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The Mediating Role of Emotional Responses in Influencing Illegal Cigarette Purchase Decisions in Malaysia

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ABSTRACT

In Malaysia, the illegal use of cigarettes has been a continuing health, economic, and regulatory issue troubling the population since the continued initiative of enforcement and repetitive tobacco excise duty increments. Most of the studies that are in existence attribute this phenomenon to rational reasons like price differentials and accessibility, but these reasons are not enough to explain why consumers still consume it. Based on Emotional Theory and Stimulus-Organism-Response (SOR) model, this conceptual paper presents an integrative model where social influence, perceived price and perceived knowledge are used as external stimulus to shape consumers emotional response, which subsequently affect illegal purchase of cigarettes. The research broadens consumer behaviour theory by putting more focus on affective mechanisms instead of structural ones, leading to the importance of demand-reduction policies of emotional and social orientation.

1. Introduction

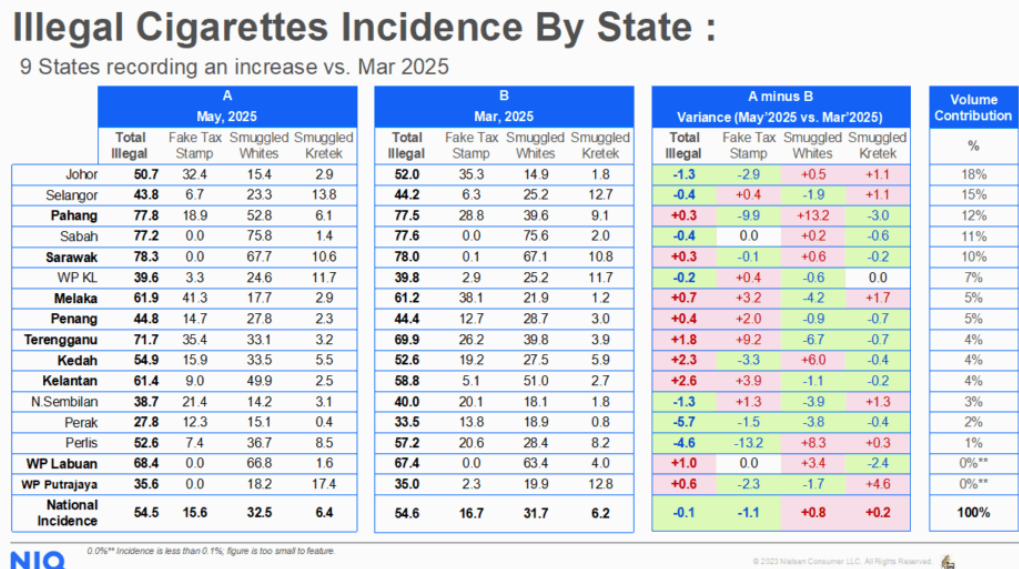
Smoking of cigarettes is a thorny social health, financial, and policy issue in Malaysia. In spite of the reduced prevalence rate of smoking, the market remains dominated by illegal cigarettes, which take over over fifty percent of the whole consumption in recent years [10,29]. In spite of the repeated increase in the excise tax, the enhanced enforcement, and the public health campaigns, the illegal market is still expanding because of the significant price differentials and the large availability of untaxed products [31,43]. This phenomenon is mostly explained in the literature by rational and structural factors, but increasing evidence shows that social influence and emotional processes can be very important. Based on this, this theoretical paper will use the Emotional Theory and the Stimulus-Organism-Response (SOR) model to highlight the importance of emotional responses as an influential mechanism to determine illegal cigarette purchase behaviour.

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Figure 1 depict the prevalence of illegal cigarette use in the Malaysian states in May 2025 relative to March 2025 (as a reference point) and indicate that there are a significant geographical difference and short-term changes in the content of illegal products. At the national scale, the illegal cigarettes still occupy a very important portion at 54.5 percent in consumption meaning that over half of all cigarettes smoked in Malaysia are indeed illegal. This is a slight decrease of 0.1 percentage points compared to March 2025, but the small national progress in the country covers the existence of strong heterogeneity among states and product lines.



