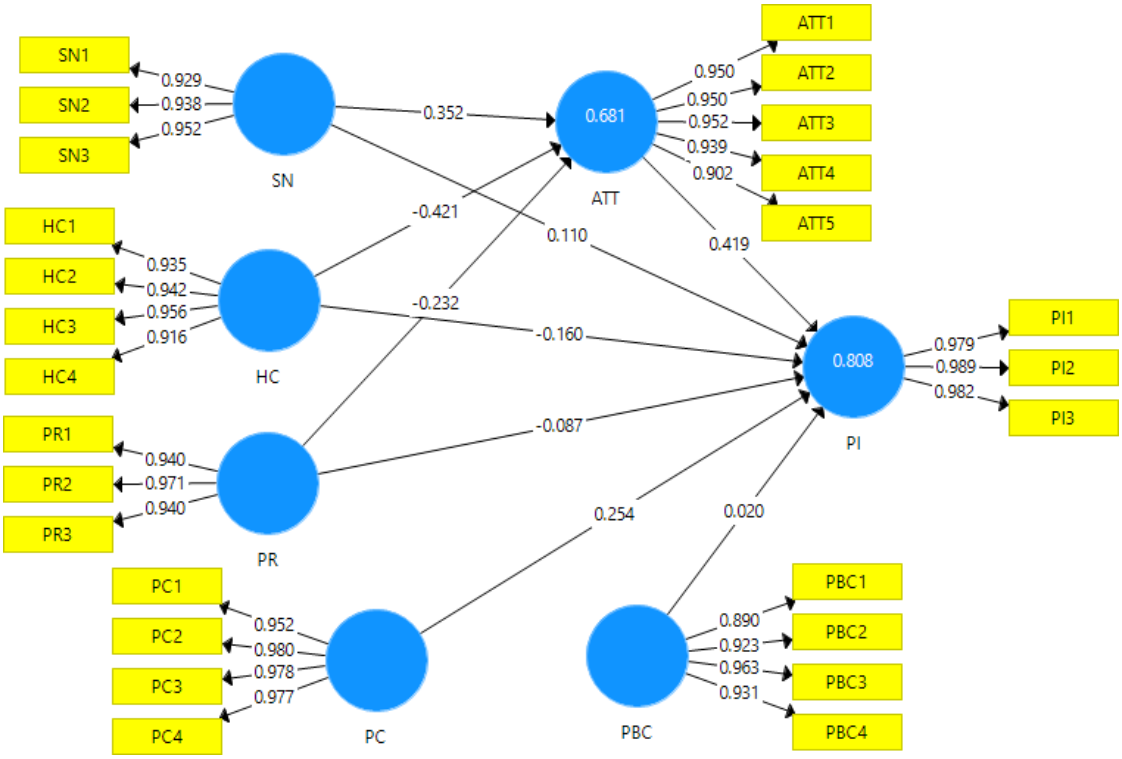


Figure 2: Measurement Model

Table 2: PLS results of convergent validity measures.

Constructs	Item	Loadings	Mean	Std. deviation	Cronbach's α	CR	AVE
Purchase Intention Adapted from (Tseng et al., 2021)	PI1	0.979	3.42	1.87	0.983	0.989	0.967
	PI2	0.989	3.77	1.91			
	PI3	0.982	3.94	1.93			
Attitude (Adapted from Tseng et al., 2021)	ATT1	0.950	2.33	1.09	0.966	0.974	0.881
	ATT2	0.950	3.02	1.19			
	ATT3	0.952	2.72	1.25			
	ATT4	0.939	2.38	1.12			
	ATT5	0.902	2.2	1.18			
Subjective Norms (Adapted from Tseng et al., 2021)	SN1	0.929	3.17	0.79	0.934	0.958	0.883
	SN2	0.938	3.55	0.9			
	SN3	0.952	3.43	0.9			
Health Consciousness (Adopted from Kumar et al., 2021)	HC1	0.935	3.59	0.82	0.954	0.967	0.879
	HC2	0.942	3.74	0.86			
	HC3	0.956	3.79	0.88			
	HC4	0.916	3.79	0.88			
Perceived Risk (Adapted from Tseng et al., 2021)	PR1	0.940	3.88	0.87	0.946	0.965	0.903
	PR2	0.971	3.93	0.83			
	PR3	0.940	3.73	0.87			
Price Consciousness (Adapted from	PC1	0.952	3.31	1.11	0.980	0.986	0.945

