

Scale Validation of Students' Gratification Purchasing Sports Products on Tiktok Shop: A Uses and Gratification Theory (UGT) Perspective

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ABSTRACT

The Ministry of International Trade and Industry (MITI) in Malaysia has introduced initiatives to enhance e-commerce activities and improve the overall e-commerce platform in the country. Undoubtedly, TikTok Shop stands out as one of the most popular e-commerce platforms in Malaysia. The influence of TikTok on consumer shopping behaviours is increasingly evident, with 58.2% of TikTok users expressing that they rely on the platform for shopping inspiration. This study focuses on establishing the validity and reliability of the Students' Gratification to Purchase Sports Products on the TikTok Shop instrument. It intends to apply it in subsequent studies within similar settings. The questionnaire was adjusted to align with the target population and underwent reliability analysis, achieving a Cronbach's Alpha reliability coefficient exceeding 0.7, indicating a reliable scale. In the Exploratory Factor Analysis, none of the items were excluded, and they were reorganised into three factors: attention, positive attitude, emotion and utilitarian gratification. Subsequently, Confirmatory Factor Analysis was conducted on the 20 items. The final model confirmed the presence of three constructs: Attention, Positive Attitude Emotion, and Utilitarian Gratification. Based on the model's evaluation, the sample data fits the measurement model well (RMSEA = 0.073, GFI = 0.880, AGFI = 0.837, TLI = 0.947, and NFI = 0.923). In conclusion, this questionnaire demonstrates strong validity and reliability, making it suitable for further studies in similar settings

Keywords: *Students' Gratification, TikTok Shop, Sports Products, Exploratory Factor Analysis.*

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INTRODUCTION

We are constantly enthusiastic about adopting cutting-edge technology in the Industrial Revolution 4.0 (IR 4.0) era. This technological advancement has transformed traditional manufacturing and industrial practices, where intelligent and innovative features are now integrated into the automation processes. Furthermore, IR4.0 marks the beginning of many advanced innovations, including the emergence of the Internet of Things (IoT) for enhanced communication and self-monitoring. It also includes machines capable of autonomously analyzing and resolving issues (Nicholls, 2021). Indeed, it is undeniable that social media has assumed a significant role in the era of IR4.0, with most individuals utilizing these platforms at their convenience. Social media serves various purposes, including staying connected with friends and family, acquiring information, functioning as a marketing tool for product promotion, and facilitating information sharing, all accessible anytime and anywhere. Therefore, the Ministry of International Trade and Industry (MITI) in Malaysia has introduced several initiatives to enhance e-commerce activities and improve the overall e-commerce platform in the country.

TikTok has become one of the most widely used social media platforms, having exceeded one billion users in the second quarter of 2022 (Data Reports, 2022). On average, each user spends approximately 1.5 hours scrolling through the TikTok application (Influencer Marketing Hub, 2023). Launched in 2016, the TikTok application was the leader in consumer purchases and the most downloaded social media app in Q1 2023 (Data.ai, 2023). Thus, the influence of TikTok on consumer shopping behaviors is increasingly evident, with 58.2% of TikTok users expressing that they rely on the platform for shopping inspiration. Like other social media platforms, TikTok offers in-app purchase features that allow users to buy products conveniently through the application. Within TikTok, you will find a unique call-to-action button known as the "Yellow Bag" icon, which acts as a shopping cart button, allowing users to make purchases instantly and conveniently track their shipments once the purchase is complete. TikTok is a widely used application nationwide, with a substantial user base primarily composed of individuals from Generation Z.

According to the Statista Research Department (2023), the most significant portion of TikTok users in Malaysia falls within the age range of 19 to 25 years old, accounting for 35.61%. This demographic composition underscores the importance of marketers developing various marketing strategies tailored to this age group. This age range also encompasses undergraduate students who use the TikTok application. Students have purchasing power as they utilize live streams, reels, YouTube videos, and virtual competitions, which can boost the purchase intent of the younger demographic through social media (JianAi, Y., et al., 2022).

Various instruments can measure consumer intention to buy sports products online. However, within the context of sports products, the measurement model specifically tailored to examine consumer purchase intention on TikTok Shop, based on the Uses and Gratification Theory (UGT), has yet to be developed. To address this gap, this research project aims to construct a robust validity and reliability scale for assessing consumer purchasing intention of sports products on TikTok Shop within the framework of UGT.

