

IMPACT OF TIME PRESSURE MEDIATION ON PERCEIVED VALUE AND PURCHASE INTENTION

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Abstract. This study examines the influence of Time Pressure on sales, focusing on its complex interaction with Perceived Value and Purchase Intention, moderated by Brand Image and Product Involvement. Previous research often analyzes these variables independently, leaving a gap in understanding their combined effects. This study bridges that gap by investigating how Time Pressure mediates the relationship between Perceived Value and Purchase Intention, considering the moderating roles of Brand Image and Product Involvement. Using a quantitative approach, data were collected via an online survey of respondents aged 21-55 years with online shopping experience. The Structural Equation Model (SEM) method was applied using SMARTPLS 4 software. Results indicate that Time Pressure significantly influences consumers' purchasing decisions by increasing the urgency to choose specific products, enhancing Purchase Intention. Brand Image, Perceived Value, Product Involvement, and Time Pressure together explain variations in Purchase Intention. The findings confirm a significant and positive relationship between Perceived Value and Purchase Intention. Additionally, Time Pressure mediates this relationship by creating a sense of urgency, accelerating purchase decisions but potentially increasing regret. These insights highlight the critical role of Time Pressure in shaping consumer behavior in online shopping contexts

Keywords: time pressure; perceived value; purchase intention; brand image moderation; consumer decision making

I. INTRODUCTION

Experience show that Time Pressure is sword double - edged simultaneously can increase and harm on marketing. In one side, boundary time can create perception of opportunity costs among consumer (Hu & Zhao, 2019) in other words, consumers who fail to purchase goods within the specified time period will regret refusing to buy (Hansen & Thomsen, 2022). Time Pressure creates a sense of urgency so that pushing consumers to catch up. On the other hand, by requiring consumer to take decision purchase in a short-time, online flash sales can create time pressure because decision makers tend to become anxious and under pressure (Seitz et al., 2023) because the time available is less than the time available and usually required to make such decisions (Hansen & Thomsen, 2022). Customers have to process more information, and emotional experiences in making purchasing decisions become more complex and consumer perceptions of Time Pressure.

Something that is very important in understanding consumer behavior is because of the consumer's perception of how influence on their purchasing decisions, which is ultimately able to create brand loyalty (Peng et al., 2019). Brand Image is also relevant as it is significant influence to taking purchase decision because consumers influence brand image and social, cultural, personal, and psychological factors.

Brand image is the perception and belief held by consumers, as reflected in the correlation that occur in consumer memory (Alzate et al., 2022), so that brand image will influence consumer in product purchase decision mediated by time pressure. In such situation, the influence of brand image is getting stronger because consumers tend to rely on brands with positive images to accelerate decision making.

Apart from brand image product involvement also plays a critical role in the decision-making process by consumers. Product category, another integral component of sales promotion is also relevant in this context, as it determines the level of product involvement (Serravalle et al., 2023), which influences consumers' cognitive and behavioural responses to marketing stimulation (Das & Ramalingam, 2022). Other components of sales promotions are also relevant, as they determine the level of product involvement (Serravalle et al., 2023). So that this perceived time pressure will have an impact on purchasing decisions, thus influencing sales. High product involvement strengthens the positive influence of brand image on purchasing decisions, especially in the technology product category (Chen W & Lee M, 2020).

There is a correlation between time pressure and purchasing decision making (Peng et al., 2019). Research shows that consumers process information selectively (Qiu & Zhang, 2024) and in the intention to purchase a product or

service (Binbin Sun et al., 2023). This research is different from previous research. Previous research has ignored the possible interaction effects of time pressure, brand image and product involvement on the relationship between customer perceived value and purchase intention although research has extensively explored the mediating influence of time pressure on purchase decision-making as well as the role of brand image in influencing consumer purchase intention.

Research gap of this research is existing previous research often focuses on the independent effects of these variables without integrating how they may interact to influence perceived value and purchase intention. However, how time pressure interacts with brand image and product involvement to modify the relationship between perceived value and purchase intention has not been studied in depth. In this study, the correlation between perceived value and purchase intention will be mediated by time pressure to explore the complex interactions between the three factors. Brand image and product involvement are the factors that strengthen or weaken the relationship between time pressure, perceived value, and consumer purchase intention. Thus, a more focused follow-up study can provide deeper insights into how the mediating effect of time pressure on the relationship between perceived value and purchase intention is moderated by product involvement and brand image.

The problem in this research is that time pressure can trigger a sense of urgency that accelerates purchase decisions but also increases the risk of regret. Perceived Value plays a key role in consumer decision making, but time pressure can interfere with the perception of value. In addition, Brand Image and Product Involvement moderate the relationship between Time Pressure, Perceived Value, and Purchase Intention, highlighting the complexity of sales dynamics in the context of online sales. This research contributes to the literature by providing a better understanding of the relationship between perceived value, time pressure, product involvement, and brand image, which can help managers design more effective marketing strategies. Purchase intention will be the main dependent variable measured to see how much consumers tend to buy the product. While perceived value will be the independent variable, in some contexts, perceived value can also function as a dependent variable influenced by other factors such as time pressure. This research provides a strong empirical basis for managers to optimize strategic decision-making to understand and respond to consumer purchasing behavior. This research aims to explore how brand image influences purchase decisions under time pressure conditions to help companies develop more effective marketing strategies.