Sources: (ICS) May 2024 Report

Fig. 1. Illegal Cigarettes Incidents by State (ICS) May 2024 Report

One of the peculiarities of the information is that the illegal cigarette consumption is unevenly distributed geographically. The highest rates of illicit incidences have been registered in East Malaysian states and border-sensitive regions. Sabah (77.2%), Sarawak (78.3%), and the Federal Territory of Labuan (68.4%) are consistent high achievers that reflect a historical problem of structure (long coastline, close to international borders, and complicated logistics) which limit the effectiveness of enforcement. The smuggled white cigarettes are still dominating the illegal market in these regions and that reflects the fact that supply side dynamics still prevail.

In Peninsular Malaysia the pattern is more diverse and it is a matter of concern. Pahang (77.8 percent), Terengganu (71.7 percent) and Kelantan (61.4 percent) are examples of states that have illicit incidence rates that are as high as those of East Malaysia and this suggests that illegal cigarette consumption is not limited to the border regions but rather supported by strong internal distribution networks. This points to the flexibility of illegal supply chains and consumer demand elasticity.

Compared of the month of March and May 2025, the variance analysis indicates that there were nine states where the incidence of illicitness had a rise even as the entire country had a slight decrease. Interestingly, Kedah, Kelantan, Terengganu and Pahang posted quantifiable increases, mainly due to the change of composition of the products, but not necessarily the increase of the volume of smuggling. The effects of substitution are also apparent, where the pressure on one of the illegal categories led to the development of another one, e.g. the enforced pressure on smuggled whites was replaced by the production of fake tax-stamp goods.

1.1 Significance, Novelty and Contribution of the Study

This research contributes significantly to body of research on illegal cigarette purchase behaviour by promoting knowledge on illegal cigarette purchase behaviour beyond prevailing rational-choice and enforcement-based concepts. Although the extant literature focuses mostly on price differentials, taxation, and regulatory gaps as the main factors that promote illicit trade, recent findings indicate that consumers decision making is also influenced by affective and social processes [41,45]. This conceptual model combines Emotional Theory with the Stimulus-Organism-Response (SOR) model by proposing emotional response as a mediating factor between social influence, perceived price, and perceived knowledge and illegal purchases. It is theoretical novelty, as illicit use has not been studied in the framework of the affective mediation very often, especially in the context of the Malaysian setting where the incidence of illegal cigarette use remains continuously high [11,29].

The policy implication of the study is that it has important implications to government agencies like the ministry of finance and ministry of health. The results indicate that enforcement and taxation policies might be insufficient without the impact on emotional and social processes of normalisation of demand. Interventions based on behavioural data sources that address social norms and emotional attachment may be used to supplement fiscal policies, as this is consistent with modern approaches to public health promotion of demand-side behavioural control [45].

To the business operators, especially the legal tobacco businesses and the scrupulous retailers, there is insight in the framework about the consumer switching behaviour and the psychological processes that drive the illicit substitution. Learning about these motives of affection can help in achieving better anti-illicit programs, compliance and consumer outreach tactics in a highly controlled market.

1.2 Literature Review

1.2.1 Illegal cigarette consumption and consumer behaviour

The illegal use of cigarettes has been studied extensively through regulatory, economic, and health population lenses with price disparities, enforcement gaps, and defenseless supply-chain linked to illicit trade being the major factors pushing illicit trade [16,18,35]. In Malaysia, the growth of the illegal cigarettes market has been accompanied by the recurring increase in tobacco excise duties, which confirms the importance of perceived price benefits in the maintenance of consumer demand [31,43]. Nonetheless, it is shown that in situations of more intensive enforcement, illegal cigarettes still occupy the majority of the market, which proves that rational and structural explanations are not enough [10,39].