LITERATURE REVIEW

User and Gratification Theory (UGT)

During the early stages in the 1940s, the UGT was outlined by Katz and Blumber (1974), primarily aimed at comprehending the motives behind people's media use, the necessities driving their media usage, and the types of gratifications they derived from media consumption. Currently, the UGT is extensively employed, particularly within social networking systems (Al-Jabri et al., 2015; Hsiao et al., 2015). In the contemporary landscape, social media has gained widespread popularity, capturing the attention of a large portion of the population. Dhir and Tsai (2017) utilized UGT to explore people's preferences for using Facebook, revealing that this theory is instrumental in predicting the intensity of Facebook usage. In other studies, Chen, G. M.

(2011) highlighted the significance of social media users on the Twitter platform who tweet and send replies, whereby these interactions are crucial for individuals seeking to fulfil their gratification for connection through this social medium. The UGT framework applied to TikTok provides a substantial rationale for the motivations that lead social media users to participate. These motivations include pursuing entertainment, convenience, socialization, information seeking or sharing, social support, and escapism (Falgoust, G. et al., 2022). Self-regulation, media self-efficacy, pre-existing attitudes, habitual behaviors, and other variables are crucial in shaping their channel preferences (Dimmick et.al., 2004; Ko et.al., 2005; LaRose et.al., 2004). Rooted in an audience-centric perspective, Uses and Gratifications Theory posits that media consumption is goal-oriented. Individuals are seen as aware of their media motivations and actively select content to gratify identified needs (Palmgreen & Rayburn, 1979; Ruggiero, 2000). People's motives for gratification are a powerful predictor of media consumption patterns. This includes their choice of media, and the emotional and behavioral responses elicited, ultimately influencing their sustained engagement with specific platforms (Rubin, 2009; Haridakis & Rubin, 2005; Limayem & Cheung, 2011). User motivation in media consumption transcends singular drivers. Scholars highlight various needs, including social connection, information acquisition, leisure activity, personal enjoyment, relaxation, communication, convenience, opinion sharing, information dissemination, and understanding others (Ko et al., 2005; Whiting & Williams, 2013). In short, the UGT explains that the context of media consumption differs according to time, and it will continue to differ in the future.

Students' Purchasing Intention on Social Media

Within the tertiary education environment, students wield their purchasing power, allowing them the freedom to acquire whatever items they desire. This demographic is notably inclined towards frequent engagement in online shopping (Kotler, 2011). Over a decade, the trend of online shopping patterns among students at the tertiary education level has been different. Studies conducted by Jin, L. Y. et al. (2015) show a moderate attitude towards online shopping activities. This could be because social media had yet to emerge as a shopping platform during that specific period, and its exposure was limited. It certainly shows a different situation from a couple of years back. Recently, social media has functioned as a tool for businesses to disseminate information about past and current products. It has facilitated customers' online purchases and has played a role in sustaining global commerce (Alghfeli et al., 2019, 2021; Khalifa et al., 2021). Lasi M. et al. (2021) recommended that all companies utilize social media platforms like Facebook for information dissemination and communication with potential customers; as this social platform continues to grow, it is an effective medium for reaching the target market over time. Prior findings highlight the multifaceted impact of psychological factors on the relationship between social media information and impulse buying intention. Emotions, website trust (Yi & Jai, 2020), perceived information usefulness (Xiang et al., 2016), and both utilitarian and hedonic value (Zhang et al., 2018) significantly influence customer behavior. Students' trust serves as a critical facilitator for online transaction intention within e-marketplaces. By cultivating a trustworthy environment, e-marketplaces can encourage buyers to engage in online purchases actively (Lu et al., 2011).

Moreover, exposure to product posts with high social media engagement (likes) positively impacts students' trust and purchase intention. This suggests a "social proof" effect in online buying behavior (Han, 2023). Flynn et al. (2002) conducted research highlighting that previous customer recommendations and referrals demonstrably exert the most decisive influence on purchasing behavior among various marketing communication strategies. Hence, increased perceived trustworthiness and reduced perceived bias likely contribute to the higher effectiveness of recommendations and referrals as marketing communication tools than other strategies (Chevalier & Mayzlin, 2006). In conclusion, students' purchasing intentions to buy sporting products on social media are significant as they also have their motives to satisfy their wants.

