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# Influencing Factors of Cross-border e-Commerce Consumer Behavior-taking in Malaysia

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### ABSTRACT

Cross-border e-commerce consumption drives growth, with consumer psychology and behavior varying based on culture, environment, and e-commerce platform systems. Malaysia's diverse and multilingual population necessitates a keen understanding of consumer psychology and behavior for merchants aiming to penetrate the market. This paper explores consumer behavior in Malaysia's cross-border e-commerce, analyzing factors such as perceived value, purchase intention, and behavior theories. Consumers' psychological characteristics significantly influence their decision-making behavior when shopping on cross-border e-commerce, influenced by the shopping experience and online shopping issues. The research provides a contribution reference for nations or businesses to develop a cross-border e-commerce strategy. The study investigates Malaysian e-commerce consumers through a questionnaire survey, utilizing a non-probability technique with convenience sampling, resulting in 508 valid responses. The study is based on herd consumption psychology and consists of three dimensions: informational influence, normative influence, and value expression influence. The study found a significant correlation between crowd consumption psychology's informational influence and consumers' perceived usefulness and purchase intention with a p-value of 0.001, 0.000, and 0.125, while normative and value expression influences were insignificant. The study provides empirical and conceptual evidence to support the government's initiative on navigating international regulations in cross-border e-commerce, a complex yet crucial task. Customs administrations must collaborate with all stakeholders to develop a comprehensive approach for managing e-commerce transactions, focusing on trade facilitation and enforcement. It recommends reviewing the accurate measurement of cross-border e-commerce, which is crucial for making informed policy and business decisions.

## 1. Introduction

Malaysia is focusing on developing its national e-commerce sector in response to the increasing global e-commerce market [13]. Malaysia's National e-Commerce Strategic Roadmap, implemented

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by Najib in 2016, aims to accelerate e-commerce adoption by sellers, increase e-procurement adoption by businesses, and unlock e-commerce's potential. The strategy involves removing non-tariff barriers, realigning economic incentives, investing in e-commerce players strategically, and promoting national brands to facilitate cross-border e-commerce. Malaysia's advanced internet technology and ethnic diversity are driving a growing trend for Malaysians to shift their daily consumption to online platforms [25]. Cross-border e-commerce offers consumers more opportunities to learn about and access foreign brands and products, expanding their access to products beyond local markets [22]. Cross-border e-commerce in Malaysia not only meets growing consumer demand but also increases product supply, contributing to domestic consumption levels. Perhaps consumers may experience distinct psychological and behavioral changes when shopping on cross-border e-commerce platforms, according to [22]. Consumers' psychological characteristics significantly influence their decision-making behavior when shopping on cross-border e-commerce, in addition to the online shopping issues [6]. Cross-border e-commerce businesses are thriving, with fierce competition aiming to capture market share and attract new users while retaining existing ones [17]. The study explores the relationship between psychology and behaviour of Malaysian cross-border e-commerce consumers, introducing the herd mentality to fill gaps in existing research.

## *1.1 Literature Review*

### *1.1.1 Informational influence and perceived usefulness of cross-border e-commerce consumers*

Lam *et al.*, [14] suggests that when consumers lack knowledge about a product and struggle to make judgments based on their eyes and hands, others' recommendations can be valuable. Informational influence is a key factor in herd mentality, where individuals seek advice from professionals or community authorities for the most accurate answer. Individuals engage in informational subordination, accepting group information to gain knowledge, use it as reference, form attitudes, and behave in line with the group [19]. Sherif's herding experiment, involving subjects in uncertain situations, can be attributed to informational herding, as it highlights the influence of uncertainty on motivation. Lin *et al.*, [15] study on perceived usefulness in e-commerce identifies it as the enhancement of consumer shopping efficiency and task performance on a designated online platform. Perceived usefulness helps consumers understand product information on online platforms, enabling them to make informed decisions about purchasing decisions [5]. Perceived ease of use refers to the ease with which individuals can easily access reference information when navigating e-commerce platforms. Shin [20] defines perceived ease of use as the ease with which individuals can easily access referable information while navigating e-commerce platforms. The ease of use in e-commerce platforms, which are characterized by a streamlined interface, makes it easier for consumers to use and apply.

