Examining the Behavioural Intention to Use Hand Sanitiser Among Malaysian Consumers During COVID-19 Pandemic

Mohamed Syazwan Osman[1], Nur Hidayah Che Ahmat[2*], Azila Azmi[3] and Zamri Ahmad[4]

[1]EMZI Nanoparticles Colloids & Interface Industrial Research Laboratory (EMZI NANO-CORE), Chemical Engineering Studies, College of Engineering, Universiti Teknologi MARA Cawangan Pulau Pinang, 13500 Permatang Pauh, Penang, Malaysia
[2, 3,4] Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Cawangan Pulau Pinang, 13500 Permatang Pauh, Penang, Malaysia
*Corresponding author: [2]hidayah.ca@uitm.edu.my

ABSTRACT

The COVID-19 pandemic has reshaped consumer behaviour in Malaysia, with a pronounced emphasis on health and safety. A substantial surge in the demand for hand sanitisers exemplifies this shift. Nevertheless, comprehensive studies investigating the behavioural intentions of Malaysian consumers concerning hand sanitiser use during the pandemic remain still need to be explored. This research addresses the gaps by studying Malaysian consumers' behavioural intentions concerning hand sanitiser utilisation during the pandemic. Guided by the theory of planned behaviour, we conducted a robust descriptive cross-sectional quantitative study. We developed the self-administered online survey and disseminated the survey link via diverse social media platforms, garnering 271 complete responses. Our analysis yields notable findings. Attitude, subjective norms, and perceived behavioural control emerge as influential factors, positively shaping the behavioural intentions of Malaysian consumers regarding hand sanitiser use during the pandemic. Notably, the attitude of Malaysian consumers stands out as a potent predictor of their behavioural intentions. These insights substantially contribute to consumer behaviour, specifically within the Malaysian pandemic context. Beyond their academic implications, our findings hold practical significance. Hand sanitiser producers can use the findings to effectively diversify their product offerings to meet heightened demand. Furthermore, the study's insights can assist the Malaysian government in gauging consumer adherence to standard operating procedures and their role in virus containment through hand sanitiser use. However, a geographical limitation exists, as a significant proportion of respondents' hail from Malaysia's northern region, potentially limiting the generalizability of our results to the broader population. Overall, this study advances our understanding of consumer behaviour while offering actionable insights for industry stakeholders and policymakers. Study limitations and future research directions are also included.

1. INTRODUCTION

The coronavirus disease (COVID-19) first emerged in China in December 2019 in Wuhan, China (WHO, 2020). Alarmingly, the COVID-19 pandemic has affected most world countries and is a major health threat worldwide, with 697,318,367 reported cases and 6,934,066 deaths as of early November 2023 (Worldometers, n.d.). Multiple contagious coronavirus variants have spread rapidly across different continents, with various countries and territories reporting COVID-19-infected cases (Cable News Network, 2021). The first COVID-19 case in Malaysia was detected in January 2020, and at present, there are 5,129,800 confirmed cases recorded, with 37,181 deaths (as of early November 2023) (Worldometers, n.d.). The Malaysian government has implemented various strategies and preventive measures, including closing off all non-essential businesses, such as tourist attractions and educational institutions, during the first movement control order in March 2020. Since then, a series of movement control orders have been implemented according to the COVID-19 active cases per state, such as recovery movement control order, conditional movement control order, and enhanced movement control order. In addition to the restriction orders, the Malaysian government has implemented a variety of non-pharmaceutical intervention measures to mitigate the severity of the COVID-19 pandemic, including social distancing, mandatory use of face-covering in public places, and quarantine (Salman et al., 2021; Tang, 2020; Elengoe, 2020). Proper standard operating procedures and health protocols were established by the National Security Council and the Ministry of Health to assist employers and business operators (e.g., MySejahtera application system as COVID-19 tracing, body temperature check, one-meter minimum physical distances and tables with two meters distances between one another). Employers should remind employees to practice hand hygiene regularly and provide temperature scanners and sanitiser to use in the workplace. Additionally, like the shopping complexes, business operators should provide hand sanitiser at their entrances and exits for people to use.

