

## EXPLORING THE BEHAVIOURAL INTENTION OF PET OWNERS TOWARDS PET ACCESSORIES: AN EXTENDED THEORY OF PLANNED BEHAVIOUR

NOR AZIEDA SHAIKH MAIDIN<sup>1</sup>, MUHAMAD AZRIN NAZRI<sup>2\*</sup>,  
NUR AQILAH HAZIRAH MOHD ANIM<sup>3</sup>, NOR ASIAH OMAR<sup>4</sup>

<sup>1,2,3</sup> Fakulti Ekonomi & Muamalat, Universiti Sains Islam Malaysia

<sup>4</sup>Fakulti Ekonomi & Pengurusan, Universiti Kebangsaan Malaysia

\*Corresponding Author: [muhdazrin@usim.edu.my](mailto:muhdazrin@usim.edu.my)

**Abstract:** The number of pet owners in Malaysia has increased rapidly in recent years, leading to significant growth in the pet industry. This industry encompasses pet food, accessories, healthcare products, grooming services, and more, and is widely regarded by economists as one of the most resilient and sustainable sectors globally. This study aims to examine the relationship between attitude, subjective norms, perceived behavioural control, and attachment, in relation to the behavioural intention to purchase pet accessories among pet owners in Malaysia. The research employs an extended version of the Theory of Planned Behaviour (TPB) to provide a more comprehensive understanding of these factors. A survey method was adopted, with data collected from 400 consumers who purchase pet accessories for their pets. The findings indicate that all four factors—attitude, subjective norms, perceived behavioural control, and attachment—significantly influence the behavioural intention of pet owners. This study is among the few that applies the extended TPB model to the context of pet accessory consumption, contributing valuable insights to both academic research and industry practitioners.

**Keywords:** Pet accessories, Behavioural intention, Attitude, Subjective norms, Perceived behavioural control.

### 1. Introduction

Pet ownership is becoming very popular among people today, and it has become vital to understand its effects on consumers' purchase behaviour (Yahui et al., 2024). Many people consider pets as family members, as they play a significant role in the lives of pet owners (Yibing et al., 2022). Pets can be a source of entertainment and provide psychological support to their owners. In addition, many people realise the physical, medical, and psychological benefits of owning a pet; for instance, pets are good for human health, companionship, socialisation, and can increase physical activity (Rosario et al., 2023). In addition, research on human-animal interactions has revealed that companionship with pets provides multiple benefits to humans (Apaolaza et al., 2022). Pets are not limited to only cats and dogs, but these two are the most commonly owned worldwide. Rakuten Insight performed a survey in January 2022, which showed that around 53% of Malaysians own pets Statista Research Department [STATISTA], 2022). This high rate of pet ownerships has led to a significant demand for pet products. Most pet owners nowadays are willing to spend on their pets to

provide them with a comfortable and healthy life. Another statistic showed that people tend to spend up to MYR200 per month on pet products (STATISTA, 2022). Pet products include pet food, pet accessories, pet healthcare, pet grooming services, and others.

Lan et al. (2024) exerted that consumer spending on pet products is on the rise; however, research into pet owners' purchasing behaviours remains limited. The existing literature predominantly focuses on pet food, overlooking other categories such as accessories, healthcare, and grooming products. Notably, there is a scarcity of studies examining pet accessories, particularly within the Malaysian context. Furthermore, many prior investigations into pet-related product and service consumption have employed qualitative methodologies or lacked rigorous scientific evidence (Apaolaza et al., 2022; Brockman et al., 2008; Mosteller, 2008), with some exceptions (Chen et al., 2012).

Purchasing pet products differs significantly from buying other types of consumer goods. Accordingly, this empirical study focuses specifically on pet accessories, a growing segment within the broader pet product market. Pet accessories encompass a wide range of items, including collars, identification tags, toys, clothing, hats, bedding, cages, and more. Recent trends have contributed to the expansion of the pet accessories industry; for example, dressing pets in traditional attire such as Baju Melayu during Aidilfitri celebration or accessorising pets with hats and spectacles for photographs.

Despite these developments, not all pet owners are inclined to purchase accessories for their pets. Given that more than half of Malaysians are pet owners, it is essential to examine the factors influencing their behavioural intentions towards buying pet accessories. Scholars emphasise that understanding consumer behaviour is critical for effective marketing, such as enhancing product-customer communication (Alpeza et al., 2023) and aligning a company's sustainable strategic goals with consumer needs (Hosta & Žabkar, 2016). In this regard, further investigation into pet owners' purchasing behaviour related to pet products and services is considered important (Lee & Yi, 2015). Generally, previous studies on pets focused more on food & healthcare (Boya et al., 2012), veterinary services (Gates et al., 2019; Brockman et al., 2008), and pet care (Charmaraman et al., 2022). Moreover, most empirical research on consumer behaviour about pets has been conducted within the Western context (Apaolaza et al., 2022). Therefore, it is crucial to conduct an empirical study on consumer behaviour towards pet accessories in Malaysia.

To understand pet owners' behaviour, this research adopted a modified Theory of Planned Behaviour (TPB) model. Although the Theory of Planned Behaviour is a widely used model and relatively successful in predicting intention and behaviour in various research, it is still open for further extension with additional predictors (Mei et al., 2018; Armitage & Conner, 2001). A modification of the TPB model by path alteration and the addition of new constructs according to the research context would provide intensification in understanding the theory as well as enhancing the predictive power of intention and behaviour (Perugini & Bagozzi, 2001). Therefore, the research aims to investigate the relationship between attitude, subjective norm, perceived behavioural control, and attachment towards the behavioural intention of pet accessories among Malaysian pet owners.

