

1. Introduction

1.1 Purpose of the Study

The key objective of the study is to investigate consumer preference and behavior for smartwatches using a combination of market segmentation and conjoint analysis. In this way, understanding the key product attributes driving purchasing decisions will help in identifying optimal smartwatch profiles that correspond to specific customer segments. This research will help organizations in the wearable technology industry design targeted marketing strategies and develop products that align with consumer expectations.

1.2 Background of the Selected Topic

Due to its rapid growth and popularity, smartwatches have surely changed the world of wearable technology and made this technology an integral part of modern consumers. It also evolved from a simple smartwatch designed just to track steps and calorie burn to a sophisticated smartwatch offering a high-end performance such as advanced health monitoring by way of heart rate tracking, ECG analysis, sleep tracking, managing stress, and VO2 Max. This meets the demands of health-oriented persons. The technological advancements have further enhanced smartwatch connectivity. Features like Bluetooth syncing, GPS integration, and NFC for mobile payments provide convenience, speed, and mobility for tech-savvy users, seamlessly integrating smartwatches into daily routines.

Their appeal also owes much to design versatility—from minimalistic, professional styles, best for casual wear, to rugged and sporty designs for fitness enthusiasts and outdoor activities. This has allowed smartwatches to cater to a wide variety of user preferences, crossing the divide between style and functionality.

The decision to focus on smartwatches in this study underlines the great market growth of the product. The reasons it keeps on surging are increased health awareness, innovation in technology, and demand for personalized experiences. Firms have to compete by trying to match these ever-shifting consumer preferences that keep on evaluating a number of attributes such as health features, connectivity, design, price, and brand trust. The given research makes an effort to analyse choice-based trade-offs that eventually provide actionable insights into meeting better market demands.

2. Research Design and Methodology

Brainstorming Process

A set of product categories explored by us including:

- **Online Learning Platforms:** Initially considered due to growth in remote learning. This was discarded, however, as the attributes and levels found were not rich enough in diversity and measurability for valid conjoint analysis.
- **Wearable Technology:** Currently, smartwatches are a promising product category in the market due to growing popularity, technological advancement, and catering to different consumer segments.

Rationale for Smartwatch Selection

The decision to focus on smartwatches was influenced by the following:

- **Market Growth:** Significant growth has been seen in the smartwatch industry due to increased awareness of health and technological integration.
- **Consumer Relevance:** Smartwatches serve a number of needs related to health tracking, connectivity, and convenience-all highly relevant to a choice of analysis.
- **Attribute Diversity:** Conjoint could be applied to smartwatches because the product represents a rich combination of health tracking, design, and connectivity features that could define well-specified attributes and levels suited for conjoint analysis.

2.2 Interview Analysis:

1. Approach for Conducting In-Depth Interviews

- **Six in-depth interviews** with participants selected on demographic variables, smartwatch usage patterns, and interest in wearable technology were conducted to gather rich qualitative insights into consumer preferences for smartwatches. These interviews were structured yet conversational, allowing participants to openly share their thoughts and experiences.
- **Participant Selection:** The samples were to ensure diversity in terms of age, gender, occupation, and level of familiarity with smartwatches to cater for the widest range of responses.
- **Interview Format:** Each interview was taken on Microsoft Teams; it lasted approximately 15-20 minutes and followed a semi-structured format using open-ended questions to explore the attributes based on their experience

- **Recording and Transcription:** With the participants' consent, each session was recorded and later transcribed for analysis to ensure that their responses were captured correctly.

2. Analysis process

The data gathered from the interviews were then analyzed systematically in a step-by-step manner according to the "Approaching the Interview Task" framework:

1. **Transcription and Review:** Transcribing all interviews verbatim to ensure the accuracy of statements. Identify key statements and observations for analysis.
2. **Clustering of Insights:** Responses were categorized into emerging topical groups, such as the following: Health and fitness features, Connectivity requirements, Design expectations, Price point, Battery life, and brand.
3. **Theme Identification:** Thematic analysis was done, and general patterns and recurring themes were identified by: Coding specific phrases related to consumer needs and pain points, then grouping these codes under broader themes such as "health tracking," "design preferences," and "price sensitivity." Organizing insights into a structured format for further analysis
4. **Consumer Needs and Preferences:** Further analysis of the recurring themes was done to understand core consumer needs. For example:
 - The strong demand for advanced health monitoring features such as VO2 Max and stress monitoring.
 - There is a balance between affordability and feature advancements.

1.3 Derivation of Attributes and Levels

1. **Identifying Key Attributes and Levels.** We identified some key attributes with their related levels. **Health Tracking Features:** These included the basic monitoring of the heart rate, advanced sleep, and SpO2 options, Furthermore, the design attribute has been pointed out by the ability to personalize or in terms of style. For those levels, such as 'Minimalist' and 'Sporty' which emerged from preferences provided by participants. Design.
2. **Criteria for Attribute Selection**

To ensure that the attributes chosen would have the most significant impact on product attractiveness, the following criteria were applied:

- **Relevance:** The attributes needed to be closely aligned with consumer preferences identified in the interviews.
- **Measurability:** The selected attributes and levels had to be clearly defined and measurable to enable effective analysis through conjoint design.
- **Differentiation:** These attributes were selected to provide meaningful differences between offerings to replicate a realistic decision scenario for the respondent.
- **Market Significance:** There were the attributes those were important to drive the choice of one product over another. Examples include advanced health tracking, price, and brand trust.

2.4 Conjoint Analysis:

- Respondents were shown a total of 12 sets of choice of smartwatch profiles based on Conjoint Experimental Design.
- The participants were asked to read the attributes and levels carefully and rate the profiles.
- Combinations of attributes and levels were provided in each profile, comprising health tracking, connectivity features, design, and price, after which participants were supposed to choose their best option from each set.

The Demographic/Geographic Questions asked to participants in the survey

- **Age:** To analyze generational preferences.
- **Gender:** To explore gender-specific preferences.
- **Occupation:** Professionals, students, etc.
- **Location:** To identify specific locality preferences

By structuring the survey to include well-defined choice tasks and demographic questions, the study effectively captured consumer preferences and identified how these vary across different respondent groups.