Generally, Malaysians are advised to frequently wash their hands with soap and water or use hand sanitiser. According to the Centers for Disease Control and Prevention and the World Health Organization (CDC, 2011; Challenge, 2004; Larson, 1994), simple handwashing is one of the most effective ways to prevent spreading infectious diseases. Nevertheless, using hand sanitiser and carrying a small bottle of hand sanitiser in our bag or pocket would be more convenient because we do not have to search for the nearest hand basin or restroom to wash our hands. The literature shows a strong and consistent link between personal hand hygiene and lower gastrointestinal disease and respiratory illness (Sandora et al., 2005; Kolavic et al., 2002). The COVID-19 virus is transmitted through the hands, particularly when touching viral-contaminated surfaces or humans (Alyzood, 2020). Thus, proper hand hygiene via hand sanitiser is a tried-and-true method of infection control to curb the spread of this pandemic (Singh et al., 2020). The influence of the COVID-19 pandemic on consumer behaviour has been affected by various variables. There is no doubt that the fear and uncertainty that have emerged from the unforeseen event of COVID-19 have psychologically changed consumer buying behaviour (Duan & Zhu, 2020). Consumers start to stock up on goods to avoid the shortage of supplies. Hand sanitiser is among the most common goods consumers purchase during the pandemic (Prajapati et al., 2022). Terlep (2021) reports an upsurge in demand for hand sanitisers in the United States, which aligns with the global hand sanitiser report on the positive growth of hand sanitiser sales worldwide (Fortune Business Insights, 2020). Similarly, the demand for hand sanitisers is increasing in Malaysia, and many companies are scaling up and venturing into the hand sanitiser business (Lim, 2020; Unilever, 2020). Several researchers have documented the adverse impact of the COVID-19 pandemic on hand sanitiser purchased, but the actual psychological factors of Malaysian consumer behaviour have yet to be understood.

Amidst the evolving landscape of the COVID-19 pandemic, it is crucial to recognise the limited research addressing the behavioural intention to use hand sanitiser among Malaysian consumers. This study was conceived to bridge this notable gap in the existing literature and investigate the multifaceted dimensions of behavioural intention during a critical public health crisis. Specifically, this study investigated the behavioural intention, attitude with behavioural beliefs, subjective norms with normative beliefs, and perceived behavioural control with control beliefs toward hand sanitiser use among Malaysian consumers during the pandemic. Since COVID-19, many studies have been found on COVID-19, focusing on multiple perspectives, mainly on the scientific evidence. Also, several studies have used the theory of planned behaviour to study consumer behaviours within the pandemic period (Kim et al., 2021; Xia et al., 2021). Nonetheless, few studies have found on consumer behaviour toward hand sanitiser usage intention. The COVID-19 outbreak has changed the behaviour of Malaysian consumers; hence, this study attempts to uncover the behavioural intention of Malaysian consumers in using hand sanitisers during the COVID-19 pandemic. This study is unique as the researchers utilise the theory of planned behaviour as a robust framework to dissect and understand consumers' behavioural intentions regarding hand sanitiser usage during the COVID-19 pandemic in Malaysia. By applying the theory, the study aims to provide nuanced insights into the factors shaping consumer intentions and, in doing so, contribute valuable knowledge that can inform public health initiatives, marketing strategies, and government policies. This research holds immense significance as it fills a critical gap in the literature and offers a unique perspective on consumer behaviour during a global health crisis. The findings of this study have the potential to inform decision-makers, health authorities, and businesses, helping them tailor their responses to effectively meet the needs and expectations of Malaysian consumers during these challenging times.