## 2. Literature Review

### 2.1 Theory of Planned Behaviour

As this study is about the behaviour intention of pet owners towards pet accessories, the Theory of Planned Behaviour (TPB) model will be used. TPB is a further development of the Theory of Reasoned Action (TRA) which is the belief that people typically act rationally (Icek, 1985). TPB was developed to forecast actions in which people have only partial voluntary control (Shaw, 2016). Ajzen (2012) believes that an individual's behavioural intention is determined by their attitudes, subjective norms, and perceived behavioural control. When a person has favourable attitudes towards a certain behaviour, they have more supportive subjective norms of engaging in that behaviour, as well as better perceived behavioural control over it and a higher intention to engage in that behaviour (Mei-Fang, 2007). The TPB is also commonly used to analyse customer attitudes and behavioural intentions (Konstantoulaki et al., 2022).

In addition, TPB has been used in several studies to understand the behaviour of pet owners, further supporting its relevance in this research context. For instance, Pedrinelli et al. (2024) applied TPB to examine factors influencing pet owners' purchase intention towards pet food. Similarly, Mei et al. (2018) used the TPB framework to explore feeding behaviours among cat caregivers in Malaysia. These studies demonstrate the robustness and flexibility of TPB in predicting behaviour within the pet care domain. This study includes all variables, with attachment as an additional variable as part of the extended TPB. Table 1 presents the definitions of all variables in the research.

Table 1. Definition of Variables

Variable	Definition
Behaviour Intention	The motivation, or effort, of an individual to perform a behaviour that determines whether or not the behaviour is performed.
Attitude	The degree to which a person has a positive or negative opinion or perception of the behaviour.
Subjective Norm	Cultural pressure on an individual to do a specific behaviour.
Perceived Behavioural Control	A person's perception of the ease or difficulty of carrying out the desired behaviour.
Attachment	The innate ability to form intimate and loving bonds with others, and it plays an important role in childhood and later in life.

### 2.2 Behaviour Intention

The study uses TPB to investigate the dependent variable, which is behaviour intention. According to Ajzen (2020), behaviour intention is the motivation, or effort, of an individual to perform a behaviour that determines whether or not the behaviour is performed. Besides, behaviour intention can also be defined as the tendency of a consumer to act in a particular

way towards products or services. Behaviour intentions indicate a person's likely behaviour shortly concerning purchasing goods or services. Post-purchase behavioural intentions are commonly used to assess consumers' possibility to repurchase after purchase, as they are relatively accurate for predicting customer future behaviour (Suhartanto, 2019). According to Yoon and Uysal (2005), behaviour intention includes not only the intention to buy but also observable behaviours such as the intention to recommend and the intention to repurchase even if the price increases (Yoon & Uysal, 2005). In this study, the focus is on pet accessories. Some pet accessories may be expensive, but people are still willing to buy them for their pets.

## **2.2 Attitude**

Attitude is the main variable of TPB. The TPB proposed that attitudes have a direct impact on behaviour intention (Siqueira et al., 2022). Attitudes refer to the degree to which a person has a positive or negative opinion or perception of the behaviour (Ajzen & Fishbein, 2000). According to the expectancy-value model, attitude towards an action is defined by the whole set of available behaviour intentions relating the behaviour to various outcomes and other features. In general, the more positive the attitude and subjective about behaviour, as well as the higher the perceived behavioural control, the stronger an individual's intention to perform the under-consideration activity (Syed Shah Alam & Nazura Mohamed Sayuti, 2011).

Consequently, attitude is defined as a function of belief that causes individuals to make a specific action (Rezaei et al., 2016). Behavioural beliefs are considered to cause a positive or negative attitude towards the behaviour when combined. In particular, the positive or negative intensity of each anticipated result or experience adds to the overall attitude in direct relation to the perceived probability that the activity will result in the expected outcome or experience (Ajzen, 2020). As a result, if people have a positive attitude towards pets, they will have a behaviour intention towards pet accessories. It is believed that attitude is positively related to behaviour intention towards pet accessories. Thus, it is hypothesised that:

H1: Attitude is positively related to the behaviour intention towards pet accessories products.

## **2.3 Subjective Norm**

The subjective norm is the second component in the TPB model (Peng et al., 2014). Subjective norms can be defined as the cultural pressure on an individual to do a specific behaviour (Yadav & Pathak, 2017). The literature indicates a significant correlation between subjective norms and people's intentions (Hrubes et al., 2001). The underlying claim regarding the impact of subjective norms is that people's intentions are not solely determined by their own will but also by the opinions of others whom they respect (Ajzen, 2012). This means that people intend to do something not only based on their own opinions but may also consider other people's opinions.

People would be more likely to express the behaviour in question if there are social expectations that they should. On the other hand, if social norms state that people should not exhibit the behaviour, then they are less likely to do so (Syed Shah Alam & Nazura Mohamed Sayuti, 2011). According to a study on pet accessories behaviour intentions, some pet owners plan to purchase items for their animals to satisfy the expectations of others (Ridgway et al., 2008). As an example, people are following the trend of dressing their pets on festive days, leading them to buy clothes for their pets to celebrate the day. A previous study stated that subjective norms have a positive effect on influencing consumer intention (Redi et al., 2021). It is believed that subjective norms are positively related to the behaviour intention of pet owners towards pet accessories. Thus, it is hypothesised that:

H2: Subjective norm is positively related to the behaviour intention towards pet accessories products.

#### **2.4 Perceived Behavioural Control**

Perceived behavioural control is one of the variables in the TPB model. Perceived behavioural control was added to the Theory of Reasoned Action (TRA) framework to express a person's perceptions of control over the implementation of a focal behaviour (Kidwell & Jewell, 2003). Perceived behavioural control is described as a person's perception of the ease or difficulty of carrying out the desired behaviour. The concept of TPB is concerned with the amount of effort required for an individual to perform a behaviour under specific conditions (Ajzen & Fishbein, 2000). An important factor in determining a person's intentions and actual behaviour outcomes is whether or not they feel competent and confident enough to carry out the desired behaviour. This is comparable to the conviction that one is capable of overcoming obstacles and difficulties. In this study, the more control an individual feels about making a pet accessories purchase, the more likely he or she is to do so. Thus, based on previous studies, the following hypothesis is presented.

