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EXPLORATION OF CONSUMER PURCHASE INTENTIONS FOR BLUE LIGHT BLOCKING GLASSES IN INDONESIA

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ABSTRACT

In the rapidly evolving information age, technological developments and social media significantly influence consumer purchasing decisions, especially in urban environments. This study explores the factors that influence the purchase intention of blue light glasses among urban consumers who use digital devices, using the Theory of Reasoned Action (TRA) framework. The factors analyzed include social media marketing, subjective norms, attitudes, hedonism, health values, social values, and knowledge. The survey was conducted among 306 respondents and analyzed by Structural Equation Modeling (SEM) using Partial Least Squares (PLS). The results show that marketing through social media, attitude, hedonism, health value, and knowledge have a positive effect on purchase intention, while social value shows a negative effect. This research provides insights for academics and practitioners in understanding consumer behavior and developing effective marketing strategies for anti-blue light glasses in Indonesia.

KEYWORDS *Consumer Purchase Intention, Anti-Blue Light Glasses, Social Media Marketing*

INTRODUCTION

Nowadays, the rapid development of information and the transformation of lifestyles, especially in urban environments, have played a crucial role in shaping people's purchasing decisions. Technology facilitates access to information, allowing representations of certain products or styles to influence consumers' belief in products as reflections of themselves. As such, in the current era, one's purchasing decisions are often the result of an interplay between social media

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influences, neighborhood influences, and how the individual themselves influence their lifestyle. For example, eyeglasses serve not only as a visual aid, but also as a symbol of personal identity that highlights the wearer's personal values and aesthetics.

Lifestyle is a self-representation manifested through personal choices in daily life, including aspects such as media, fashion, and social interaction. It not only reflects personal identity but also serves as a means to communicate values, beliefs, and social positioning to the wider community. (Warren, 2019). In the context of contemporary life characterized by the intensive use of digital devices, such as computers, smartphones, and tablets, there is a new awareness of the importance of eye protection. Blue light glasses, in this case, not only protect the eyes from the negative effects of exposure to blue light but also reinforce the identity and lifestyle choices of the wearer.

Excessive exposure to blue light from digital screens has raised serious concerns for eye health, with the 2016 Digital Eye Strain report showing that approximately 65% of adults in the United States experience associated symptoms, with a higher prevalence among women than men (69% vs. 60%). (Kaur, et al., 2022).. This phenomenon has sparked a growing interest in blue light glasses (Downie, Keller, Busija, & Lawrenson, 2019)As a solution not only to reduce the negative impact of prolonged use of digital screens, but also as a fashion and lifestyle element.

Based on the Theory of Reasoned Action (TRA) by Fishbein and Ajzen (1997), individual behavior is driven by behavioral intention, which is influenced by attitudes toward the behavior and subjective norms. (García, Saura, Orejuela, & Junior, 2020).. Factors such as social media marketing (Moslehpur, Ismail, Purba, & Wong, 2021), hedonism (Geertje & De, 2015), social value (Grappe, Lombart, Louis, & Durif, 2021), knowledge (Solomon, 2018), and health value (Teng & Wang, 2015) play an important role in shaping purchase intentions, reflecting consumers' awareness of eye health benefits and their preference for certain products (Luchs & Kumar, 2017).. This holistic approach in exploring the purchase intention of blue light glasses provides valuable insights into consumer behavior in the digital age, exploring how factors such as social media marketing, attitude, subjective norms, hedonism, health value, social value and knowledge influence the purchase intention of blue light glasses. The research question posed was: How does each of these factors influence the purchase intention of blue light glasses among urban consumers who use digital devices intensively? This research aims to provide valuable insights into consumer behavior in the digital age. By understanding these variables, this study aims to gain a deeper understanding of the factors that influence consumer behavior. The results of this study are expected to provide significant theoretical insights as well as practical contributions to the existing literature on consumer behavior, particularly in product selection which is heavily influenced by technology and social interaction. The benefits of this understanding are not only beneficial to academics studying consumer behavior, but also to practitioners and decision-makers in the eyewear industry, who can use these findings to design more effective marketing strategies and develop products that better suit the needs and expectations of today's consumers.

Literature Review

In the context of technological development and the transformation of urban lifestyles, the interplay between social media influences, the surrounding environment, and individual lifestyle preferences determines purchasing decisions, especially for products that merge with personal identity such as blue-ray resistant eyewear. The intensive use of digital devices increases the awareness of eye protection, which not only serves as health protection but also as a fashion element and reflection of personal values. This study aims to explore how factors such as social media influence, subjective norms, attitudes, hedonism, health values, social values, and knowledge influence the purchase intention of blue light glasses in the digital era. This research uses the *Theory of Reasoned Action* (TRA). *Theory of Reasoned Action* (TRA) is a theoretical framework developed by Icek Ajzen to understand and predict human behavior in various contexts. TRA assumes that behavior is planned rationally, where behavior is influenced by the intention to carry it out, which is formed from attitudes towards behavior and subjective norms. (Ajzen, 1985). Attitude towards behavior indicates how a person assesses the behavior, whether they see it as positive or negative. Meanwhile, subjective norms relate to the perceived social pressure to carry out or not carry out the behavior (Ajzen, 1991). (Ajzen, 1991).