TikTok Shop as E-Commerce Platform

The TikTok Shop (TTS) features were unveiled in 2022, encompassing three native shopping methods: Live Shopping, Shoppable Videos, and Product Showcase. Through these avenues, merchants and content creators can display and sell their products, allowing TikTok users to purchase and partake in complete in-app shopping experiences. There are some studies regarding the effect of TTS done by previous researchers. According to the findings from a study conducted by Hidayati, Hidayah, and AlHakim (2022), it is evident that the TTS, as an online shopping platform, has a noteworthy impact on impulsive buying behavior in adolescents. This is because of several factors, such as the live-streaming features that enable consumers to interact directly with the seller, the availability of shipping promotions, the affordable price, the variability of products on TTS that are not offered from the other physical platform, cash on the delivery (COD) system, and also free “order handling fee” for customers. Many online marketplaces, like Taobao Live, JD Live, and Amazon Live, offer traditional online shopping and live streaming options. Sellers can host live sales events to showcase products and interact with customers in real-time or stick to traditional product listings and purchase methods (Cui et al., 2023). The author also stated that another livestream e-commerce platform builds upon existing social media platforms. Initially created for live-streaming content, these platforms incorporated shopping features, allowing users to seamlessly transition from watching to buying.

Interestingly, broadcasters in livestream e-commerce can be online influencers, such as key opinion leaders, instead of the sellers themselves (Cui et al., 2023). Alcantara-Pilar et al. (2024) highlight the influencer roles in marketing on TikTok in influencing buying decisions and product preferences. TikTok users perceive influencers as trendsetters and find them trustworthy information sources. This authenticity and trust influence followers' choices, driving higher purchase intentions and potentially sparking passionate product recommendations. Furthermore, while crafting briefs or collaborating with influencers, marketers can guide the conversation and shape the content, potentially amplifying positive eWOM. This approach offers brands some control over the message, leveraging the influencer's reach and influence. However, it is crucial to maintain transparency and avoid overly scripted content that could undermine authenticity and damage consumer trust (Yones et al., 2023). It is undeniable that TTS is one of the most powerful e-commerce platforms that offers a unique feature for consumers to purchase sports products.

Scale Validation of Students' Gratification to Purchase Sports Products on TikTok Shop Based on UGT Perspective

There are limited findings on the questionnaire adaptation and development process to ensure the validity and reliability of students' gratification questionnaires. However, some researchers still adapt and develop the instrumentation in general, which can also be used to develop a questionnaire. For instance, Nuzuli (2022) listed several constructs: information, personal identity, integration and social, and entertainment. This study emphasized TikTok users in Semarang City who have the TikTok application. In other studies, Moon, J. W., & An, Y. (2022) stated that there are four dimensions of U&G perspectives, namely social interaction, entertainment, information, and convenience, to measure consumers' gratification in travel and tourist context. In a sports context, Chiu, W. et. al., (2018) outlined five consumer gratification constructs: attitude, subjective norms, perceived behavioral control, positive anticipated emotion, and negative anticipated emotion.

Consequently, existing research has yet to delve into developing a measurement model specifically addressing consumer purchase intentions toward sports products on TikTok Shop within the framework of the User and Gratification Theory (UGT). Therefore, this research ultimately aims to indicate the validity and reliability of Students' Gratification to Purchase Sports Products on TikTok Shop based on the UGT Perspective Questionnaire. At the end of the study, future researchers might employ this questionnaire to conduct a study in similar settings.

METHODOLOGY

Population and Sampling

To meet the objective of this study, the identified population is public university students from sports studies courses. Students with a sports science and management background are chosen because of their extensive knowledge of sports products. Furthermore, the prevalent engagement of today's students on social media prompts them to make direct purchases of sports products through these platforms. Divanoğlu, S. U et al., (2022) proclaimed that university sports students consider both brand and quality when choosing the sports products, they wish to purchase. Therefore, 222 students took part in the study, all of whom willingly contributed to the new body of knowledge.

The Process of Data Collection and Analysis

This study aims to examine students' satisfaction in purchasing sports products on TikTok Shop from the perspective of the Uses and Gratification Theory (UGT). Accordingly, the process of data collection and analysis was conducted with careful consideration. Initially, all the questionnaire items were adjusted to suit the population. The question items were then categorized based on relevant domains. Drawing from Chiu, W. et al. (2018), domains such as attitude, subjective norms, perceived behavioral control, and positive anticipated emotion were developed for students' gratification in purchasing sports products on TikTok Shop. Additionally, the utilitarian gratification domain was introduced to enhance students' comprehension in responding to the questionnaire items. 10-scales were deployed in this study. The dimensions such as attractiveness, pain, and likelihood, a 0-to-10 scale, will be familiar to many respondents and easy for them to use (Price, P. C. et al., 2015).