H3: Perceived behavioural control is positively related to the behavioural intention towards pet accessories products.

#### **2.5 Attachment**

Attachment is a biologically driven behavioural system that is necessary for survival (Bosmans et al., 2020). It refers to the innate ability to form intimate and loving bonds with others and plays an important role in childhood and later in life (Hawkins et al., 2017). Attachment can also be defined as the emotional bond formed over time between a caregiver and a caretaker (Kanat-Maymon et al., 2016). Attachment is not limited to bonds between people, it can also exist between humans and their pets. Furthermore, most studies on the human-pet relationship and attachment theory critically examined and discussed the level and type of attachment that exists between pet owners and their pets (Honeycutt, 2018). Ethological research and animal studies have had a significant influence on human attachment research (Bretherton, 1985).

Other than fostering an attachment between humans and pets, pets also can help people form human attachment relationships (Hawkins et al., 2017). Not only that, the attachment between humans and pets offers many advantages. There is significant evidence that pet ownership and attachment to pets improve human psychological, emotional, and physiological health. These include lower risks of depression, improved quality of life, a greater sense of well-being, reduced psychological and physical distress, and less feeling of loneliness (Marsa-Sambola et al., 2017). These must be the reasons why pet ownership increases year after year around the world. People nowadays treat their pets as family members, which explains their willingness to spend more money on them. The willingness could be due to the owner's attachment to their pet. Attachment can be one of the factors influencing the behavioural intention of pet owners. As stated in a previous study, attachment is positively related to the purchase intention of pet owners towards pet products (Hsiao-Chun et al., n.d.). Thus, based on previous studies, the following hypothesis is presented.

H4: Attachment is positively related to the behaviour intention towards pet accessories products.

### 3. Conceptual Framework

The proposed model in Figure 1 shows four independent variables and one dependent variable. The independent variables are attitude, subjective norm, perceived behavioural control, and attachment. Meanwhile, the dependent variable is behaviour intention.

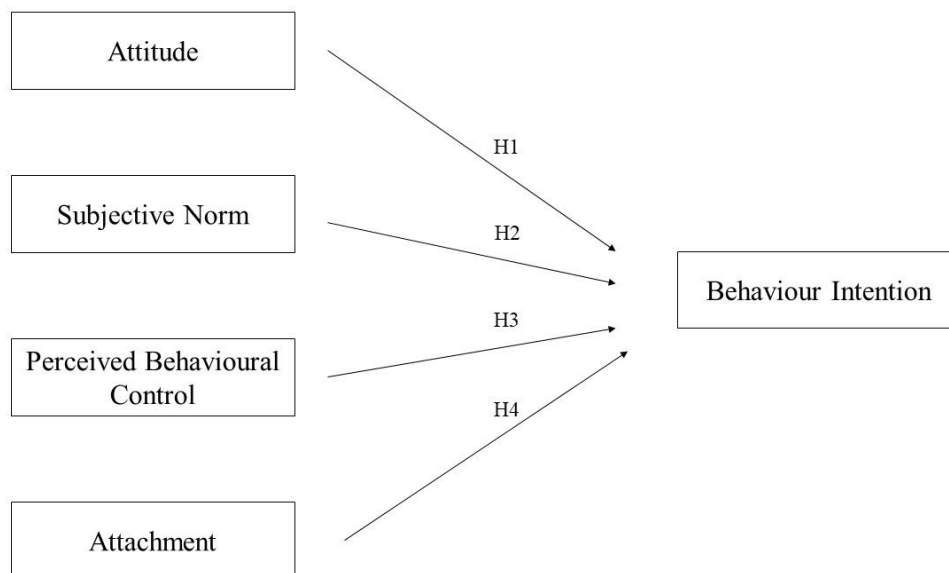


Figure 1. Conceptual Framework

#### 4. Research Methodology

This research adopted a cross-sectional study involving data collection from hundreds of individuals (pet owners) using a survey questionnaire at the same period of time (Xiaofeng & Zhenshun, 2020). A survey questionnaire was developed to understand the factors influencing the behavioural intention of pet owners towards pet accessories. The survey questionnaire was developed using Google Forms, and the link was distributed to respondents for data collection through online platforms, such as sharing links on social media.

Convenience sampling was chosen for the methodology, but with some pre-defined criteria. The selection of participants in convenience sampling is primarily driven by the researcher's convenience and accessibility to the participants (Hossan et al., 2023). However, a few filter questions were included in the questionnaire to ensure that only respondents who meet the criteria are selected. The filter question "Do you have any pets?" was incorporated in this section to confirm that all respondents who participated own pets. The data of respondents who do not own a pet will not be used. There is also a question asking about the type of pet that the respondent has, as well as whether the respondent owns pet accessories or not.

The questionnaire consists of two sections. The first section discusses the respondents' demographics, including questions about gender, age, and occupation. The second section includes questions pertaining to each variable, encompassing both dependent and independent variables. There are four items for attitude, four items for subjective norms, four items for perceived behavioural control, five items for attachment, and four items for the dependent variable, behavioural intention. As for the measurement items, this research has adopted and adapted measures from past studies. The scale for attitude was adapted from Mei-Fang (2007) and Ching-Hua and Hartmann (2021). The measures for subjective norms were adapted from Hamid et al. (2022). The measures for perceived behaviour control and behavioural intention were adapted from Mei-Fang (2007). The scales for attachments were adapted from Hawkins et al. (2017). Responses to the question in the second section will be on a Likert scale from 1 to 5. Number 1 indicates strong disagreement with the statement while number 5 indicates strong agreement.

