# Analysis and Results

## Data Preparation

After about two weeks of data collection, this study received 20 responses. The raw dataset is in CSV format and was imported into SPSS for analysis. This study took the following steps to prepare the data frame.

1. **Handle missing values**: This study discarded observations with too many missing values.
2. **Rename variables**: This study renamed less descriptive variable names in the dataset. For example, Q1 to Q1\_AgeGroup
3. **Create dummy variables**: This study created dummy variables for all categorical variables for further analysis.

After completing these steps, the prepared dataset contained 16 observations and 31 variables, including demographic variables, satisfaction ratings, and other customer behavior variables.

## Descriptive Statistics and Data Visualization

Descriptive analyses were conducted on each question (shown in Appendix 3: Descriptive Statistics Results). This study found that most respondents in our sample were from 18-24 (56.3%) age group, followed by 25-24 (37.5%). Regarding gender, 50% of the participants were female, and 43.8% were male. Participants from the business analytics program (62.5%) dominated the sample.

When asked what type of Nike product they purchased in the past year, the study found Nike shoes to be the most popular category, with 75% of participants reporting a footwear purchase. In terms of shopping channels, channels with better quality assurance are more popular. 43.8% of the respondents preferred in-store shopping, and 37.5% chose Nike’s official website. Regarding the frequency of purchasing Nike products, the participants’ feedback is quite different. 43.8% of the participants stated that they purchase Nike products less than once a year, 18.8% purchase them once every six months, 25% purchase them once a quarter, and only one participant buys more often than once a month.

This study also employed visualizations to analyze consumer overall satisfaction and factors affecting consumer satisfaction with Nike products.

**Overall satisfaction**

Chart, bar chart

Description automatically generated

The bar chart shows that most respondents rated their overall satisfaction with Nike products as 4. In addition, three respondents rated their satisfaction as 5, indicating that respondents have high satisfaction with Nike products. Only a minority of respondents rated their satisfaction below 4. It suggests that most respondents are satisfied with their purchases, but there is room for improvement in addressing the concerns of less happy customers.

**Quality**

Chart, bar chart

Description automatically generated

The bar chart shows the distribution of scores for Nike product quality on a scale of 1 to 5. Most respondents rated the quality of Nike products as 4 or 5, indicating a positive perception of product quality. However, a considerable number of respondents are still dissatisfied with the quality of Nike products.

**Customer service**

Chart, bar chart

Description automatically generated

The above chart shows the distribution of satisfaction ratings for Nike’s customer service. Most respondents rated their overall satisfaction as either 3 or 4, indicating moderate satisfaction with Nike’s customer service.

**Factors that affect purchase intention.**

Chart, bar chart

Description automatically generatedChart, bar chart

Description automatically generated

Chart, bar chart

Description automatically generated

The above three charts show the attitude of consumers toward Nike products. The bar charts for Q14 and Q18 reveal how consumers perceive the positioning and design of Nike products when purchasing them. The two graphs show similar trends, and the number of respondents who choose the “somewhat likely” option is significantly higher than others. It indicates that fashion-designed products are more attractive to consumers. The chart of Q16 shows that most respondents are sensitive to price, which reveals that price plays a critical role in users’ decision to purchase Nike products.

## Correlation Analysis

This study employed Pearson correlation analysis to determine the relationships between numerical variables in the dataset. The results are presented in Appendix 4, which shows the correlation coefficients between pairs of variables. Each cell in the matrix represents the correlation coefficient between two variables and the corresponding p-value. The coefficient ranges from -1 to 1, with -1 meaning a perfect negative correlation, 0 meaning no correlation, and 1 suggesting a perfect positive correlation.

After analyzing the correlation matrix, this study found some statistically significant relationships (p-value less than 0.05).

* A negative linear relationship exists between the age group (Q1) and the variables related to product design attitude (Q17, Q18). It indicates that consumers are less likely to be attracted by product design with the increment in their age.
* The coefficients between age group (Q1), product quality (Q8), and value of money(Q9) are also negative. It shows that older consumers are less sensitive to quality and price than younger consumers.
* The relationships between whether to buy because of the trend (Q15) and the variables related to product design attitude (Q17, Q18) are positive. Therefore, Consumers who pay attention to fashion trends are more concerned about product design.
* The coefficients between price sensitivity (Q16) and the variables related to product design attitude (Q17, Q18) are negative. It indicates consumers who care about product design are less sensitive to price.
* The positive linear relationship between overall satisfaction (Q7) and quality satisfaction (Q8) indicates that users who are satisfied with the quality of Nike products will also be satisfied with the Nike brand. Similarly, consumers willing to recommend Nike products to their friends (Q12) will also be satisfied with Nike.