After all question items were developed, the questionnaire was distributed to the targeted population. Students were briefly explained about the questionnaire. The questionnaire consists of two parts, part one emphasizes on the question items to measure students' gratification in purchasing sports products on TikTok Shop, and part two outlines demographic profiles of the sample. The responses were collected within the stipulated time and were analyzed using Statistical Package for Social Science (SPSS) Version 22.0 and Analysis Moment of Structure (AMOS) Version 24.0.

To ensure the reliability of the study, a pilot test was conducted by distributing to 30 respondents before the actual data collection was carried out. 30 was considered as suggested by Isaac and Michael (1995). As a result of the reliability analysis of the Students' Gratification in Purchasing Sports Products on TikTok Shop, the Cronbach Alpha reliability coefficient was presented below, as it surpassed 0.7, making it reliable scale (Kayis, 2005).

Table 3.1
Reliability Analysis of Students' Gratification in Purchasing

Serial	Construct	Cronbach's Alpha	N of Items
1	Attention	.889	4
2	Subjective Norm	.881	4
3	Perceived Behavioral Control	.918	4
4	Positive Attitude Emotion	.894	4

5	Utilitarian Gratification	.902	4
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FINDINGS AND DISCUSSION

After completing the reliability analysis, the Exploratory Factor Analysis (EFA) was employed to validate the components of Students' Gratification in Purchasing Sports Products on the TikTok Shop instrument and determine the arrangement of item-factor loadings. The four identified components are attitude, subjective norms, perceived behavioral control, and positive anticipated emotion. Arize, C (2023) suggested a minimum sample size of 50 for EFA analysis, and this study surpasses this recommendation with 222 samples identified.

The procedure of data evaluation and extracting factors of students' gratification in purchasing sports products on TikTok Shop by using EFA are Bartlett Test Sphericity and Kaiser-Meyer-Olkin (KMO), and Eigenvalue. The Bartlett Test of Sphericity and KMO are used to identify the adequacy of the data to run factor analysis. Based on the findings below, the Bartlett Test shown the significant value ($p=.000$) and KMO Measure of Sampling Adequacy is .947. Therefore, it is suitable to conduct EFA. According to Hoque and Awang (2016) and Awang (2012), the significant value is less than 0.05. Furthermore, Kaiser (1960) indicates if value is between 0.8 to 1 is a marvelous range of value.

Table 4.1
KMO Measure of Sampling Adequacy and Bartlett's Test of Sphericity of the scale

KMO and Bartlett's Test		
Kaiser-Meyer-Olkin Measure of Sampling Adequacy.		.947
Bartlett's Test of Sphericity	Approx. Chi-Square	4066.657
	df	190
	Sig.	.000

Table 3 shows the total variance explained of this construct. According to the table, the component is 71.969% component 1 contributed 59.040%, component 2 contributed 7.304%, and component 3 contributed 5.625%. The overall percentage is acceptable as it greater than minimum value of 60% (Bahkia et al., 2019, Baistaman et al., 2020; Noor et al., 2015, Yahaya et al., 2018). The eigenvalues are a measure of how much of the observable variables a factor explains. It should be greater than one as explained by Kaiser (2019). In this study, all of the components are greater than one.

Table 4.2
Total Variance Explained

Component	Initial Eigenvalues			Rotation Sums of Squared Loadings		
	Total	% of Variance	Cumulative %	Total	% of Variance	Cumulative %
1	11.808	59.040	59.040	7.539	37.694	37.694
2	1.461	7.304	66.344	3.548	17.739	55.433
3	1.125	5.625	71.969	3.307	16.536	71.969

The table below represents the retained items of three components Students' Gratification in Purchasing Sports Products on the TikTok Shop, namely Attention, Positive Attitude Emotion and Utilitarian Gratification after conducting Exploratory Analysis. To investigate whether the data is appropriate or not, the researchers looked at the correlation coefficient matrix valued 0.3 as suggested by Tabachnick and Fidell (1996). In this analysis no item was eliminated as all the items surpassed 0.3. Next, all of these items were regrouped into the new groups: Attention (component one), Positive Attitude Emotion (component two), and Utilitarian Gratification (component three).