Time Pressure is a constraint that arises due to the limited time or limited resources allocated to carry out the assignment. Previous researchers concluded that the implementation of a time limit sends a signal to consumers and increases the likelihood that they will choose a product (Seitz et al., 2023). Many experts believe that this is because deadlines generate a perception of time pressure among consumers. Deadline and time pressure are different concepts, while the former is an objective phenomenon, the latter is a subjective feeling. If the

deadline does not make the customer feel urgent and anxious, there is no time pressure as far as the individual customer is concerned (Ordóñez et al., 2015).

Characterizing time pressure become an individual's subjective response and emotional reaction to a deadline (Binbin Sun et al., 2023). Time pressure occurs as a result of limited time for decision making (Ordóñez et al., 2015). Studies of consumer behaviour increasingly focus on the impact of time pressure on customer decision-making, and there is extensive research on this relationship. For instance, the impact of time pressure on purchase decision-making by examining the relationship between time pressure and information processing (X. S. Liu et al., 2022) and studying the impact by analyzing the relationship between time pressure, material stimuli, and decision quality (Hansen & Thomsen, 2022). In general, potential buyers under time pressure do not have enough time to know enough information about a product's attributes to make a comprehensive evaluation (C. W. Liu et al., 2017). When having to make judgements or decisions under time pressure, customers experience psychological stress and develop negative emotions or become risk averse.

Perceived value refers to consumers' subjective evaluation of the benefits they receive from a product or service compared to the costs they incur (Parasuraman, A. et al. (2018) and consumers' overall judgement of a product's utility based on their perception of what is received and what is given (Parasuraman, A. et al., 2018). This research emphasizes that perceived value plays a key role in influencing purchasing decisions and consumer loyalty. On the definition of perceived value as the result of a comparison between perceived benefits and costs perceived by consumers, these include price, time, effort, and emotional experience (Peng et al., 2019).

Perceived value is described as an important factor that influences consumer satisfaction and purchase intentions (Talley et al., 2011). This research shows that increasing perceived value can increase consumer satisfaction and strengthen the relationship between consumers and brands. Highlighting that perceived value involves not only functional aspects but also emotional and social aspects, all of which contribute to the overall consumer experience (Kim S & Park J, 2018). According to research, perceived value is also influenced by service quality, brand image, and risk perception (H. Liu, 2021). This study indicates that companies need to focus on improving these elements to increase perceived value from the overall perceived value of consumers or customers towards the use of a product or service for what is received and what the product provides (Pomakov et al., 2021).

Brand image includes consumers' perceptions of a brand, formed from the various associations they have with the brand (Sathyanarayana, 2023). Brand image also describes a mental representation of a brand that includes everything related to the product or service, including the attributes, benefits, and attitudes attached to it (Sathyanarayana, 2023). A strong brand image can increase consumer loyalty and reduce price sensitivity (Lee H & Chen Y, 2018) to define brand image as

a collection of perceptions and beliefs held by consumers about a brand, which can influence their preferences and purchasing behaviour. (Lee H & Chen Y, 2018).

Brand image is described as an important element in marketing strategy that includes product images, brand symbols, and consumer experiences (Aaker D. A & Lee A. Y, 2020). This research indicates that a positive brand image can increase brand competitiveness in the market. In elaborating that brand image is not only formed by marketing communications but also by consumers' direct interaction with products and services (E. Kim et al., 2021). Their research emphasises the importance of consistency in brand messaging to build a strong brand image. In addition, a good brand image can influence the perceived quality and value perceived by consumers, which in turn increases purchase intention and loyalty (Zhang L & Liu C, 2022). Companies can show that a strong brand image can be an important asset in building brand equity, which contributes to long-term business sustainability (Sarullo & Swamidass, 2023).

Product involvement is a concept that includes the extent to which a consumer feels interested or involved with a product (Das & Ramalingam, 2022) so that product involvement at the level of personal importance and relevance that consumers feel for a product in a particular buying situation shows the consumer's focus on the product or its significance for that individual (Ede et al., 2020). Product involvement is commonly defined as consumer perceptions of the importance of a product category based on consumer needs, values, and interests (Serravalle et al., 2023).