## Regression Analysis

With the help of multiple linear regression, this study examined the relationship between independent variables and overall satisfaction. Generally, the sample size should be several times larger than the number of predictor variables in linear regression. Therefore, considering that the small sample size and the distributions of categorical variables are not even, only numerical variables were included in the analysis. The results are presented below.

Table

Description automatically generated

The R-squared value of 0.98 indicates that the model explains 98% of the variance in the outcome variable. The adjusted R-squared value of 0.858 suggests that the model fits the dataset well.

Table

Description automatically generated

As the ANOVA table shown, the F-statistic of 9.209 with a p-value of less than 0.05 indicates that the model is significant. It means that there is strong evidence to suggest that the predictor variables are related to the dependent variables.

Table

Description automatically generated

The coefficients table shows the estimated regression coefficients for the predictor variables. The coefficient indicates that a one-unit increase in the predictor variable is associated with how much increase in overall satisfaction, holding all other variables constant. This table shows that variables Q1\_AgeGroup, Q17\_ImportanceOfDesign, and Q18\_BuyDueToDesign have high negative impacts on overall satisfaction. At the same time, Q8\_Quality and Q11\_CustomerService have relatively high positive effects. But the p-values of the coefficients are not very good. Only Q17\_ImportanceOfDesign and Q12\_Recommendation has p-value that are less than 0.1. Therefore, this study can conclude Q17\_ImportanceOfDesign and Q12\_Recommendation are significant predictors of the dependent variable.

Overall, the model explains a significant portion of the variance in the outcome variable and is a good fit for the dataset. However, the coefficients of most independent variables are not significant. Therefore, the model requires further data collection for validation. Furthermore, limited by the sample size, the model may be overfitted.

## Appendix 1: Data collection forms

1. What is your age group?
   1. Under 18
   2. 18-24
   3. 25 - 34
   4. 35 - 44
   5. 45 - 54
   6. 55 - 64
   7. 65 or above
2. What is your gender?
   1. Male
   2. Female
   3. Non-binary / third gender
   4. Prefer not to say
3. Which study program or specialization are you pursuing in your master's degree?
   1. Business Analytics
   2. Marketing Analytics
   3. Marketing
   4. MBA
   5. Other (Please Specify)
4. How often do you purchase Nike products?
   1. Less than once a year
   2. Once a year
   3. Every 6 months
   4. Quarterly
   5. Monthly
   6. More frequently than monthly
5. Which of the following Nike products have you purchased in the past year? (Select all that apply)
   1. Footwear
   2. Apparel
   3. Accessories
   4. Other (please specify)
6. How do you typically purchase Nike products?
   1. In-store
   2. Online through the Nike website
   3. Online through third-party retailers
   4. Other (please specify)
7. Please rate your overall satisfaction with the Nike products you have purchased on a scale of 1 to 5 (1 = Very Dissatisfied, 5 = Very Satisfied).
   1. 1
   2. 2
   3. 3
   4. 4
   5. 5
8. How would you rate the quality of Nike products on a scale of 1 to 5 (1 = Poor, 5 = Excellent)?
   1. 1
   2. 2
   3. 3
   4. 4
   5. 5
9. How would you rate the value for money of Nike products on a scale of 1 to 5 (1 = Poor, 5 = Excellent)?
   1. 1
   2. 2
   3. 3
   4. 4
   5. 5
10. Have you ever contacted Nike's customer service?
    1. Yes
    2. No
11. Please rate your overall satisfaction with Nike's customer service on a scale of 1 to 5 (1 = Very Dissatisfied, 5 = Very Satisfied).
    1. 1
    2. 2
    3. 3
    4. 4
    5. 5
12. On a scale of 0 to 10, how likely are you to recommend Nike to a friend or colleague? (0 = Not likely at all, 10 = Extremely likely)