As this study was conducted in Malaysia with a population of over 30 million people, the appropriate sample size that should be utilised according to the table by Krejcie and Morgan (1970) is 384. As a result, 400 respondents became the sample size for this study since 400 pet owners responded to the survey. The target population for this survey is Malaysians, and the sampling unit consists of Malaysians who own pets. The reason why pet owners in Malaysia were selected as study respondents is because of the high number of pet owners in the country. According to the Consumer Report Malaysia 2023, more than half of Malaysians own pets. This contributes to huge opportunities for the pet industry.

## 5. Data Analysis

### 5.1 Treatment of Missing Data

The questionnaire was distributed using Google Forms, and all questions were required to be answered. Respondents had to complete all questions before submitting the form. Approximately 400 valid questionnaires were collected. Using the SPSS data frequencies command, the data revealed that all variables had no missing values. Hence, all data were used to describe the demographics and characteristics of the respondents. Among the respondents, approximately 82.3% were female and 17.8% were male. Most of the survey respondents were within the age group of below 25 years old, constituting 52% of the total respondents. The second largest group was the 26 to 35 years old, representing 33.5% of the respondents. The age group of 36 to 45 years old showed a much lower percentage of 9.3%, while the lowest percentage, 5.3%, was for respondents aged 45 years old and above. In terms of occupation, around 39.8% of respondents were full-time students. The second-largest category in this survey is respondents who worked in the private sector, accounting for 32.3% of the respondents. Next, 11.8% of the respondents were public sector workers, while the last 16.3% of respondents were unemployed. The majority of respondents (82.8%) owned pet accessories, while the remaining 17.3% did not.

Before the analysis for the hypothesis was conducted, the normality of the distribution was investigated. According to Kline (2005), the skewness must range from +3 to -3, and the kurtosis must be less than 10 for a normal distribution. The analysis of all the data revealed that the distribution was normal. A reliability test was run on the dataset to ensure that all survey items were valid. The results of the reliability testing showed that Cronbach's Alpha for all variables was above 0.7, as suggested by Nunnally (1978). Podsakoff et al. (2003) exerted that common method bias could potentially influence the findings of behavioural research studies due to gathering cross-sectional data from a single respondent using the same questionnaire set. Thus, researchers are recommended to run Harman's single-factor test to ensure that there is no common method bias problem in this study. The largest factor accounted for 47.160% of the variance, which is less than the 50% cut-off value suggested by Podsakoff et al. (2003). Based on this result, this study concludes that there is no issue of common method bias in the data.

### 5.2 Assessment of PLS-SEM Model Path

The collected data were then analysed using SmartPLS 4.0, an analysis tool appropriate to the test model (Hair et al., 2018). The analysis involves a two-step approach, where the first stage is to determine the measurement model to ensure the constructs' reliability and validity, and the second stage is structural measurement via bootstrapping to test the hypotheses. SmartPLS is well-suited for exploratory research and theory development, as it enables researchers to build and refine models in emerging fields using predictive techniques (Hair et al., 2019). Moreover, it offers advanced analysis capabilities that provide deeper insights into the underlying mechanisms and conditional relationships among variables (Jun-Hwa et al., 2024). Given that this study extends the Theory of Planned Behaviour (TPB) by



incorporating an additional construct (attachment), SmartPLS supports the simultaneous estimation of measurement and structural models efficiently. It has strong predictive orientation and ability to manage complex models with multiple constructs and indicators further justify its application in this research (Hair & Alamer, 2022).

### 5.3 Assessment Measurement Model

The assessment of the measurement model determines whether the factor loading, convergent, and discriminant validity fall within the recommended thresholds. Table 2 shows that all the items have high loadings on their constructs (above 0.7), as suggested by Hair et al. (2017). This indicates that most of the items are well-defined and consistent with their constructs. Next, convergent validity was observed through composite reliability (CR) and average variance extracted (AVE). Table 2 also tabulates the values, with CR being over 0.70 and AVE higher than 0.50, which meets the recommended thresholds suggested by Hair et al. (2017).

Table 2: Measurement Model

Constructs	Items	Loading	Composite Reliability (CR)	Average Variance Extracted (AVE)
<b>Attitude</b>	ATT1	0.830	0.949	0.824
	ATT2	0.824		
	ATT3	0.786		
	ATT4	0.839		
<b>Subjective Norms</b>	SN1	0.828	0.911	0.720
	SN2	0.882		
	SN3	0.851		
	SN4	0.831		
<b>Perceived Behavioural Control</b>			0.903	0.700
	PCB1	0.825		
	PCB2	0.855		
	PCB3	0.890		
<b>Attachment</b>	ATTC1	0.809	0.942	0.767
	ATTC2	0.898		
	ATTC3	0.912		
	ATTC4	0.915		
	ATTC5	0.839		
<b>Behavioural Intention</b>			0.888	0.665
	BHV1	0.781		
	BHV2	0.855		
	BHV3	0.802		
	BHV4	0.824		

The final step in the evaluation of the measurement model results was to evaluate discriminant validity using the Heterotrait-Monotrait (HTMT) ratio, which should be below 0.90 (Henseler et al., 2015). Table 3 shows that discriminant validity exists, with all values below the recommended threshold.

Table 3: Discriminant Validity (HTMT Criterion)

	Attachment	Attitude	Behavioural Intention	Perceived Behavioural Control	Subjective Norm
Attachment					
Attitude	0.412				
Behavioural Intention	0.417	0.691			
Perceived Behavioural Control	0.541	0.734	0.682		
Subjective Norm	0.117	0.434	0.490	0.405	

### 5.3.1 Assessment of Structural Model

The key criteria for assessing the structural model in PLS-SEM include lateral collinearity (VIF), the significance of the path coefficient, the level of the  $R^2$  value, and the effect of the  $f^2$  size. Table 4 presents the values for all the assessments involved. As recommended by Hair et al. (2017), the VIF values are below 5, indicating the absence of multicollinearity among the predictor variables.

