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Analysis of Factors Influencing K-Pop Fans' Consumptive Behavior

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Abstract. Indonesia is celebrated for its cultural diversity, which includes both local traditions and influences from various international cultures. One such culture that has significantly impacted Indonesia is South Korean culture, giving rise to the phenomenon known as Hallyu. Among its many elements, K-pop music has emerged as one of the most beloved aspects of this cultural wave in Indonesia. Fans of K-pop frequently buy a range of products associated with their favorite idols, such as merchandise, which can lead to patterns of excessive and consumptive behavior. This study seeks to explore the factors that affect K-pop fans' purchasing behavior regarding idol merchandise. The participants in this research consist of K-pop fans who follow the X account @coppamagz. The study employs Factor Analysis methodology, utilizing seven variables. The results reveal five key factors that influence the consumptive behavior of K-pop fans when acquiring merchandise. The first factor is shopping preferences, followed by emotional connection as the second factor, product value and aesthetics as the third, exclusivity as the fourth, and social media as the fifth factor.

Keywords: *consumptive behavior, hallyu, factor analysis, south korean culture, k-pop music.*

1 Introduction

Indonesia is renowned for its rich cultural diversity, which includes not only indigenous traditions but also a variety of influences from foreign cultures. Among these influences, South Korean culture has gained significant recognition in Indonesia, leading to the emergence of the Hallyu phenomenon, commonly referred to as the Korean Wave. Hallyu began making its way into Indonesia's entertainment sector in the 2000s, primarily through television dramas. This movement is closely tied to various aspects of South Korean entertainment, including music (K-pop), television dramas (K-drama), variety shows, and films [1].

K-pop has become especially popular among Indonesia's millennials and Generation Z. A 2016 survey by Jakpat [2] revealed that 73.52% of respondents stated their admiration for K-pop stems from its music. [3] noted that music and lyrics are the main reasons people enjoy K-pop, with 77.15% sharing this sentiment. In 2023, the streaming of K-pop music in Indonesia experienced a remarkable 55.8% increase compared to the previous year, amounting to 7.48 billion streams by October 2023, which positioned Indonesia as the third-largest country worldwide for K-pop streaming [4]. Moreover, a survey conducted by [5] indicated that Indonesia holds the second spot for K-pop video views on YouTube, encompassing 9.9% of total views.

K-pop fans frequently engage in purchasing a wide range of products associated with their idols, including merchandise and items promoted by their favorite artists, varying from affordable to high-end collectibles. Management agencies representing these idols capitalize on this trend for profit. They often host concerts and fan signings, encouraging fans to purchase multiple items to increase their chances of meeting their idols in person. As a result, K-pop fans tend to display excessive and consumptive behavior [6].

Consumptive behavior is characterized by an excessive and indiscriminate approach to consuming goods [7]. The excessive acquisition of K-pop merchandise exemplifies this behavior. Many K-pop fans go so far as to save money and cut back on daily expenses just to buy their idols' merchandise [8]. Such behavior can lead to wastefulness, hindering fans from saving for necessary future purchases. To explore the factors that contribute to this consumptive behavior, the study uses factor analysis, a method designed to reduce variables and identify the primary factors that influence consumptive behavior.

Factor analysis is a statistical technique used to examine variables that are presumed to be correlated, allowing the grouping of highly correlated variables into a single appropriate factor. Consequently, this research employs factor analysis involving seven variables that are believed to interconnect, with the goal of discovering the factors that influence K-pop fans' purchasing behaviors regarding idol merchandise.

2 Materials and Methods

2.1 Data and Research Variables

The study utilizes primary data collected through a questionnaire targeting K-pop fans who follow the X account (Twitter) @coppamagz, which has a total of 104,014 followers as of June 29, 2024. The sample size was determined using Slovin's formula [9]:

$$n = \frac{N}{1 + Ne^2} = \frac{104.014}{1 + 104.014(0.05)^2} \approx 400.$$

Based on this calculation, the total number of respondents is approximately 398.468, rounded to 400 individuals. In this study, seven variables are analyzed. The variables are as follows:

Table 1. Variables and Items Analyzes

No.	Variable	Item	Description
1.	Price (x_1)	1. Product price relevance to quality ($x_{1.1}$), 2. Price perception of products ($x_{1.2}$).	The influence of product pricing on purchase decisions and intensity.
2.	Product Quality and Design (x_2)	1. Product durability ($x_{2.1}$), 2. Product reliability ($x_{2.2}$).	The impact of quality and design on purchase decisions and intensity.
3.	Emotional Connection (x_3)	1. Love for idols ($x_{3.1}$), 2. Emotional attachment to idols ($x_{3.2}$), 3. Emotional satisfaction after purchase ($x_{3.3}$), Emotional motivation for purchase ($x_{3.4}$).	The role of fans' emotional relationships with idols in shaping purchase decisions and intensity.
4.	Product Exclusivity (x_4)	1. Appeal of limited-edition products ($x_{4.1}$), 2. Influence of product scarcity on purchases ($x_{4.2}$), Satisfaction from purchases ($x_{4.3}$).	The effect of product exclusivity on purchase decisions and intensity.
5.	Social Media (x_5)	1. Influence of trends ($x_{5.1}$), 2. Influence from other fans ($x_{5.2}$).	The role of social media in shaping purchase decisions and intensity.
6.	Shopping Habits (x_6)	1. Appeal of products ($x_{6.1}$), 2. Need for innovation ($x_{6.2}$), Level of priority ($x_{6.3}$).	The impact of fans' shopping habits on purchase decisions and intensity.
7.	Product Availability (x_7)	1. Impulsive purchases ($x_{7.1}$), 2. Effect of product scarcity ($x_{7.2}$).	The influence of product availability on purchase decisions and intensity.

2.2 Research Method and Steps

The research methodology involves a literature review, integrating information from various sources. The following steps were undertaken in the study:

1. Conducting a literature review.
2. Defining variables.
3. Calculating the required sample size.
4. Designing the questionnaire.
5. Transforming the collected ordinal data into interval data.
6. Inputting the transformed data.
7. Creating a correlation matrix.
8. Performing factor analysis.
9. Interpreting the results of the factor analysis.

3 Results and Discussion

3.1 Formation of the Correlation Matrix

The correlation matrix was generated by calculating the correlations among items within each variable, utilizing SPSS software for the analysis.

$$\boldsymbol{R} = \begin{bmatrix} 1.000 & 0.431 & 0.395 & \dots & 0.054 & 0.155 & 0.156 & \dots & 0.049 \\ 0.431 & 1.000 & 0.403 & \dots & 0.167 & 0.093 & 0.149 & \dots & 0.067 \\ 0.395 & 0.403 & 1.000 & \dots & 0.149 & 0.168 & 0.146 & \dots & 0.196 \\ \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots & \vdots \\ 0.054 & 0.167 & 0.149 & \cdots & 1.000 & 0.162 & 0.234 & \dots & 0.303 \\ 0.155 & 0.093 & 0.168 & \vdots & 0.162 & 1.000 & 0.640 & \dots & 0.225 \\ 0.156 & 0.149 & 0.146 & \vdots & 0.234 & 0.640 & 1.000 & \cdots & 0.243 \\ \vdots & \vdots & \vdots & \dots & \vdots & \vdots & \vdots & \vdots & \vdots \\ 0.049 & 0.067 & 0.196 & & 0.303 & 0.225 & 0.243 & \cdots & 1.000 \end{bmatrix}$$

From the correlation matrix, the strongest correlations were observed between item $x_{5.1}$ (social media trends and merchandise purchases) and item $x_{5.2}$ (influence of fans on social media), which yielded a correlation coefficient of 0.640. Consequently, these two items were clustered into the same factor. In contrast, the weakest correlation was identified between item $x_{4.3}$ (satisfaction derived from purchases) and item $x_{1.1}$ (price relevance to quality), with a correlation coefficient of 0.054. Therefore, items $x_{4.3}$ and $x_{1.1}$ did not belong to the same factor.

3.2 Data Feasibility Testing

1. Correlation Among Variables Must Be Sufficiently Strong

Bartlett's test was conducted to assess whether strong correlations existed among the items within the variables [9][10]. This test was executed using SPSS software. A significance value below α indicates that correlations among the items exist.

Table 2. Results of KMO and Bartlett's Test

Kaiser-Meyer-Olkin of Sampling Adequacy		0.863
Bartlett's Test of Sphericity	Approx. Chi-Square	2477.361
	df	153
	Sig.	0.000

As shown in Table 2, the significance value obtained is 0.000, which is less than α = 0.05, confirming that there are indeed correlations among the items within the variables.

