5 Data Statistics and Analysis

5.1 Sample composition and characteristics

Table 5.1 Sample information

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Information | Characteristic | Number of People | Percentage | Cumulative Percentage |
| Gender | Male | 66 | 32.5 | 32.5 |
| Female | 137 | 67.5 | 100 |
| Age | 18 years | 4 | 2 | 2 |
| 19 years | 5 | 2.5 | 4.5 |
| 20 years | 18 | 8.9 | 13.4 |
| 21 years | 49 | 24.1 | 37.5 |
| 22years | 80 | 39.4 | 76.9 |
| Area | Eastern | 68 | 33.5 | 33.5 |
| Central | 101 | 49.8 | 83.3 |
| Western | 34 | 16.7 | 100 |

Table 5.2 Product Type

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Product Type | | Number of People | Percentage | Cumulative percentage |
| Search Oriented | Virtual Products | 6 | 2.9 | 2.9 |
| Book Products | 21 | 10.3 | 13.2 |
| Electronic Products | 28 | 13.8 | 27 |
| Experience Oriented | Daily Necessities | 22 | 10.9 | 37.9 |
| Food Products | 28 | 13.8 | 51.7 |
| Clothing Products | 98 | 48.3 | 100 |

From the data presented in Tables 5.1 and 5.2, it is evident that the female participants constitute a majority, comprising 67.5% of the total sample size, whereas the male participants represent 32.5%. Furthermore, a significant proportion of the surveyed individuals, amounting to 86.7%, are aged 21 and above, constituting the predominant age group. Geographically, participants are distributed across various regions, with the central region hosting the highest percentage at 49.8%, followed by the eastern region at 33.5% and the western region at 16.7%. Regarding product preferences, experiential products are favored by 73% of the participants, with clothing emerging as the most preferred category, comprising 48.3% of the sample selection.

5.2 Reliability and Validity

5.2.1 Reliability

This article combines SPSS software to test the reliability of the survey questionnaire and measurement scale items, and the results are shown in Table 5.3.

Table 5.2 Measurement table reliability

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Items | Question | Corrected Item Total Correlation | Cronbach’s Alpha | Number of Questions |
| Number of online comments | Q1 | 0.796 | 0.886 | 2 |
| Q2 | 0.796 |
| quality of Online comment | Q3 | 0.889 | 0.954 | 4 |
| Q4 | 0.895 |
| Q5 | 0.888 |
| Q6 | 0.877 |
| emotional direction of Online comment | Q7 | 0.881 | 0.937 | 2 |
| Q8 | 0.881 |
| expertise level of Recipients | Q9 | 0.917 | 0.958 | 3 |
| Q10 | 0.909 |
| Q11 | 0.906 |
| involvement of Receivers | Q12 | 0.918 | 0.965 | 4 |
| Q13 | 0.898 |
| Q14 | 0.926 |
| Q15 | 0.905 |
| Intention of purchasing | Q16 | 0.906 | 0.959 | 4 |
| Q17 | 0.879 |
| Q18 | 0.913 |
| Q19 | 0.865 |

The outcomes of the reliability analysis reveal that the Cronbach's alpha coefficients for each variable surpass 0.8, indicating high internal consistency. Moreover, the total correlation coefficient of the corrected items for each measurement variable exceeds 0.5. Notably, upon the removal of specific items within the variables, there is no significant enhancement observed in the overall correlation coefficient, reinforcing the robustness of the questionnaire's reliability. Hence, the scale successfully passes the reliability test [11].

5.2.2 Validity

The present study employs exploratory factor analysis to ascertain the reasonableness of the questionnaire's dimensions and to evaluate the structural validity of the scale.

1. Validity of the scale

Table 5.4 KMO and Bartlett's test results of the total scale

|  |  |  |
| --- | --- | --- |
| Kaiser-Meyer-Olkin | | .980 |
| Bartlett's sphericity test | Approximate chi square | 6157.863 |
| df | 171 |
| Sig | .000 |

As per the data presented in Table 5.4, the Kaiser-Meyer-Olkin (KMO) coefficient for the overall table stands at 0.980, surpassing the threshold of 0.7. Additionally, the significance level of the sphericity test registers below 0.05. These results collectively signify a high degree of correlation among measurement items, rendering them highly suitable for factor analysis.