0 1 2 3 4 5 6 7 8 9 10

1. Have you ever purchased Nike product because it was fashionable or trendy?
   1. Yes
   2. No
2. How likely are you to purchase Nike product that is fashionable or trendy?
   1. Very Likely
   2. Somewhat Likely
   3. Neutral
   4. Not Very Likely
   5. Not at all Likely
3. How much are you willing to spend on Nike products?
   1. Less than $50
   2. $50 - $100
   3. $100 - $150
   4. $150 - $200
   5. More than $200
4. How much of a factor does the price of Nike products play in your purchase decision?
   1. A Major Factor
   2. A Moderate Factor
   3. A Minor Factor
   4. Not a Factor at All
5. How important is the design of Nike products when making a purchase decision?
   1. Very Important
   2. Somewhat Important
   3. Neutral
   4. Not very Important
   5. Not at all Important
6. How likely are you to purchase Nike products if they have a design that aligns with current fashion trends?
   1. Very Likely
   2. Somewhat Likely
   3. Neutral
   4. Not Very Likely
   5. Not at all Likely
7. In your own words, what do you like most about Nike products or services?
8. In your own words, what do you think Nike could improve in their products or services?

## Appendix 2: Frequency Tables

Frequencies

Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| Q1 | | | Q2 | Q3 | Q4 | Q5 | Q6 | Q7 |
| N | Valid | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Statistics

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | | Q8 | Q9 | Q10 | Q11 | Q12 | Q13 | Q14 |
| N | Valid | 16 | 16 | 16 | 16 | 16 | 16 | 16 |
| Missing | 0 | 0 | 0 | 0 | 0 | 0 | 0 |

Statistics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
|  | | Q15 | Q16 | Q17 | Q18 |
| N | Valid | 16 | 16 | 16 | 16 |
| Missing | 0 | 0 | 0 | 0 |

Frequency Table

Q1

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | 18-24 | 9 | 56.3 | 56.3 | 56.3 |
| 25 - 34 | 6 | 37.5 | 37.5 | 93.8 |
| 65 or above | 1 | 6.3 | 6.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q2

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Female | 8 | 50.0 | 50.0 | 50.0 |
| Male | 7 | 43.8 | 43.8 | 93.8 |
| Non-binary / third gender | 1 | 6.3 | 6.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q3

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Business Analytics | 10 | 62.5 | 62.5 | 62.5 |
| Marketing | 1 | 6.3 | 6.3 | 68.8 |
| Marketing Analytics | 3 | 18.8 | 18.8 | 87.5 |
| MBA | 1 | 6.3 | 6.3 | 93.8 |
| Other (Please Specify) | 1 | 6.3 | 6.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q4

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Every 6 months | 3 | 18.8 | 18.8 | 18.8 |
| Less than once a year | 7 | 43.8 | 43.8 | 62.5 |
| More frequently than monthly | 1 | 6.3 | 6.3 | 68.8 |
| Once a year | 1 | 6.3 | 6.3 | 75.0 |
| Quarterly | 4 | 25.0 | 25.0 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q5

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Accessories | 1 | 6.3 | 6.3 | 6.3 |
| Apparel | 1 | 6.3 | 6.3 | 12.5 |
| Footwear | 9 | 56.3 | 56.3 | 68.8 |
| Footwear,Apparel | 1 | 6.3 | 6.3 | 75.0 |
| Footwear,Apparel, Accessories | 2 | 12.5 | 12.5 | 87.5 |
| Other (please specify) | 2 | 12.5 | 12.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q6

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | In-store | 7 | 43.8 | 43.8 | 43.8 |
| Online through the Nike website | 6 | 37.5 | 37.5 | 81.3 |
| Online through third-party retailers | 1 | 6.3 | 6.3 | 87.5 |
| Other (please specify) | 2 | 12.5 | 12.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q7

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 1 | 6.3 | 6.3 | 6.3 |
| 2 | 1 | 6.3 | 6.3 | 12.5 |
| 3 | 2 | 12.5 | 12.5 | 25.0 |
| 4 | 9 | 56.3 | 56.3 | 81.3 |
| 5 | 3 | 18.8 | 18.8 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q8

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | 2 | 1 | 6.3 | 6.3 | 6.3 |
| 3 | 4 | 25.0 | 25.0 | 31.3 |
| 4 | 5 | 31.3 | 31.3 | 62.5 |
| 5 | 6 | 37.5 | 37.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q9

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | 2 | 5 | 31.3 | 31.3 | 31.3 |
| 3 | 2 | 12.5 | 12.5 | 43.8 |
| 4 | 8 | 50.0 | 50.0 | 93.8 |
| 5 | 1 | 6.3 | 6.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q10

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | No | 14 | 87.5 | 87.5 | 87.5 |
| Yes | 2 | 12.5 | 12.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q11