Table 4.3
EFA for Students' Gratification in Purchasing Sports Products on the TikTok Shop instrument

Construct	1	2	3
PAE2 - If I can purchase sports products on TikTok Shop, I will be satisfied.	.799		
AT3 - I think that purchasing sports products on TikTok Shop is worthy.	.789		
AT1 - I think that purchasing sports products on TikTok Shop is good.	.785		
SN2 - Most people who are important to me support that I purchase sports products on TikTok Shop.	.783		
PAE4 - If I can purchase sports products on TikTok Shop, I will be proud.	.765		
PAE3 - If I can purchase sports products on TikTok Shop, I will be enjoyed.	.755		
SN4 - Most people who are important to me recommend that I purchase sports products on TikTok Shop.	.727		
AT4 - I think that purchasing sports products on TikTok Shop is beneficial.	.719		
SN1 - Most people who are important to me agree with that I purchase sports products on TikTok Shop.	.717		
AT2 - I think that purchasing sports products on TikTok Shop is wise.	.716		
SN3 - Most people who are important to me understand that I purchase sports products on TikTok Shop.	.712		
PAE1 - If I can purchase sports products on TikTok Shop, I will be excited.	.645		

PBC3 - I am capable of purchasing sports products on TikTok Shop.		.833	
PBC1 - Whether or not I purchase sports products on TikTok Shop is completely up to me.		.819	
PBC2 - If I want, I can purchase sports products on TikTok Shop.		.736	
PBC4 - I have enough resource (money or time) to purchase sports products on TikTok Shop.		.684	
UG2 - I can spend less when I purchase sports products on TikTok Shop.			.808
UG1 - I can save money when I purchase sports products on TikTok Shop.			.782
UG3 - TikTok Shop can offer me the competitive price regarding sports products.			.681
UG4 - I can obtain useful information when I purchase sports products on TikTok Shop.			.579

As explained above, the participants in this study included 222 students of Sports Studies. The questionnaire was distributed to all participants in this study. Table 4.4 shows the characteristics of the participants, including gender, educational level, institutions and frequency for shopping sports products using TikTok Shop.

Table 4.4
Demographic Profile

Demographic	Frequency (n= 222)	Percentage (%)
Gender		
Male	123	55.4
Female	99	44.6
Educational Level		
Diploma	136	61.3
Bachelor Degree	86	38.7
Learning Institutions		
Public	182	82.0
Private	40	18.0
Frequency of Online Shopping using TikTok Shop		
Weekly		
Monthly	26	11.7
Quarterly	112	50.5
Semi-annually	33	14.9
Annually	20	9.0
None	22	9.9
	9	4.0

After the EFA have been employed, the CFA will be analyzed using the Analysis of Moment Structure (AMOS) version 28. To ensure the validity and reliability of Students' Gratification in Purchasing Sports Products on the TikTok Shop instrument, Confirmatory Factor Analysis (CFA) was employed on 20 items. Based on the figure below, the fitness indexes were unfit (RMSEA = .119, GFI = .734, AGFI = .665, TLI = .852, NFI = .836). Therefore, there is a need for modification to ensure the model fits.