Social Media Marketing

Social media marketing (SMM) is an advertising approach that utilizes social media platforms to promote products or services. It enables direct interaction with consumers through networking and user communication, facilitates the spread of electronic word of mouth (eWOM), and fosters interpersonal relationships, which can increase product knowledge and influence consumers' purchase intentions for products. (Nekmahmud, Naz, Ramkisson, & Farkas, 2022). Based on the findings of Gautam and Sharma (2022), SMM activities have a significant positive influence on purchase intention for luxury fashion brand products, which suggests the same potential can be applied to products such as blue-ray resistant glasses. Furthermore, research by Spackman and Larsen reveals that when marketing on social media is highly entertaining, interactive, and widely shared by followers, it results in a better relationship between the organization and its customers thereby increasing *purchase intention.* (Moslehpur, Ismail, Purba, & Wong, 2021).

Therefore, based on the above theory, this study proposes the hypothesis "Social media marketing has a positive effect on the purchase intention of anti-blue light glasses." **(Hypothesis 1)**

Subjective Norms

Subjective norms are defined by Ajzen and Fishbein (1980) as an individual's views or beliefs about the extent to which the opinions or approval of people who are important to him will influence certain behaviors. It reflects the social pressure felt by a person to act in accordance with the expectations or norms of those around them who are considered important. (Lim & An, 2021). Subjective norms can affect a person's intention to purchase intention due to social pressure or influence from

people who are considered important, if someone feels that the people closest to them strongly support or recommend a purchase, then it is likely that their intention to buy will increase. (Ajzen, The Theory of Planned Behavior, 1991).

Therefore, based on the above theory, this study proposes the hypothesis "Subjective norms positively influence purchase intention for anti-blue light glasses." **(Hypothesis 2)**

Attitude

The theory that explains consumer attitudes is the *Theory of Reasoned Action* (TRA) proposed by Fishbein and Ajzen (1975). According to this theory, individuals' attitudes toward a behavior are influenced by their beliefs about the expected outcomes of the behavior and their evaluations of those outcomes, which in turn influence intentions and actual behavior. (García, Saura, Orejuela, & Junior, 2020).. Ruiz-Molina and Saura (2008) define consumer attitudes as referring to the evaluation or assessment that a consumer has of a product or service. This attitude can be influenced by various factors, including the perceived value of the product or service. Consumer attitudes play an important role in shaping their *purchase intention.* (Pandey & Yadav, 2023).

The concept of consumer attitudes is directly related to the intention or desire to take an action, such as the intention to buy a product or service. A positive attitude towards a product or service will generally increase the intention to buy it (Wang, Shen, & Chu, 2021).

Therefore, based on the theory above, this study proposes the hypothesis "Consumer attitudes positively influence the purchase intention of anti-blue light glasses" **(Hypothesis 3).**

Hedonism

Hedonism in the definition put forward by Wang & Hwang (2001) is an orientation or attitude that emphasizes the search for pleasure and pleasure as the main goal in life. In the context of consumer behavior, hedonic attitudes reflect the drive to get satisfaction or pleasure from the products or services they buy. For example, in Beldad and Hegner's research, they found that hedonic attitudes can play a significant role in shaping purchase intentions. (Beldad & Hegner, 2018). Furthermore, in the context of product purchases, Kim and Chung (2011) define hedonism to reflect consumer preferences for products that provide high sensory, emotional or psychological satisfaction without regard to utilitarian factors such as functional benefits or economic value. (Amalia & Darmawan, 2023)..

In the context of blue light glasses, hedonic attitudes can be interpreted as consumers' desire for comfort and satisfaction in using the product. Blue light glasses not only serve as a means of protecting the eyes from damaging blue light, but can also provide visual comfort that enhances the user experience. Therefore, consumers who have a high hedonic attitude may tend to be more attracted to blue light glasses due to their perception of a better quality experience when using them.

Therefore, based on the theory above, this study proposes the hypothesis "Hedonism has a positive effect on consumer attitudes in the purchase intention of anti-blue light glasses**" (Hypothesis 4).**

Health Value

Health value is the value or importance given by individuals to their own health. In the context of purchasing, health value refers to the extent to which individuals prioritize their health in choosing a particular product. (Teng & Wang, 2015). According to Chen (2007), attitudes towards purchases are influenced by the extent to which individuals assess the importance of health factors in these products. (Amalia & Darmawan, 2023).. In addition, health value also affects purchase intention because individuals who prioritize their health tend to be more likely to buy products that are considered to support their health (Teng & Wang, 2015). (Teng & Wang, 2015). In a study conducted by Teng and Wang (2015), found that health value is a significant factor in influencing consumer attitudes and purchase intentions. Consumers who value the health benefits of a product tend to have a more positive attitude towards the product, which in turn increases their intention to buy it.