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | 1 | 2 | 12.5 | 12.5 | 12.5 |
| 3 | 6 | 37.5 | 37.5 | 50.0 |
| 4 | 6 | 37.5 | 37.5 | 87.5 |
| 5 | 2 | 12.5 | 12.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q12

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | 0 | 1 | 6.3 | 6.3 | 6.3 |
| 10 | 2 | 12.5 | 12.5 | 18.8 |
| 6 | 4 | 25.0 | 25.0 | 43.8 |
| 7 | 1 | 6.3 | 6.3 | 50.0 |
| 8 | 5 | 31.3 | 31.3 | 81.3 |
| 9 | 3 | 18.8 | 18.8 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q13

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | No | 6 | 37.5 | 37.5 | 37.5 |
| Yes | 10 | 62.5 | 62.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q14

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 3 | 18.8 | 18.8 | 18.8 |
| Not at all Likely | 1 | 6.3 | 6.3 | 25.0 |
| Not Very Likely | 1 | 6.3 | 6.3 | 31.3 |
| Somewhat Likely | 8 | 50.0 | 50.0 | 81.3 |
| Very Likely | 3 | 18.8 | 18.8 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q15

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | $100 - $150 | 4 | 25.0 | 25.0 | 25.0 |
| $150 - $200 | 1 | 6.3 | 6.3 | 31.3 |
| $50 - $100 | 8 | 50.0 | 50.0 | 81.3 |
| Less than $50 | 1 | 6.3 | 6.3 | 87.5 |
| More than $200 | 2 | 12.5 | 12.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q16

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | A Major Factor | 7 | 43.8 | 43.8 | 43.8 |
| A Minor Factor | 2 | 12.5 | 12.5 | 56.3 |
| A Moderate Factor | 6 | 37.5 | 37.5 | 93.8 |
| Not a Factor at All | 1 | 6.3 | 6.3 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q17

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Not very Important | 1 | 6.3 | 6.3 | 6.3 |
| Somewhat Important | 5 | 31.3 | 31.3 | 37.5 |
| Very Important | 10 | 62.5 | 62.5 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

Q18

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Frequency | | | Percent | Valid Percent | Cumulative Percent |
| Valid | Neutral | 3 | 18.8 | 18.8 | 18.8 |
| Not Very Likely | 1 | 6.3 | 6.3 | 25.0 |
| Somewhat Likely | 8 | 50.0 | 50.0 | 75.0 |
| Very Likely | 4 | 25.0 | 25.0 | 100.0 |
| Total | 16 | 100.0 | 100.0 |  |

## Appendix 3: Descriptive Statistics Results

Descriptive Statistics

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| N | | Minimum | Maximum | Mean | Std. Deviation |
| Q1\_AgeGroup | 16 | 2.00 | 7.00 | 2.6875 | 1.25000 |
| Q4\_BuyFrequence | 16 | 1.00 | 6.00 | 3.5625 | 2.52900 |
| Q14\_BuyDueToFashion | 16 | 1.00 | 5.00 | 3.6875 | 1.07819 |
| Q15\_SpendMoney | 16 | 1.00 | 5.00 | 2.6875 | 1.13835 |
| Q16\_ImportanceOfPrice | 16 | 1.00 | 4.00 | 1.8125 | .91059 |
| Q17\_ImportanceOfDesign | 16 | 2.00 | 5.00 | 4.5000 | .81650 |
| Q18\_BuyDueToDesign | 16 | 2.00 | 5.00 | 3.9375 | .85391 |
| Q7\_OverallSatisification | 16 | 1.00 | 5.00 | 3.7500 | 1.06458 |
| Q8\_Quality | 16 | 2.00 | 5.00 | 4.0000 | .96609 |
| Q9\_ValueOfMoney | 16 | 2.00 | 5.00 | 3.3125 | 1.01448 |
| Q11\_CustomerService | 16 | 1.00 | 5.00 | 3.3750 | 1.14746 |
| Q12\_Recommendation | 16 | .00 | 10.00 | 7.3750 | 2.39096 |
| Q10\_ContactedConsumerSe rvice | 16 | .00 | 1.00 | .1250 | .34157 |
| Q13\_WhetherBuyDueToFas hion | 16 | .00 | 1.00 | .6250 | .50000 |
| Valid N (listwise) | 16 |  |  |  |  |

## Appendix 4: Pearson Correlation Matrix

Table

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