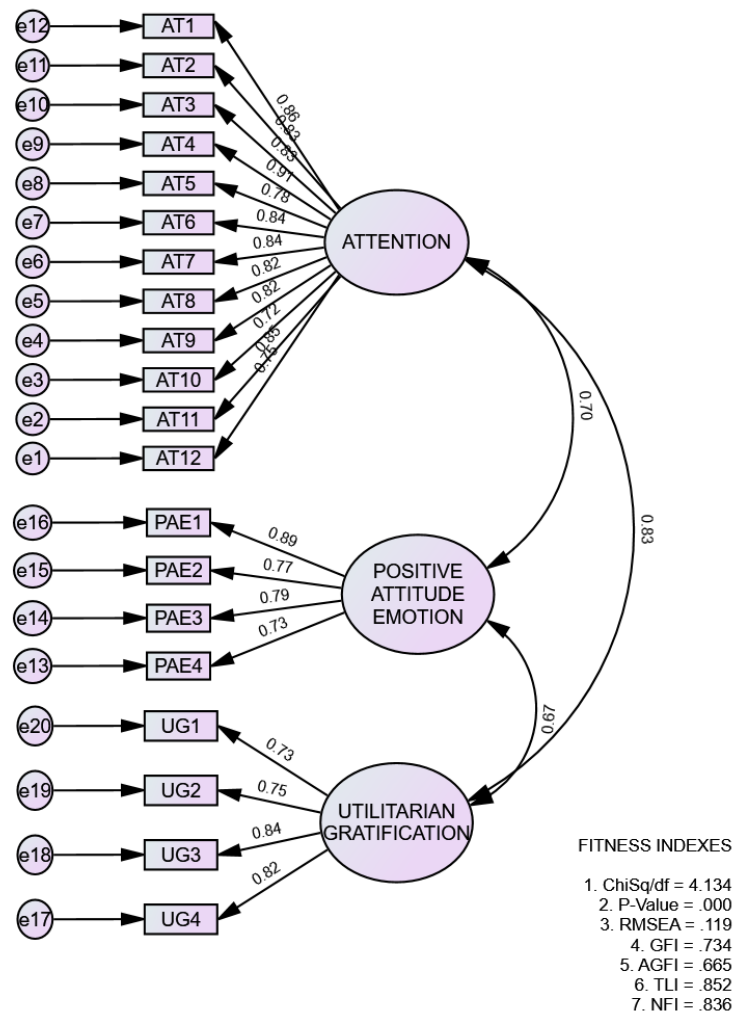


Figure 4.1
The Unfit Model

Figure 4.2 below shows 18 items of Students' Gratification in Purchasing Sports Products on the TikTok Shop instrument, namely AT1, AT2, AT3, AT4, AT5, AT6, AT7, AT8, AT9, AT10, PAE1, PAE2, PAE3, PAE4, UG1, UG2, UG3, AND UG4 that remain. AT11 and AT12 were dropped from this model as they did not fit the measurement model. The listed constructs are Attention, Positive Attitude Emotion and Utilitarian Gratification. Based on the model below, the sample data fits the measurement model (RMSEA = .073, GFI = .880, AGFI = .837, TLI = .947 and NFI = .923).

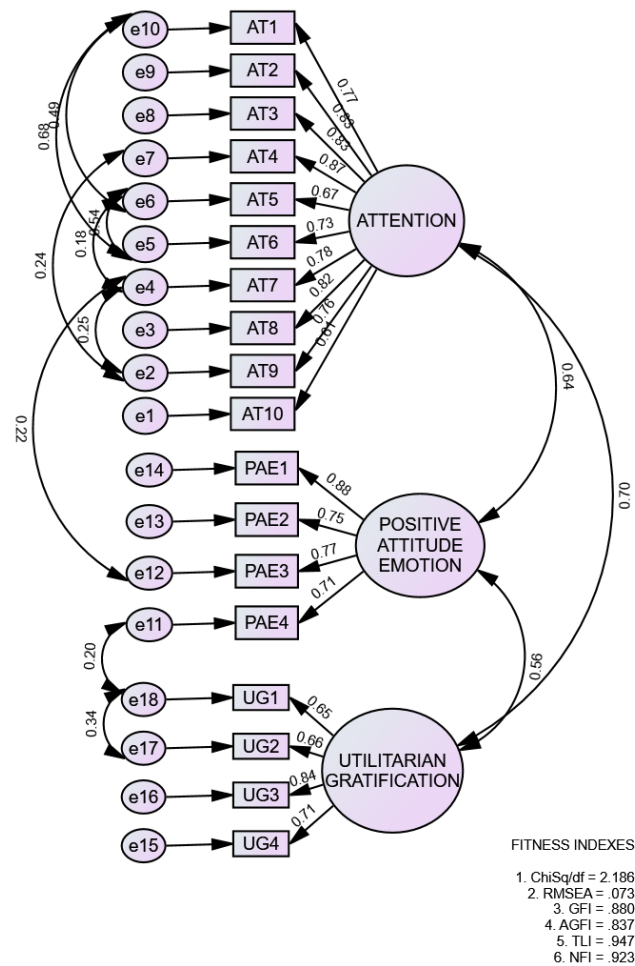


Figure 4.2: The Final Model

CONCLUSION

All in all, this study elucidated the various stages of content validity, item validity, and reliability undergone to construct the Students' Gratification to Purchase Sports Products on TikTok Shop instruments. The UGT perspective provides valuable insights into understanding students' gratification in purchasing sports products on TikTok Shop. By considering the gratifications sought and obtained, selective exposure, user control, and psychological needs fulfilment, marketers can develop more effective strategies to engage and retain student consumers on the platform. Validated scales will provide the marketers with a reliable tool for assessing students' gratification levels related to purchasing sports products on TikTok Shop. By understanding which gratifications are most significant for students and how they perceive the platform in fulfilling these needs, marketers can tailor their strategies to better meet students' preferences and expectations. This can lead to more targeted marketing efforts and ultimately increase sales and customer satisfaction. These findings may offer novel insights into assessing Students' Gratification among undergraduate students at the tertiary level. This instrument has already fulfilled the requirements to have strong validity and reliability evidence and it can be employed in study with similar population and setting.

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