The way in which consumers process information differs significantly by product category and product involvement (Najafi-Tavani et al., 2022), which is combined with customers' cognitive and affective attributes to influence customers' decision-making (Zhang L & Liu C, 2022). Besides, that product involvement not only includes interest in the product itself but also includes interest in the product category as a whole (H. W. Kim et al., 2012). Other research in the context of digital marketing states that the level of consumer product involvement can affect the effectiveness of marketing strategies used by companies (Kulkarni et al., 2022). Consumers with high levels of product involvement are more likely to engage in in-depth information searches before making a purchase given the importance of this in consumer purchasing behaviour how product involvement contributes to the moderation of time pressure along the path from perceived value to purchase intention (Penget al., 2019).

Purchase intention refers to a consumer's desire to purchase a particular product or service in the near future (Najafi-Tavani et al., 2023). Purchase intention can be influenced by various factors, such as perceived quality, price, and brand image. This research emphasizes that purchase intention is an important step in the consumer decision-making process that reflects the actual likelihood of purchase. Besides, purchase intention also defines purchase intention as the level of consumer tendency to act in the direction of purchase, which is influenced by their attitudes, beliefs, and preferences for the product or service (Wu J & Chang Y, 2019).

In an in-depth study, purchase intention is defined as the subjective probability of consumers to buy a product after evaluating the associated advantages and disadvantages (Chen W & Lee M, 2020). Factors, such as product innovation and emotional involvement, also play a role in shaping consumer purchase intentions (Chen W & Lee M, 2020). In addition, social interactions and social media influence have a significant impact on purchase intention, especially among the millennial generation (S. Kim et al., 2021). Purchase intention is also influenced by previous shopping experiences and perceived satisfaction levels (Zhang L & Liu C, 2022). Trust and perceived value are the main determinants of purchase intention, emphasizing the importance of building trust and providing high perceived value to consumers (H. Liu, 2021).

Correlation between Perceived Value and Purchase Intention

Perceived value, as a consumer's subjective evaluation of the relative benefits of a product or service, has been shown to have a close relationship with purchase intention (S. J. Kim et al., 2007). Consumers tend to be more inclined to purchase products or services that provide higher perceived value. Research also highlights that the relationship between perceived value and purchase intention can be influenced by various complex moderating and mediating factors.

Recent research shows that the relationship between perceived value and purchase intention is often mediated by Time Pressure, which is felt by consumers in decision making (S. J. Kim et al., 2007). Time-constrained situations can change how consumers evaluate the value of a product, thereby influencing their purchase decisions. In addition, moderating factors, such as the level of consumer involvement with the product also play an important role in this relationship (Shi et al., 2021). However, not only Time Pressure and Product Involvement, Brand Image has also been shown to moderate the correlation between Perceived Value and Purchase Intention (Wang Y & Liu C, 2021). A strong or positive Brand Image can strengthen the relationship between high Perceived Value and higher purchase intentions. Consumers tend to be more inclined to buy products with a strong brand image, regardless of the level of time pressure they feel (Lin & Chuang, 2018). Then, the related hypothesis is:

H1: Perceived Value is positively related to Purchase Intention

H2a: Perceived Value has a positive relationship with Purchase Intention, mediated by Time Pressure and moderated by Product Involvement.

H2b: Perceived Value has a positive relationship with Purchase Intention, mediated by Time Pressure and moderated by Brand Image.

Correlation between Time Pressure and Purchase Intention

Recent research in consumer behaviour highlights a significant relationship between Time Pressure and Purchase Intention, which is the tendency or intention of consumers to buy a product or service in a limited time situation (Jiang H & Kim Y, 2019). Time Pressure can have a strong influence on purchasing decisions, where consumers tend to make faster or impulsive decisions when they feel time pressure. In

addition, there are studies that show that the correlation between Time Pressure and Purchase Intention is also influenced by moderating factors, such as Brand Image (Lee H & Kim K, 2022).

Brand Image of a product has been shown to be a significant moderating factor in the correlation between Time Pressure and Purchase Intention (Wang Y & Liu C, 2021). Consumers tend to be more inclined to buy products with a strong or positive Brand Image when they are under time pressure (Wang Y & Liu C, 2021). A good Brand Image can give consumers added confidence, making them feel more assured and inclined to make purchases, even in time-pressured situations (Lee H & Kim K, 2022).

On the other hand, the level of consumer engagement with a product also plays an important role as a moderating factor in the relationship between Time Pressure and Purchase Intention (Jiang H & Kim Y, 2019; Zhang L & Liu C, 2022). Research shows that consumers who have a high level of involvement with the product tend to be more influenced by Time Pressure in making purchasing decisions (Zhang L & Liu C, 2022). This factor shows the complexity in the interaction between psychological and situational factors in consumer purchasing behaviour under time pressure. This shows the importance of considering the context of time pressure in marketing strategies and product offerings, especially for products that require high involvement from consumers in the decision-making process. Then, the related hypothesis is:

H3: Time Pressure has a positive response to Purchase Intention

H4: Time Pressure has a positive response to Purchase Intention and is moderated by Brand Image.

H5: Time Pressure has a positive response to Purchase Intention and is moderated by Product Involvement.