According to recent research, social influence is very significant in the formation of smoking behaviour, especially in collectivist societies like Malaysia, whereby peer groups, family members, and cultural norms can normalise smoking and decrease the perceived social risk [1,22]. In addition to social pressures, perceived knowledge (such as product familiarity, harm misconceptions, and as well as severity of enforcement) can influence consumers to become more confident and comfortable to buy illegal cigarettes [6,14].

The processes of emotion and affect also reinforce smoking behaviour through offering health-related stress-relief, pleasure, and habitual comfort, which tend to override knowledge concerning the health and legal danger [20,41]. Nevertheless, current studies are mostly secondary on emotions. This paper fills this gap by conceptualising emotional response as an intervening construct between social influence, perceived price, and perceived knowledge and illegal cigarette purchase decisions

based on the Stimulus-Organism-Response (SOR) conceptualisation. Table 1 shows the summary of literature review.

Table 1

Summary of Literature Review

Study (Author, Year)	Sample / Context	Period	Data Type	Dependent Variable	Key Variables Relevant to Framework
Joossens & Raw (1998)	Cross-country tobacco markets	1980s–1990s	Secondary data	Illegal cigarette consumption	Perceived price differentials
Joossens et al. (2009)	Global tobacco markets	1990–2007	Secondary data	Illicit tobacco trade share	Cigarette price perception
Ross (2015)	Brazil, Canada, Europe	1988–2014	Secondary reports	Illegal cigarette trade	Price gaps influencing consumer choice
Vijayan & Chethiyar (2020)	Malaysia	2000–2019	Secondary data	Illegal cigarette market share	Perceived price, affordability
Oxford Economics (2017; 2019)	Malaysia	2015–2019	Secondary data	Illegal cigarette incidence	Price perception, product familiarity
Al-Naggar & Ibrahim (2018)	Malaysian adolescents	Cross-sectional	Survey	Smoking behaviour	Peer influence, family influence (SI)
Lim et al. (2019)	Malaysian adults	Cross-sectional	Survey	Smoking attitude	Social norms, cultural acceptance (SI)
Hamzah et al. (2021)	Malaysian youth	Cross-sectional	Survey	Smoking behaviour	Family influence, perceived health knowledge (PK)
Chean et al. (2019)	Malaysian smokers	Cross-sectional	Survey	Smoking continuation	Misconceptions, perceived harm (PK)

2. Methodology

According to the empirical design that was offered in the viva thesis, the research took a quantitative research methodology that rested on the positivist paradigm. The survey design adopted was cross-sectional and was utilized to empirically test the mediating effect of emotional response in the decision to purchase illegal cigarettes in Malaysia. The target group included the Malaysian customers who said they had bought or smoked illegal cigarettes. In Malaysia, 308 respondents in selected regions were used to collect data using a structured self-administered questionnaire. The cross-sectional method has been considered the most suitable approach to describe behavioural perceptions and emotional appraisals at one instance, in the situation of illicit consumption behaviour that is consistently high in the country [29,40].

The measurement items of all constructs, that is, social influence, perceived price, perceived knowledge, product quality, product accessibility, brand familiarity, emotional response (pleasure and arousal), and purchase decision, were based on established literature and operationalised on a five-point Likert scale. The instrument was also subjected to validity and reliability tests to promote accuracy of measurement and internal consistency. Data analysis was based on Partial Least Squares Structural Equation Modelling (PLS-SEM) that is appropriate to predict and mediate analysis in complex behavioural models. The analysis process was performed in two stages: initial analysis of the measurement model (test of reliability, convergent and discriminant validity), and subsequent analysis of structural model to provide evidence on direct and mediating relationships. The method of bootstrapping was used to ascertain the significance of path coefficients and mediation effects. This methodology is consistent with the current behavioural and social health literature on tobacco-

related consumption patterns in Malaysia [29,42], which gives it high levels of robustness and empirical rigor when testing the proposed framework.