Constructs	Item	Loadings	Mean	Std. deviation	Cronbach's α	CR	AVE
Sun and Wang., 2020)							
	PC2	0.980	3.34	1.16			
	PC3	0.978	3.4	1.16			
	PC4	0.977	3.4	1.17			
Perceived Behavioral Control (Adapted from Tseng et al., 2021)	PBC1	0.890	3.95	0.88	0.945	0.961	0.859
	PBC2	0.923	4.07	0.92			
	PBC3	0.963	4.19	0.89			
	PBC4	0.931	4.3	0.88			

Table 3: PLS results of discriminant validity measures.

	ATT	HC	PBC	PC	PI	PR
HC	0.739					
PBC	0.557	0.426				
PC	0.710	0.633	0.612			
PI	0.870	0.744	0.586	0.782		
PR	0.677	0.597	0.454	0.560	0.674	
SN	0.691	0.476	0.677	0.629	0.696	0.532

Findings

For the evaluation on structural model, this study estimates the path coefficients, t-values, beta values, R^2 values, f^2 values, and Q^2 values. The R^2 value of attitude was 0.681, suggesting that its predictors moderately explained 68.1% of the variance in attitude. On the other hand, the R^2 value of purchase intention was 0.808, indicating that attitude and other predictors can substantially explain 80.8% of the variance in purchase intention. The f^2 values of all the relationships, except for PBC → PI (with an f^2 value of 0.003), ranged from medium to large, showing statistically significant associations between the variables. The Q^2 values, obtained through the Blindfolding procedure in SmartPLS, were all above 0, indicating a well-constructed model with predictive relevance. The significance of path coefficients in the structural model was determined using a bootstrapping algorithm with 247 samples in SmartPLS. The assessment of path coefficients revealed significant and positive relationships for ATT → PI, SN → ATT, SN → PI, and PC → PI, with respective values of ($p<0.001$, $\beta=0.419$), ($p<0.001$, $\beta=0.352$), ($p<0.01$, $\beta=0.110$), and ($p<0.001$, $\beta=0.254$). Conversely, HC → ATT, HC → PI, PR → ATT, and PR → PI showed negative and significant relationships. Additionally, the mediation effects were tested. Indirect effects of subjective norms on health consciousness and perceived risk on purchase intention of counterfeit face masks were found to be significant ($p<0.001$), suggesting that attitudes mediate the relationship between health consciousness, subjective norms, and perceived risk to purchase intention of counterfeit face masks.

Table 4: Analysis on Structural Model

H	Beta	t-statistic	p-value	Decision	R2	Q2	f2
H1: ATT → PI	0.419	6.354	***	Supported	0.808	0.759	0.306
H2:PBC → PI	0.020	0.479	0.3158	Rejected			0.003
H3: SN → ATT	0.352	6.819	***	Supported	0.670	0.579	0.290
H4: SN → PI	0.110	2.926	0.0017**	Supported			0.031
H5: HC → ATT	-0.421	8.483	***	Supported			0.178
H6: HC → PI	-0.160	3.434	***	Supported			0.055
H7: PR → ATT	-0.232	4.168	***	Supported			0.107
H8: PR → PI	-0.087	1.991	0.0233*	Supported			0.002
H9: PC → PI	0.254	5.694	***	Supported			0.113

Note: *p<0.05; **p<0.01; ***p<0.001 (one-tailed)

Table 5: Mediation analysis

Mediation Path	Indirect effect	Total effect	t-statistic	p-value	LLCI	ULCI	VAF
H10a: SN→ATT→PI	0.147	0.257	4.771	***	0.166	0.114	0.572
H10b: HC→ATT→PI	-0.176	-0.336	4.551	***	-0.208	-0.095	0.512
H10c: PR→ATT→PI	-0.097	-0.184	3.741	***	-0.178	0.0.72	0.527

Note: *p<0.05; **p<0.01; ***p<0.001 (two-tailed)