### *1.1.2 Worldwide perspective on cross-border e-commerce consumers*

Khan *et al.*, [12] defines purchase intention as the subjective probability of an individual engaging in a specific behavior, such as buying a particular product, in the context of consumption. Zinko *et al.*, [24] study categorized purchase intentions into positive and negative. Positive intentions increase the likelihood of a consumer placing an order, while negative intentions increase the likelihood of a consumer leaving a store or product. Herd mentality is the unconscious manipulation of self-perception, judgement, and cognitive processes by individuals under group pressure, involving informational, normative, and value expression influences, ranging from having

one's own opinion to conforming to group expectations. Ali [4] in his study suggests herding doesn't significantly impact purchase intentions, but maintaining a consistent attitude can reduce adherence to completion. Malaysian consumers raised in democratic countries should observe the attitudes of team-oriented individuals in relation to herd mentality and consumer behavior. Individuals in normative conformity often make decisions confidently, but under group norms, they may align their choices with group behavior, even if it requires altering their original choices [16]. Asch's line judgement experiment showed that individuals typically give correct answers when asked alone, but are more likely to accept incorrect opinions when expressed in a group. Individuals internalize the beliefs and values of their reference group, influencing their behavior. For example, a consumer may conform to an artistic and literate image by growing long hair and dressing unconventionally, reflecting their values. Individuals consciously act in accordance with group norms and beliefs without external rewards or punishments, driven by two main forces. Individuals use reference groups to express themselves and enhance self-image, while also being fond or loyal to them, establishing long-term relationships and viewing group values as their own [23]. Consumers choose products that highlight their status and identity, making others respect them and making a good impression on them.

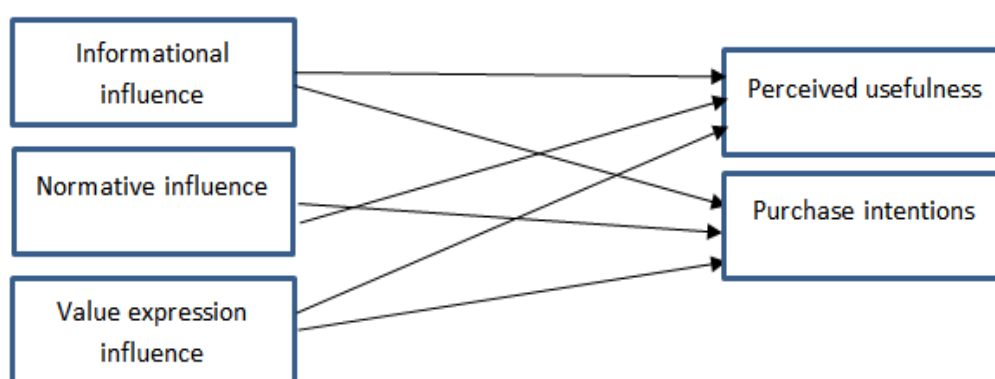
### *1.1.3 Discussion of gaps*

The review highlights gaps in existing literature, such as Ajzen and Martin [1], highlighting the insufficient understanding of online consumer psychology, highlighting factors such as income, age, gender, occupation, and education level and the existing literature lacks sufficient understanding of the intricate relationship between consumer psychology and online shopping behaviour [2,8]. The number of female consumers is higher than male consumers, but men spend slightly more money than women. Consumer psychology is a multifaceted field of study in the economic field, encompassing aspects such as personality, behavior, and cognition. Despite increasing interest in consumer psychographics, there is limited research on herding psychology and consumer behavior in cross-border e-commerce [7]. Research indicates that informational, normative, and value expression dimensions of herding psychology are closely linked to consumer behavior in cross-border e-commerce, but the exact mechanisms remain unclear.