2.5 Segmentation and Regression Analysis:

1. Segmentation Strategy

Cluster analysis was performed to identify major groups of consumers in the smartwatch market using SPSS. Segmentation was done to identify marked clusters of respondents based on their stated preferences, behaviours, and demographic characteristics.

a. Input Variables for Segmentation:

- Following variables were used to create clusters, as they were found to be highly correlated with the preference and buying behaviour:
 - Usage Frequency (Daily, Weekly, Occasionally, Rarely/Never)
 - Demographic (age, Gender)

Before clustering, a correlation analysis was conducted to identify relationships between variables and eliminate redundancy. Clustering done based on the moderate correlation.

b. Clustering Process:

- Data Normalization: Before clustering, data was standardized to ensure comparability of attributes with different scales.
- K-Means Clustering: An elbow plot analysis was conducted to determine the optimal number of clusters. Based on this, we identified 5 distinct clusters.
- Cluster Profiles: Each segment was analysed to understand its key characteristics, including preferences for features, price, and brand loyalty.

c. Regression Analysis in Excel:

- Model Specification: A linear regression model was applied with utility scores as the coefficients for each attribute and level
- Overall Analysis: A combined model was run for all respondents to identify general preferences and attribute importance.
- Segment-Specific Models: Separate regressions were conducted for each consumer segment identified through cluster analysis to capture nuanced preferences.
- Validation Measures- R-Square Values (>0.40) ensure good fit and P value <0.05 for attribute significance. Moreover, Utility Scores of Part-worth utility scores quantified the relative impact of each attribute level on preferences.

3. Consumer Insight Analysis

3.1 Consumer Needs and Preferences

1. Health Tracking Features

Need: The tracking of health and fitness came up as a core priority across the participants. The respondents preferred features that would track their health correctly and inspire them to work towards their wellness goals.

- Basic Features: Step tracking, calorie counting, and heart rate monitoring were considered important features for daily health monitoring.
- Advanced Features: Comprehensive health tracking features such as ECG, VO2 Max, sleep analysis, and stress management were considered important by the participants.

Pain Point: Some participants mentioned entry-level smartwatches will always suffer in either step tracking or health metrics accuracy and, therefore, are of no-good use.

2. Connectivity

Need: While features like NFC for mobile payments added to better connectivity were wanted by tech-savvy users as a matter of convenience,

- Participants mentioned the importance of having smooth Bluetooth connectivity for connecting the watch with a smartphone.
- NFC for contactless payments was a game-changing feature in everyday chores like grocery shopping.

Pain Point: Most of the current devices either lack NFC or have limited availability in certain regions, which reduces its accessibility for consumers.

3. Design Preferences

Need: Consumers had mixed design preferences, which indicate that smartwatches should be able to balance functionality and aesthetics.

- Sporty Designs: Preferred by the fitness-oriented audience as they are sturdy, comfortable, and good to wear during workouts.
- Minimalist Designs: Favored for professional and day-to-day purposes as they complement formal attire and casual settings.

Pain Point: A single smartwatch rarely meets both needs, making the consumer have to choose between form and function.

4. Price Sensitivity

Need: Price was a key driver of purchase decisions, with a clear segmentation of participants:

- Budget-conscious users preferred options in the €199-€249 range.
- Mid-to-high-end buyers were ready to pay up to €399 for advanced features like NFC, comprehensive health tracking, and premium design.

Pain Point: A few testers felt that premium variants did not have substantial justification for their prices, which were really steep for basic health features that were serving their purposes.

5. Brand Perception and Trust

Need: People showed great brand loyalty and trust in popular names such as Google Fitbit and Apple

- Google Fitbit: Known for fitness tracking at an affordable price
- Apple: For its ecosystem continuity, reliability, and more advanced features.

Pain Point: Lesser-known brands faced scepticism regarding quality and accuracy, making consumers hesitant to switch from trusted options.

6. Battery Life

Need: Extended battery life was highlighted as an essential requirement, with participants expressing frustration over frequent charging.

- A battery life of at least 4-5 days was considered ideal

Pain Point: Many high-end smartwatches require daily charging, which users found inconvenient, especially for fitness tracking or travel.

3.2 Attribute Development

Following the analysis and application of the above criteria, the following five attributes and their respective levels were identified for the conjoint analysis:

S N	Attributes	Levels	Levels Description	Justification of Selected Attributes
1	Health Features	Basic Health Tracking	Includes step tracking and calorie counting for everyday health monitoring.	Health Features address the growing consumer focus on fitness and well-being.
		Comprehensive Health Tracking	Includes advanced features such as ECG, VO2 Max, stress management, and sports modes for fitness enthusiasts.	
2	Connectivity	Standard Connectivity	Basic Bluetooth syncing with smartphones.	Connectivity aligns with modern lifestyle demands for convenience, particularly with the adoption of NFC for payments.
		Enhanced Connectivity	Includes NFC for mobile payments and other advanced connectivity options.	
3	Design	Minimalist	Sleek, lightweight designs suitable for professional and casual settings	Design captures diverse aesthetic preferences, balancing sporty and minimalist needs.
		Sporty	Durable, rugged designs with silicone straps, ideal for active users	
4	Brand	Google and Fit bit	Well-known brands	Brand reflects trust and perceptions of quality, which strongly influence purchasing behaviour.
5	Price	€199, €249, €399	Entry-level, Mid-tier and Premium pricing	Price ensures affordability considerations while capturing the willingness to pay for premium features.

3.3 Segment Profiles

Through the analysis of response to survey, the conjoint utility scores, and segmentation results, we have identified a total of four clear segments of consumers in the smartwatch market. Each segment represents unique preference, needs, and purchase behavior that enable tailored marketing strategies. These segments provide actionable insights for targeted marketing and product positioning.

Profile	Segment Name	Description / Key Traits	Matching product profile
1	Budget-Conscious Young Males	Appeals to budget-conscious consumers seeking durable, fitness-oriented products with essential features.	Basic Health Tracking, Standard Connectivity, Sporty, Google Fitbit, €199
2	First-Time Buyers	Targets affordability and simplicity for first-time buyers with a trusted brand name.	Basic Health Tracking, Standard Connectivity, Minimalist, Google Fitbit, €199
3	Tech-Savvy Upgraders	Designed for frequent users seeking premium features, enhanced connectivity, and advanced health tracking	Comprehensive Health Tracking, Enhanced Connectivity, Minimalist, Apple, €399
4	Young Fitness Enthusiasts	Focuses on active younger buyers valuing advanced fitness tracking and rugged designs at a mid-tier price.	Comprehensive Health Tracking, Standard Connectivity, Minimalist, Google Fitbit, €249