The  $R^2$  value (coefficient of determination) indicates how well the independent variables explain the variance in the dependent variable. In this study, the  $R^2$  value of 0.472 suggests that 47.2% of the variance in behavioural intention is explained by attitude, subjective norms, perceived behavioural control, and attachment. Next, Hair et al. (2017) recommended assessing the  $R^2$  values, where an  $R^2$  value of 0.26 is considered substantial, 0.13 is moderate, and 0.02 is weak.

Regarding the effect size  $f^2$ , according to Cohen (1988), the values of 0.02, 0.15, and 0.35 represent small, medium, and large effects of the exogenous latent variable, respectively. The  $f^2$  value reflects the individual contribution of each independent variable to the  $R^2$  value of the dependent variable. Although small, these effect sizes confirm that each variable meaningfully contributes to predicting behavioural intention, validating the relevance of the extended TPB model used in this study. The  $R^2$  and  $f^2$  values are shown in Table 4.

Table 4: Assessment of Structural Model

Relationship	VIF	$R^2$	$f^2$	Effect Size
Attitude → Behavioural Intention	1.885	0.472	0.107	Small
P. Behavioural Control → Behavioural Intention	2.014		0.065	Small
Subjective Norms → Behavioural Intention	1.221		0.053	Small
Attachment → Behavioural Intention	1.304		0.016	Small

### 5.3.2 Hypothesis Testing

The significant path of the proposed hypotheses was tested using the bootstrapping method with 5000 subsamples, and the results are presented in Table 5. This research focuses on the factors influencing behavioural intention towards pet products. Direct hypothesis testing indicates that all hypotheses are supported. Specifically, H1 demonstrates that the relationship between attitude and behavioural intention is significant ( $\beta=0.327$ ,  $t=4.280$ ,  $p=0.000$ ), indicating that an attitude significantly influences behavioural intention towards pet products. H2 shows that the relationship between subjective norms and behavioural intention is significant ( $\beta=0.185$ ,  $t=4.150$ ,  $p=0.000$ ), suggesting that social pressures and expectations play a crucial role in shaping behavioural intention towards these products. H3 reveals that perceived behavioural control is significantly related to behavioural intention ( $\beta=0.262$ ,  $t=3.58$ ,  $p=0.000$ ), highlighting that individuals perceive their ability to purchase pet products impacts their intention to buy them. Lastly, H4 indicates that the relationship between attachment and behavioural intention is significant ( $\beta=0.104$ ,  $t=2.409$ ,  $p=0.016$ ), suggesting that emotional bonds and attachments influence individuals' intentions to purchase pet accessories products.

Table 5: Direct Hypothesis Testing & Decision

		Std. Beta	Std. Error	T statistics	P values	Decision
<b>H1</b>	Attitude -> Behavioural Intention	0.327	0.076	4.280	0.000	Supported
<b>H2</b>	Subjective Norms -> Behavioural Intention	0.185	0.044	4.150	0.000	Supported
<b>H3</b>	P. Behavioural Control -> Behavioural Intention	0.262	0.073	3.582	0.000	Supported
<b>H4</b>	Attachment-> Behavioural Intention	0.104	0.043	2.409	0.016	Supported

## 6. Discussion

This study utilised Partial Least Squares Structural Equation Modelling (PLS-SEM) via SmartPLS 4.0 to examine the factors influencing behavioural intention towards pet accessories in Malaysia. The analysis followed a two-step approach. First, it assessed the measurement model to ensure reliability and validity; second, it evaluated the structural model to determine the explanatory power and the significance of path relationships. The results, based on 400 respondents, indicate that the measurement model demonstrates strong reliability and validity, while the structural model exhibits moderate explanatory power with significant path coefficients. Specifically, attitude, subjective norms, perceived behavioural control, and attachment were found to significantly influence behavioural intention in the context of pet accessories in Malaysia. These findings provide robust support for the proposed factors affecting Malaysian pet owners' behavioural intentions towards pet

accessories products. Moreover, the results align with previous studies that have identified attitude, subjective norms, and perceived behavioural control as significant predictors of behavioural intention in various contexts (Seo et al., 2015; Sheng-Hsiung et al., 2018; Kaie-Chin, 2016; Jun & Arendt, 2016; Vivek Verma & Bibhas Chandra, 2018; Sánchez et al., 2018). Additionally, the influence of attachment on behavioural intention corroborates finding of prior study (Hsiao-Chun et al., n.d.).

## 7. Conclusion

It can be concluded that this research has achieved its objectives in analysing the factors influencing behavioural intention towards pet accessories. The results of this study showed that attitude, subjective norm, perceived behavioural control, and attachment positively influence the behavioural intention of pet owners towards pet accessories products. The independent variables for the extended TPB model include attitude, subjective norm, perceived behavioural control, and attachment. Managerially, this study has revealed that all the variables namely attitude, subjective norm, perceived behavioural control, and attachment influence the behavioural intention of pet owners regarding pet products, focusing on pet accessories. As a result, the companies involve in manufacturing and marketing of pet accessories can consider the importance of understanding the consumer behaviour particularly the attitude of pet owners, their subjective norms, perceived behavioural control and attachment towards their pet to attract their willingness to purchase pet accessories.

### 7.1 Limitation and Future Research Recommendations

The first limitation is that this research was conducted in Malaysia, hence, it cannot be generalised to other countries. In addition, this study is a cross-sectional study, which only analyses data from a population at one particular point in time (Xiaofeng & Zhenshun, 2020). Some recommendations can be considered for similar studies in the future. First, the researcher can conduct similar research in other countries and target specific groups of respondents, for instance, young pet owners. In addition, future research can adopt a longitudinal study to explore new outcomes resulting from any potential changes over time. Other than that, qualitative studies via focus groups or interviews can be considered as another method for data collection that may offer new insights.