### *1.1.4 Analytical framework*

Figure 1 utilizes a comprehensive conceptual framework that incorporates key elements from various theories, this study examines the influence of informational, normative, and value expression on perceived usefulness and purchase intentions, finding that all variables significantly impact these variables. The theory of reasoned action suggests that individual behavior can be predicted through intentions, attitudes, and subjective norms [1]. The theory suggests that an individual's conscious attitudes and subjective cognitive norms can reasonably infer their behavior. Behavioural attitudes and subjective norms are influenced by an individual's beliefs and outcomes, while normative beliefs and motivation determine their subjective disposition towards a behavior [11]. People are rational and in control of their behavior, considering the implications and consequences of their actions with information before deciding to take any action. Consumer perception and attitude towards a product significantly influence their willingness to consume and, in turn, their behavior at the consumer level. Ajzen [2] addition to the Theory of Planned Behaviour (TRA) theory, 'perceptual behavioural control', identifies extraneous factors such as personal control beliefs and perceived facilitators controlling people's behaviour. Individual behavioral

intentions consist of three main variables: subjective norms, perceived behavioral control, and behavioral attitudes, which are independent but have a two-by-two relationship with another variable. Consumers' perception of competence and resources increases their perceived behavioral control. Behavior is influenced by attitudes and assessment results, with intentions directly influencing behavior production. This theory suggests that more competence and resources lead to stronger perceptions [21]. The technology acceptance model highlights the influence of individual behavioral intentions, attitudes, and ease of use on decision-making and system use [18]. Perceived usefulness refers to a consumer's belief that a product enhances efficiency or performance, while perceived ease of use refers to the ease with which an individual uses the product [9]. This model suggests that perceived usefulness is influenced by both perceived ease of use and external factors, with perceived ease of use primarily influenced by item design, task purpose, and user characteristics. Individuals' perception of a technology's usefulness and convenience leads to increased attitudes and behaviors towards it, resulting in higher usage [3].



**Fig. 1.** Conceptualize of influencing factors of cross-border e-commerce consumer behavior-taking in Malaysia

## 2. Methodology

The research methodology employed includes literature reading, research, questionnaire survey, and statistical analysis. This paper uses a questionnaire method to study cross-border e-commerce consumer behavior, focusing on herding psychology, external factors, cognitive variables, and purchase factors. The study utilized SPSS 26.0 statistical software to analyze data from questionnaires, using methods such as reliability, correlation, descriptive, and regression analysis, to examine the relationship between herding psychology and cross-border e-commerce consumer behavior. The Department of Statistics Malaysia reported that Malaysia's total population in 2022 was 33,165,686. This study analyzed the behavioral characteristics of cross-border e-commerce consumers in Malaysia, focusing on the individual as the unit of analysis. The study used convenience sampling, selecting readily available samples, despite the researcher's awareness that these samplings may not fully represent the entire demographic. This method efficiently obtains large amounts of data in a short, cost-effective time, making it a popular choice for descriptive studies. The study planned a questionnaire survey of cross-border e-commerce consumers in Malaysia, regardless of gender, to be conducted in Kuala Lumpur. Cochran's formula,  $n = p(1-p) z^2 / E^2$ , is used for non-probability sampling studies in large populations, calculating the sample size needed based on the condition's occurrence percentage. The recommended proportion of occurrence for a condition is 50% to maximize variance and achieve the largest sample size. The

sample size, determined using a formula, comprises 508 individuals, with the analysis based on the valid questionnaires returned by the respondents.

## 2.1 Data Analysis and Interpretation

In Table 1, the study analyzed 508 valid data, with 65% aged 18-25, 28.9% aged 26-35, 4.1% aged 45-60, and 2% aged 60+. The data shows that under 35-year-olds make up 93.9% of online shoppers, indicating a gradual trend towards younger consumers in the technological era. The data showed a gradual popularization of online shopping among young people, primarily fewer than 35. The study involved 225 males and 283 females, with 44.3% and 55.70% respectively. Female students in Malaysia make slightly more cross-border e-commerce purchases than male students, reflecting the diverse range of products imported in the country's e-commerce sector. The study revealed that only 7.5% of the population had a high school degree, while 76.8% had a bachelor's degree and 15.7% had a graduate degree or higher. The data analysis indicates that individuals with a bachelor's degree or higher are more likely to use electronic platforms for online shopping. The career breakdown shows that students (298, 58.7%), company employees (130, 25.6%), private business owners (5.7%), freelancers (3.3%), civil servants (8.6%), and housewives (5.1%) are the most common. Students and corporate employees engage in online shopping, with employees having access to electronic products, particularly computers, and students more likely to have laptops.