4. Conjoint Analysis and Regression Results

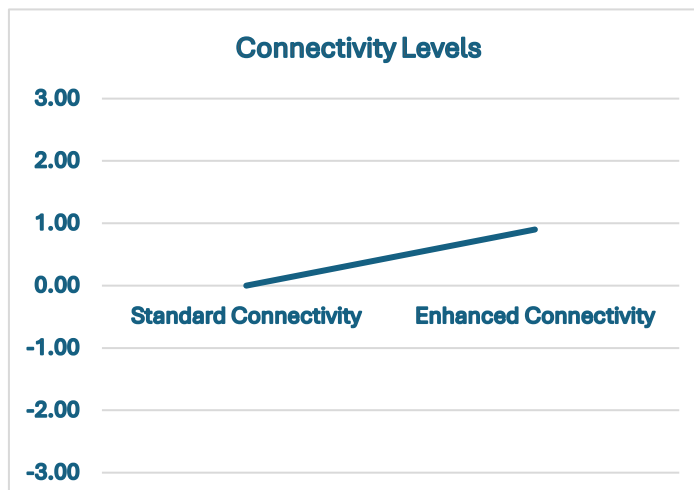
4.1 Overall Findings:

a. Regression Statistics

1	Multiple R (0.877)	Multiple R gives the strength of the linear relationship between the dependent variable, product choice, and the independent attributes: Health Features, Connectivity, Design, Brand, and Price. This shows a very strong positive correlation, which means that the model is reliable and has strong predictive capability.
2	R Square (0.764)	76.4% of the variance in consumer choices is explained by five attributes; this means that the selected factors are highly relevant and mostly captured what drives consumer decision-making.
3	Adjusted R Square (0.767):	This accounts for the number of predictors in the model and slightly adjusts for overfitting. Its close alignment with R Square confirms the reliability of the model.
4	P- Values	<ul style="list-style-type: none">-Price and Enhanced Connectivity have P-values close to zero, indicating high significance in predicting consumer preferences.- Sporty Design and Brand (Apple) also show significance but at a slightly higher threshold.- The Comprehensive Tracking is insignificant statistically, with the P-value being 0.46, hence it contributes little to preference as compared to other attributes.

b. Part-worth Utilities

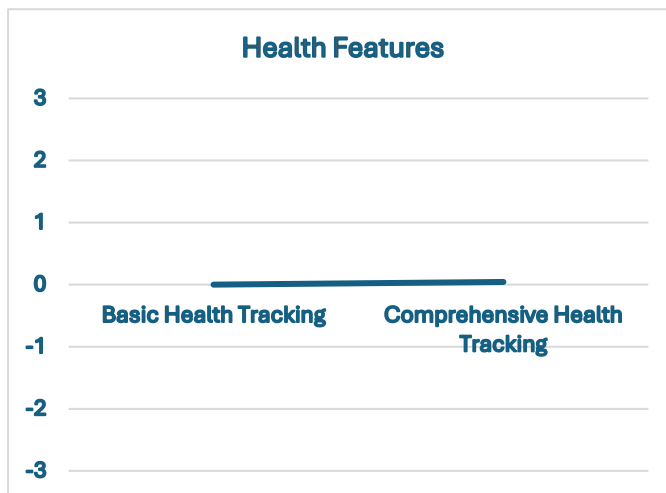
1. Connectivity Levels



- Standard Connectivity: **0.00** → Baseline level.
- Enhanced Connectivity: **0.90** → High positive utility, meaning a high preference of the consumers for features like NFC payments and improved connectivity.

Insight: The Enhanced Connectivity appeals most, reflecting modern consumer demands for convenience and integration of technologies.

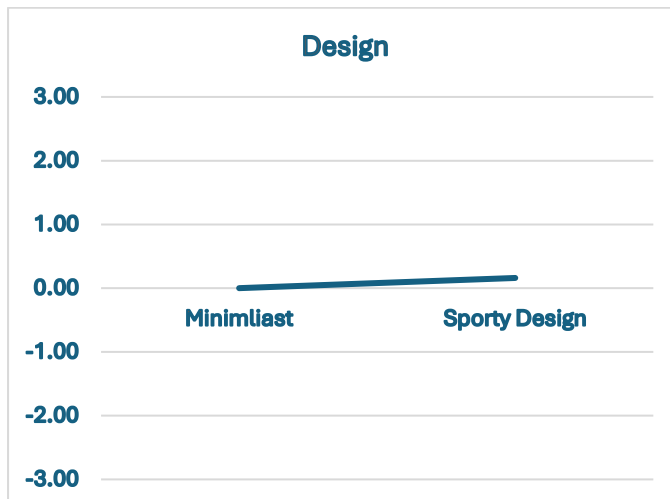
2. Health Features



- Basic Health Tracking: **0.00** → Acts as the baseline level.
- Comprehensive Health Tracking: **0.043** → Slight positive utility, showing a minor preference for comprehensive health features; advanced metrics include ECG and stress monitoring.

Insight: While health tracking matters, utility proposes that it is not the strongest driver compared to other attributes.

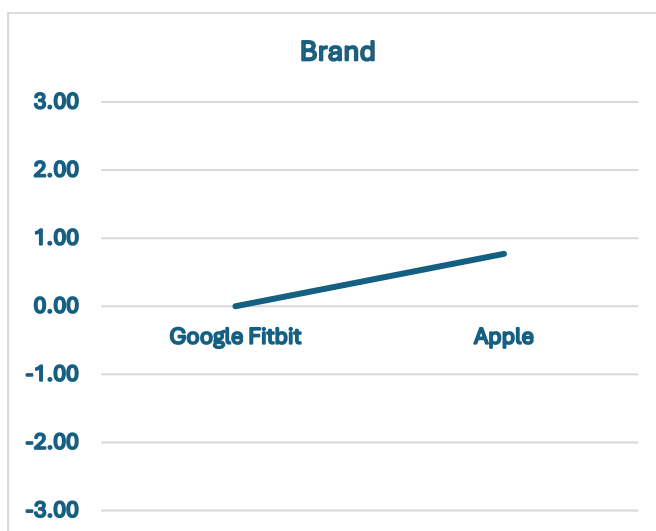
Design



- Minimalist: **0.00** → Acts as the baseline level.
- Sporty Design: **0.16** → There is a slight preference of consumers for sporty design, probably connected with fitness and active usage.

Insight: Design has less of an impact but still a factor, especially in active users.