2. Kaiser-Meyer-Olkin Sampling Adequacy (KMO)

The KMO test is deemed valid if the KMO statistic meets or exceeds 0.6 [10]. As indicated in Table 2, the KMO value achieved in this study was 0.863, suggesting that the data quality is very high and that both sample size and variable count are adequate for conducting factor analysis.

3. Measure of Sampling Adequacy

Variables are considered appropriate for analysis when their Measure of Sampling Adequacy (MSA) exceeds 0.5 [10]. MSA testing in this study was also performed using SPSS software.

Table 3. MSA Values (Anti Image Correlation)

No.	Variable	Item	MSA Value	Sign	Minimum Standard Value
1.	x_1	$x_{1.1}$	0.828	>	0.5
		$x_{1.2}$	0.815	>	0.5
2.	x_2	$x_{2.1}$	0.835	>	0.5
		$x_{2.2}$	0.826	>	0.5
3.	x_3	$x_{3.1}$	0.890	>	0.5
		$x_{3.2}$	0.820	>	0.5
		$x_{3.3}$	0.797	>	0.5
		$x_{3.4}$	0.918	>	0.5
4.	x_4	$x_{4.1}$	0.856	>	0.5
		$x_{4.2}$	0.865	>	0.5
		$x_{4.3}$	0.876	>	0.5
5.	x_5	$x_{5.1}$	0.801	>	0.5
		$x_{5.2}$	0.816	>	0.5

Table 3. (Continue) MSA Values (*Anti Image Correlation*)

No.	Variable	Item	MSA Value	Sign	Minimum Standard Value
6.	x_6	$x_{6.1}$	0.922	>	0.5
		$x_{6.2}$	0.908	>	0.5
		$x_{6.3}$	0.864	>	0.5
7.	x_7	$x_{7.1}$	0.916	>	0.5
		$x_{7.2}$	0.911	>	0.5

According to Table 3, every item examined in the variables had an MSA value greater than 0.5, indicating that these variables are suitable for predictive analysis and further investigation. Following the data feasibility tests, we can conclude that the data are appropriate for factor analysis.

3.3 Factor Extraction and Rotation

1. Total Variance Explained

The number of factors was determined by identifying variables with an eigenvalue of one or greater.

Table 4. Total Variance Explained

Factor	Eigen Value	Individual Percent	Cumulative Percent
1	5.422	30.124	30.124
2	2.071	11.507	41.631
3	1.762	9.791	51.423
4	1.260	7.001	58.424
5	1.039	5.770	64.194
6	0.816	4.536	68.730
7	0.644	3.580	72.310
8	0.587	3.260	75.569
9	0.574	3.189	78.759
10	0.553	3.073	81.832
11	0.493	2.741	84.573
12	0.472	2.622	87.195
13	0.447	2.485	89.680
14	0.433	2.406	92.087
15	0.407	2.263	94.350
16	0.365	2.028	96.378
17	0.345	1.915	98.293
18	0.307	1.707	100.000

Table 4 indicates that five factors emerged from this analysis. This data reveals that approximately 64.194% of the variance in the initial variables can be accounted for by these factors, demonstrating their representativeness of the original variables. Factor 1

contributes 30.124% to the variability, Factor 2 contributes 11.507%, Factor 3 contributes 9.791%, Factor 4 contributes 7.001%, and Factor 5 contributes 5.770%.

2. Communalities

Below are the communalities derived from this study using SPSS software:

Tabel 5. Communality Values

Variable	Item	Communalities
x_1	$x_{1.1}$	0.413
	$x_{1.2}$	0.431
x_2	$x_{2.1}$	0.468
	$x_{2.2}$	0.630
x_3	$x_{3.1}$	0.296
	$x_{3.2}$	0.643
	$x_{3.3}$	0.626
	$x_{3.4}$	0.466
x_4	$x_{4.1}$	0.503
	$x_{4.2}$	0.565
	$x_{4.3}$	0.333
x_5	$x_{5.1}$	0.729
	$x_{5.2}$	0.584
x_6	$x_{6.1}$	0.374
	$x_{6.2}$	0.554
	$x_{6.3}$	0.608
x_7	$x_{7.1}$	0.527
	$x_{7.2}$	0.531

As shown in Table 5, the communality value for item $x_{1.1}$ is 0.413, indicating that the formed factors explain 41.3% of the variance in item $x_{1.1}$, a trend that holds true for other items as well.