2.1 Research Process

As per the research process diagram uploaded (Figure 2), the research was done through a systematic and sequential empirical research process in line with the quantitative behavioural research. It started with the identification of the research purpose that entailed thorough review of the concepts, the theories underlying the research and already existing empirical studies to narrow down the research problem and research questions. This phase provided a theoretical foundation on Emotional Theory and Stimulus- Organism Response (SOR) model.

The next step is the conceptual development phase, which transformed theoretical knowledge into a systematic study design. The research design phase was characterised by instrument development, sampling design and pretesting to guarantee clarity and content validity. Pilot test was taken to administer the final survey through a web-based platform and to make adjustments in measurement items. This kind of pretesting is also suggested to increase reliability and minimise measurement error in behavioural research [42].

After data collection, the analysis stage included data preparation, cleaning, measurement and structural models' assessment with the help of Partial Least Squares Structural Equation Modelling (PLS-SEM). The method is in accordance with the recent Malaysian studies of tobacco-related data that used strong quantitative validation methodologies [29]. Interpretation of findings, the theoretical and practical implications, and extensive documentation of the thesis were the final stages, which guaranteed the methodological rigor and empirical credibility.

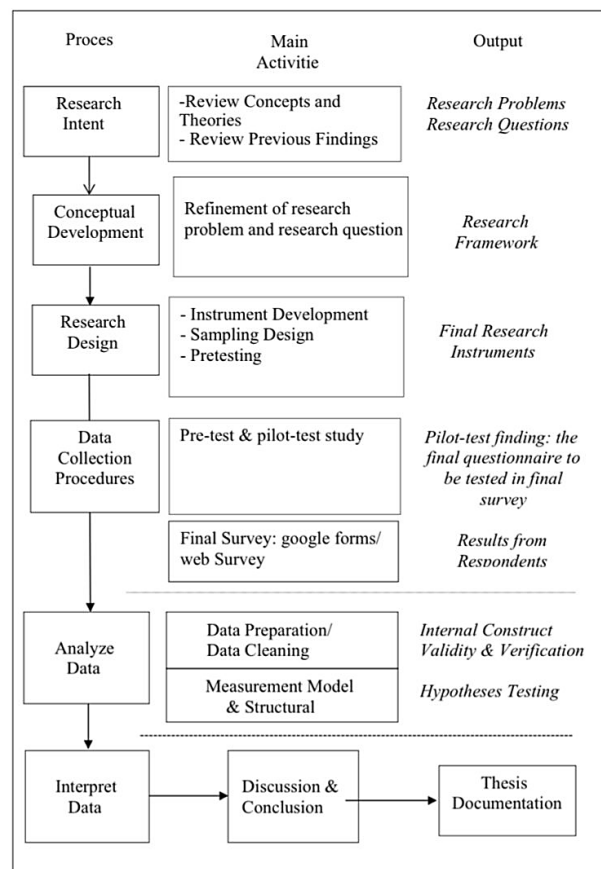


Fig. 2. Research process

2.2 Data Analysis Procedure Flowchart

The study also adhered to the current PLS-SEM practices by carrying out multistage quantitative analysis in accordance with the uploaded Data Analysis Procedure Flowchart (Figure 3). Data screening was the starting point of the analysis involving identification of missing values or any outlier and determination of normality of data to ensure its quality and strength. The descriptive analysis was then carried out to summarise the demographics of respondents in frequencies and percentages to have a contextual insight into the sample profile.

Cronbach Alpha was then used to examine reliability, and it is recommended that the ratio should be 0.70 in order to determine internal consistency. In this case Exploratory Factor Analysis (EFA) was done where appropriate to determine dimensions of constructs before structural modelling. Measurement model was tested with SmartPLS by the Convergent and Discriminant methods of validity analyzing through the Confirmatory Factor Analysis (CFA) and Fornell-Larcker criteria and Heterotrait-Monotrait ratio (HTMT) as suggested in the modern methodological literature [13].