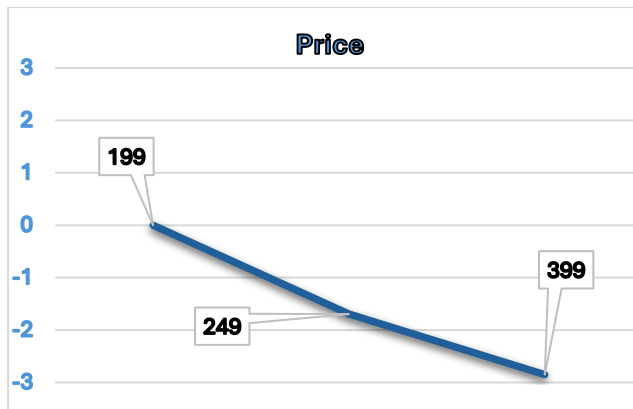
4. Brand



- Google Fitbit: **0.00** → Baseline brand.
- Apple: **0.77** → Strong positive utility, showing significant preference for Apple products, likely due to brand trust, quality, and premium positioning.

Insight: The reputation of the brand influences consumer choices a lot; Apple is the most loved brand.

4. Price

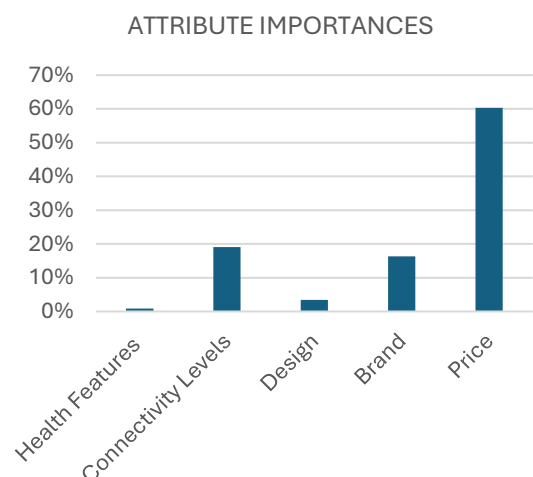


- €199: **0.00** → Baseline (most preferred price).
- €249: **-1.695** → Negative utility, reflecting reduced attractiveness as price increases.
- €399: **-2.85** → Strong negative utility, showing a significant drop in preference at the highest price point.

Insight: Price is the most influential attribute. Consumers are highly price-sensitive, with €199 being the most attractive.

Attribute Importance:

1. Price is the most dominant factor: 60% contribute to decision-making, showing that affordability is a critical driver of choice for consumers. Products positioned around €199 are way more appealing.
2. Consumers are looking for more connectivity, especially NFC for mobile payments, to bring more convenience into daily life.
3. Established brands mean something: Apple and Google Fitbit, a reflection of consumer trust in quality and performance.



4. Design: Minor but not negligible; this attribute is important for some applications. Consumers prefer sporty design for active use.
5. Health features are surprisingly the least important driver to preferences, which could hint that features such as step tracking or heartbeat monitoring are just expected features and not differentiators.

Based on the conjoint analysis and segmentation, it is clear that price, connectivity, and brand are indeed the most important drivers of smartwatch preferences. Therefore, strategic Focus should be Prioritize affordable pricing, highlight advanced connectivity, and target diverse segments with tailored marketing strategies. Ideal Profile is Comprehensive Health Tracking, Enhanced Connectivity, Sporty Design, Apple Brand at €199.

4.2 Segmented Regression Analysis:

Segment	Coefficient	P-value	Significance (P < 0.05)	Interpretation
Gender	-0.1507	0.4912	Not significant	Gender does not have a significant impact.
High Price Purchasing range	-1.6551	0.0053	Significant	High price purchasing reduces the target variable significantly.
Never Owned	0.7784	0.0219	Significant	People who have "Never Owned" increase the target variable.
High Usage + Ownership	-1.0246	3.09E-05	Highly significant	High usage and ownership have a strong negative impact.
Age (young) + Price Range (Low)	-0.7018	0.0017	Significant	Being young and in a low-price range has a significant negative impact.
Intercept	3.8305	4.22E-22	Significant	Baseline value when all predictors are zero.

Implications for the target market.

Sr No	Segment	Characteristics	Implications
1	Budget-Conscious Young Males	Young Males: Mainly young males who are price sensitive; like products under €249 but can consider higher-priced versions if features are appealing.	Value-for-money products to be developed under €249; upsell higher priced models with advanced features like NFC
2	First-Time Buyers	First-time buyers of smartwatches, not willing to invest much and seeking simplicity.	Target first-time buyers with entry-level models at €199, focusing on user-friendly design and essential features.
3	Tech-Savvy Upgraders	Existing smartwatch owners; frequent users likely to upgrade; value advanced features and premium brand associations.	Introduce advanced features such as NFC and health tracking, targeting mid-range to premium price points (€249-€399)
4	Young Fitness Enthusiasts	Younger buyers, 18-24 years; prefer sporty design and affordable prices with essential features.	Design sporty models in less than € 249: Highlight fitness tracking and durability. Market through social media/influencers.

These Segments used then to create profiles which are align with the preference and purchasing behaviour of each segment to make sure the product offering is tailored, appealing, and fitted to the market.

5. Discussion and Insights

Key Insights

The analysis unveiled a few critical insights into the consumer preference for smartwatches

- **Health Features as a Priority:** Advanced health tracking, such as ECG and VO2 Max, was a constant priority among tech-savvy and fitness-oriented segments. Budget-conscious and first-time buyers were okay with basic health tracking, where affordability was more important than advanced functionality.
- **Connectivity Preferences:** Enhanced connectivity, especially NFC for contactless payments, attracted both frequent users and premium buyers as it offered a great deal of convenience in daily activities. Standard connectivity, or simply Bluetooth syncing, was sufficient for the budget and entry-level classes, which underlined differences in perceived need.
- **Design Preferences:** While the sporty design caught the eye of the gym user by exuding durability and performance in the gym, it was the minimalist design that appealed to professional and all-day use segments that favoured style and versatility.
- **Price Sensitivity:** Price sensitivity was very high; buyers who were younger or users for the first time would prefer entry-level and mid-tier pricing. Premium buyers were willing to pay for advanced features and brand value, especially for Apple.
- **Brand Trust:** Innovative brands mentioned in trust include Google Fitbit and Apple. Apple will be for the premium buyer, whereas the budget-friendly mover who is more inclined toward fitness will go to Google Fitbit.