Therefore, based on the above theory, this study proposes the hypothesis "Health value has a positive effect on attitudes in the purchase intention of anti-blue light glasses." **(Hypothesis 5)**

Social Value

Social value is the social value possessed by a product or service, which can be defined as the benefit or impact that the product or service provides to society or the surrounding environment. (Grappe, Lombart, Louis, & Durif, 2021).. In the context of attitudes toward purchase, Alaouir (2019) stated that these social values can influence individuals' perceptions of a product or service, as well as their attitudes toward using or purchasing the product. In relation to purchase intentions, Alaouir (2019) also stated that individuals' attitudes towards a product or service are influenced by the extent to which they consider the social values contained in the product to be relevant and important to them personally or to society in general. Thus, social values in the context of purchase are closely related to individuals' attitudes towards the product and in turn, influence their purchase intention. (Grappe, Lombart, Louis, & Durif, 2021).. Chiu et al (2014) stated that through social values can help influence consumers' purchase intentions more because social values fulfill their social needs through interest in the same thing. (Wu, Huang, Chen, Davison, & Hua, 2018).This is supported by Sen et al (2001) who state that they (consumers) will buy products on the basis of social encouragement. Ozaki and Sevastyanova (2011) state that the decision to buy products on the basis of social encouragement is used by them to build social identity. (Kumar & Ghodeswar, 2015). If they do not behave in this way, they will feel that they are more left behind than other people in society. (Kumar & Ghodeswar, 2015).. This is based on previous findings by Alaouir et al (2019) which showed that social values contained in products have a significant influence on individual attitudes towards these products. (Amalia & Darmawan, 2023).. In addition, research also shows that individual attitudes towards products have a significant influence on buyer intentions. (Grappe, Lombart, Louis, & Durif, 2021)..

Therefore, based on the above theory, this study proposes the hypothesis "Social value has a positive effect on attitudes towards the purchase intention of anti-blue light glasses." **(Hypothesis 6)**

Knowledge

Knowledge of a product is defined by Brucks (1985) as the awareness of consumers about the product. (Wang & Hazen, 2016). Wang and Hazen (2016) also explained that product knowledge can create a product assessment and purchase intention from consumers. Knowledge in the context of purchasing refers to the level of consumer knowledge or understanding of the product they are going to buy (Wang, Shen, & Chung, 2016). (Wang, Shen, & Chu, 2021).. According to Wang and Hwang (2001) the knowledge possessed by consumers can influence their attitudes towards products and ultimately their purchase intentions. (Amalia & Darmawan, 2023).. Consumers who have better knowledge about a product tend to have a more positive attitude towards it, as they may better understand the benefits, safety or values associated with the product. (Wang, Shen, & Chu, 2021).. In the context of blue light glasses, it can be hypothesized that knowledge of the benefits and safety of blue light glasses has a positive effect on attitude towards purchase intention.

Therefore, based on the above theory, this study proposes the hypothesis "Knowledge has a positive effect on attitude in the purchase intention of anti-blue light glasses." **(Hypothesis 7).**

Theoretical Framework

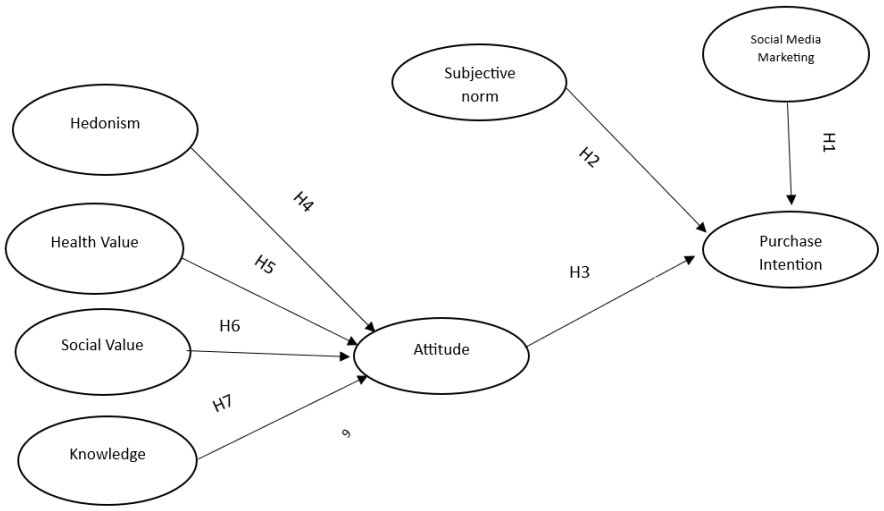


Fig 1. Theoretical Framework

RESEARCH METHOD

Our research utilizes quantitative methodology in the form of a survey. To analyze primary data, we utilize questionnaires distributed through Google Form using a 5-point Likert scale. The use of a Likert scale facilitates standardization and efficiency in data collection, allowing respondents to rate statements related to research variables. The Likert scale used in this questionnaire consists of five answer options that represent the respondent's level of agreement or disagreement with the given statement. This scale is set from 1 to 5, where 1 means "Strongly Disagree," 2 means "Disagree," 3 means "Disagree," and 4 means "Disagree." 2 means "Disagree," 3 means "Neutral," 4 means "Agree," and 5 means "Strongly Agree." The use of this scale allows researchers to capture a wide range of respondents' perceptions of the various aspects under study, from their perceptions of the benefits of anti-blue light goggles to other factors that influence their purchase intentions. (Amalia & Darmawan, 2023). The Likert scale is an effective tool for quantifying attitudes that can vary in intensity, which then facilitates further statistical analysis. (Sekaran & Bougie, 2016).. This questionnaire is designed to capture detailed indicators of dependent and independent variables and respondent profiles.