2. LITERATURE REVIEW

The theory of planned behaviour develops the theory of reasoned action, which holds that human decisions are voluntary (Ajzen, 1985). According to Ajzen (1980), most human behaviour is predictable because their decisions are based on logical reasoning. People make decisions based on their evaluation of available options. The theory proposes two variables influencing intention: attitude and subjective norms (Ajzen, 1980). Attitude is derived from an individual's belief that specific actions will positively affect (Ajzen, 1991). Subjective norms, on the other hand, emerge from normative beliefs (Ajzen, 2002). The theory of planned behaviour assumes that human social behaviour is reasoned or planned in the sense that people consider the likely consequences (behavioural beliefs), normative expectations of important referents (normative beliefs), and whatever facilitates or hinders behaviour performance (control beliefs) (Fishbein & Ajzen, 2011). Behavioural beliefs are thought to be the dominant determinants of a person's intentions and actions, influencing attitudes toward behaviour (Fishbein & Ajzen, 2011). Individuals from different cultures and social categories have different social expectations because of normative beliefs, which establish the underlying determinants of subjective norms (Fishbein & Ajzen, 2011). Finally, control beliefs are based on perceptions of behavioural coherence (Fishbein & Ajzen, 2011).

The main distinction between the theory of reasoned action and the theory of planned behaviour is that the latter considers the influence of non-volitional factors (Ajzen, 2002, 2012). In addition to the theory of reasoned action model, the theory of planned behaviour model includes a new set of dimensions: control beliefs and perceived behavioural control pair (Yeh et al., 2021). The additional factor considers how people's choices may be influenced by circumstances rather than their own free will (Yeh et al., 2021). For example, one may wish to travel without the necessary time (Yeh et al., 2021). As a result, removing obstacles or the presence of facilitators may increase behavioural intention (Ajzen, 2012). The theory of planned

behaviour framework by Ajzen (1991) is a well-known framework used for consumer behaviour research (Lin & Robert, 2016; Xia et al., 2021; Yeh et al., 2021). Xia et al. (2021) examined the impact of the COVID-19 pandemic on the intention to use traditional Chinese medicine in China. They found that all three factors (i.e., attitude, subjective norms, perceived behavioural control) significantly influenced their behavioural intention, and attitude was the significant predictor in predicting the behavioural intention of the Chinese citizens. Meanwhile, Kim et al. (2021) found that attitude, subjective norms, and perceived behavioural control significantly and positively influenced the behavioural intention of South Koreans toward contactless food delivery services. While many studies use the theory of planned behaviour as their foundation to study consumer behaviours from various countries, more studies should focus on Malaysian consumers. Therefore, this study used the theory of planned behaviour to examine the factors influencing Malaysian consumer intention to use hand sanitiser during the COVID-19 pandemic.
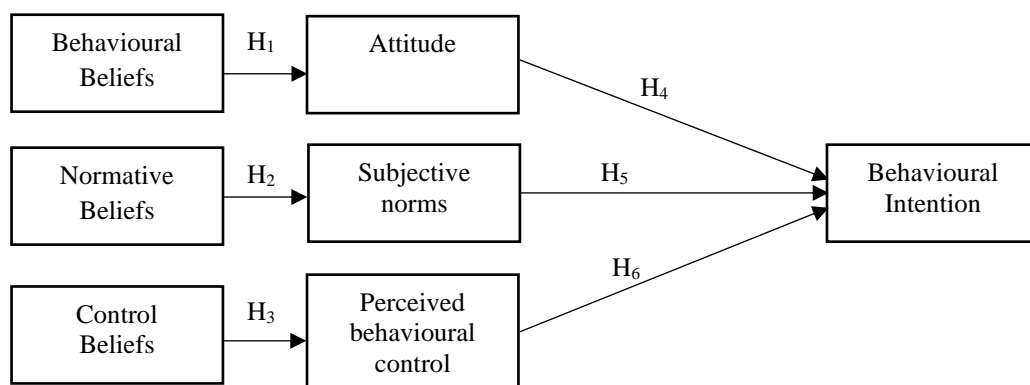