**Table 1**  
Profile respondents

	Total items (n=508)	Percentage (%)
Age		
18-25	330	65%
26-35	147	28.9%
45-60	21	4.1%
Above 60	5	2.0%
Gender		
Male	225	44.3%
Female	283	55.7%
Career Level		
Students	298	58.7%
Civil servants	8	1.6%
Company employees	130	25.6%
Private business owners	29	5.7%
Freelancers	17	3.3%
Housewives	5	1%
Others	21	4.1%
Education Level		
High School and below	38	7.5%
Bachelor	390	76.8%
Graduate degree or higher	80	15.7%

## 2.2 Reliability Test

Table 2 shows Cronbach's Alpha values between 0.854 and 0.925, indicating high dependability and adherence to the general principle. Hair *et al.*, [10] suggest that Cronbach alpha scores between 0.7 and 0.9 indicate strong reliability, with results more trustworthy if they show positive

association between variables. Reliability tests assess measurement integrity, dependability, and potential inaccuracies using an internal consistency test identifying the Cronbach Alpha value.

**Table 2**

**Construct reliability analysis**

Construct	Measurement Item	Cronbach's Alpha
Perceived usefulness	PU1: The use of cross-border e-commerce platforms can enhance the efficiency of shopping.	0.854
	PU2: The cross-border e-commerce platform currently offers features that can effectively cater to my shopping needs.	
	PU3: I prefer shopping on cross-border e-commerce platforms over buying on behalf of others and overseas.	
	PU4: The cross-border e-commerce platform provides convenience in my daily life.	
	PU5: I think there are enough overseas products for me to choose from on this website.	
Purchase intentions	PI1: The individual is interested in shopping on a cross-border e-commerce platform.	0.925
	PI2: I plan to shop on cross-border e-commerce platforms in the future.	
	PI3: I recommend using cross-border e-commerce platforms to their friends.	
Informational influence	II1: I seek comprehensive product information from professionals when making a purchase.	0.868
	II2: The consumer seeks brand information from the salesperson when purchasing a product.	
	II3: When purchasing a product, it is essential to seek reliable information about the brand from a relative, colleague, or colleague.	
	II4: When purchasing a product, it is crucial to ensure that it is certified by an authority.	
	II5: The choice of a product can be influenced by the presence of special individuals, such as government officials, holding the brand.	
Normative influence	NI1: The individual chooses the brand they believe others prefer when purchasing a product.	0.866
	NI2: The choice of a product brand is influenced by the preferences of those around me.	
	NI3: I consider the opinions of those around me when selecting a product brand.	
	NI4: The brand I choose is influenced by the opinions of those around me.	
Value expression influence	VEI1: Purchasing and using a specific product brand enhances the positive impression others have of me.	0.891
	VEI2: The individual's personality is effectively reflected by their choice and usage of a specific mobile phone brand.	
	VEI3: I experience a sense of satisfaction when choosing a specific product brand, resembling the person depicted in an advertisement.	
	VEI4: I believe that choosing a specific product brand will lead to increased respect and envy from others.	
	VEI5: I believe that selecting a specific product brand will reveal their personal identity.	

### 2.3 Correlation Analysis

Table 3 reveal that informativeness significantly influences herding psychology and perceived usefulness in cross-border e-commerce consumer behavior. Informativeness positively influences perceived usefulness and purchase intention, with a significant correlation coefficient of 0.211 and

a probability of 0.01. The herding dimension also includes normative influence, which has a significant positive correlation on perceived usefulness. The study found a significant positive correlation between normative influence and perceived usefulness, with a coefficient of 0.125, and a p-value of 0.01, indicating a strong relationship. Herding psychology's influence on information expression positively correlates with other cross-border e-commerce consumer behavior factors. The correlation coefficient for the perceived usefulness factor is 0.091, while the correlation coefficient for the purchase intention factor is 0.060.