In designing the study, we used a non-probability sample with purposive sampling technique, in accordance with the recommendations of Hair et al. (2014) which states that the sample size must be at least ten times the number of variables being modeled. (Amalia & Darmawan, 2023). Based on this, we collected data from 306 respondents to ensure representative and sufficient data for complex analysis.

This research was conducted in a natural (noncontrived) setting to capture authentic purchasing behavior without intervention from the researcher. The cross-sectional approach was chosen to allow observation at a single point in time, so as to provide a current picture of the factors that influence purchase intention. (Wang & Cheng MD, 2020). Table 1 shows the sample questions in this study:

Table 1. Sample Questions

Variables	Indicators	Measurement	Journal Source
Social Media Marketing (SMM)	SMM1	Social media is a convenient source for accessing information about blue light glasses	(Nekmahmud, Naz, Ramkissoon, & Farkas, 2022)
	SMM2	I learned from social media that using blue light glasses can protect my eyes from blue light exposure.	
	SMM3	I use social media to find information about the blue light glasses that I want to buy.	
	SMM4	I share information about blue light glasses with friends on social media	
	SMM5	Social media is a trusted source for information on blue light glasses	
	SMM6	Social media is an updated source of information on anti-blue light glasses	
	SMM7	Social media is a great source of information on updates to blue light glasses.	

Subjective Norm (NSB)	NSB1	I would feel guilty if I didn't wear blue-ray resistant glasses.	(Amalia & Darmawan, 2023)
	NSB2	People in my neighborhood wanted me to buy blue ray glasses.	
	NSB3	People I trust can influence me to buy blue light glasses	
	NSB4	My friends understand my choice to use blue light glasses for my eye health	(Lim & An, 2021)
	NSB5	My friends think that I should wear blue-ray resistant glasses	
	NSB6	My friends approve of my decision to wear blue light glasses	
Attitude (ATT)	ATT1	Buying blue light glasses is a good decision.	(Amalia & Darmawan, 2023)
	ATT2	Buying blue light glasses provides benefits	
	ATT3	Buying blue-ray resistant glasses is necessary.	
	ATT4	Buying blue light glasses is the right decision	
	ATT5	Buying blue-ray resistant glasses brings satisfaction.	
Hedonism (HD)	HD3	Wearing blue light glasses will improve my quality of life.	(Amalia & Darmawan, 2023)
	HD4	Wearing blue light glasses makes me more confident	(Adapted from Amalia & Darmawan, 2023)
	HD5	Wearing blue light glasses makes me feel good	(Ulutruk & Asan, 2024)
	HD6	Buying blue-ray resistant glasses was a pleasant experience for me	
	HD7	Wearing blue-ray resistant glasses always feels good	
	HD8	Wearing blue light glasses makes me feel better	
	HD9	Wearing blue light glasses makes me feel more special	
Health Score (NK)	NK1	I often think about the health of my eyes	(Chang, Ma, & Chen, 2020)
	NK2	Eye health is very important to me	
	NK3	I consider myself to be a person who is interested in using blue light glasses	
	NK5	Using blue light glasses can improve my eye health.	(Andita & Hermawan, 2023)
	NK6	I feel that using blue-ray-proof glasses is in line with a healthy lifestyle.	
	NK7	Using blue light glasses can make me work longer in front of a digital screen.	(Adapted from Andita & Hermawan, 2023)
Social Value	SV1	Buying blue-ray resistant glasses can make me more accepted in the neighborhood.	

	SV2	Buying blue-ray resistant glasses will make me more visible to others.	(Amalia & Darmawan, 2023)
	SV4	Buying blue-ray resistant glasses will make me more respected by others.	
Knowledge	KNW1	I am well informed about blue light glasses	(Amalia & Darmawan, 2023)
	KNW2	I had a good experience when using the blue-ray-proof goggles.	
	KNW3	I'm familiar with blue ray goggles.	
	KNW4	I understand the benefits of blue light glasses	
	KNW5	I understand the impact of blue light glasses	
	KNW6	I can tell the difference between blue-ray resistant glasses and non-blue-ray resistant glasses.	
	KNW7	My knowledge of anti-blue light glasses is better than the people around me	

Population and Sampling

The study population included employees and students in urban areas who actively use digital devices. The specific inclusion criteria were those who had a high awareness of eye health and showed a tendency to maintain a fashionable appearance, which was relevant to the use of blue light glasses.

The sampling method used was purposive sampling. This approach allowed us to selectively gather a sample of individuals who specifically met the research criteria. This process managed to collect a total of 306 respondents, which ensured that the data obtained was representative and sufficient to conduct complex and in-depth analysis according to the research needs. (Dudovskiy, 2016).

Of the 306 respondents collected, the demographic distribution covered a wide range of ages and educational backgrounds, reflecting considerable diversity in the urban context and use of digital technology. This sample is expected to provide in-depth insights into the factors that influence the purchase intention of blue light sunglasses, including variables such as attitude towards the product, subjective norms, and the influence of marketing through social media. This analysis is not only important for understanding consumer behavior but also for developing more effective marketing strategies for anti-blue light glasses manufacturers.