Figure 1: Study Framework

Hypothesis 1: Behavioural beliefs are significantly associated with attitude.
Hypothesis 2: Normative beliefs are significantly associated with subjective norms.
Hypothesis 3: Control beliefs are significantly associated with perceived behavioural control.
Hypothesis 4: Consumer attitude significantly influences their behavioural intention to use hand sanitiser.
Hypothesis 5: Consumer subjective norms significantly influence their behavioural intention to use hand sanitiser.
Hypothesis 6: Consumer-perceived behavioural control significantly influences their behavioural intention to use hand sanitiser.

3. METHOD

A descriptive cross-sectional study was conducted using a quantitative online self-reported questionnaire approach. A non-probability convenience sampling was used, where all Malaysian consumers 18 or older were invited to participate. An electronic survey was developed using Google Forms and distributed via various social media platforms (e.g., Facebook, WhatsApp, Twitter) from June to December 2021. The respondents were requested to participate in this study and later were asked to roll out the online questionnaire to their acquaintances and relatives. No compensation was given, and participation was entirely voluntary. The researchers included digital informed consent regarding privacy and information management policies in the questionnaire.

The survey instruments are based on pre-established scales from previous studies by Lin (2015) and Lin and Roberts (2017). The questionnaire consisted of 46 questions and was divided into five sections measuring the variables and the socio-demographic questions such as gender, age group, monthly income, and current sector. This study utilised a seven-point Likert-type scale to collect the responses (from 1: strongly disagree to 7: strongly agree). Given that the current study has 38 questions, a minimum sample of 190 consumers is expected based on the ratio of the number of cases (N) to the number of model parameters that require statistical estimates (q) (N:q = 5:1) (Jackson, 2003). Using the Statistical Package for Social Sciences (version 27), preliminary analyses and descriptive statistics (means, standard deviations, percentages, frequencies) have been measured. Additionally, the researchers conducted correlation and regression analyses to justify the proposed hypotheses.

4. RESULTS AND ANALYSIS

A total of 271 useable data are used in the analysis. More females (n =153, 56.5%) participated in this study than males (n = 118, 43.5%). Of these, the highest age group of respondents was 18 to 44 years old (n =237, 87.4%). Most respondents were within the B40 income category, earning less than RM2,500 to RM4,850 (or approximately less than USD526 to USD1,020) (47.5%). Many respondents came from the Northern region of Malaysia (n = 155, 57.2%). Most Malaysians preferred to use either a combination of two or more types of hand sanitisers (39.5%) or gel-based hand sanitisers (36.5%). Malaysian consumers regularly sanitize their hands between one to five times daily (27.9%) and use hand sanitisers when they enter public premises (26.4%) and when they go off from their workplace (25.2%), as suggested by the government. Table 1 summarises the socio-demographic profiles of the respondents.

Table 1. Socio-demographic characteristics of respondents (N =271)

Item		Frequency (n)	Percentage (%)
Gender	Male	118	43.5
	Female	153	56.5
Age group	18-24	84	31.0
	25-34	76	28.0
	35-44	77	28.4
	45-54	26	9.6
	55-64	8	3.0
Marital status	Single and never married	134	49.4
	Married	132	48.7
	Widow/Widower	3	1.1
	Divorced	2	0.7
Sector	Public	89	32.8
	Private	71	26.2
	self-employed	9	3.3
	Retiree	7	2.6
	Student	83	30.6
	Unemployed	12	4.4
State	Northern (Perlis, Perak, Pulau Pinang, Kedah, Perak)	155	57.2
	Central (Selangor, Wilayah KL, Putrajaya)	66	24.4
	Southern (Negeri Sembilan, Melaka, Johor)	30	11
	Eastern (Pahang, Kelantan, Terengganu)	12	4.4
	Sabah and Sarawak	8	2.9
Monthly income	B40: Less than RM2,500 – RM4,850	129	47.5
	M40: RM4,851 – RM10,970	94	34.7