## References

- Ajzen, I. (2012). The theory of planned behavior. In Paul, A. M. V., L., Arie, W. K., & E. T. H. (Eds.), *Handbook of Theories of Social Psychology: Volume 1*, 211, (pp. 438–459). Sage. <https://doi.org/10.4135/9781446249215.n22>
- Ajzen, I. (2020). The theory of planned behavior: Frequently asked questions. *Human Behavior and Emerging Technologies*, 2(4), 314–324. <https://doi.org/10.1002/hbe2.195>
- Ajzen, I., & Fishbein, M. (2000). Attitudes and the attitude-behavior relation: Reasoned and automatic processes. *European Review of Social Psychology*, 11(1), 1–33. <https://doi.org/10.1080/14792779943000116>

- Alpeza, I., Nižić, I., & Lukač, Z. (2023). What Influences croatian consumers' wine choice?. *Market-Tržište*, 35(1), 41-56. <https://doi.org/10.22598/mt/2023.35.1.41>
- Apalaza, V., Hartmann, P., Paredes, M. R., Trujillo, A., & D'Souza, C. (2022). What motivates consumers to buy fashion pet clothing? The role of attachment, pet anthropomorphism, and self-expansion. *Journal of Business Research*, 141, 367-379. <https://doi.org/10.1016/j.jbusres.2021.11.037>
- Armitage, C. J., & Conner, M. (2001). Efficacy of the theory of planned behaviour: A meta-analytic review. *British Journal of Social Psychology*, 40(4), 471-499. <https://doi.org/10.1348/014466601164939>
- Bosmans, G., Bakermans-Kranenburg, M. J., Vervliet, B., Verhees, M. W. F. T., & van IJzendoorn, M. H. (2020). A learning theory of attachment: Unraveling the black box of attachment development. *Neuroscience and Biobehavioral Reviews*, 113(June 2020), 287–298. <https://doi.org/10.1016/j.neubiorev.2020.03.014>
- Boya, U. O., Dotson, M. J., & Hyatt, E. M. (2012). Dimensions of the dog-human relationship: A segmentation approach. *Journal of Targeting, Measurement and Analysis for Marketing*, 20(2), 133–143. <https://doi.org/10.1057/jt.2012.8>
- Bretherton, I. (1985). Attachment theory: Retrospect and prospect. *Monographs of the Society for Research in Child Development*, 50(1/2), 3–35. <https://doi.org/10.2307/3333824>
- Brockman, B. K., Taylor, V. A., & Brockman, C. M. (2008). The price of unconditional love: Consumer decision making for high-dollar veterinary care. *Journal of Business Research*, 61(5), 397–405. <https://doi.org/10.1016/j.jbusres.2006.09.033>
- Charmaraman, L., Kiel, E., Richer, A. M., Gramajo, A., & Mueller, M. K. (2022). Associations between pet care responsibility, companion animal interactions, and family relationships during COVID-19. *Animals*, 12(23), 3274. <https://doi.org/10.3390/ani12233274>
- Chen, A., Kuang-peng, H., & Peng, N. (2012). A cluster analysis examination of pet owners' consumption values and behavior – Segmenting owners strategically. *Journal of Targeting, Measurement and Analysis for Marketing*, 20(2), 117-213. <http://dx.doi.org/10.1057/jt.2012.10>
- Ching-Hua, Y., & Hartmann, M. (2021). To purchase or not to purchase? Drivers of consumers' preferences for animal welfare in their meat choice. *Sustainability (Switzerland)*, 13(16), 9100. <https://doi.org/10.3390/su13169100>
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2<sup>nd</sup> ed.). L. Erlbaum Associates.
- Gates, M. C., Walker, J., Zito, S., & Dale, A. (2019). Cross-sectional survey of pet ownership, veterinary service utilisation, and pet-related expenditures in New Zealand. *New Zealand Veterinary Journal*, 67(6), 306-314. <https://doi.org/10.1080/00480169.2019.1645626>
- Hair, J. F., Black, W. C., Babin, B. J., & Anderson, R. E. (2018). *Multivariate data analysis* (8<sup>th</sup> ed). Cengage.
- Hair, J. F., Risher, J. J., Sarstedt, M., & Ringle, C. M. (2019). When to use and how to report the results of PLS-SEM. *European Business Review*, 31(1), 2-24. <https://doi.org/10.1108/EBR-11-2018-0203>