Segmentation Reflections

Segmentation strategy has been useful and served the purpose of identifying well-defined clusters of buyers with certain predispositions:

1. Effectiveness of Clusters:

- Segments spotted really reflected a marked contrast with respect to certain all-important dimensions of interest, namely feature related, price, design, etc
- Clustering on key variables like price sensitivity, usage frequency, and design preferences allowed the attainment of insights into the decision-making process of each group

2. Practical Implications:

- The outcome of the segmentation supports market demand and, therefore, presents an opportunity for actionable insights into product development and marketing strategy.
- Segment-specific offerings, such as entry-level models for first-time buyers or advanced features for premium users, enhance the potential for market penetration and customer satisfaction.

Challenges and Limitations

The analysis encountered several challenges and methodological limitations:

1. **Sample Size:** With 50 respondents, the sample size, while sufficient for initial insights, may not fully represent the diversity of the smartwatch market. A larger dataset could improve the robustness of the findings.
2. **Attribute Selection:** While the selected attributes captured key consumer priorities, additional features like battery life or safety mechanisms (e.g., fall detection) might further enhance relevance.
3. **Response Variability:** There is a possibility of variation in the respondents with regard to their familiarity with smartwatches, affecting their rating for advanced features.

Appendix 1: Interview Guide for Smartwatch Preferences Study

Step 1: Preparation

Clarification of Objectives: Clearly spell out the intent of the interview: to understand the preference for smartwatches in respect of their health features, connectivity, design, brand name, and price.

Designing the Questions: Frame open-ended questions on crucial themes relating to demographics, product features, and behavior of the consumers.

Step 2: Introduction

Statement of Problem: Explain the intention of the research in relation to the understanding of the preference for smartwatches.

Consent: Obtain consent to record the responses and use them for academic purposes.

Ensure confidentiality: Explain that their identities will remain anonymous and their responses will be used solely for research purposes.

Step 3: Icebreaker: The interview shall be opened with broad, open-ended questions to make the participant comfortable. For example: "Can you describe your first experience with a smartwatch or similar device?"

Invite participants to narrate stories that best describe their personal experiences relating to wearable technology.

Step 4: Main Discussion Areas

Demographics and Background

What is your occupation? Student, Professional, Other

Do you currently use a smartwatch or fitness tracker? Yes, No, Used in the past

If yes, please state the brand and model used.

How often do you wear your smart watch? Daily, Weekly, Occasionally, Rarely

- **Health Features:** Which of the following health and fitness features do you find valuable in a smartwatch? Is there anything you'd like to see in smartwatches from a health perspective?
- **Connectivity:** How important is connectivity in a smartwatch to you?
- **Design Preferences:** Which smartwatch design style do you like? How critical is the appearance of the smartwatch for you while choosing one? Are durability and material quality taken into consideration, for example, silicone straps, lightness?
- **Brand Perception:** What is your opinion of the leading brands? How relevant is brand reputation in your decision to purchase a smartwatch? Brand loyalty: yes/no-if yes, why?
- **Price Sensitivity** How much would you want to pay for a smartwatch? Would you be willing to pay more if there were more features or a better design? Considering your opinion, what is the value-for-money price for a smartwatch?
- **More Features and Innovations** Which features or innovations do you think are absent in today's smartwatches? How important does the battery life stand in your buying decision? Will you like to see features in the smartwatch, such as fall detection or audio to make it more inclusive?

Step 5: Probing and Clarifying

Follow-up questions will be used in order to delve deeper into an initial response.

Encourage the elaboration of preferences and decision-making processes.

Step 6: Conclusion

Final Comments:

Probe if there is anything else they would like to add regarding their insights or preferences.

Example: "If you were to design your perfect smartwatch, what features would you focus on?"

Appreciation:

Thank the participants for investing time in sharing valuable insights.

Step 7: Post-Interview Steps Transcription and Analysis

Appendix 2: Sample Survey Questions

Questions for conjoint analysis for smartwatches

Question 1: Please rate each product from 1 (Least Favorite) to 7 (Most Favorite).

	1	2	3	4	5	6	7
Profile 1: Basic Health Tracking, Standard Connectivity, Minimalist Design, Google Fitbit, €199	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 2: Comprehensive Health Tracking, Enhanced Connectivity, Sporty Design, Apple, €249	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 3: Comprehensive Health Tracking, Standard Connectivity, Sporty Design, Google Fitbit, €399	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 4: Basic Health Tracking, Enhanced Connectivity, Minimalist Design, Apple, €199	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 5: Comprehensive Health Tracking, Enhanced Connectivity, Minimalist Design, Google Fitbit, €249	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 6: Basic Health Tracking, Standard Connectivity, Sporty Design, Apple, €399	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 7: Comprehensive Health Tracking, Enhanced Connectivity, Sporty Design, Google Fitbit, €199	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>
Profile 8: Basic Health Tracking, Standard Connectivity, Minimalist Design, Apple, €249	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>	<input type="radio"/>

Questions for Segmentations:

☐ 2

How often do you use a smartwatch or fitness tracker?

☐ Daily

☐ Weekly

☐ Occasionally

☐ Rarely or never

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☐ Q3

What is your age group?

☐ 18 - 24

☐ 25 - 34

☐ 35 - 44

☐ 45 - 54

☐ 55 or older

Appendix 3: Additional Charts and Tables

1. Attribute and Features Selection

	Attributes	Levels
1	Health Features	Basic Health Tracking
		Comprehensive Health Tracking
2	Connectivity Levels:	Standard Connectivity:
		Enhanced Connectivity
3	Design:	Minimalist Design
		Sporty Design
4	Brand:	Google Fitbit
		Apple
5	Price	199
		249
		399

2. Dummy Variables creation with the help of

Profile	Health Features	Connectivity Levels	Design	Brand	Price
(1)	2	2	1	2	2
(2)	2	2	2	1	3
(3)	1	1	2	2	2
(4)	2	2	2	2	1
(5)	2	1	2	1	1
(6)	2	1	1	1	2
(7)	1	2	2	1	2
(8)	1	1	1	1	1
(9)	2	1	1	2	3
(10)	1	1	2	2	3
(11)	1	2	1	1	3
(12)	1	2	1	2	1

3. Survey Profiles:

Profile	Health Features	Connectivity	Design	Brand	Price
1	Comprehensive Health	Enhanced Connectivity	Minimalist	Apple	€249
2	Comprehensive Health	Enhanced Connectivity	Sporty	Google Fitbit	€399
3	Basic Health	Standard Connectivity	Sporty	Apple	€249
4	Comprehensive Health	Enhanced Connectivity	Sporty	Apple	€199
5	Comprehensive Health	Standard Connectivity	Sporty	Google Fitbit	€199
6	Comprehensive Health	Standard Connectivity	Minimalist	Google Fitbit	€249