	T20: RM10,971 – RM15,041 and above	48	17.7
Type of hand sanitiser	Alcohol only	29	10.7
	Gel-based alcohol	99	36.5
	Non-alcohol	34	12.5
	A combination of two or more types	107	39.5
	Others	2	0.7
Usage frequency	One to five times daily	72	27.9
	More than five times daily	19	7.4
	Only when I enter public premises	68	26.4
	Only when I go out from home	65	25.2
	Only when I go out of the workplace	5	1.9
	None	29	11.2

Means and standard deviations for direct and indirect measurement scales are listed in Table 2 and Table 3. Most respondents agreed that their overall experience using hand sanitiser is good and would recommend using hand sanitiser every day ($M = 6.00$, $SD = 1.066$). They wanted to use hand sanitiser after meeting people ($M = 6.27$, $SD = 1.013$), while in the public space ($M = 6.36$, $SD = 0.916$), and when entering a shop or coming back from work ($M = 6.39$, $SD = 0.959$). Such findings showed that Malaysian consumers know the government's safety guidelines and health protocols regarding the importance of sanitising hands regularly. In addition to that, the means, standard deviations, and intercorrelations for all study variables are presented in Table 4. A very strong correlation was found between attitude and behavioural intention ($r = 0.850$, $p < 0.01$). A strong correlation was found: (a) between attitude and behavioural beliefs ($r = 0.663$, $p < 0.01$), (b) between attitude and normative beliefs ($r = 0.700$, $p < 0.01$), (c) between subjective norms and normative beliefs ($r = 0.717$, $p < 0.01$), (d) between behavioural intention and behavioural beliefs ($r = 0.631$, $p < 0.01$), and (e) between behavioural intention and normative beliefs ($r = 0.719$, $p < 0.01$).

Table 2. Summary of direct measurement scales (N=271)

Direct Measurement Items	M (SD)
Attitude (α = 0.865)	
My overall experience using hand sanitiser is good, and I recommend using hand sanitiser every day.	6.00 (1.066)
Overall, I think using hand sanitiser is the right thing to do.	6.29 (1.011)
Using a hand sanitiser is a good idea	6.29 (0.980)
I like using hand sanitisers	5.85 (1.255)
Subjective norms (α = 0.573)	
People who are important to me think that I should use hand sanitiser frequently	5.91 (1.245)
I feel social pressure to use hand sanitiser daily	4.10 (2.090)
It is expected that I will use hand sanitiser every day	5.59 (1.395)
Perceived behavioural control (α = 0.469)	
I am confident that I can use hand sanitiser whenever I want to	6.07 (1.167)
Whether I use hand sanitiser or not is entirely up to me	5.21 (1.851)
Using hand sanitiser is easy	6.49 (0.825)
Behavioural intention (α = 0.865)	
I intend to use hand sanitiser every day	5.58 (1.356)
I want to use hand sanitiser every day	5.72 (1.320)
I want to use hand sanitiser after I meet people	6.27 (1.013)
I want to use hand sanitiser in public places	6.36 (0.916)
I want to sanitise my hand when I enter a shop or come back from work	6.39 (0.959)

Note: 1 = Strongly Disagree to 7 = Strongly Agree.