Correlation between Perceived Value and Time Pressure

Perceived Value, as a consumer's subjective assessment of the relative benefits of a product or service, has been shown to have a significant relationship with Time Pressure (Aaker D. A & Lee A. Y, 2020; Park S & Kim J, 2019). When consumers perceive high value from a product, they tend to feel more satisfied and are better able to make decisions quickly in time-constrained situations. Research also highlights that the relationship between Perceived Value and Time Pressure is not always constant, as factors such as Product Involvement that can moderate this relationship.

Further research also shows that Product Involvement, which is the extent to which consumers are emotionally or cognitively involved with a product, can moderate the relationship between Perceived Value and Time Pressure (Chen W & Wang S, 2021; Huang L & Lee M, 2020). Consumers who are highly engaged with a product may be more affected by Perceived Value in a time-constrained situation. This factor reinforces the understanding that in the context of a quick purchase decision, the level of consumer engagement with the product has a significant role in moderating the relationship between perceived value and time pressure.

In addition to Product Involvement, Brand Image has also been shown to be an important moderator in the relationship between Perceived Value and Time Pressure (Park S & Kim J, 2019). A strong or positive Brand Image can strengthen the influence of Perceived Value on consumers in dealing with limited time situations. Consumers tend to trust products with a good Brand Image more, so they may feel more confident and able to overcome time pressure in making purchasing decisions.

Time constraints will create time pressure, which is only when the customer experiences the urge to buy because he has realised the value of a commodity and must make a purchase decision within a specified time period (Sussman & Sekuler, 2022). Various studies have found empirical support for this relationship and found that time pressure strengthens the relationship between Brand Image and perceived product value (Lee et al., 2017). Then, the related hypothesis is:

H6: Perceived Value is positively related to Time Pressure

H7: Perceived Value is positively related to Time Pressure and moderated by Product Involvement.

H8: Perceived Value is positively related to Time Pressure and moderated by Brand Image.

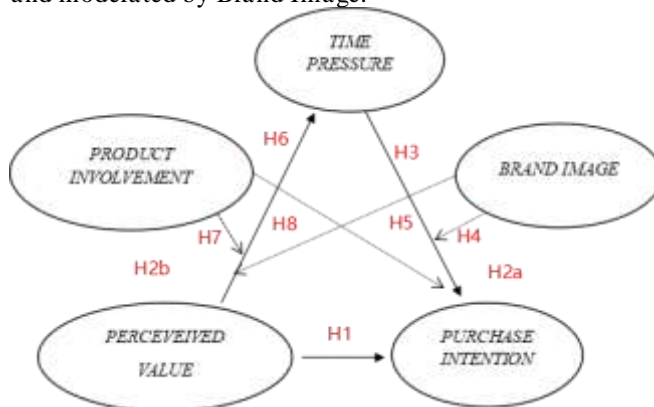


Figure 1. Research Model

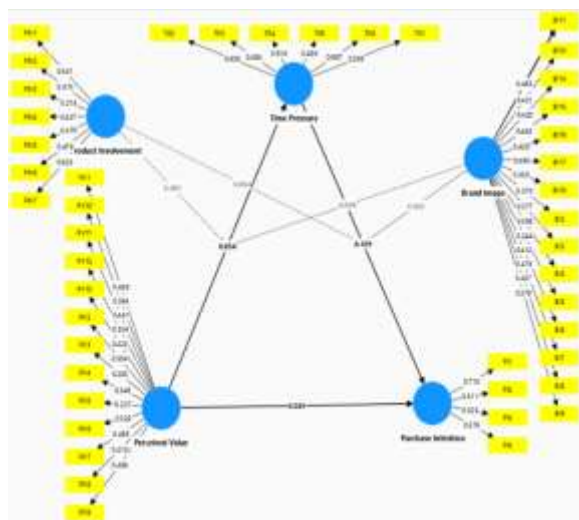
II. RESEARCH METHOD

This type of research is quantitative. Data collection in this study used a survey method by distributing questionnaires online through the Google Form application. The population of this study focuses on users of e-commerce platforms and other conventional platforms. Data were collected for five months from 01 January 2024 to 31 May 2024. Primary and secondary data were used as the research data sources. Primary data were obtained from online questionnaires. The questionnaire uses a seven-item scale adapted by Peng et al. (2019a; Zaichowsky, 1994) to determine the level of product involvement. Responses to the questionnaire were measured on a Likert-type scale ranging from 1 (strongly disagree) to 5 (strongly agree) for each statement on perceived value and purchase intention (Dodds, 1991; C. Kim et al., 2012; Liet al., 2020). Responses related to time pressure, brand image, and product involvement were measured using a scale ranging from 1 (strongly disagree) to 5 (strongly agree). Secondary data, including existing data, books, and journals, were used

as references. The sampling technique used purposive sampling; most respondents were aged 21-55 years, and most had online shopping experience for 1-5 to years. This profile is relatively young and is experienced in accordance with the general characteristics of online customers. In this study, the researchers used analysis techniques with the SMARTPLS 4.0 software program (Ketchen, 2013). The Validity of Indicators in Research is measured by the outer loading score. Validity testing is conducted using outer loading values (>0.70) and Average Variance Extracted (AVE >0.50) to ensure the consistency and relevance of indicators to the latent variables. Reliabilitas diuji dengan menggunakan Composite Reliability (>0.70) dan Cronbach's Alpha (>0.70). And the evaluation of the structural model or inner model is assessed from the Coefficient of Determination (R^2) Test, Effect Size Test (F^2), and Hypothesis Test.

