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STRATEGIC POSITIONING IN WEARABLE HEALTH TECHNOLOGY: LEVERAGING
CONSUMER CENTRIC ANALYTICAL APPROACHES FOR MARKET LEADERSHIP –
CONJOINT ANALYSIS

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Abstract

The wearable technology market, led by smartwatches, thrives with consumers' rising demand for health monitoring. However, current devices inadequately serve the growing elderly population with distinct healthcare needs. Through literature review and mixed-methods research - including interviews, perceptual mapping, and conjoint analysis - this study identifies critical attributes for a smartwatch appealing to elderly users. Key findings suggest enhancing usability, integrating advanced health features, ensuring data privacy, and fostering emotional connections to bridge the generational gap. The proposed "Guardian Smartwatch" guides brands, particularly Apple, in designing inclusive wearable technologies that enhance health, independence, and intergenerational care.

Keywords

Smartwatch, Wearable Technology, Consumer Perception, Generational Accessibility, Price Sensitivity, Brand Personality, Technological Integration, AI and Predictive Analytics, Elderly Usability

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1. Introduction

"The best way to predict the future is to create it." – Peter Drucker (1964), a pioneering authority in modern management. In wearable health technology, where innovation transforms lives daily, predicting consumer needs is the key to shaping the industry's future. Smartwatches, once mere accessories, are now integral to health monitoring and personal independence. Yet, as brands race to innovate, a critical question arises: How do consumers perceive the attributes that define these devices, and what matters most to them? This thesis dives into these perceptions, revealing insights that not only answer pressing questions about consumer behaviour but also illuminate opportunities for brands to redefine wearable tech for a diverse and evolving audience.

The wearable technology market, led by smartwatches, has become essential in health and fitness tracking. Consumer demand for devices that monitor personal health metrics has driven this growth, supported by brand ecosystems that integrate services and devices, fostering customer loyalty. Wearable technology has transformed how individuals manage their health, offering continuous monitoring and real-time insights into various health metrics (Qu et al. 2021). The heightened focus on health during the COVID-19 pandemic further propelled interest in these devices (Channa et al. 2021). These advancements bridge the gap between fitness and healthcare, with devices such as smartwatches evolving into essential tools for chronic disease management, preventive care, and personalised health tracking (Godfrey et al. 2018).

The global wearable devices market has experienced significant growth, driven by increasing consumer demand for multifunctional health monitoring devices (Lima et al. 2022). Valued at USD 61.30 billion in 2022, the wearable technology market is projected to grow at a compound annual growth rate (CAGR) of 14.6% from 2024 to 2030, showcasing the pivotal role of wearables in modern healthcare (Grand View Research 2024). North America has

emerged as a dominant market, contributing 33.8% of global revenue, followed by Asia-Pacific and Europe, with Europe maintaining steady growth through increasing adoption of wearables. Asia-Pacific exhibits the fastest growth potential due to its rapid technological adoption and accessibility of innovative products.

Europe's shifting demographics underscores the urgency to bridge this gap. As the global population ages, wearable technology is uniquely positioned to address critical healthcare and accessibility challenges. The World Health Organization recently warned in 2024 that the number of individuals aged 65 and older would surpass those under 15 in the European population, reflecting a demographic shift that presents both, challenges and opportunities for the healthcare sector (WHO 2023). Within the European Union alone, elderly individuals accounted for 20.8% of the population in 2021, with this figure projected to rise steadily over the coming decades (Eurostat 2024). Rising healthcare demands compound this trend, as older adults require more frequent medical consultations and are more likely to experience chronic conditions (WHO 2023). For this research, "elderly" is defined as individuals aged 65 years and older, with subcategories of "early elderly" (65–74 years) and "late elderly" (75 years and older), following the framework proposed by Orimo et al. (2006). These demographics face unique challenges related to chronic diseases, mobility limitations, and increased healthcare needs, making wearable health technologies especially relevant.