Table 3. Summary of indirect measurement scales (N=271)

Indirect Measurement Items	M (SD)
Behavioural beliefs (α = 0.545)	
If I use hand sanitiser, I will feel that I am doing something positive	6.06 (1.132)
It causes a lot of worry and concern for me to use hand sanitiser	4.05 (2.101)
If I use hand sanitiser every day, I will be less likely to become ill	5.40 (1.507)
Practising hand sanitation is very important to avoid illnesses (e.g., COVID-19)	6.21 (1.015)
Normative beliefs (α = 0.884)	
Others think that I should use hand sanitiser	5.76 (1.309)
Medical practitioners encourage me to use hand sanitiser	6.00 (1.278)
The leader of my workplace thinks I should use hand sanitiser	6.04 (1.229)
My family and friends encourage me to use hand sanitiser	5.95 (1.297)
Following what other Malaysians do is important to me	5.42 (1.374)
Following what medical practitioners think I should do is important to me	6.24 (0.943)
Following what my workplace leader thinks I should do is important to me	5.98 (1.073)
My friend's approval of using hand sanitiser is important to me	5.03 (1.918)
Control beliefs (α = 0.840)	
I am more likely to use hand sanitiser if it is easily available	5.20 (1.754)
I'm more likely to use hand sanitiser if it is cheap	5.00 (1.866)
I'm more likely to use hand sanitiser if it does not cause any discomfort	5.56 (1.692)
I'm more likely to use hand sanitiser if my hand feels good	5.45 (1.670)
I'm less likely to use hand sanitiser if other people think I am ill	3.60 (2.036)
Hand sanitiser is difficult to find	2.54 (1.668)
Hand sanitiser price is high (expensive)	3.80 (1.793)
The smell of hand sanitiser that I used is disgusting	2.98 (1.758)
The hand sanitiser brand which I preferred is not available in stock	3.14 (1.777)
The use of hand sanitiser makes my skin itch and sore	3.02 (1.843)
Hand sanitiser is only for people who are ill	2.02 (1.594)

Note: 1 = Strongly Disagree to 7 = Strongly Agree.

Table 4: Simple bivariate correlation matrix (N = 271)

	M (SD)	1	2	3	4	5	6	7
Attitude	6.105 (0.914)		0.551**	0.443**	0.850**	0.663**	0.700**	-0.003
Subjective Norms	5.197 (1.189)			0.228**	0.560**	0.580**	0.717**	0.204**
Perceived Behavioural Control	5.925 (0.940)				0.489**	0.376**	0.323**	0.173**
Behavioural Intention	6.064 (0.909)					0.631**	0.719**	0.035
Behavioural Beliefs	5.428 (0.975)						0.576**	0.240**
Normative Beliefs	5.804 (0.988)							0.064
Control Beliefs	3.846 (1.099)							

**p < 0.01 (all 2-tailed).

4.1 Hypotheses Testing

Simple linear regression was used to test the first three hypotheses for significance. The analyses supported all the hypotheses. The correlation coefficients of behavioural beliefs on attitude (hypothesis 1: $r = 0.663$; $F = 210.94$, $p < 0.01$). The correlation coefficients of normative beliefs on the subjective norm (hypothesis 2: $r = 0.717$; $F = 283.940$, $p < 0.01$), whereas correlation coefficients of control beliefs on perceived behavioural control (hypothesis 3; $r = 0.173$; $F = 8.314$, $p < 0.01$).

Multiple linear regression was used to test hypotheses 4 to 6, as displayed in Table 5. The multiple regressions of attitude (hypothesis 4; $\beta = 0.713$; $p < 0.01$), subjective norms (hypothesis 5; $\beta = 0.134$, $p < 0.01$), and perceived behavioural control (hypothesis 6; $\beta = 0.143$, $p < 0.01$) on behavioural intention were significant, with the overall regression model explaining 75.1% of the total variance within behavioural intention ($F = 268.344$, $R^2 = 0.751$). The analysis results supported hypotheses 4, 5, and 6. Moreover, attitude was found to be the strongest predictor of behavioural intention ($\beta = 0.713$), followed by perceived behavioural control ($\beta = 0.143$) and subjective norms ($\beta = 0.134$). The finding regarding attitude as the strongest predictor in predicting behavioural intention is aligned with a study by Lin and Roberts (2017) and Xia et al. (2021).

Table 5: Multiple regression model for predicting behavioural intention based on direct measures.