Table 5.5 Total variance of explanation

| Ingredients | initial eigenvalue | | | Extract sum of squares loading | | | Rotational sum of squares loading | | |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Total | Variance(%) | Cumulation  (%) | Total | Variance  (%) | Cumulation  (%) | Total | Variance  (%) | Cumulation  (%) |
| 1 | 12.328 | 82.184 | 82.184 | 12.328 | 82.184 | 82.184 | 3.770 | 25.131 | 25.131 |
| 2 | .451 | 3.006 | 85.190 | .451 | 3.006 | 85.190 | 3.409 | 22.729 | 47.860 |
| 3 | .378 | 2.518 | 87.708 | .378 | 2.518 | 87.708 | 2.988 | 19.919 | 67.779 |
| 4 | .296 | 1.971 | 89.679 | .296 | 1.971 | 89.679 | 2.388 | 15.918 | 83.697 |
| 5 | .258 | 1.721 | 91.400 | .258 | 1.721 | 91.400 | 1.155 | 7.703 | 91.400 |
| 6 | .198 | 1.318 | 92.718 | .198 | 1.318 |  |  |  |  |
| 7 | .191 | 1.270 | 93.989 | .191 | 1.270 |  |  |  |  |
| 8 | .146 | .974 | 94.963 | .146 | .974 |  |  |  |  |
| 9 | .142 | .948 | 95.910 | .142 | .948 |  |  |  |  |
| 10 | .131 | .874 | 96.784 | .131 | .874 |  |  |  |  |
| 11 | .117 | .781 | 97.565 | .117 | .781 |  |  |  |  |
| 12 | .101 | .673 | 98.238 | .101 | .673 |  |  |  |  |
| 13 | .094 | .629 | 98.866 | .094 | .629 |  |  |  |  |
| 14 | .089 | .595 | 99.461 | .089 | .595 |  |  |  |  |
| 15 | .081 | .539 | 100.000 | .081 | .539 |  |  |  |  |
| 16 | .198 | 1.318 | 92.718 | .198 | 1.318 |  |  |  |  |
| 17 | .191 | 1.270 | 93.989 | .191 | 1.270 |  |  |  |  |
| Extraction method: Principal component analysis. | | | | | | | | | |

Table 5.6 matrix of factor loading

|  | Ingredients | | | | |
| --- | --- | --- | --- | --- | --- |
|  | 1 | 2 | 3 | 4 | 5 |
| 1 | .709 | .386 | .348 | .222 | .291 |
| 2 | .702 | .309 | .362 | .405 | .148 |
| 3 | .688 | .337 | .364 | .376 | .227 |
| 4 | .647 | .365 | .446 | .339 | .212 |
| 5 | .359 | .728 | .317 | .227 | .335 |
| 6 | .371 | .706 | .356 | .325 | .182 |
| 7 | .507 | .598 | .412 | .362 | -.011 |
| 8 | .549 | .561 | .272 | .348 | .268 |
| 9 | .352 | .417 | .721 | .288 | .182 |
| 10 | .444 | .338 | .692 | .293 | .211 |
| 11 | .427 | .337 | .649 | .323 | .325 |
| 12 | .410 | .368 | .318 | .695 | .207 |
| 13 | .441 | .363 | .336 | .661 | .220 |
| 14 | .363 | .415 | .389 | .324 | .623 |
| 15 | .246 | 268 | .385 | .461 | .613 |
| Extraction method: Principal component analysis.  Rotation method: Orthogonal rotation method with Kaiser standardization. | | | | | |
| a. The rotation converges after 8 iterations. | | | | | |

1. Validity of online comments

Table 5.7 KMO and Bartlett's test results for online comments

|  |  |  |
| --- | --- | --- |
| Kaiser-Meyer-Olkin | | .949 |
| Bartlett's sphericity test | Approximate chi square | 2105.835 |
| df | 28 |
| Sig | .000 |

As per the data provided in Table 5.7, the Kaiser-Meyer-Olkin (KMO) coefficient for online comments is calculated as 0.949, exceeding the recommended threshold of 0.7. Furthermore, the significance level of the sphericity test registers below 0.05, affirming the suitability of the variable data regarding "online comments" for factor analysis.