7	Basic Health	Enhanced Connectivity	Sporty	Google Fitbit	€249
8	Basic Health	Standard Connectivity	Minimalist	Google Fitbit	€199
9	Comprehensive Health	Standard Connectivity	Minimalist	Apple	€399
10	Basic Health	Standard Connectivity	Sporty	Apple	€399
11	Basic Health	Enhanced Connectivity	Minimalist	Google Fitbit	€399
12	Basic Health	Enhanced Connectivity	Minimalist	Apple	€199

4. Data preparation for regression:

Comprehensive Health Tracking	Enhanced Connectivity	Sporty Design	Apple	249	399
1	1	0	1	1	0
1	1	1	0	0	1
0	0	1	1	1	0
1	1	1	1	0	0
1	0	1	0	0	0
1	0	0	0	1	0
0	1	1	0	1	0
0	0	0	0	0	0
1	0	0	1	0	1
0	0	1	1	0	1
0	1	0	0	0	1
0	1	0	1	0	0

5. Regression analysis as opposed to the customer ratings after data collection

SUMMARY OUTPUT

Regression Statistics	
Multiple R	0.877188648
R Square	0.769459924
Adjusted R Square	0.76712731
Standard Error	0.727900953
Observations	600

ANOVA

	df	SS	MS	F	Significance F
Regression	6	1048.67	174.7783333	329.8701496	2.9851E-185
Residual	593	314.195	0.529839798		
Total	599	1362.865			

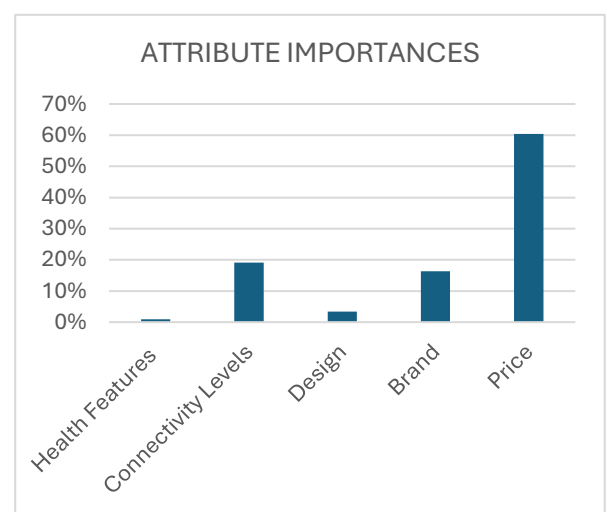
	Coefficients	Standard Error	t Stat	P-value	Lower 95%	Upper 95%	Lower 95.0%	Upper 95.0%
Intercept	4.54	0.078622289	57.74443947	1.28E-245	4.385587988	4.69441201	4.385587988	4.69441201
Comprehensive Health Tracking	0.043333333	0.059432864	0.729114003	0.466219794	-0.073391176	0.16005784	-0.073391176	0.16005784
Enhanced Connectivity	0.943333333	0.059432864	15.87225098	1.531E-47	0.826608824	1.06005784	0.826608824	1.06005784
Sporty Design	0.163333333	0.059432864	2.748198934	0.006174741	0.046608824	0.28005784	0.046608824	0.28005784
Apple	0.77	0.059432864	12.95579497	5.5716E-34	0.653275491	0.88672451	0.653275491	0.88672451
249	-1.695	0.072790095	-23.28613519	1.12625E-85	-1.837957744	-1.55204226	-1.837957744	-1.55204226
399	-2.85	0.072790095	-39.15367864	1.4912E-166	-2.992957744	-2.70704226	-2.992957744	-2.70704226

6. Part-worths

PARTWORTHS				
Intercept		4.52		Ideal profile
Health Features	Basic Health Tracking	0		Comprehensive Health Tracking
	Comprehensive Health Tracking	0.043		
Connectivity Levels	Standard Connectivity	0.00		Enhanced Connectivity
	Enhanced Connectivity	0.90		
Design	Minimilist	0.00		Sporty Design
	Sporty Design	0.16		
Brand	Google Fitbit	0.00		Apple
	Apple	0.77		
Price	199	0		199
	249	-1.695		
	399	-2.85		

7. Attribute Importance

ATTRIBUTE IMPORTANCES		
Attributes	Range	Importance
Health Features	0.04	1%
Connectivity Levels	0.90	19%
Design	0.16	3%
Brand	0.77	16%
Price	2.85	60%
sum	4.72	



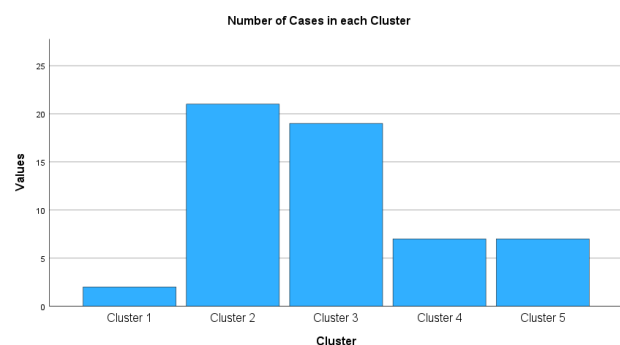
8. Clustering after correlation analysis

initial centers is 2.819.

Final Cluster Centers					
	Cluster				
	1	2	3	4	5
Zscore: Age (young) + Price Range (Low price)	-1.10357	.13053	.26043	.32039	-1.10357
Zscore: High Usage + Ownership	1.10357	.62891	-.15551	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	-.37457	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.76765	-1.27942	.18277	.76765

Number of Cases in each Cluster

Cluster	1	2	3	4	5
Valid	2.000	21.000	19.000	7.000	7.000
Missing					



9. Market segmentation regression

SUMMARY OUTPUT																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						</
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10. New profiles based on the market segmentation

New Profiles with attributes based on cluster Market Segmentation					
Cluster	Health Features	Connectivity	Design	Brand	Price
1	Basic Health Tracking	Standard Connectivity	Sporty	Google Fitbit	€199
2	Basic Health Tracking	Standard Connectivity	Minimalist	Google Fitbit	€199
3	Comprehensive Health Tracking	Enhanced Connectivity	Minimalist	Apple	€399
4	Comprehensive Health Tracking	Standard Connectivity	Minimalist	Google Fitbit	€249