**Table 3**

Correlation analysis of the construct

	Perceived usefulness	Purchase intentions	Informational influence	Normative influence	Value expression influence
Perceived usefulness	1	.559** (0.000)	.211** (0.000)	.154** (0.001)	.091* (0.041)
Purchase intentions	.559** (0.000)	1	.177** (0.000)	.125** (0.005)	0.060 (0.178)
Informational influence	.211** (0.000)	.177** (0.000)	1	.311** (0.000)	.231** (0.000)
Normative influence	.154** (0.001)	.125** (0.005)	.311** (0.000)	1	.477** (0.000)
Value expression influence	.091* (0.041)	0.060 (0.178)	.231** (0.000)	.477** (0.000)	1

Notes: \*\* Significant correlation at the 0.01 level (two-tailed) and \* significant correlation at the 0.05 level (two-tailed).

## 2.4 Regression Analysis

The adjusted R-squared value of 0.048 indicates that herding accounts for 4.8% of the perceived usefulness explanation in Table 4. The informational influence, excluding normative and value expression influences, is statistically significant with a regression coefficient of 0.180 below 0.001, the study found a positive correlation between informational influence and perceived usefulness, but no significant correlation was found between normative and value expression influences individually have p-values of 0.059 and 0.947, thus indicating no significant correlation with perceived usefulness.

**Table 4**

Regression models of herding and perceived usefulness

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R-square Change Volume	Amount of F change	Freedom Degree 1	Freedom Degree 2	Amount of significant F change
1	.231 <sup>a</sup>	0.053	0.048	0.57472	0.053	9.431	3	504	0.000

Table 5 reveals a lower than 0.001 significance of the regression model of herding psychology and purchase intention, with an adjusted R-square value of 0.037. Informative influence positively correlates with purchase intention, while normative and value expression influences have no significant correlation, thus indicating that there is no significant correlation with purchase intention.

**Table 5**  
Regression models of herding and purchase intention

Model	R	R Square	Adjusted R Square	Std. Error of the Estimate	Change Statistics R-square Change	Amount of F change	Freedom Degree 1	Freedom Degree 2	Amount of significant F change
1	.192 <sup>a</sup>	0.037	0.031	0.70848	0.037	6.447	3	504	0.000

### 3. Results

#### 3.1 Findings of the Hypotheses Tested

The results were derived from tests conducted using the statistical program SPSS. The study aimed to explore the correlation between perceived usefulness and purchase intention, as well as the influence of informative, normative, and value-expressive factors. Six objectives were established, which can be addressed through a questionnaire survey of Malaysian cross-border e-commerce consumers, based on the analysis. This study explores six hypotheses formulated from multiple literature reviews to construct a conceptual framework to address the objectives of the study (see Table 6).

**Table 6**  
Summary of the hypotheses tested

Path	Hypothesis	P value	Decision
H1	Informational influences positively impact the perceived usefulness of cross-border e-commerce consumers' behavior.	0.000	Accepted
H2	Informational influences positively impact the purchase intentions of cross-border e-commerce consumers' behavior.	0.001	Accepted
H3	Normative influences positively impact the perceived usefulness of cross-border e-commerce consumers' behavior.	0.059	Rejected
H4	Normative influences positively impact the purchase intentions of cross-border e-commerce consumers.	0.099	Rejected
H5	Value expression positively impacts the perceived usefulness of cross-border e-commerce consumers' behavior.	0.947	Rejected
H6	Value expression positively impacts the purchase intentions of cross-border e-commerce consumers.	0.746	Rejected

The study found a significant positive correlation between informativeness and perceived usefulness, with a p-value of 0.05 and a correlation coefficient of 0.211. Tables 4 and 5 show adjusted R-squared value of 0.048, indicating that herding accounts for 4.8% of perceived usefulness. The study found a positive correlation between informational influence and perceived usefulness, with a significant coefficient below 0.001, indicating a positive influence. The study confirms the validity of hypothesis H1, indicating that informational influences positively impact perceived usefulness in cross-border e-commerce purchases.