Data Analysis

Data analysis was carried out using the Structural Equation Modeling (SEM) method with Partial Least Squares (PLS). The choice of SEM PLS is based on its strong ability to explore complex relationships between variables and test theories in models with many constructs. (Hair, Black, Babin, & Anderson, 2014)..

The analysis process begins with construct validation through confirmatory factor analysis to ensure that each measurement item accurately describes the intended variable. After that, the measurement model was evaluated for internal consistency, convergent and discriminant validity using the PLS algorithm. Next, the structural model was analyzed to test the relationship between variables.

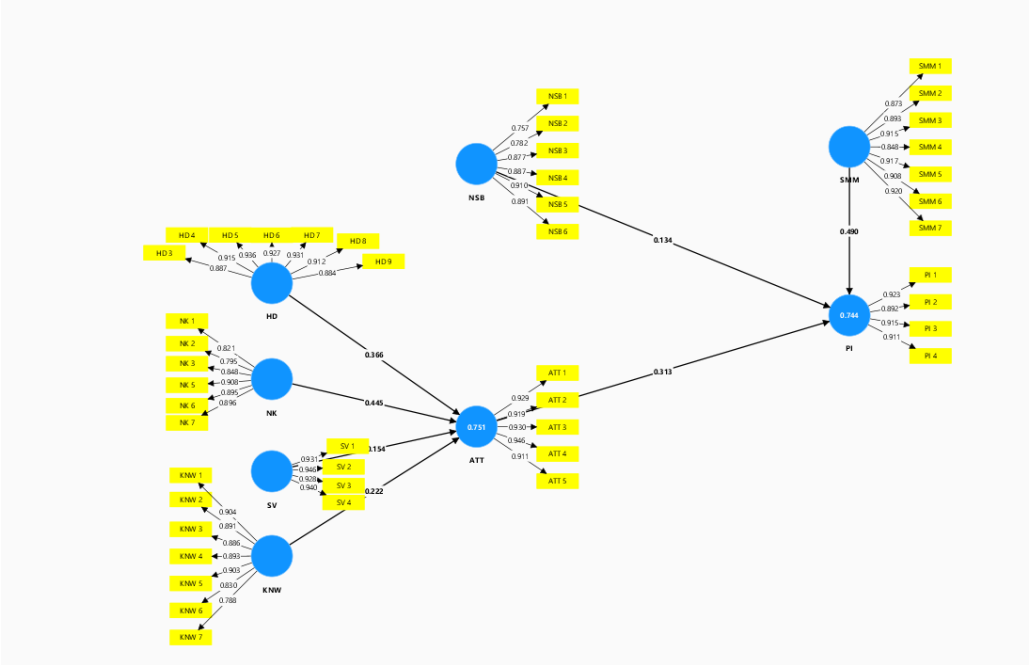
We also applied the bootstrapping technique in PLS SEM to produce accurate parameter estimates and to test the reliability of the hypothesis testing results. With this, we hope to produce valid and reliable findings, which can support better decision-making based on data and facts about consumer behavior in purchasing blue light glasses.

RESULT AND DISCUSSION

Demographic Result

The study involved 306 respondents, comprising 43.1% men and 56.9% women, with the majority (81.7%) coming from outside the Greater Jakarta area. This shows broad participation from urban areas across Indonesia. In terms of age, the 22-29 years old and 14-21 years old groups were the most numerous, with percentages of 30.9% and 28.9% respectively, confirming the active involvement of the younger generation in the use of digital technology. Meanwhile, 11.3% of respondents were in the 30-38 age range and 6.4% were above 48 years old.

In terms of education, about 36.7% of the respondents were college graduates and 32.2% had completed secondary education. In addition, 10.3% have a diploma and 9% have earned a postgraduate degree. A total of 47.3% of the respondents were employed, indicating the presence of young professionals and entrepreneurs active in the job market; 7.7% of them were entrepreneurs. About 29.9% are still listed as students, and 9% are housewives, while 4.9% are not working. The majority of respondents (55.9%) were unmarried, reflecting the predominantly young demographic. Most, or 39.2%, spend Rp 1,500,000 to Rp 5,500,000 per month, while 32.5% spend below Rp 1,500,000. The higher spending group, who spend Rp 7,500,000 to more than Rp 20,000,000, accounted for between 4.5% to 16.1%. These demographics provide an in-depth understanding of the characteristics of the respondents, which is important for analyzing how demographic factors can influence the purchase intention of blue-ray resistant eyewear.