The assessment was done on the structural model, which analysed the path coefficients, coefficient of determination (R^2), size of effect (f^2) and the predictive relevance (Q^2). The relationships were determined using bootstrapping (5,000 resamples) to ascertain the level of statistical significance. Lastly, the mediation analysis was carried out to study the indirect impact of emotional response on illegal cigarette purchase decisions. Such methodological rigour will make it analytically rigorous and consistent with the current standards of behavioural research in Malaysia [29].

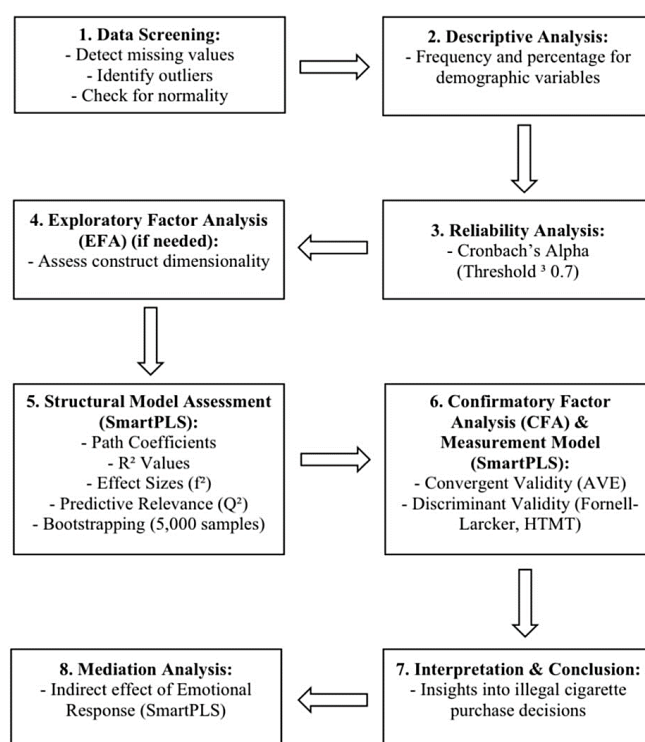


Fig. 3. Analysis procedure flowchart

2.3 Research Design

This research design is conceptual research design which seeks to establish a theory-based model to explain the decisions by individuals in Malaysia with regards to purchase of illegal cigarettes using the combination of emotional and behavioural processes. Instead of reporting the findings based on empirical research, the paper incorporates existing theories and previously conducted empirical studies to create a conceptual model that can then be used in the future to conduct empirical research. Complex and sensitive behaviours like illicit consumption are especially best studied using conceptual research because the available explanations are usually more fragmented than enough.

The suggested framework is enlightened by the Emotional Theory and the Stimulus-Organism-Response (SOR) paradigm, which in combination permit integrating external stimuli and internal psychological conditions with behavioural consequences. It is an alternative to prevailing direct-effects models of illicit trade research by focusing on the intermediary nature of emotional response in influencing consumer choice.

2.4 Specification Conceptual Model

The conceptualisation of social influence, perceived price, and perceived knowledge as stimulus variables within the framework represents the market conditions in the illegal cigarette market in Malaysia that are important socially and cognitively. The organism component is the emotional response, operationalised by the pleasure and arousal which is internal to the consumers showing affective responses. The decision to buy the illegal cigarettes is what is termed as the response component and it includes an intention and the real purchasing behaviour. Emotional response has been put forward as the overall mediating variable between the stimuli and purchase decisions.

3. Information Situation and Analytical Disposition

Though in the abstract sense, the framework has its foundation based on the Malaysian context through understanding the national surveys, industry reports and previous studies on behaviour basis. The model can be analysed using the structural equation modelling techniques, especially PLS-SEM, to validate it in the future. Ethical issues are focused on because of the sensitivity of illegal consumption behaviour.

3.1 Research Framework

The proposed conceptual framework (Figure 4) will be based on the Stimulus-Organism-Response (SOR) theory, which theorizes consumer behaviour as a process where the external stimuli are influenced on the internal psychological states, which in turn influences the behavioural responses. The framework, in the case of illegalities in cigarette consumption in Malaysia, frames the purchase behaviour as the result of social and cognitive stimuli at work via affective process instead of just a rational or economical decision making.