11. Utility score and best profile out of above 4

	Basic Health Tracking	Comprehensive Health Tracking	Standard Connectivity	Enhanced Connectivity	Minimalist	Sporty Design	Google Fitbit	Apple	199	249	399	Utility	Predicted Choice
Product A	1	0	1	0	0	1	1	0	1	0	0	4.68	Product A
Product B	1	0	1	0	1	0	1	0	1	0	0	4.52	
Product C	0	1	0	1	0	1	0	1	0	0	1	3.543	
Product D	0	1	1	0	1	0	1	0	0	1	0	2.868	

SPSS Complete Report

Descriptives

[DataSet1]

Descriptive Statistics

	N	Minimum	Maximum	Mean	Std. Deviation
Age (young) + Price Range (Low price)	56	0	1	.55	.502
High Usage + Ownership	56	0	1	.45	.502
High price Purchasing range	56	0	1	.04	.187
Never Owned	56	0	1	.13	.334
Gender (num)	56	0	1	.63	.489
Valid N (listwise)	56				

Quick Cluster

Initial Cluster Centers

	Cluster	
	1	2
Zscore: Age (young) + Price Range (Low price)	-1.10357	.88997
Zscore: High Usage + Ownership	1.10357	-.88997
Zscore: High price Purchasing range	5.14955	-.19072
Zscore: Never Owned	-.37457	2.62202
Zscore: Gender (num)	.76765	-1.27942

Iteration History^a

	Change in Cluster Centers	
Iteration	1	2
1	.000	3.132
2	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 2. The minimum distance between initial centers ...

Final Cluster Centers

	Cluster	
	1	2
Zscore: Age (young) + Price Range (Low price)	-1.10357	.04087
Zscore: High Usage + Ownership	1.10357	-.04087
Zscore: High price Purchasing range	5.14955	-.19072
Zscore: Never Owned	-.37457	.01387
Zscore: Gender (num)	.76765	-.02843

Number of Cases in each Cluster

Cluster	1	2.000
	2	54.000
Valid		56.000
Missing		.000

Quick Cluster

Initial Cluster Centers

	Cluster		
	1	2	3
Zscore: Age (young) + Price Range (Low price)	-1.10357	.88997	-1.10357
Zscore: High Usage + Ownership	1.10357	-.88997	1.10357
Zscore: High price Purchasing range	5.14955	-.19072	-.19072
Zscore: Never Owned	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.76765	-1.27942

Iteration History^a

Iteration	Change in Cluster Centers		
	1	2	3
1	.000	1.336	1.750
2	.000	1.294	.186
3	.000	.000	.000

a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 3. The minimum distance between initial centers is 4.595.

Final Cluster Centers

	Cluster		
	1	2	3
Zscore: Age (young) + Price Range (Low price)	-1.10357	.32039	-.00076
Zscore: High Usage + Ownership	1.10357	-.88997	.08559
Zscore: High price Purchasing range	5.14955	-.19072	-.19072
Zscore: Never Owned	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.18277	-.05989

Number of Cases in each Cluster

Cluster	1	2.000
	2	7.000
	3	47.000
Valid		56.000
Missing		.000

Quick Cluster

Initial Cluster Centers

	Cluster					
	1	2	3	4	5	6
Zscore: Age (young) + Price Range (Low price)	-1.10357	-1.10357	-1.10357	.88997	.88997	.88997
Zscore: High Usage + Ownership	1.10357	-.88997	1.10357	1.10357	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	2.62202	-.37457	-.37457	-.37457	2.62202
Zscore: Gender (num)	.76765	-1.27942	-1.27942	.76765	-1.27942	.76765

Iteration History^a

	Change in Cluster Centers					
Iteration	1	2	3	4	5	6
1	.000	.997	1.160	1.368	2.789E-16	.399
2	.000	.000	.000	.000	.000	.000

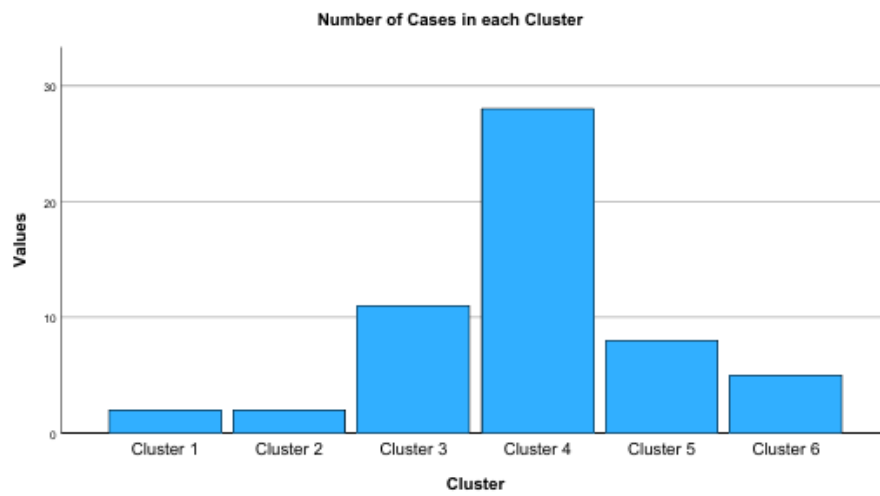
a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 2. The minimum distance between initial centers is 2.819.

Final Cluster Centers

	Cluster					
	1	2	3	4	5	6
Zscore: Age (young) + Price Range (Low price)	-1.10357	-.10680	-.19741	-.17799	.88997	.49126
Zscore: High Usage + Ownership	1.10357	-.88997	.37864	.24919	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	2.62202	-.37457	-.37457	-.37457	2.62202
Zscore: Gender (num)	.76765	-1.27942	-1.27942	.76765	-1.27942	.76765

**Number of Cases in
each Cluster**

Cluster	1	2.000
	2	2.000
	3	11.000
	4	28.000
	5	8.000
	6	5.000
Valid		56.000
Missing		.000



Quick Cluster

Initial Cluster Centers

	Cluster				
	1	2	3	4	5
Zscore: Age (young) + Price Range (Low price)	-1.10357	.88997	-1.10357	.88997	-1.10357
Zscore: High Usage + Ownership	1.10357	1.10357	1.10357	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	-.37457	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.76765	-1.27942	-1.27942	.76765

Iteration History^a

	Change in Cluster Centers				
Iteration	1	2	3	4	5
1	.000	.896	1.856	1.569	1.272E-16
2	.000	.000	.000	.000	.000