Discussion

This study investigates the factors influencing consumers' intention to purchase counterfeit face masks in the Malaysian market. Using TPB as the theoretical base, a critical framework many previous researchers have employed to examine and explain consumer intentions or behavior towards counterfeit products (Chiu et al., 2018; Jain et al., 2017; Tseng et al., 2021). In addition, this study incorporates other potential factors, including health consciousness, perceived risk, and price consciousness, with TPB to uncover consumers' intention to purchase counterfeit face masks in this study. Results show that attitudes toward counterfeit face masks strongly influenced purchase intention, consistent with (Mayasari et al. 2022 and Yaakob et al. 2021). Attitude toward nonauthentic products affects the consumer's purchase intention. Additionally, Quoquab et al. (2017) also found that attitude is significantly related to the purchase intention of counterfeit products in the Malaysian market. Thus, hypothesis H1 is supported in this study.

Subjective norms about buying counterfeit face masks significantly influence purchase intentions. Briefly, subjective norms significantly affect the attitude and purchase intention towards counterfeit face masks, consistent with Singh et al. (2021) and Olivia (2021) finding that purchasing counterfeit products influences social acceptance as their friends or family buying counterfeit products. This finding confirms hypotheses H3 and H4, suggesting that the social environment plays a vital role in influencing purchase intention because the more consumers see their surrounding people in society purchasing. The more counterfeit face masks they intend to buy, the more they will buy because they interpret that purchasing them is nothing wrong, as many others do.

However, the unexpected rejection of H2, which posited a positive influence of Perceived Behavioral Control (PBC) on the purchase intention of counterfeit products, is a notable finding. This contradicts many past studies consistently showing PBC's positive influence on counterfeit products' purchase intention (Jain, 2020; Tseng et al., 2021; Singh et al., 2021). A review of studies using TPB as a theoretical base found that the significance of attitude, perceived behavioral control, and subjective norms in determining consumer's intentions or behaviors may differ across circumstances. According to Chiu & Leng (2016), PBC may become less predictive of purchase intention when subjective norms or attitudes are powerful (Ajzen, 1991). Attitude and subjective norms showed strong path coefficients, which may have made PBC less predictive. Therefore, PBC needs to be more significant in the purchase intention of counterfeit face masks in Malaysia.

The additional perceived risk factors showed a significant negative relationship between consumer attitude and purchase intention for counterfeit face masks, supporting hypotheses H7 and H8. The result is consistent with past research by Ting et al. (2016), Bhatia (2018), and Tseng et al. (2021) and in the context of counterfeit products where consumers that perceive more risk in purchasing counterfeit products have less favorable attitudes and purchase intentions. Perceived risk shows weak evidence in determining consumers' purchase intention of counterfeit face masks, as they were already aware of the counterfeit product quality and had to buy it to comply with the regulation without paying the high price.

More evidence is needed to determine the effect of health consciousness on consumers' attitudes toward and intention to purchase counterfeit products. However, Shah et al. (2020) found that a

significant positive impact of health consciousness exists toward masking attitude and mask purchase intention. This finding confirms hypotheses H5 and H6, suggesting that counterfeit face masks are low-quality imitations of genuine products, and hence, this study's finding that health consciousness exhibits a negative significant influence on consumers' attitudes and purchase intention of counterfeit face masks is reasonable. In particular, health consciousness is the most important among the three additional constructs, showing consumers are more aware of personal health and well-being during this pandemic.

Not surprisingly, price consciousness showed a significant positive relationship with consumers' intention to purchase counterfeit face masks. This finding was contradicted by previous research by Hashim et al. (2020) and Ramli et al. (2018), who revealed that price consciousness exhibits a positive but insignificant effect on consumer purchase intention towards counterfeit products in the Malaysian market. This can be explained by the mandatory face mask-wearing regulation and the distinct price advantage of counterfeit face masks over genuine face masks; consumers tend to search for face masks with the lowest price in the market to lessen their financial burden during this pandemic. Hence, hypothesis H9 is supported in this study.