Wearable technologies, such as smartwatches, fitness trackers, and e-textiles, combine biosensing, microelectronics, and wireless communication to deliver real-time feedback on physical activity, vital signs, and physiological functions (Olsen 2020; Guk et al. 2019). These devices transcend traditional health management by enabling remote monitoring, fostering user independence, and reducing healthcare costs (Talukder et al. 2020). Smartwatches have become a focal point for innovation, integrating advanced features such as electrocardiogram (ECG) monitoring, blood oxygen tracking, and fall detection (Chandrasekaran et al. 2020). Brands like

Apple, Fitbit, and Samsung have spearheaded the industry by creating ecosystems that merge hardware with complementary services like Apple Fitness+ and Samsung Health, fostering user engagement and loyalty (Lima et al. 2022). As the lines between fitness devices and medical technologies blur, wearable health technologies play a crucial role in bridging the gap between preventive care and medical intervention. The integration of artificial intelligence (AI) and machine learning (ML) further enhances their capabilities, enabling early detection of health risks, predictive analytics, and personalised care plans (Jerath et al. 2023; Nahavandi et al. 2022).

Three primary barriers currently hinder the adoption of wearable health technology among elderly users. First, there is a clear lack of user-friendly, real-time health monitoring tools that integrate seamlessly into their daily routines. As one participant noted during an interview: “Older people need something functional but simple, not a device that looks like a medical gadget”. Second, the design of existing devices often emphasises clinical aesthetics or overly complex interfaces, deterring adoption. A respondent from the perceptual map survey highlighted this issue, stating, “The complexity of the device, as I find it complicated sometimes to understand and use” Lastly, caregivers face significant challenges in staying connected with elderly relatives. The conjoint analysis revealed that younger generations prioritise features such as dual connectivity, allowing them to remotely monitor health metrics while empowering elderly users to retain independence. As a market leader in wearable technology, Apple is uniquely positioned to address this gap by leveraging its reputation for seamless ecosystem integration, advanced health monitoring features, and user-centric design. This study introduces the Guardian Smartwatch, a brand-new product concept tailored specifically to the needs of elderly users while appealing to younger buyers—particularly Gen Z and Millennials—who are emerging as key advocates and purchasers for their elderly family members.

The societal relevance of this study lies in its potential to inform the development of wearable technologies that enhance the health and independence of elderly users while strengthening intergenerational connections. By addressing the challenges caregivers face, this research promotes a more inclusive and health-conscious society. The scientific relevance stems from its contribution to the existing body of knowledge on wearable technology by focusing on the intersection of consumer behaviour, health technology, and generational dynamics. The study also advances research on marketing strategies tailored to dual audiences—elderly users as end-users and Gen Z/Millennials as purchasers—offering a novel perspective on the interplay between product design, consumer behaviour, and market demand. The study seeks to answer the following research question:

RQ: *How do consumers perceive the wearable health tech industry, especially the smartwatch product category, and which key attributes do they value the most?*

The thesis begins with a literature review outlining current findings on wearable technology, generational purchasing behaviours, and elderly health monitoring. This is followed by an analysis of the perceptual map and conjoint analysis results, which identify the key attributes shaping consumer preferences. Based on these insights, the Guardian Smartwatch is proposed as a new product concept, accompanied by a detailed marketing strategy. The final section discusses the managerial implications, limitations of the study, and avenues for future research. By addressing the unmet needs of elderly users and the preferences of younger buyers, this study aims to demonstrate how Apple can redefine wearable technology as a tool for health, independence, and intergenerational care.

2. Methodology

The present research employs both qualitative and quantitative methods to address the overall research question (Appendix B.1):

RQ: *How do consumers perceive the wearable health tech industry, especially the smartwatch product category, and which key attributes do they value the most?*

In a preliminary analysis, interviews were conducted with two distinct groups: general consumers and industry experts. The target group consisted of individuals born between 1970 and 2000 who had purchased and used smartwatches for at least six months (Appendix B.6). Considering the researchers' limited accessibility and the specific subject of this study, a convenience sampling method was employed, incorporating data uniquely from a nearby and willingly available group of respondents. As most of the researchers had the best access to the European population, this study exclusively focused on European Gen-Z consumers. The results gathered were used as the foundation to determine relevant attributes for two subsequent quantitative surveys. The first survey was designed to construct a perceptual map and ultimately answer the first three research questions of this dissertation:

RQ1: *What key attributes shape consumers' perceptions of smartwatch brands?*

RQ2: *How do consumers perceive the overall competitive landscape within the smartwatch industry?*

RQ3: *Which main market gaps can be identified from the perception of consumers?*

The following survey was created to collect data to perform a conjoint analysis and address the remaining three research questions:

RQ4: *What key attributes and features do consumers value most when considering purchasing smartwatches?*

***RQ5:** How do smartwatch brand attributes and feature preferences vary by consumer demographics (age, physical activity level, use case, current users vs non-users)?*

***RQ6:** How do consumer preferences for smartwatch attributes and features change when considering a purchase for elderly users?*

2.1.Preliminary Interviews

The preliminary interviews aimed to gather qualitative insights into user preferences, behaviours, and perceptions regarding smartwatches, focusing on the features that drive purchase decisions and influence satisfaction. The following methodology outlines the approach to conducting, recording, and analysing these interviews.

To provide a deeper understanding of the interviews conducted, Appendix B summarises the interview process: B.2 and B.3 outline questions for consumers and experts, B.4 and B.5 present response trends, B.6 highlights users profile, and B.7 presents the detailed transcript of each preliminary interview.

2.1.1. Interview Design

The research employed a mixed-methods approach, utilising face-to-face interviews, phone calls, and virtual Microsoft Teams meetings to conduct a total of seven preliminary interviews, each lasting between 20 and 35 minutes. The participants represented a varied sample of three professionals and four general consumers, providing a broad perspective on how smartwatches are used in daily life and professional settings. This helped identify their attributes, influencing their purchase decisions and the features they prioritise most.

Participants represented a diverse mix of smartwatch users across brands (e.g., Apple, Garmin), demographics, and usage patterns, ensuring a wide range of perspectives on consumer experiences. The sample included various ages, genders, and fitness levels, with casual and intensive users reflecting different needs and satisfaction levels. The utilised questions for the

interview covered six main themes, with the first one being the extraction of the main purchasing motivation. It examines the key features that influence customers purchasing decisions. Additionally, to validate the satisfaction with the specific features of the smartwatch, participants were asked for necessary technical features. While exploring the interviewee’s stances on data security and trust, they were asked about privacy concerns and issues related to data security. To assess how important brand loyalty and ecosystem compatibility are to smartwatch users, a theme on brand preferences and device integration was included, while usage frequency and context examined usage scenarios such as workouts and productivity. Lastly, future expectations invited participants to share ideas for future features, capturing insights on emerging trends and desired functionalities (Appendix B.2 and B.3).

2.1.2. Interview Results

Key Attribute	Interview Results
Health Monitoring	Heart rate and sleep tracking were highly valued, with a strong interest in predictive health insights
Battery Life	Essential for all users; casual users prioritized daily longevity, while sports users sought extended battery support
Design and Customization	Participants preferred adaptable designs with customizable options like interchangeable bands and watch faces to suit both function and personal style
Privacy and Data Security	Users expressed a demand for transparency and control over health data, especially regarding third-party access
Brand Loyalty and Ecosystem	Important in purchasing decisions: Apple users valued seamless integration with iPhone devices
Social Connectivity and AI Integration	Appealed to younger users; features like fitness milestone sharing and community challenges were especially attractive
Future Feature Aspirations	Included advanced health monitoring, predictive health alerts, enhanced connectivity, and community-oriented social features, indicating a mix of practical and socially engaging functionalities

Table 1: Preliminary Interview Results

Several key preferences and priorities among smartwatch users were revealed in the consumer and industry experts’ interviews (Appendix B.4 and B.5):

Most interviewees identified health monitoring, especially heart rate and sleep monitoring, as the primary reason for buying a smartwatch, with battery life, design, and price

also influencing their choice. Ecosystem integration, particularly within the Apple environment, was valued by over half of the participants for its convenience, though one noted that brand loyalty didn't affect their decision. The most-used features included heart rate monitoring, step counting, and sleep tracking, emphasising the importance of health metrics.

Some users were concerned about privacy, while others were less worried, often citing data anonymisation. Opinions on AI-driven health features varied, with a few seeing them as important but not essential. Different users praised Apple's ecosystem, Garmin's fitness tracking, and Huawei's balance of price and functionality, reflecting varied brand strengths.