Model	Sum of Squares	df	Mean Square	F	p-value
Regression	167.391	3	55.797	268.344	0.000
Residual	55.517	267	0.208		
Total	222.908	270			
Standardised Coefficients					
Model		β	t		p-value
Constant			1.788		0.075
Attitude		0.713	17.933		0.000
Subjective Norm		0.134	3.657		0.000
Perceived behavioural control		0.143	4.194		0.000

Note: Dependent variable, behavioural intention.

5. DISCUSSION AND CONCLUSION

This study utilised the theory of planned behaviour to examine the Malaysian consumer attitude, subjective norms, and perceived behavioural control on their intention to use hand sanitiser during the COVID-19 pandemic. Results from the analyses supported all proposed hypotheses. Malaysian consumer behavioural beliefs are significantly associated with their attitude, normative beliefs are significantly associated with their subjective norms, and control beliefs are significantly associated with their perceived behavioural control. Most importantly, this study found that Malaysian consumer attitude, subjective norm, and perceived behavioural control significantly influenced their intention to use hand sanitiser during the outbreak. Such findings contributed to the body of literature on the theory of planned behaviour, particularly during an outbreak like COVID-19. Additionally, the Malaysian consumer attitude strongly predicted their behavioural intention toward using hand sanitiser during the pandemic. Such finding aligns with previous studies by Xia et al. (2021), who found attitude to be the strongest predictor of behavioural intention to use traditional Chinese medicine during COVID-19. Our theoretical framework to understand the Malaysian consumer's intention to use hand sanitiser during the pandemic was evident when taken together.

Hand sanitisers are frequently used as a quick preventive measure to protect themselves from the virus (Prajapati et al., 2022). Regularly sanitising hands is part of the requirements highlighted in the standard operating guidelines by the Malaysian government; hence, Malaysian consumers should be aware and practice using hand sanitisers mainly when visiting public places such as shopping complexes. Hand sanitisers are placed at the entrance of most business establishments and workplaces, so whenever people enter a building, they must scan their body temperature and sanitise their hands. This study found that most Malaysian consumers use hand sanitiser at least five times daily, mainly when entering public premises and outside their homes. Nevertheless, some consumers prefer to bring and use their sanitiser instead of the one provided at the entrance. A few types of hand sanitisers are available in the market, and findings from this study reported that some Malaysian consumers preferred a gel-

based alcohol hand sanitiser. In contrast, some other consumers do not have specific preferences, as long as the hand sanitiser has enough alcohol content to prevent the virus from spreading. Additionally, many brands offer hand sanitisers, but most respondents in this study preferred the Dettol brand, followed by Lifebuoy and Antabax. Some might argue that washing hands using soap and water is more effective in preventing infectious diseases. However, a hand sanitiser is more convenient; not only can it save us time to find the nearest restroom or hand basin, but a small bottle of hand sanitiser is also easy to carry wherever we go.

Knowing that the pandemic is still ongoing and the requirement to use hand sanitisers might be long-term, findings from this study significantly contributed to academic and practical. Many researchers have utilised the theory of planned behaviour model in consumer behaviour studies, but to the authors' knowledge, none is found on using hand sanitiser during the COVID-19 pandemic. New findings gathered from this study will extend the literature on consumer behaviour. Also, results contributed to the theory of planned behaviour regarding attitude, subjective norms, and perceived behavioural control on the Malaysian consumer's behavioural intention to use hand sanitiser. This study identified that the attitude of Malaysian consumers strongly predicted their intention to use hand sanitiser, particularly during the COVID-19 pandemic. Policymakers can effectively tailor their communication strategies and initiatives by understanding consumer behaviour factors, especially regarding health-related products like hand sanitisers. Such a strategy will increase consumer compliance with standard operating procedures and health protocols, ultimately contributing to public safety and the nation's overall health. Additionally, our research carries practical implications for the private sector, such as the hand sanitiser producers and pharma companies, who can leverage these findings to refine their product offerings and marketing strategies better to meet the demands and preferences of Malaysian consumers. Hopefully, Malaysians can maintain this positive attitude as their personal prevention tactic until the post-pandemic. Moreover, findings from this study could benefit the hand sanitiser producers in knowing that there are constant demands for hand sanitiser products; thus, offering different types of hand sanitiser might be helpful for consumers with sensitive skin or those who are more on the smell than the price. Also, hand sanitiser producers should do more marketing campaigns locally and globally to promote their hand sanitisers and ensure their products are readily available in the market because some consumers prefer certain brands. Hand sanitiser producers could use celebrities to represent their brands and promote hand sanitisers using online advertisements. Celebrities or influencers are often used as a marketing strategy that can influence consumer buying decisions (Ramli et al., 2023).