3. Rotated Component Matrix

Factor rotation was applied in this study to achieve clearer loading factor values for better interpretation. Table 6 presents the rotated matrix, providing a clearer distribution of items across the variables.

Table 6. Rotated Factor Matrix

	Factor				
	1	2	3	4	5
$x_{1.1}$	-0.008	0.144	0.619	0.023	0.090
$x_{1.2}$	-0.011	0.039	0.632	0.167	0.039
$x_{2.1}$	0.211	0.125	0.632	0.091	0.001
$x_{2.2}$	0.198	0.117	0.755	0.012	0.084
$x_{3.1}$	0.133	0.466	0.135	0.135	0.156
$x_{3.2}$	0.157	0.756	0.175	-0.036	0.123
$x_{3.3}$	-0.007	0.770	0.105	0.130	0.072
$x_{3.4}$	0.294	0.525	0.061	0.148	0.278
$x_{4.1}$	0.224	0.037	0.118	0.660	0.049
$x_{4.2}$	0.294	0.086	0.118	0.669	0.101
$x_{4.3}$	0.159	0.150	0.053	0.526	0.076
$x_{5.1}$	0.249	0.206	0.095	0.052	0.783
$x_{5.2}$	0.164	0.278	0.112	0.175	0.661
$x_{6.1}$	0.514	0.087	0.055	0.206	0.238
$x_{6.2}$	0.691	0.126	0.138	0.173	0.108
$x_{6.3}$	0.750	0.110	0.145	0.061	0.088
$x_{7.1}$	0.627	0.170	0.056	0.288	0.140
$x_{7.2}$	0.640	0.068	0.041	0.331	0.066

According to Table 6, all items within the variables are characterized by high loading factor values for one particular factor while showing lower loading factors for other factors. Variables that exhibit high loading values within the same factor are typically clustered together, signifying that they measure a common aspect of that factor.

3.4 Factor Interpretation

The assignment of factors to specific variables is determined by examining the highest correlation values between each variable and the resultant factors. Below, we provide an explanation of the analysis results from the rotated model, referring to Table 6.

1. Factor 1: This factor is termed the "shopping preference factor," composed of variables x_6 (shopping habits) and x_7 (product availability). The equation for the shopping preference factor is as follows:

$$F_1 = 0.514x_{6.1} + 0.691x_{6.2} + 0.750x_{6.3} + 0.627x_{7.1} + 0.640x_{7.2}$$

2. Factor 2. Labeled the "emotional connection factor," this factor includes variable x_3 (emotional connection). The equation for this factor is:

$$F_2 = 0.466x_{3.1} + 0.756x_{3.2} + 0.770x_{3.3} + 0.525x_{3.4}$$

3. Factor 3. Known as the "product value and aesthetics factor," it encompasses variables x_1 (price) and x_2 (product quality and design). The equation for this factor is:

$$F_3 = 0.619x_{1.1} + 0.632x_{1.2} + 0.632x_{2.2} + 0.755x_{2.2}$$

4. Factor 4. Referred to as the "exclusivity factor," this factor is represented by variable x_4 (exclusivity). The equation for this factor is:

$$F_4 = 0.660x_{4.1} + 0.669x_{4.2} + 0.526x_{4.3}$$

5. Factor 5. Named the "social media factor," it consists of variable x_5 (social media). The equation for this factor is:

$$F_5 = 0.783x_{5.1} + 0.661x_{5.2}$$

4 Conclusion

Based on the analysis presented in Chapter 4 regarding the factors influencing K-pop fans' consumptive behavior, five distinct factors have been identified: the shopping preference factor, incorporating variables x_6 (shopping habits) and x_7 (product availability); the emotional connection factor, comprising variable x_3 (emotional connection); the product value and aesthetics factor, which includes variables x_1 (price) and x_2 (product quality and design); the exclusivity factor represented by variable x_4; and finally, the social media factor consisting of variable x_5.

For future research, the author recommends employing the Analysis of Variance (ANOVA) factorial method to explore how combinations of these factors affect consumptive behavior. Alternatively, Structural Equation Modeling (SEM) may be useful for examining the relationships among the factors and their interactive effects.

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