Comparative Analysis: Industry Experts vs. Consumers

To validate findings, insights from consumer and industry expert interviews were compared, revealing key alignments and gaps. Both consumers and experts appreciate the health monitoring and predictive capabilities of the smartwatch. Nevertheless, consumers demonstrated a greater interest in the practical, everyday applications of AI, indicating that brands should prioritise this aspect. Consumers were moderately concerned about protecting their privacy, appreciating a clear data policy and basic control of their information. In contrast, Industry Experts place a significant value on user privacy yet recognise that users tend to accept the terms and conditions without delving into their specifics. Battery life was a crucial factor across all users, yet active users requested longer-lasting performance than what the industry standard typically offers.

Regarding device compatibility, both groups preferred a broader, cross-platform integration, allowing them more flexibility outside of a single ecosystem. Design and customisation were also appreciated by both, with consumers preferring adaptable, modular options. However, design always carries an element of personal preference. Finally, social and AI features were valued, with consumers particularly interested in social engagement, pointing to the potential for expanding community-driven functionalities.

The consumer interviews provided valuable insight into smartwatch users' priorities and most important features. Health features, privacy considerations, design preferences, and cross-device compatibility were found to be important attributes. By comparing consumer insights with those of industry experts, conjoint analysis is well-positioned to capture smartwatch users' trade-offs when purchasing a smartwatch. The crystallised attributes provide a valuable framework for analysing consumer preferences and enable brands to meet evolving expectations in the wearable health technology market.

3. Conjoint Analysis

Conjoint analysis is a research method that quantifies consumer preferences by assessing the trade-offs they make between different product attributes (Orme 2009). This approach allows researchers to understand the relative importance of various features, making it well-suited for complex, multi-attribute products like smartwatches (Green and Srinivasan 1978). Within this study, our conjoint analysis will capture consumers' valuation of specific smartwatch attributes across different levels, which will be derived in the subsequent sections.

Smartwatches, which blend functionality with personal expression, present a variety of features that attract diverse user demographics. By simulating real-life purchasing trade-offs, the brand-specific choice-based conjoint enables a structured examination of consumer preferences across these multiple attributes, providing insights into the features consumers prioritise in their decision-making process. By understanding these trade-offs, we can evaluate the relative consumer preferences of various attribute combinations and identify the path-worth utility compared to available alternatives within the smartwatch market.

3.1. Survey Design & Data Collection

The survey was designed and administered from the 24th of October until the 23rd of November 2024 using the Conjoint.ly platform, which enabled us to implement a choice-based conjoint analysis with a brand-specific approach. This approach was chosen to capture brand-specific preferences among consumers, aligning with our research objective of understanding attribute-based consumer choices in the smartwatch market. To achieve a significant sample size, we distributed the survey through various channels, including Survey Circle, LinkedIn, Instagram, Reddit, and direct networks (WhatsApp, friends, and family).

We collected a final sample of 171 completed responses out of an initial 446 entries with a strong 82.8% McFaddens pseudo-R² (Goodness of fit). By implementing rigorous screening and quality control steps to enhance data reliability, the 160 participants recommended by G*power were reached with a medium effect size of 0.15 and 21 predictors. To ensure data integrity, Conjointly's platform automatically applied filters to exclude responses flagged as low quality. Participants who failed to spend adequate time reviewing alternatives or exhibited disengaged behaviours were marked as low quality and omitted from the analysis. This automated quality control was essential to maintain a baseline standard across responses.

In addition to automated quality checks, manual data cleaning was conducted. Screening questions were employed to identify participants with genuine interest or ownership in the smartwatch market (Appendix D.2): Screening Questions (Q1 & Q2) were critical in establishing the relevance of participants' responses to this study. Specifically, Q1 assessed whether participants currently use a smartwatch and Q2 identified participants' interest in purchasing a smartwatch, either for themselves or for family members (e.g., elderly relatives). Only participants who owned a smartwatch or expressed interest in purchasing one (either for personal use or for others) were retained. Consequently, we excluded 16 respondents who

neither owned nor intended to purchase a smartwatch. This refinement yielded a final effective sample of 155 respondents who met these inclusion criteria.