- Hair, J. F., Matthews, L. M., Matthews, R. L., & Sarstedt, M. (2017). PLS-SEM or CB-SEM: Updated guidelines on which method to use. *International Journal of Multivariate Data Analysis*, 1(2), 107. <https://doi.org/10.1504/ijmda.2017.10008574>
- Hair, J., & Alamer, A. (2022). Partial Least Squares Structural Equation Modeling (PLS-SEM) in second language and education research: Guidelines using an applied example. *Research Methods in Applied Linguistics*, 1(3), 100027. <https://doi.org/10.1016/j.rmal.2022.100027>
- Hamid, S., Azhar, M., & Sujood. (2022). Behavioral intention to order food and beverage items using e-commerce during COVID-19: an integration of theory of planned behavior (TPB) with trust. *British Food Journal*, 125(1), 112-131. <https://doi.org/10.1108/BFJ-03-2021-0338>
- Hawkins, R. D., Williams, J. M., & Scottish Society for the Prevention of Cruelty to Animals (Scottish SPCA). (2017). *Childhood attachment to pets: Associations between pet attachment, attitudes to animals, compassion, and humane behaviour*. *International Journal of Environmental Research and Public Health*, 14(5), 4901. <https://doi.org/10.3390/ijerph14050490>
- Henseler, J., Ringle, C. M., & Sarstedt, M. (2015). A new criterion for assessing discriminant validity in variance-based structural equation modeling. *Journal of the Academy of Marketing Science*, 43(1), 115–135. <https://doi.org/10.1007/s11747-014-0403-8>
- Hosta, M., & Žabkar, V. (2016). Consumer sustainability and responsibility: beyond green and ethical consumption. *Market-Tržište*, 28(2), 143-157. <https://doi.org/10.22598/mt/2016.28.2.143>
- Honeycutt, J. M. (2018). Animals as family members. In J. M. Honeycutt (Ed.), *Communication Diversity in families* (pps. 218-228). Cognella
- Hossan, D., Zuraina Mansor, & Nor Siah Jaharuddin. (2023). Research population and sampling in quantitative study. *International Journal of Business and Technopreneurship (IJBT)*, 13(3), 209-222. <https://doi.org/10.58915/ijbt.v13i3.263>
- Hrubes, D., Ajzen, I., & Daigle, J. (2001). Predicting hunting intentions and behavior: An application of the theory of planned behavior. *Leisure Sciences*, 23(3), 165–178. <https://doi.org/10.1080/014904001316896855>
- Hsiao-Chun, W., Zui-Chih, L., Reei-Jing, H., Yueh-Chin, C., & Ai-Ying, K. (n.d.). *Research on the purchase intention of pet products - A comparison study between Malaysia and Taiwan*. [https://ir.lib.cyut.edu.tw/bitstream/310901800/39158/2/2021-SSIM\\_paper\\_pet+supplies.pdf](https://ir.lib.cyut.edu.tw/bitstream/310901800/39158/2/2021-SSIM_paper_pet+supplies.pdf)
- Icek, A. (1985). From intentions to actions: A theory of planned behavior. In J. Kuhl & J. Beckmann (Eds.), *Action Control*. (pp 11–39). Springer. [https://doi.org/10.1007/978-3-642-69746-3\\_2](https://doi.org/10.1007/978-3-642-69746-3_2)
- Jun-Hwa, C. (Jacky), Magno, F., & Cassia, F. Reviewing the SmartPLS 4 software: The latest features and enhancements. *Journal of Marketing Analytics*, 12, 97–107. <https://doi.org/10.1057/s41270-023-00266-y>
- Jinhyun, J., & Arendt, S. W. (2016). Understanding healthy eating behaviors at casual dining restaurants using the extended theory of planned behavior. *International Journal of Hospitality Management*, 53(2016), 106–115. <https://doi.org/10.1016/j.ijhm.2015.12.002>

- Kaie-Chin, C. Exploring customers' post-dining behavioral intentions toward green restaurants: An application of theory of planned behavior. *International Journal of Organizational Innovation*, 9(1), 119–134.
- Kanat-Maymon, Y., Antebi, A., & Zilcha-Mano, S. (2016). Basic psychological need fulfillment in human-pet relationships and well-being. *Personality and Individual Differences*, 92(2016), 69–73. <https://doi.org/10.1016/j.paid.2015.12.025>
- Kidwell, B., & Jewell, R. D. (2003). An examination of perceived behavioral control: Internal and external influences on intention. *Psychology and Marketing*, 20(7), 625–642. <https://doi.org/10.1002/mar.10089>
- Kline, T. (2005). *Psychological testing: A practical approach to design and evaluation*. Sage.
- Krejcie, R. V., & Morgan, D. W. (1970). Determining sample size for research activities. *Educational and Psychological Measurement*, 30(3), 607-610. <https://doi.org/10.1177/0013164470030003>
- Konstantoulaki, K., Rizomyliotis, I., Cao, Y., & Christodoulou, I. (2022). Social media engagement and the determinants of behavioural intentions of university online programme selection: The moderating role of mindfulness. *Corporate Communications*, 27(3), 457–469. <https://doi.org/10.1108/CCIJ-07-2021-0081>
- Lan, X., Wang, J. (F), & Fei, G. (2024). Red dog, blue dog: The influence of political identity on owner–pet relationships and owners' purchases of pet-related products and services. *European Journal of Marketing*, 58(9), 2061-2094. <https://doi.org/10.1108/EJM-02-2023-0074>
- Lee, A. H. C., & Yi, K. H. (2015). Self-extension and purchase behavior of dog related products and services: An in-depth interview among selected Malaysian dog owners. *Asian Social Science*, 11(3), 26-36. <https://doi.org/10.5539/ass.v11n3p26>
- Marsa-Sambola, F., Williams, J., Muldoon, J., Lawrence, A., Connor, M., & Currie, C. (2017). Quality of life and adolescents' communication with their significant others (mother, father, and best friend): The mediating effect of attachment to pets. *Attachment and Human Development*, 19(3), 278–297. <https://doi.org/10.1080/14616734.2017.1293702>
- Mei-Fang, C. (2007). Consumer attitudes and purchase intentions in relation to organic foods in Taiwan. *Food Quality and Preference*, 18(7), 1008–1021. <https://doi.org/10.1016/j.foodqual.2007.04.004>
- Mei, M. K., Davey, G., & Xiang, Z. (2018). Why do people feed free-roaming cats? The role of anticipated regret in an extended theory of planned behavior in Malaysia. *Anthrozoös*, 31(1), 101-116. <https://doi.org/10.1080/08927936.2018.1406204>
- Mosteller, J. (2008). Animal-companion extremes and underlying consumer themes. *Journal of Business Research*, 61(5), 512–521. <https://doi.org/10.1016/j.jbusres.2007.07.004>
- Pedrinelli, V., Rossi, A., & Brunetto, M. A. (2024). Correction: Theory of planned behavior applied to the choice of food with preservatives by owners and for their dogs. *PLOS One*, 19(6). <https://doi.org/10.1371/journal.pone.0294044>
- Peng, N., Chen, A., & Kuang-Peng, H. (2014). Including pets when undertaking tourism activities: Incorporating pet attachment into the TPB model. *Tourism Analysis*, 19(1), 69–84. <https://doi.org/10.3727/108354214X13927625340235>