SEM PLS 4 analysis result

Confirmatory Factor Analysis (CFA)

Confirmatory Factor Analysis (CFA) is used to measure whether the constructs in the research model are consistent with the assigned latent variables. To provide in-depth analysis, we carefully refined the model by removing indicators that did not meet the validity requirements. This ensures the precision and reliability of our findings. Table 2 shows the results of the SEM analysis of the relationships between variables. In addition, the table in this report shows the validity test results after the removal of **invalid** question indicators, namely **HD1, HD2, NK4, NK8, and NK9.**

Table 2. The Results of the SEM analysis of the relationships between variables

Variable	Indicator	Loading Factor Value	Result
Social Media Marketing	SMM1	0.873	Valid
	SMM2	0.893	Valid
	SMM3	0.915	Valid
	SMM4	0.848	Valid
	SMM5	0.917	Valid
	SMM6	0.908	Valid
	SMM7	**0.920**	Valid
NSB	NSB1	0.757	Valid
	NSB2	0.782	Valid
	NSB3	0.877	Valid
	NSB4	0.887	Valid
	NSB5	**0.910**	Valid

	NSB6	0.891	Valid
ATT	ATT1	0.929	Valid
	ATT2	0.919	Valid
	ATT3	0.930	Valid
	ATT4	**0.946**	Valid
	ATT5	0.911	Valid
HD	HD3	0.887	Valid
	HD4	0.915	Valid
	HD5	**0.936**	Valid
	HD6	0.927	Valid
	HD7	0.931	Valid
	HD8	0.912	Valid
	HD9	0.884	Valid
NK	NK1	0.821	Valid
	NK2	0.795	Valid
	NK3	0.848	Valid
	NK5	**0.908**	Valid
	NK6	0.895	Valid
	NK7	0.896	Valid
SV	SV1	0.931	Valid
	SV2	**0.946**	Valid
	SV3	0.928	Valid
	SV4	0.940	Valid
KNW	**KNW1**	**0.904**	Valid
	KNW2	0.891	Valid
	KNW3	0.886	Valid
	KNW4	0.893	Valid
	KNW5	0.903	Valid
	KNW6	0.830	Valid
	KNW7	0.788	Valid

The research findings show that all indicators tested in each variable show high validity, with some indicators removed such as HD1, HD2, NK4, NK8, and NK9 because they do not meet the expected validity criteria.

The variable 'Social Media Marketing' (SMM) shows consistent and high factor loading values, with SMM7 recording the highest value of 0.920. This indicates that this indicator is highly representative of respondents' perceptions regarding the effectiveness of social media in providing information about blue light glasses. For the variable 'Subjective Norms' (NSB), NSB5 achieved the highest factor loading value of 0.910, indicating the strong influence of friends' opinions on the purchase decision of blue light glasses. The variable 'Attitude' (ATT) shows the highest factor loading value in ATT4 of 0.946, illustrating the respondents' strong agreement that buying blue light glasses is the right decision.

In the variable 'Hedonism' (HD), indicator HD5 has the highest factor loading at 0.936, reflecting the feeling of pleasure that respondents get from using anti-blue light glasses. For the variable 'Health Value' (NK), NK5 demonstrated the highest factor loading at 0.908, reflecting respondents' belief that blue light glasses can improve eye health. For 'Social Value' (SV), SV2 demonstrated a high factor loading value of 0.946, confirming that the purchase of blue light glasses increases the social perception of the user.

Finally, within 'Knowledge' (KNW), KNW1 has the highest factor loading value of 0.904, which indicates a good level of knowledge from respondents regarding the benefits of blue light glasses. These overall results confirm that the model developed in this study has good validity and can be relied upon to analyze the relationship between the variables under study. High factor loadings indicate a strong relationship between the indicators they represent, validating each construct in the model used.

Validity Test

In this study, two validity approaches were used: convergent and discriminant. To assess convergent validity, the factor loading values of each construct were examined to ensure they exceeded the threshold of 0.708. Based on Table 3, all constructs in the research model have Average Variance Extracted (AVE) values above 0.5, which indicates that each construct has sufficient validity.

Table 3. AVE

Construct	AVE
ATT	0.860
HD	0.834
KNW	0.760
NK	0.742
NSB	0.720
PI	0.829
SMM	0.804
SV	0.876

These AVE values indicate that the constructs have good convergent validity, with each construct significantly reflecting the variables it measures.

In this study, we applied the discriminant validity method using the Heterotrait-Monotrait (HTMT) ratio, considered the most accurate test for testing discriminant validity between constructs. Table 4 presents the HTMT results for all the variables under study, and it is important to note that this HTMT ratio should be below 0.9 to establish reliable results (Franke & Sartedt, 2019).

Table 4. Heterotrait-Monotrait Ratio (HTMT)

Construct	ATT	HD	KNW	NK	NSB	PI	SMM	SV
ATT								
HD	0.840							
KNW	0.792	0.849						
NK	0.878	0.899	0.824					

NSB	0.791	0.883	0.824	0.809			
PI	0.821	0.850	0.867	0.882	0.781		
SMM	0.772	0.835	0.843	0.850	0.785	0.869	
SV	0.587	0.802	0.732	0.662	0.728	0.689	0.777

The analysis showed that most of the HTMT ratios were below 0.9, indicating that the constructs under study have good discriminant validity. The lowest HTMT value was recorded between SV and ATT (0.587), indicating a clear distinction between the constructs 'Social Value' and 'Attitude'. Although there are some values close to the 0.9 threshold, such as between 'Health Values' (NK) and 'Hedonism' (HD) with a value of 0.899, it is still within acceptable limits to indicate adequate discriminant validity.

This validity assessment strengthens the overall reliability of our analysis and provides confidence in the relationships between the variables identified in this research model. Adequate discriminant validity is important to ensure that each construct measures dimensions that are truly distinct and independent of each other, providing a solid foundation for further inference from the data.