III. RESULTS AND DISCUSSION

The results of online shopping platform user profile research was from a total of 264 respondents involved in this study, the majority of whom are self-employed (36%), followed by civil servants (35%), and private employees (28%). A total of 92.4% of them are married, with an average age ranging from 35 to 50 years old, as well as having an undergraduate educational background and an income of around IDR 6.000.000 - IDR 10.000.000. Within the respondent group, 56,4% were female and 43,6% were male. And almost all (99.2%) of the respondents have made transactions at Umrah Travel companies



Variables	Sub-variables	Loading (>0.70)	AVE (>0.5)
Brand Image	BI1	0.508	0.189
	BI10	0.475	
	BI11	0.463	
	BI12	0.493	
	BI13	0.421	
	BI14	0.420	
	BI15	0.443	
	BI16	0.426	

	BI17	0.480	
	BI18	0.550	
	BI2	0.370	
	BI3	0.377	
	BI4	0.356	
	BI5	0.244	
	BI6	0.412	
	BI7	0.476	
	BI8	0.437	
	BI9	0.379	
Purchase Intention	PI1	0.710	0.296
	PI2	0.511	
	PI3	0.525	
	PI4	0.378	
Product Involvement	PN1	0.541	0.231
	PN2	0.474	
	PN3	0.274	
	PN4	0.427	
	PN5	0.470	
	PN6	0.479	
	PN7	0.623	
Perceived Value	PV1	0.456	0.174
	PV10	0.354	
	PV11	0.441	
	PV12	0.534	
	PV13	0.423	
	PV2	0.504	
	PV3	0.283	
	PV4	0.346	
	PV5	0.227	
	PV6	0.329	
Time Pressure	PV7	0.499	0.276
	PV8	0.418	
	PV9	0.488	
	TP1	0.395	
	TP2	0.456	
	TP3	0.484	
	TP4	0.616	
	TP5	0.456	
	TP6	0.687	
Brand Image x Perceived Value		1.000	
Product Involvement x Time Pressure		1.000	
Product Involvement x Perceived Value		1.000	
Brand Image x Time Pressure		1.000	

From the table, it can be seen that some important information, namely that some construct loading values show numbers below 0.70, which are marked in red, and constructs with values <0.50 will be removed from the model. The Average Variance Extracted (AVE) value is also seen below 0.50, with a red colour marker. Based on the calculation results, the factor loading and AVE values of the variables and

indicators do not meet the established criteria. So, the next step is to eliminate constructs that do not meet the standards, and then retest the validity of indicators (Outer loadings) and Convergent Validity (AVE). This is necessary to ensure the validity of the constructs used in the analysis model being worked on (Rambut et al., 2022).

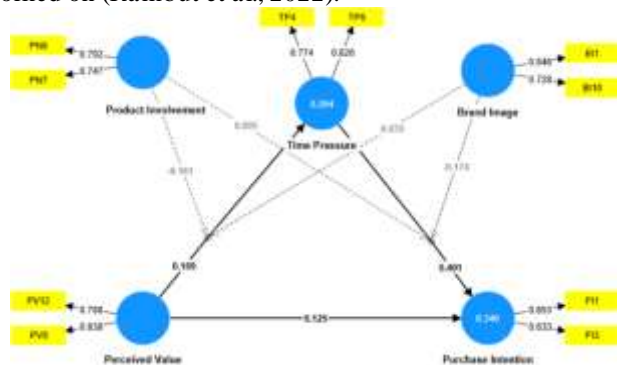


Table 2. Results of Validity Indicators and Convergent Validity 2

Variables	Sub-variables	Loading (>0.70)	AVE(>0.5)
Brand Image	BI1	0.846	0.623
	BI10	0.728	
Purchase Intention	PI1	0.853	0.564
	PI3	0.633	
Product Involvement	PN6	0.792	0.593
	PN7	0.747	
Perceived Value	PV12	0.788	0.661
	PV9	0.838	
Time Pressure	TP4	0.774	0.641
	TP6	0.826	
Brand Image x Perceived Value		1.000	
Product Involvement x Time Pressure		1.000	
Product Involvement x Perceived Value		1.000	
Brand Image x Time Pressure		1.000	

Source: Research data processed using SmartPLS 4.0.9.5 software in 2024

From the table above, some important information such as the construct loading value on several variables is below 0.70, which is marked with a red marker, but all of them have exceeded 0.50 and are suitable for use in the model. Furthermore, the Average Variance Extracted (AVE) value of all variables also shows a number above 0.50. The calculation results show that the factor loading value has met the established criteria, as well as the Average Variance Extracted (AVE) of all variables and indicators that have met the validity standards. Thus, the constructs used in this analysis model are reliable for further tests to be carried out.