Furthermore, this study explores the indirect effect of subjective norms, health consciousness, perceived risk, and purchase intention, which are mediated by consumers' attitudes toward counterfeit face masks. This finding, in line with Alexandris et al. (2017), highlights the crucial role of attitude in mediating the relationship between behavior and intention. Confirming hypotheses H10a, H10b, and H10c, the study shows that consumers who value the opinions of friends or family tend to have favorable attitudes towards counterfeit face masks, leading to purchase intention. Conversely, health consciousness and perceived risk foster a negative attitude towards counterfeit face masks, given their typically low quality and inadequate protection, thereby reducing consumers' favorability towards purchasing them. These implications are significant for understanding and influencing consumer behavior in the context of counterfeit products.

Theoretical and Practical Contribution

Extended TPB is being utilized to investigate how various factors influence the intention to purchase counterfeit face masks. This approach is both practical and insightful within the study's context. While previous research has extensively examined consumer purchase intention for counterfeit products like fashion, luxury items, and cosmetics using the TPB model, more research is needed to understand the factors influencing consumers' intention to purchase counterfeit protective gear, such as face masks. The study extended TPB additional independent variables, such as health consciousness, perceived risk, and price consciousness, to predict consumers' purchase intention for counterfeit face masks. Since face masks are considered protective equipment and directly impact consumer well-being, health consciousness and perceived risk were added to the model to predict consumers' purchase intention better. Previous studies have shown that price strongly influences consumers' purchase intentions for counterfeit products. Therefore, price consciousness is critical in predicting consumers' purchase intention for counterfeit face masks. This study provides a theoretical framework and paves the way for future studies to expand knowledge on this subject.

The findings of this study are crucial in providing detailed insights into Malaysian consumers' intentions to purchase counterfeit face masks. This will help genuine face mask manufacturers better understand consumer preferences. According to the study, 33.60% and 24.70% of respondents had monthly incomes exceeding RM2,501 and RM5,001, respectively. Despite their relatively high incomes, the results indicated that while health consciousness and perceived risk have a negative impact on purchasing counterfeit face masks, there is still a solid intention to buy them. This can be attributed to the significant effect of the current COVID-19 pandemic on their incomes, leading them to seek out the lowest prices in the market. Notably, price consciousness had a more substantial influence on purchase intention than health consciousness and perceived risk in this study. Therefore, genuine face mask manufacturers should consider adjusting their product pricing to appeal to consumers with high health consciousness and perceived risk. These findings have significant implications for management and can serve as practical guidelines for genuine face mask manufacturers to protect their brand equity and image. By understanding the factors influencing consumers' intention to purchase counterfeit face masks, genuine manufacturers can take proactive measures to address this issue.

Limitation and Future Research

In this paper, some limitations are identified as areas for future research. Firstly, the data collection method used was online surveys, resulting in only 6.48% of respondents aged 50 and above. Since older individuals may be less familiar with technology, the survey mainly reached a younger demographic. Therefore, future studies should consider physically distributing questionnaires to get the older generation or focus on studying this demographic age group's purchase of counterfeit face masks.

Additionally, this study only expanded the Theory of Planned Behavior (TPB) with health consciousness, price consciousness, and perceived risk. Future studies should incorporate product knowledge into consumers' purchase intentions. This is important because consumers may encounter deceptive counterfeit situations, where counterfeit face masks may have identical packaging, trademarks, or prices to genuine masks. The potential impact of this study on future research is significant, inspiring researchers to delve deeper into the complexities of consumer behavior in the realm of counterfeit products.

Conclusion

Counterfeiting is a global issue that threatens the global economy and social and cultural welfare. This issue has gained more attention during the pandemic, as it significantly disrupts the supply chain and involves health-related products such as self-test kits, face masks, and medicine. Counterfeit products are harmful to consumers who may be unable to observe the apparent differences with authentic products. This study concludes that attitude, subjective norms, health consciousness, price consciousness, and perceived risk influenced Malaysian consumers' intention to purchase counterfeit face masks. The results show that perceived risk is the least significant factor affecting consumer purchase decisions. This suggests that consumers do not perceive counterfeit face masks as a health risk. It is the responsibility of the authorities to educate the

public about the consequences of using counterfeit face masks and how to identify them to increase awareness, demonstrating the government's commitment to public health and safety.

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