Based on the findings from Table 5.8, three factors exhibit eigenvalues surpassing 1, specifically the number of online comments, the quality of online comments, and the emotional orientation of online comments. Each item demonstrates automatic aggregation without any instances of cross-loading, thereby attesting to the structural validity of the scale. Consequently, the division of online comments into three dimensions is deemed rational [12].

Table 5.8 The Factor Load Matrix of Online Comments

|  |  |  |  |
| --- | --- | --- | --- |
| Question | Ingredients | | |
| 1 | 2 | 3 |
| Q1  Q2  Q3  Q4  Q5  Q6  Q7  Q8 | .545  .379  .746  .740  .729  .633  .396  .418 | .453  .427  .540  .432  .306  .522  .803  .780 | .578  .786  .246  .400  .541  .436  .366  .382 |

1. Validity of receiver professionalism

Table 5.9 KMO and Bartlett's test results for receiver professionalism

|  |  |  |
| --- | --- | --- |
| Kaiser-Meyer-Olkin | | .779 |
| Bartlett's sphericity test | Approximate chi square | 688.425 |
| df | 3 |
| Sig | .000 |

As per the data presented in Table 5.9, the Kaiser-Meyer-Olkin (KMO) coefficient for receiver professionalism stands at 0.779, surpassing the accepted threshold of 0.7. Additionally, the significance level of the sphericity test is below 0.05, affirming the suitability of the variable data pertaining to receiver professionalism for factor analysis.

Due to the unipolar nature of the scale concerning receiver professionalism, rotational adjustments are precluded. Upon extracting its component matrix, it was discerned that the factor loadings of all three items associated with receiver professionalism exceed 0.9, contributing to a cumulative variance of 92.251%. Consequently, no items necessitate exclusion. The construct of receiver professionalism is effectively expounded by the aforementioned items, thus ensuring scale validity.

1. Validity of receiver involvement

Table 5.10 The test results of receiver involvement KMO and Bartlett

|  |  |  |
| --- | --- | --- |
| Kaiser-Meyer-Olkin | | .866 |
| Bartlett's sphericity test | Approximate chi square | 1038.371 |
| df | 6 |
| Sig | .000 |

According to the findings in Table 5.10, the Kaiser-Meyer-Olkin (KMO) coefficient for receiver involvement is computed as 0.866, surpassing the recommended threshold of 0.7. Furthermore, the significance level of the sphericity test falls below 0.05, signifying the suitability of the dataset concerning receiver involvement for factor analysis.

Given the unipolar nature of the scale concerning receiver involvement, rotational adjustments are unfeasible. Upon extracting its component matrix, it was revealed that the factor loadings of all four items pertaining to receiver involvement stand at 0.9, resulting in a cumulative variance contribution rate of 90.433%. Consequently, no items necessitate removal. The construct of receiver involvement is sufficiently explicated by the aforementioned items, thus ensuring the validity of the scale.

1. Validity of purchase intention

Table 5.11 The test results of purchase intention KMO and Bartlett

|  |  |  |
| --- | --- | --- |
| Kaiser-Meyer-Olkin | | .874 |
| Bartlett's sphericity test | Approximate chi square | 947.7.9 |
| df | 6 |
| Sig | .000 |

According to the data provided in Table 5.11, the Kaiser-Meyer-Olkin (KMO) value for purchase intention is calculated to be 0.874, exceeding the threshold of 0.7. Additionally, the significance level of the sphericity test is below 0.05, indicating the adequacy of the "purchase intention" variable dataset for factor analysis.

Since the scale related to purchase intention consists of only one factor, it cannot undergo rotation. Upon extracting its component moments, it was observed that the factor loadings of all four items pertaining to purchase intention exceed 0.9, resulting in a cumulative variance contribution rate of 88.994%. Consequently, there is no need to remove any items. The construct of purchase intention can be effectively elucidated by the aforementioned items, thus meeting the criteria for scale validity.

Based on the aforementioned analysis, the KMO value test for the overall scale, as well as the KMO value test and factor analysis for the dependent, independent, and moderating variables, all yield satisfactory results, meeting the predefined criteria. Thus, the questionnaire developed in this study is deemed effective.