Additional smartwatch-specific demographic questions (Appendix D.3) enable a more detailed analysis across potential consumer segments, answering **RQ5: *How do smartwatch brand attributes and feature preferences vary by consumer demographics (age, physical activity level, use case, current users vs non-users)?***

Lastly, to assess a potential market gap for the use-case application of smartwatches for elderly health monitoring and safety purposes, tailored questions enhanced the main conjoint block. It helps us identify the best demographic, brand, and smartwatch configuration, answering **RQ6: *How do consumer preferences for smartwatch attributes and features change when considering a purchase for elderly users?***

Q4 in our survey assessed whether the participant would consider purchasing a smartwatch for an elderly family member (e.g., a parent or grandparent) to monitor their health or for safety reasons. The conditional Q5 would then follow up on the participants who answered “Yes” to assess whether their preferred smartwatch setup and feature priorities change when considering a purchase for an elderly person. For convenience purposes, we call these two segments "Elderly Change: Yes" and "Elderly Change: No" for the remaining analysis. The "Elderly Change: Yes" segment represents participants who expressed a willingness to change their smartwatch preferences when considering the elderly use case, implying a misalignment between current offerings and the needs of elderly users, an opportunity for the Guardian Smartwatch. Conversely, the "Elderly Change: No" group reflects participants whose existing preferences from the conjoint align with the requirements of elderly use and thus can be seen as representative of which features these participants would also choose for their elderly. Comparing these two groups provides valuable insights into attribute importance and brand

preferences for the elderly use case. For example, discrepancies in preferences can signal areas where brands can enhance their positioning for this emerging market.

Q6 asked participants to rank the following elderly-specific features by importance if they were purchasing a smartwatch for an elderly family member: emergency alerts, ease of use, remote health monitoring, battery life, location tracking, and communication. By analysing Gen Z, Millennials, and Gen X preferences, we identify generational differences in priority for these attributes, enabling us to identify a brand fit and a design of a product configuration that appeals to the most relevant buyer demographic while addressing elderly user needs. The elderly-specific feature ranking serves as a cross-reference to evaluate how well these priorities align with the attribute levels identified in the conjoint analysis itself.

3.1.1. Description: Sample Characteristics

Our final sample exclusively comprised a European cohort, with 80% of participants from Germany and smaller proportions from Austria (6.5%), France (4.5%), Portugal (3.2%), Switzerland (1.9%), and the Netherlands (1.3%). Gender distribution showed a female majority (61.3%), with males representing 38.1% and 0.6% preferring not to disclose. Generation Z (ages 18–27) accounted for the majority (71.6%), Millennials (28-43 years) 22.6%, Generation X (44-59 years) 5.2%, while only 0.6% were Baby Boomers (60-78 years) highlighting a younger demographic focus. Additional details on smartwatch-specific demographic segmentation such as physical activity levels are presented in Appendix D.4.

3.2. Research Results

3.2.1. Description: Relative Importance of Attributes

Conducting the overall brand preferences across all participants and segments, Apple positions as the clear leader with a median of 34.7, followed by Garmin (0.9), while Samsung

(-5.0), Fitbit (-0.8), and Huawei (-15.6) struggled to achieve similar levels of favorability and even indicated negative preference levels:

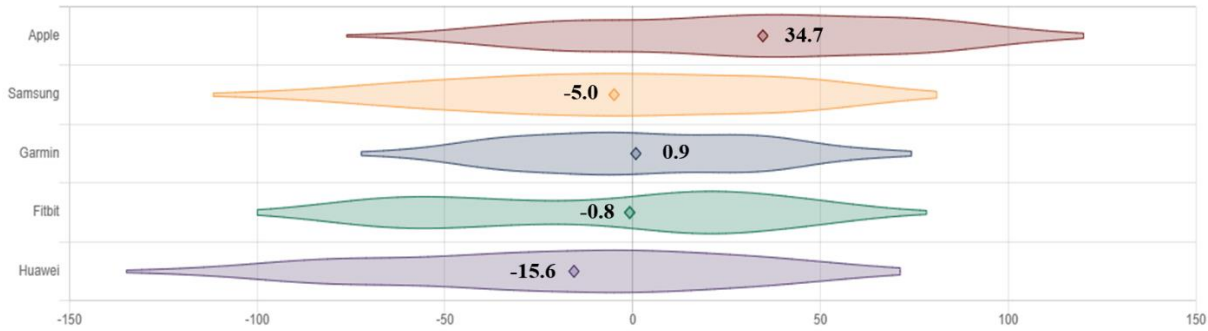


Figure 1: Median Values of Preferences for different combinations of features within each brand