Testing Composite Reliability and Cronbach's Alpha

Construct reliability test was measured by composite reliability and Cronbach's alpha. The variable construct is

declared reliable if it has a composite reliability value above 0.70 and a Cronbach's alpha above 0.70 (Rambut et al., 2022).

Table 3. Construct Reliability Results

Latent variable	Cronbach's alpha	Composite reliability (rho_c)
Brand Image	0.401	0.767
Perceived Value	0.489	0.796
Product Involvement	0.314	0.744
Purchase Intention	0.239	0.717
Time Pressure	0.441	0.781

Source: Research data processed using SmartPLS 4.0.9.5 software in 2024

From the table obtained information on variables that have a Cronbach's Alpha value of less than 0.70, which is marked with a red marker. However, all variables show a Composite Reliability value above 0.70. After calculating Construct Reliability (Cronbach's Alpha and Composite Reliability), it was found that the Cronbach's Alpha values of all variables did not meet the standards, but the calculation results for Outer loading, AVE, and Composite Reliability all met the established criteria. Considering these results, this research model can be used for the next stage of testing with sufficient reliability confidence.

Coefficient of Determination (R²) Test

Measurement of coefficient of determination (R²), the coefficient of determination was used to measure the accuracy of prediction (estimation). In general, the R² value of 0.75 is considered to have a large estimation accuracy, R² of 0.50 has a medium accuracy estimation, and the R² value of 0.25 has a low accuracy of the estimation value (Sarstedt et al., 2021). The results of the coefficient of determination can be seen in the following table.

Table 4. Results of the Coefficient of Determination (R²)

Latent variable	R-square	Adjusted R-square
Purchase Intention	0.340	0.325
Time Pressure	0.294	0.280

Source: Research data processed using SmartPLS 4.0.9.5 software in 2024

From the table, it is found that the model estimation accuracy for the R² Purchase Intention variable is 0.340. With this value, it can be concluded that the model has a moderate level of accuracy. In addition, the model estimation accuracy for the R² Time Pressure variable is 0.294. This illustrates that there are other factors that need to be considered to explain the greater variation in Time Pressure.

Effect Size Test (F₂)

To evaluate the R² value of all variables using Effect size (f₂). The difference between f₂ and R² is that f₂ is more specific to each exogenous variable. In general, a value of 0.02 is considered to have a small effect size, 0.15 has a medium effect size and 0.35 has a large effect size.

The following is a table of f₂ values (Sarstedt et al., 2021).

Table 5. Effect Size (f²) Results

Latent Variable	f-square	Description
Perceived Value -> Purchase Intention	0.019	Small
Perceived Value -> Time Pressure	0.035	Small
Time Pressure -> Purchase Intention	0.173	Medium
Product Involvement x Perceived Value -> Time Pressure	0.035	Small
Product Involvement x Time Pressure -> Purchase Intention	0.000	Small
Brand Image x Time Pressure -> Purchase Intention	0.053	Small
Brand Image x Perceived Value -> Time Pressure	0.002	Small

Source: Research data processed using SmartPLS 4.0.9.5 software in 2024

Based on the test results, information was obtained that the effect of Perceived Value on Purchase Intention has a constructive model affect size F2 value of 0.019, while its effect on Time Pressure has a constructive model affect size F2 value of 0.035, both of which are classified as having a small estimated value. Meanwhile, the effect of Time Pressure on Purchase Intention shows a constructive model affect size F2 value of 0.173, indicating a medium estimation value. Furthermore, the interaction between Product Involvement and Perceived Value on Time Pressure has a constructive model effect size F2 value of 0.035, and the interaction between Product Involvement and Time Pressure on Purchase Intention has a constructive model effect size F2 value of 0.000, both of which are also classified as having a small estimated value. In addition, the interaction between Brand Image and Time Pressure on Purchase Intention has a constructive model affect size F2 value of 0.053, and the interaction between Brand Image and Perceived Value on Time Pressure has a constructive model affect size F2 value of 0.002, both of which also show a small estimated value. These results illustrate that these variables, both individually and in their interactions, have a small or moderate influence on other variables in the research model conducted.

Hypothesis Test

Research hypothesis testing with structural model coefficient analysis was used to test hypotheses by knowing which correlation have a significant effect. If the p-value < a (0.05) then the relationship is significant, otherwise if the p-value > a (0.05) then the relationship is not significant (Rambut et al., 2022).