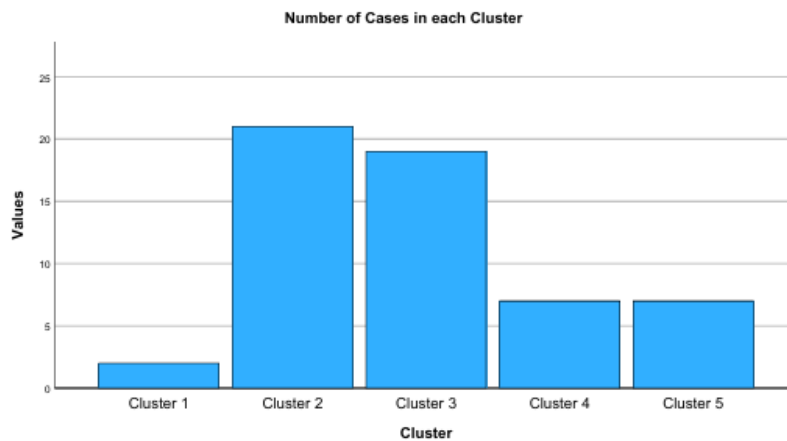
a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 2. The minimum distance between initial centers is 2.819.

Final Cluster Centers

	Cluster				
	1	2	3	4	5
Zscore: Age (young) + Price Range (Low price)	-1.10357	.13053	.26043	.32039	-1.10357
Zscore: High Usage + Ownership	1.10357	.62891	-.15551	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	-.37457	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.76765	-1.27942	.18277	.76765

Number of Cases in each Cluster

Cluster	1	2.000
	2	21.000
	3	19.000
	4	7.000
	5	7.000
Valid		56.000
Missing		.000



Quick Cluster

Initial Cluster Centers

	Cluster				
	1	2	3	4	5
Zscore: Age (young) + Price Range (Low price)	-1.10357	.88997	-1.10357	.88997	-1.10357
Zscore: High Usage + Ownership	1.10357	1.10357	1.10357	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	-.37457	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.76765	-1.27942	-1.27942	.76765

Iteration History^a

Iteration	Change in Cluster Centers				
	1	2	3	4	5
1	.000	.896	1.856	1.569	1.272E-16
2	.000	.000	.000	.000	.000

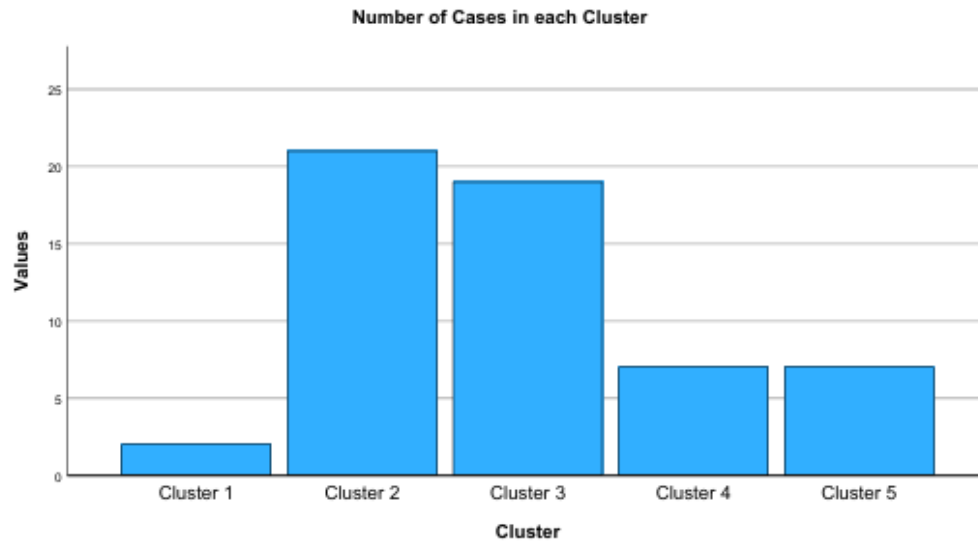
a. Convergence achieved due to no or small change in cluster centers. The maximum absolute coordinate change for any center is .000. The current iteration is 2. The minimum distance between initial centers is 2.819.

Final Cluster Centers

	Cluster				
	1	2	3	4	5
Zscore: Age (young) + Price Range (Low price)	-1.10357	.13053	.26043	.32039	-1.10357
Zscore: High Usage + Ownership	1.10357	.62891	-.15551	-.88997	-.88997
Zscore: High price Purchasing range	5.14955	-.19072	-.19072	-.19072	-.19072
Zscore: Never Owned	-.37457	-.37457	-.37457	2.62202	-.37457
Zscore: Gender (num)	.76765	.76765	-1.27942	.18277	.76765

Number of Cases in each Cluster

Cluster	1	2,000
	2	21,000
	3	19,000
	4	7,000
	5	7,000
Valid		56,000
Missing		.000



Data written to C:\Users\ashup\Desktop\Cluster.xlsx.

20 variables and 56 cases written to range: SPSS.

Variable: SrNo Type: Number Width: 3 Dec: 0

Variable: DailyorWeeklyusers Type: Number Width: 2 Dec: 0

Variable: Ocassionallyorrarelyusers Type: Number Width: 2 Dec: 0

Variable: age_young Type: Number Width: 2 Dec: 0

Variable: Age_midage Type: Number Width: 2 Dec: 0

Variable: Gendernum Type: Number Width: 2 Dec: 0

Variable: Occupationnum Type: Number Width: 2 Dec: 0

Variable: Lowpricepurchasingrange Type: Number Width: 2 Dec: 0

Variable: HighpricePurchasingrange Type: Number Width: 2 Dec: 0

Variable: CurrentOwners Type: Number Width: 2 Dec: 0

Variable: NeverOwned Type: Number Width: 2 Dec: 0

Variable: HighUsageOwnership Type: Number Width: 2 Dec: 0

Variable: AgeyoungPriceRangeLowprice Type: Number Width: 2 Dec: 0

Variable: V14 Type: Number Width: 8 Dec: 2

Variable: ZAgeyoungPriceRangeLowprice Type: Number Width: 11 Dec: 5

Variable: ZHighUsageOwnership Type: Number Width: 11 Dec: 5

Variable: ZHighpricePurchasingrange Type: Number Width: 11 Dec: 5

Variable: ZNeverOwned Type: Number Width: 11 Dec: 5

Variable: ZGendernum Type: Number Width: 11 Dec: 5

Variable: QCL_1 Type: Number Width: 8 Dec: 0