Although findings related to the behavioural intention of Malaysian consumers toward hand sanitiser usage during the pandemic were found, limitations in the current study exist. The present study used a convenience sampling method, and most respondents came from the northern region (i.e., Perlis, Kedah, Pulau Pinang, Perak); hence, the researchers could not generalise the findings throughout the country. Gathering more data on hand sanitiser usage throughout the country would be beneficial. The next step in this research is to confirm the goodness of fits of the framework proposed in this study using structural equation modelling analysis. Also, future studies could analyse the mediating and moderating effects, such as demographic characteristics in influencing attitude, subjective norms, perceived behavioural control, and behavioural intention. A mediating and moderating effect could yield more findings to increase our understanding of Malaysian consumer behaviour. Further, future researchers must explore changes in consumer perception and behaviour since COVID-19 hit the country. The pandemic phenomenon has changed consumer behaviour, and the overall standard operating procedures, including the use of hand sanitiser, could influence consumer behaviour in post-pandemic COVID-19.

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AUTHORS' CONTRIBUTION

MSO completed most of the project, including collecting the data and writing the introduction section. AA and ZA wrote and refined the literature review sections. NHC is responsible for writing the methods, analysing the data, and reporting the results and analysis. NHC and MSO also wrote the discussion and implication sections. All authors read and approved the final manuscript, including the revised version.

CONFLICT OF INTEREST

None declared.

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AUTHOR BIOGRAPHIES

Ir. Ts. Mohamed Syazwan Osman is a senior lecturer of Chemical Engineering at Universiti Teknologi MARA Cawangan Pulau Pinang. He has co-authored over 45 publications in SCOPUS indexed to date. He holds one Malaysian patent. The current research interests in Syazwan's group include (1) Bioproduct development, (2) Nanomaterial synthesis and colloids, (3) Herbal extraction, and (4) Environmental Engineering waste treatment processes and modelling.

Dr. Nur Hidayah Che Ahmat is a certified hospitality educator and a senior lecturer in the Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Cawangan Pulau Pinang, Permatang Pauh Campus, Pulau Pinang, Malaysia. She has published in various peer-reviewed international journals. Her research area is focused on hospitality education, human resources management, strategic management, and consumer behaviours.

Dr Azila Azmi is an Associate Professor of Tourism Management at the Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Cawangan Pulau Pinang. Azila has worked on numerous research projects and consultancy related to tourism, all funded by major grant-awarding bodies. She has widely written and reviewed articles in tourism and hospitality studies. Her research interests include tourism destination management, shopping tourism, consumer behaviour, and ubiquitous learning and teaching.

Zamri Ahmad is a senior lecturer of the Hotel Department in the Faculty of Hotel and Tourism Management, Universiti Teknologi MARA Cawangan Pulau Pinang, Permatang Pauh Campus, Pulau Pinang, Malaysia. He has co-authored several publications, and his area of interest includes branding, training, events, and food and beverage management. He is the Head of the Corporate Communication Unit at Universiti Teknologi MARA Cawangan Pulau Pinang.