Reliability Test

Reliability tests are used to assess the overall reliability of the blocks of indicators that measure the constructs in a study. The results of this test are very important to ensure that each construct is measured in a consistent and reliable way.

Table 5 Composite reliability (rho_a and rho_c)

Construct	Composite Reliability (rho_a)	Composite Reliability (rho_c)
ATT	0.960	0.968
HD	0.968	0.972
KNW	0.955	0.957
NK	0.937	0.945
NSB	0.936	0.941
PI	0.932	0.951
SMM	0.959	0.966
SV	0.957	0.966

The data showed that all composite reliability scores, both rho_a and rho_c, exceeded the 0.7 threshold, indicating a high level of reliability for all constructs tested in this study. The highest value was recorded for the Hedonism (HD) construct with rho_c of 0.972, indicating excellent reliability.

Table 6 Cronbach's Alpha

Construct	Cronbach's Alpha
ATT	0.959
HD	0.967
KNW	0.947

NK	0.930
NSB	0.924
PI	0.931
SMM	0.959
SV	0.953

The Cronbach's Alpha test in Table 6. also shows adequate values, where all Cronbach's Alpha values exceed 0.7, which is considered acceptable. This indicates high internal consistency of the items used to measure each construct. The highest Cronbach's Alpha value is found in the Hedonism (HD) construct with a value of 0.967.

Overall, the results of this reliability test strengthen the reliability of this research instrument and provide confidence that the constructs measured in this study are consistent and reliable. This high reliability is important to validate the measurements made in the study and provide a strong basis for further analysis.

Effect of F-Square and R-Square

According to the literature of Hair et al (2021), F-Square values can be categorized into minor, moderate, and significant effects, which are represented by values of 0.02, 0.15, and 0.35 (Sarstedt, Ringle, & Hair, 2021). Therefore, in Table. 7, it can be seen how these variables affect other variables in the model.

Table 7. The F-Square

	f-square
ATT- > PI	0.139
HD - > ATT	0.085
KNW - > ATT	0.058
NK - > ATT	0.185
NSB - > PI	0.025
SMM - > PI	0.349
SV - > ATT	0.037

Table 8. The R-Square

Construct	**R-Square**	**R-Square ajdusted**
ATT	0.751	0.748
PI	0.744	0.742

From the data, SMM -> PI with a value of 0.349 reaches the significant threshold, indicating a significant influence of 'Social Media Marketing' on 'Purchase Intention'. Meanwhile, NSB -> PI with a value of 0.025 shows a minor effect, indicating a minimal influence of 'Subjective Norms' on 'Purchase Intention'. Other effects such as ATT -> PI, NK -> ATT, and HD -> ATT show significant moderate effects in the model.

Table 8. presents the R-Square results, which illustrates how much variance in the dependent variable can be explained by the independent variables in the

model. For the 'Attitude' (ATT) construct, the R-Square is 0.751, indicating that most of the variance in consumer attitudes towards blue-ray resistant eyewear can be explained by the variables included in the model. Meanwhile, the R-Square for 'Purchase Intention' (PI) was 0.744, indicating that the variables in this study were effective in explaining the variance in purchase intention.

It can be concluded that, the F-Square and R-Square analysis shows that some factors such as social media marketing and health value have a significant influence on purchase intention and attitude towards blue light glasses, while other factors such as subjective norms have a more limited influence. This can be a valuable insight for manufacturers and marketers in developing more effective strategies to increase sales and customer satisfaction.

Model Fit

To evaluate the fit of the research model to the existing data, a model fit test was conducted. As shown in Table 9, the SRMR value for the estimated model is 0.057, which is below the threshold of 0.10. This indicates a good fit between the model and the data.

Table 9. Model fit

	Saturated model	Estimated model
SRMR	0.055	0.057
d_ULS	3.326	3.568
d_G	2.098	2.141
Chi-square	3437.046	3475.545
NFI	0.822	0.820

In addition to the SRMR, the NFI value for the estimated model is 0.820, which exceeds the threshold of 0.8, indicating that the model has a good fit with the collected data. Although the Chi-square value is quite high, indicating some discrepancies between the model and the data, the strong NFI and SRMR values indicate that the model overall fits the data well.

In conclusion, based on SRMR and NFI, the estimated model can be considered to have a good fit with the data, supporting the validity of the model used in this study to analyze the influence of the variables under study. This good model performance is important to ensure the reliability and relevance of the research findings.

Hypothesis Testing

Hypothesis testing in this study was carried out using the bootstrapping method with SmartPLS 4.0 software. This approach allows evaluation of the direction and significance of the relationship between latent variables. The test details are presented in Table 10 and Table 11.