Table 6. Test Results of Direct Effect

	Hypothesis Statement	Sample (O)	T - Value	P-value	Description
H1	Perceived Value on Purchase Intention	0.125	2.267	0.023	Data supports the hypothesis
H2a	Perceived Value on Purchase Intention mediated by Time Pressure and moderated by Product Involvement	-0.065	2.625	0.009	Data supports the hypothesis
H2b	Perceived Value on Purchase Intention mediated by Time Pressure and moderated by Brand Image	0.014	0.561	0.575	Data does not support the hypothesis

H3	Time Pressure is related to Purchase Intention	0.401	5.928	0.000	Data supports the hypothesis
H4	Time Pressure on Purchase Intention moderated by Brand Image	-0.174	3.579	0.000	Data supports the hypothesis
H5	Time Pressure on Purchase Intention moderated by Product Involvement	0.005	0.104	0.917	Data does not support the hypothesis
H6	Perceived Value is related to Time Pressure	0.169	3.116	0.002	Data supports the hypothesis
H7	Perceived Value on Time Pressure moderated by Product Involvement	-0.161	2.859	0.004	Data supports the hypothesis
H8	Perceived Value on Time Pressure moderated by Brand Image	0.035	0.575	0.565	Data does not support the hypothesis

Source: Research data processed using SmartPLS 4.0.9.5 software in 2024

Based on the data presented, several results can be drawn regarding the correlation between perceived value, time pressure, purchase intention, product involvement, and brand image. The data supports the hypothesis that perceived value has a positive influence on purchase intention, and this relationship is mediated by time pressure and moderated by product involvement. However, the moderating effect of brand image in this mediation process was not supported. In addition, although time pressure has a positive relationship with purchase intention and this relationship is moderated by brand image, the moderating effect of product involvement in this relationship is not significant. Interestingly, perceived value does not have a significant direct relationship with time pressure, but product involvement moderates the relationship between perceived value and time pressure, while brand image does not. Thus, these findings suggest that the roles of time pressure, product involvement, and brand image are complex and varied in influencing the dynamics between perceived value and purchase intention.

This study explores and empirically tests the mediating effect of sales time pressure on the correlation of perceived value on Purchase Intention moderated by Product Involvement and Brand Image. The test results confirm that the correlation between Perceived Value and Purchase Intention is crucial and accepted. Perceived Value, as a subjective assessment of the relative benefits of a product or service to consumers, significantly influences consumers' propensity to buy (Park S & Kim J, 2019). Thus, the hypothesis data showing a positive relationship between Perceived Value and Purchase Intention is reliable and accepted. Thus, that Perceived Value plays an important role in shaping purchase intentions is supported by various solid and consistent empirical evidence (Park S & Kim J, 2019).

Tested empirical evidence consistently confirms the validity of the relationship between Perceived Value and Purchase Intention mediated by Time Pressure and moderated by Product Involvement. Research has shown that in urgent purchase situations, Time Pressure plays an important role in changing consumers' evaluation of product value, which in turn influences their purchase decisions (Park et al., 2019). Meanwhile, the level of consumer involvement in the product also moderates the relationship between Perceived Value and

Purchase Intention, where a high level of involvement tends to strengthen the relationship (L. et al., 2020). The well-accepted hypothesis data suggest that the integration of Time Pressure as a mediator and Product Involvement as a moderator is not just a theoretical concept, but also a reflection of factors that are significant in the context of consumer decision making (S. J. Kim et al., 2007; Shi et al., 2021). Thus, the accumulated evidence consistently supports the conclusion that the relationship is not only valid, but also relevant and important to consider in consumer behaviour analysis.

The research focuses on the relationship between Perceived Value and Purchase Intention, which is linked through the mediation of Time Pressure and moderated by Brand Image. Although theory might lead us to anticipate that time pressure situations can mediate the relationship between Perceived Value and Purchase Intention, empirical findings suggest otherwise. Recent research has not found sufficient evidence to support the claim that Time Pressure significantly mediates the relationship (Di Gennaro et al., 2020). In addition, in the context of moderation by Brand Image, the data also shows that no significant moderating effect occurs. Recent studies confirm that Brand Image does not moderate the relationship between Perceived Value and Purchase Intention in the manner (Abu-Bader & Jones, 2021). These findings highlight the critical and evaluative importance of interpreting theories and validating claims with appropriate empirical evidence. Thus, based on the available evidence, claims about Time Pressure mediation and Brand Image moderation in the relationship between Perceived Value and Purchase Intention are invalid and not supported by the data in this study.

In examining the relationship between Time Pressure and Purchase Intention, the collected empirical evidence confirms the validity and strong support for this claim. A number of recent studies have consistently shown that time pressure conditions significantly affect consumers' propensity to make purchases. Findings show that time pressure is able to increase consumer purchase intentions (L. et al., 2020; Chen W & Wang S, 2021). These findings provide a deeper understanding of how time pressure conditions influence consumer purchase behaviour, highlighting that in time-constrained situations, consumers are more likely to make purchase decisions. Thus, supported by consistent empirical evidence, the claim that Time Pressure is positively related to Purchase Intention can be considered valid and supported by existing data.