Under the stimulus component, there are three important variables these are social influence, perceived price and perceived knowledge. Social influence indicates normative pressures by peers, family members and the social environment in general that can favour legal cigarettes and decrease perceived social or moral threat. Perceived price represents the assessment of consumers toward a cost reduction of illegal cigarettes especially when the excise is high. Perceived knowledge is the

awareness, familiarity, and beliefs that the consumers have on illegal cigarettes and the intensity of enforcement.

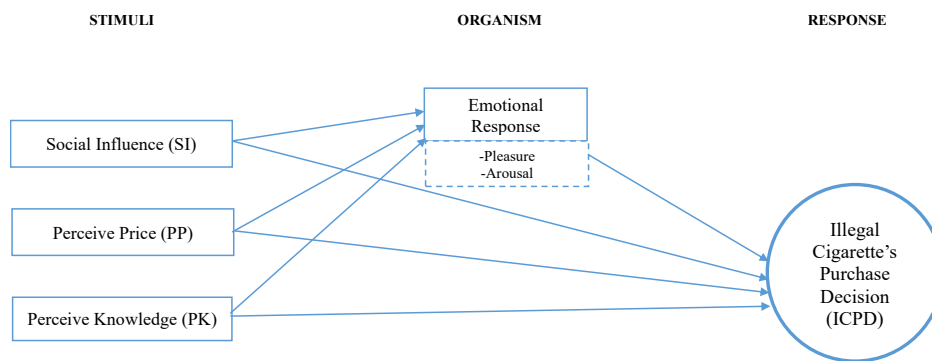


Fig. 4. Conceptual framework

Table 2

Sources of data

Construct / Variable	Operational Context in Thesis	Primary Data Source(s)	Usage in Conceptual Framework
Social Influence (SI)	Peer pressure, family influence, social norms affecting smoking behaviour	Al-Naggar & Ibrahim (2018); Lim et al. (2019); Jetly et al. (2021)	Justifies social stimuli influencing emotional response and purchase decision
Perceived Price (PP)	Price differentials between legal and illegal cigarettes; excise tax effects	Vijayan & Chethiyar (2020); Roslan (2021); Ministry of Finance Malaysia (2022); BAT Malaysia reports	Supports price perception as economic stimulus
Perceived Knowledge (PK)	Awareness and misconceptions regarding smoking risks and illegal cigarettes	Chean et al. (2019); Rahman et al. (2017); Hamzah et al. (2021)	Explains cognitive stimulus shaping emotional processing

4. Conclusion

This theoretical paper further develops the knowledge on the behaviour of buying illegal cigarettes in Malaysia by transcending the prevailing economic and enforcement-related paradigms and emphasising the significance of behavioural and emotional processes. Based on the Emotional Theory and the Stimulus-Organism-Response (SOR) model, the paper will suggest a parsimonious model where social influence is the main external stimulus that will determine the emotional reaction of consumers, which will subsequently affect the decision to illegally purchase the cigarette.

The framework, by placing social influence as the key stimulus, illustrates how normative influences by peers, family and the broader social context have the ability to normalise cigarette use in an illegitimate manner as well as minimise the perceived social and moral risk. Such social cues are not supposed to affect behaviour directly but their effects are mediated by emotional reactions, which are the pleasure and arousal, which are the most important psychological processes that appear to convert social stimuli into buying behaviour. This view fills a major gap in the illicit consumption literature which has mostly conceptualised consumers, reacting directly to structural and economic imperatives.

Theoretically, the research expands the use of the SOR framework to illegal and ethically sensitive consumption conditions through the focus on emotion mediation. In a practical way, the results indicate that supply-side policies can be inadequate, and demand side interventions can be

conducted, with a focus on social norms and emotional attachment. Being a conceptual study, the postulated relationships remain to be proven empirically, and the agenda to future quantitative and longitudinal research in the Malaysian context should be rather clear.

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