Comparing the relative importance of attributes across brands (Appendix D.5 – D.9), price consistently emerged as the most significant attribute, accounting for a minimum of 32.7% and ranging up to 38.3% of the decision-making influence. However, price alone does not dictate preferences; data sharing and privacy ranked as the second-most important attribute (13.8% to 20.1%). Health monitoring features (12.6% to 16.4%) and Battery life (14.3% to 17.3%) followed while design and aesthetics (10.5% to 13.9%) and connectivity to smartphones (4.6% to 7.6%) carried comparatively lower weight, indicating that while these attributes enhance the overall product experience, they are secondary in driving purchasing decisions.

However, by looking further into the brand comparison, relative attribute preferences become visible. Among Apple users, data sharing and privacy (18.2%) held next to Samsung the highest importance compared to competitors, while price (35.0%) still maintains the highest relevance but is less strong than other brands. Garmin, in contrast, displayed a moderate emphasis on health monitoring features (14.1%) and even stronger on battery life (17.3%) with relatively less data sharing & privacy emphasis. While design and aesthetics (13.9%) seem to have moderately more importance for Garmin smartwatches, connectivity to the smartphone is the least important attribute compared to all other brands. Samsung followed a similar pattern to Apple with a strong focus on price (35.1%). Similarly, Fitbit attracts users who consider price

(38.3%), health monitoring features (16.4%), and battery life (14.7%) important. Also, Huawei is leaning towards price (32.7%) and battery life (17.1%), yet they expect functional features within an integrated ecosystem due to a higher emphasis on the connectivity to smartphone attribute (7.6%).

Further segment analysis provides additional insights (Appendix D.10): Across age groups, Gen Z participants (18-27 years) showed a clear preference for Apple (33.7), with price (35.1%) and privacy (17.9%) dominating their decision criteria. Gen Z's more active lifestyle preferences compared to other age groups are expressed by higher rankings for Garmin (7.0), while negative values for Samsung (-1.4), Fitbit (-2.0), and Huawei (-14.9) are observed. Apple continues to lead with a slightly lower preference score of 28.4 within the segment of Millennials (28-43 years), who placed greater emphasis on design and aesthetics (12.5%) for Apple. In contrast, Generation X (44-59 years) displayed a lower brand preference score of 26.8 but considered Apple still their preferred brand. This group is slightly less price-sensitive (33.4%), and data sharing and privacy (23.6%) gained significant importance compared to younger age groups.