Table 10. Path analysis (direct effects) and hypothesis testing

H	Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
H1	**SMM - > PI**	0.490	0.490	0.057	8.668	0.000
H2	**NSB - > PI**	0.134	0.136	0.057	2.342	0.019
H3	**ATT - > PI**	0.313	0.312	0.065	4.823	0.000
H4	**HD - > ATT**	0.366	0.366	0.075	4.846	0.000
H5	**NK - > ATT**	0.445	0.445	0.067	6.617	0.000
H6	**SV - > ATT**	-0.154	-0.154	0.047	3.270	0.001
H7	**KNW -> ATT**	0.222	0.222	0.052	4.278	0.000

Specific indirect effects and hypothesis testing

Relationship	Original sample (O)	Sample mean (M)	Standard deviation (STDEV)	T statistics (|O/STDEV|)	P values
HD - > ATT - > PI	0.115	0.114	0.033	3.499	0.000
KNW - > ATT - > PI	0.070	0.069	0.022	3.127	0.002
NK - > ATT - > PI	0.139	0.140	0.039	3.566	0.000
SV - > ATT - > PI	-0.048	-0.048	0.018	2.656	0.008

Data analysis shows that marketing through social media has a highly significant influence on the purchase intention of anti-blue light glasses, with a high coefficient of 0.490. This indicates that an effective marketing strategy through social media platforms can increase consumers' desire to purchase this product. Meanwhile, subjective norms relating to social perceptions and expectations of individuals only show a moderate influence on purchase intention with a coefficient of 0.134, indicating that social pressure or support has a role but is not very dominant. Attitude towards the product, which reflects consumers' positive or negative evaluations of blue-ray resistant eyewear, showed a strong and significant relationship to purchase intention with a coefficient of 0.313.

Furthermore, hedonism, which describes the satisfaction or pleasure derived from using the glasses, had a significant positive effect on consumer attitudes, with a coefficient of 0.366. Health value, which refers to the perceived health benefits of using the glasses, also showed a strong and positive influence on attitude with a higher coefficient of 0.445. However, an interesting and different result came from the analysis of social value. While it was hypothesized that social value would positively influence attitudes towards purchase intentions, the data actually showed a negative effect with a coefficient of -0.154. This suggests that certain aspects of social value that respondents consider important may actually lead to negative perceptions of the product, which may be influenced by the stigma or negative perceptions within certain social groups towards the use of blue light glasses.

Knowledge of the product, which indicates the degree to which consumers understand the benefits and characteristics of anti-blue light glasses, contributes positively to attitude with a coefficient of 0.222, emphasizing that sufficient and accurate information can increase positive evaluation of the product. Furthermore,

the indirect effect analysis shows that hedonism, knowledge, and health value through attitude, contribute significantly to purchase intention. However, social value again showed a negative effect on purchase intention through attitude, underscoring the complexity of the relationship between social factors and consumer behavior in this context.

CONCLUSION

This study developed a framework for assessing the purchase intention of blue light sunglasses in Indonesia, using a survey methodology of 306 respondents. It was found that factors such as marketing through social media had a significant influence on purchase intention. In particular, social media plays an important role in increasing consumers' desire to purchase this product. Other factors such as attitude towards the product, hedonism, and knowledge also showed a significant influence on purchase intention. The Structural Equation Modeling (SEM) model used in this study successfully demonstrated substantial explanatory power with an R-squared value of 0.744, indicating that the constructs used in the model were able to explain 74.4% of the variance in the purchase intention of blue light glasses.

However, this study also revealed that social value, which is expected to have a positive influence, actually showed a negative effect on attitudes towards purchase intentions. This indicates that there are complexities in social perceptions that can negatively influence purchase decisions. This factor points to the importance of understanding the broader social and cultural context in developing marketing and product strategies.

5.2 Implications

The findings from this study have important implications for manufacturers and marketers of anti-blue light sunglasses. First, companies should utilize the power of social media as a marketing tool to increase awareness and interest in their products. Second, companies need to consider the influence of social values that may negatively impact product perceptions and adjust their communication strategies to overcome any stigma or negative perceptions that exist in society.

Furthermore, this study suggests that companies should provide accurate information and educate consumers about the real benefits of using anti-blue light glasses for eye health, in an effort to increase positive attitudes towards the product. The research also shows that understanding the hedonism factor can help companies design products that are not only functional but also offer consumers aesthetic and emotional satisfaction.

Based on the results of the study, several practical recommendations can be put forward for the anti-blue light eyewear industry in Indonesia. Firstly, companies should integrate marketing strategies that utilize social media platforms to actively communicate product value and benefits. Secondly, it is important to conduct further research into the influence of social value and develop campaigns that can turn negative perceptions into positive ones.

In addition, companies can try a market segmentation approach by targeting consumers based on demographic characteristics that have been identified as having high purchase intentions, such as the younger generation who actively use digital

technology. Finally, there needs to be a concerted effort between manufacturers, government, and consumer organizations to increase public education on the importance of blue light glasses for eye health, through seminars, workshops, and informative promotional materials.

This study has some limitations, such as the focus on consumers in urban areas which may not fully represent the general population of Indonesia. Therefore, further research is needed to investigate consumer behavior in rural areas and compare it with the findings from this study. In addition, future research could further explore other factors that may influence purchase intention, such as psychological factors or economic factors, to provide a more in-depth and comprehensive insight into consumer behavior towards blue-ray resistant eyewear.

Taking into account these limitations and recommendations, it is hoped that future research can expand the understanding of the factors that influence the purchase intention of anti-blue light glasses and help related industries to develop more effective strategies to meet consumer needs and wants.

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