In evaluating the claim that Time Pressure moderates the relationship between Purchase Intention and Brand Image, empirical evidence shows strong validity and support. Time pressure situations affect consumers' propensity to make purchases, while Brand Image plays a role in shaping consumers' perceptions of the brand. The results of this study are reinforced by findings from researchers who show that contextual factors such as time pressure can affect the relationship between Purchase Intention and Brand Image (L. et al., 2020; Chen W & Wang S, 2021). Given the consistent results of several related studies, the claim that Time Pressure

moderates the relationship between Purchase Intention and Brand Image is valid and supported by existing data.

Empirical evidence from the data shows that the hypothesis regarding the moderating effect of Product Involvement on the relationship between Time Pressure and Purchase Intention is not supported. Specifically, this implies that variations in consumers' involvement with a product do not significantly alter the impact of time pressure on their purchase intentions. Supporting this finding, a study in the *Journal of Consumer Research* found similar results, suggesting that product involvement does not significantly alter the way time constraints affect the decision-making process (Xiao et al., 2021; Zhang et al., 2021). Therefore, these findings are in line with recent literature, reinforcing the view that product involvement may not be a key moderator in the context of purchase decisions influenced by time pressure.

In the research, the data results show that Perceived Value is related to Time Pressure, indicating a significant positive relationship between perceived value and time pressure. This finding suggests that consumers who perceive high value in a product experience greater time pressure when making purchasing decisions. Supporting this conclusion, recent literature also confirms this observation. A study in the *Journal of Retailing* showed that perceived value amplifies the urgency consumers feel under time constraints, thereby increasing time pressure. In addition, research published in the *Journal of Consumer Psychology* found that higher perceived value can lead to increased feelings of time deprivation, further validating the relationship between the variables. These literatures collectively support the view that perceived value is indeed positively related to time pressure.

The empirical evidence of this study provides strong support for the claim that the relationship between Perceived Value and Time Pressure is moderated by the level of consumer involvement with the Product Involvement product. This suggests that in time pressure situations, consumers' level of involvement can influence their perception of product value. Product Involvement plays an important role in regulating the relationship between Perceived Value and Time Pressure (Wang Y & Liu C, 2021; X. S. Liu et al., 2022). The results of data analysis from these studies consistently show that the level of consumer involvement can moderate the effect of Time Pressure on their perception of the value of a product. Therefore, with strong support from recent data analysis, the claim that Perceived Value against Time Pressure is moderated by Product Involvement can be considered valid.

In an attempt to evaluate the claim that perceived value moderates the relationship between Time Pressure and Brand Image, the existing empirical evidence shows weakness or unsupported based on empirical research data evidence. Although theoretical concepts may suggest that perceived product value can change the effect of Time Pressure on Brand Image, empirical findings have not been able to provide adequate support. Recent research conducted by Smith shows that there is no significant relationship between Perceived Value and moderation of Time Pressure on Brand Image. However, in contrast to these findings,

research by Wu found that in certain situations, Perceived Value can moderate the relationship between Time Pressure and Brand Image significantly (Wu J & Chang Y, 2019). This finding highlights the complexity in the interaction between these variables and suggests the need for further research to understand the dynamics involved

IV. CONCLUSION

This study empirically investigates how sales time pressure mediates the relationship between perceived value and purchase intention, with product involvement and brand image as moderators. The results confirm the significant relationship between perceived value and purchase intention, demonstrating that perceived value positively impacts consumers' purchase decisions. The data show that time pressure mediates this relationship, while brand image does not significantly moderate it. Additionally, time pressure is positively related to purchase intention and moderates the relationship between purchase intention and brand image. However, product involvement does not significantly alter the impact of time pressure on purchase intention. Future research should consider longitudinal studies and cross-industry or cross-country comparisons to enhance the generalizability of the findings. Combining qualitative approaches and controlled experiments can also provide deeper insights into consumer behavior. This study offers a strong empirical foundation for managers to optimize strategic decision-making in understanding and responding to consumer buying behavior.

Limitations in generalization of results due to focus in a particular context or industry, as well as possibly other variables not included in the analysis such as psychological factors or specific purchasing contexts. Subjective measurements of variables such as perceived value, time pressure, and brand image can also influence the validity and accuracy of the results. Cross-sectional or experimental research designs may limit the ability to draw strong causal conclusions. In addition, changes in consumer behavior or market conditions that are influenced by external factors such as technology or regulations, as well as limited data that may come from limited sources, are also important considerations in interpreting the results of this research. Suggestions for future research could focus on using a longitudinal approach to expand understanding of the dynamics of the relationship between perceived value, time pressure, product involvement and brand image over a longer period of time. Studies that expand the variables examined to include deeper psychological factors or more specific purchasing contexts are also needed to gain more comprehensive insights. The importance of conducting comparative studies between industries or between countries can also increase the generalisability of the findings.

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