The regression model reveals that herd mentality, with a significance value of 0.031, explains 3.1% of purchase intention, as shown in Tables 4 and 5. The study indicates a positive relationship between informational influence and purchase intention, with a significance level below 0.001. The results confirm the validity of hypothesis H2, indicating that consumers are more likely to engage in purchasing behavior when provided with reliable information, particularly when e-commerce platforms offer special offers.

Table 3 reveal a significant positive correlation between normative influences and perceived usefulness, with a coefficient of 0.154. The adjusted R-squared value of 0.048 indicates that herding



accounts for 4.8% of the perceived usefulness explanation. The regression coefficient for normative influence is 0.096, with no significant correlation with perceived usefulness, indicating a higher significance than 0.001. The results indicate that hypothesis H3 is invalid, as normative influence refers to the impact of a consumer's surroundings on their behavior. Consumer opinions on products hinder cross-border electronic shopping, increasing product choices and consumption time, rather than simplifying the process.

Table 3 reveal a significant positive correlation between normative influences and purchase intention, with a p-value of 0.01, and an individual correlation coefficient of 0.125. Tables 4 and 5 reveal a lower than 0.001 significance of the regression model of herding psychology on purchase intention, explaining 3.1% of the variance. The study found no significant correlation between normative influence and purchase intention, with a significance level above 0.001, a regression coefficient of 0.085, and an individual p-value of 0.099. The hypothesis H4 is invalid, as Malaysian cross-border e-commerce consumers may not have better trust and shopping experiences due to the information provided by their surroundings.

Table 3 also reveal a significant positive correlation between the value expression influences of herding psychology and cross-border e-commerce consumer behavior factors. The perceived usefulness factor had a correlation coefficient of 0.091, while the individual purchase intention factor had a correlation coefficient of 0.060. Tables 4 and 5 also show adjusted R-squared value of 0.048, indicating that herding accounts for 4.8% of perceived usefulness. The value expression effect is significant with a regression coefficient of 0.003, and an individual P-value of 0.947, indicating no significant correlation with perceived usefulness.

The correlation coefficient between the value expression influence factor and the herding psychology factor on the purchase intention factor was 0.060. The regression model reveals a 3.1% explanation of herd mentality on purchase intention, with an adjusted R-squared value of 0.031, below 0.001. The study found no significant correlation between value expression influence and purchase intention, with a regression coefficient of -0.016 and an individual P-value of 0.746. The hypothesis H6 is invalid as consumers may prefer to experience products in a physical store to align their values with their needs. Customers will not only choose a cross-border e-commerce platform but also recommend it to their friends to find the right product.

#### **4. Conclusions**

The objective 1 and 2 are confirmed that informational influences significantly positively impact the perceived usefulness and purchase intention of cross-border e-commerce consumers' behaviors. Reference groups, including experts, salespeople, and relatives, provide reliable and professional product information to consumers, ensuring they can make cross-border e-commerce purchases with confidence. Obtaining information and assistance can enhance cross-border e-commerce consumers' shopping efficiency, meet their needs, and provide more convenience to their lives. Seminars provide reliable information on cross-border e-commerce platforms in Malaysia, enhancing consumer behavior and promoting proper online purchases through special offers and expert guidance. Malaysian consumers are expected to reconsider their scepticism towards cross-border e-commerce platforms, thereby enhancing their willingness to shop and spend on such platforms in the future. Research objective 3 to 6 are not confirmed and it reveals that cross-border consumer behavior's perceived usefulness is not correlated with planning, suggesting that people's perceptions and opinions can influence consumers' attention. Malaysian consumers, influenced by their surroundings, view cross-border e-commerce as a means to meet their shopping needs and enhance their shopping efficiency. Perhaps, Malaysian cross-border e-

commerce consumers lack trust and shopping experience due to normative herd mentality, influenced by surrounding information. Cross-border e-commerce purchases are less likely for consumers to find desired products due to their desire to maintain their identity rank. Online shopping has a disadvantage as consumers rely solely on merchant's product photos and videos to perceive and simulate product shape, taste, etc. Consumers may prefer online experiences to find products that align with their values, as they may not only choose a cross-border e-commerce platform but also recommend it to friends.

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