- Perugini, M., & Bagozzi, R. P. (2001). The role of desires and anticipated emotions in goal-directed behaviours: Broadening and deepening the theory of planned behaviour. *British Journal of Social Psychology*, *40*(1), 79–98. <https://doi.org/10.1348/014466601164704>
- Podsakoff, P. M., MacKenzie, S. B., Lee, J. Y., & Podsakoff, N. P. (2003). Common method biases in behavioral research: A critical review of the literature and recommended remedies. *Journal of Applied Psychology*, *88*(5), 879–903. <https://doi.org/10.1037/0021-9010.88.5.879>
- Redi, A. A. N. P., Margaret, F., Nadlifatin, R., Kurniawan, A. C., Larasati, A., Herawan, S. G. & Riyanta, K. B. (2021). Factor analysis on consumer behavior intention to use homecare application for veterinarian using structural equation model. *Proceedings of the International Conference on Industrial Engineering and Operations Management*. 2205–2213. <http://ieomsociety.org/proceedings/2021monterrey/393.pdf>
- Rezaei, S., Shahijan, M. K., Amin, M., & Wan Khairuzzaman Wan Ismail. (2016). Determinants of app stores continuance behavior: A PLS Path Modelling approach. *Journal of Internet Commerce*, *15*(4), 408–440. <https://doi.org/10.1080/15332861.2016.1256749>
- Ridgway, N. M., Kukar-Kinney, M., Monroe, K. B., & Chamberlin, E. (2008). Does excessive buying for self relate to spending on pets? *Journal of Business Research*, *61*(5), 392–396. <https://doi.org/10.1016/j.jbusres.2007.07.002>
- Rosario, L. R. Q. D., Yango, A., Dela Paz, R. C., Margate, J. C. B., & May, E. R. P. (2023). *Pet animals: To own and to love*. <https://www.studocu.com/ph/document/university-of-batangas/bachelor-of-science-in-electrical-engineering/pet-animals-to-own-and-to-love/44641084>
- Sánchez, M., López-Mosquera, N., Lera-López, F., & Faulin, J. An extended planned behavior model to explain the willingness to pay to reduce noise pollution in road transportation. *Journal of Cleaner Production*, *177*(2018), 177, 144–154. <https://doi.org/10.1016/j.jclepro.2017.12.210>
- Seo, Y. J., Jin, Y. C., & Yeong, G. K. (2014). Effects of environmentally friendly perceptions on customers' intentions to visit environmentally friendly restaurants: An extended theory of planned behavior. *Asia Pacific Journal of Tourism Research*, *20*(2015), 599–618. <https://doi.org/10.1080/10941665.2014.923923>
- Shaw, K. L. (2016). Patient education, motivation, compliance, and adherence to physical activity, exercise, and rehabilitation. In *Pathology and intervention in musculoskeletal rehabilitation* (pp. 1-24). Elsevier. <https://doi.org/10.1016/B978-0-323-31072-7.00001-4>
- Sheng-Hsiung, C., & Ching-Hsien, C. (2018). Consumer intention toward bringing your own shopping bags in Taiwan: An application of ethics perspective and theory of planned behavior. *Sustainability* *2018*, *10*(16), 1815. <https://doi.org/10.3390/su10061815>
- Siqueira, M. S. S., Nascimento, P. O., & Freire, A. P. (2022). Reporting behaviour of people with disabilities in relation to the lack of accessibility on government websites: Analysis in the light of the theory of planned behaviour. *Disability, CBR and Inclusive Development*, *33*(1), 52–68. <https://doi.org/10.47985/dcidj.475>
- Statista Research Department. (2022). *Monthly spending on pet products in Malaysia as of January 2022*. <https://www.statista.com/statistics/1321598/malaysia-monthly-spending-on-pet-products/>



- Statista Research Department. (2022). *Pet ownership rate Malaysia 2022*.  
<https://www.statista.com/statistics/1320661/malaysia-pet-ownership-rate/>
- Suhartanto, D. (2019). *Predicting behavioural intention toward Islamic bank: A multi-group analysis approach*. *Journal of Islamic Marketing*, 10(4). 1091–1103.  
<https://doi.org/10.1108/JIMA-02-2018-0041>
- Syed Shah Alam, & Nazura Mohamed Sayuti. (2011). Applying the Theory of Planned Behavior (TPB) in halal food purchasing. *International Journal of Commerce and Management*, 21(1), 8-20. <https://doi.org/10.1108/10569211111111676>
- Vivek Verma, & Bibhas Chandra. (2017). An application of theory of planned behavior to predict young Indian consumers' green hotel visit intention. *Journal of Cleaner Production*, 172(2018). 172, 1152–1162. <https://doi.org/10.1016/j.jclepro.2017.10.047>
- Xiaofeng, W., & Zhenshun, C. (2020). Cross-sectional studies: Strengths, weaknesses, and recommendations. *Chest Journal*, 158(1). S65–S71.  
<https://doi.org/10.1016/j.chest.2020.03.012>
- Yadav, R., & Pathak, G. S. (2017). Determinants of consumers' green purchase behavior in a developing nation: Applying and extending the theory of planned behavior. *Ecological Economics*, 134(2017), 114–122. <https://doi.org/10.1016/j.ecolecon.2016.12.019>
- Yahui, L., Xinyu, C., Shuai, Y., Zhen, L., & Yingrong, W. (2024). "Pets make you spend more!" Impact of pet ownership on consumer purchase decisions. *Journal of Business Research*, 183(2024). 114838. <https://doi.org/10.1016/j.jbusres.2024.114838>.
- Yibing, Y., Yuan, Y., & Chujun, Z. (2022). *Application of digital transformation in pet accessories market*. *Advances in Economics, Business and Management Research*, 219. 65–69.  
<https://doi.org/10.2991/aebmr.k.220603.012>
- Yoon, Y., & Uysal, M. (2005). An examination of the effects of motivation and satisfaction on destination loyalty: A structural model. *Tourism Management*, 26(2005). 45–56.  
<https://doi.org/10.1016/j.tourman.2003.08.016>