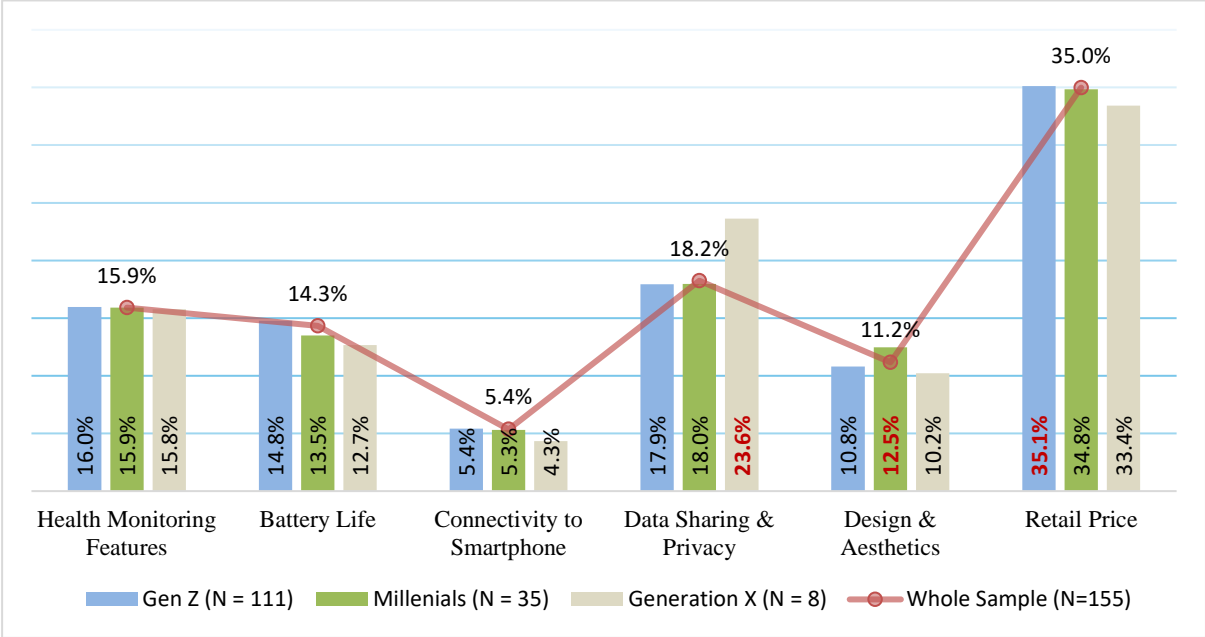


Figure 2: Apple Attribute Importance across Age Groups

Considering the different indicated physical activity levels also revealed distinct patterns: For high-activity users, the brand preference for Apple significantly decreased to 32.9 compared to the occasional physical activity group (41.9), while Garmin and Fitbit gained in preference (Appendix D.11). It translates into relatively greater importance of health monitoring features for Garmin (14.5%) for the high physical activity segment compared to the occasional physically active segment. Moreover, both segments indicate an increased preference for battery life (Appendix D.12). Among participants using their smartwatch primarily as a fashion accessory, Apple is by far the preferred brand (47.2). However, participants interested in smartwatches for health monitoring still prefer Apple, but with a less emphasised score of 39.4, while Garmin and Fitbit gain in relevance (Appendix D.13).

Further segmentation into current smartwatch users and non-users (but interested in a potential purchase) provides marketing insights into brand- and attribute preferences. Current smartwatch users express increased brand preference levels for Apple (33.4) and Garmin (5.5), compared to non-users. Only Samsung's negative score for current users (-5.3), as well as Fitbit (-4.6), turned positive for non-smartwatch users (Appendix D.14). For Apple, current users prioritise battery life (14.7%) and smartphone connectivity (5.7%) slightly more than non-users do. In comparison, non-users placed higher weight on data sharing and privacy (19.2%) for potential new Apple customers (Appendix D.15).

3.2.2. Description: Part-worths Utilities

Analysing the part-worth utility for the overall sample (Appendix D.5 – D.9), price sensitivity, data sharing and privacy, and battery life emerge as one of the most consistent drivers of preference across all brands. The pricing attribute displays a consistent trend of preference across the whole sample, with entry-level price points (e.g., €199–€299) driving the highest utilities. Apple achieves 19.4% at €199 and 17.3% at 299€, while Fitbit leads with 21.8% at 199€, closely followed by Garmin (21.5%). Mid-range pricing of €499 provides

moderate utility for functional and value-oriented brands like Garmin (3.0%) and Fitbit (7.5%), while the supposed high-end Apple brand does provide negative utility at the 499€ price point. However, utilities declined for prices exceeding 799€ with significantly negative values at €1000+ regardless of brand.

Also, battery life is universally important, with longer durations significantly preferred. For instance, 4–7 days of battery life for Apple marks the highest preference at 7.0%, while for health- and fitness-focused Garmin and Fitbit, more than seven days achieves 8.8% and 9.7%. Conversely, shorter battery lives (e.g., up to 24 hours) hold strongly negative utilities, indicating that battery life remains a critical baseline expectation across brands.

When investigating data sharing and privacy attributes, high levels of data protection are strongly preferred. Full transparency with high anonymity and full control achieves 10.7% for Samsung, 9.0% for both Apple and Garmin, and to a slightly smaller extent for Fitbit (8.3%) and Huawei (8.2%). Enhanced privacy settings as one level below, offering controlled third-party sharing, also drive moderate preferences for Apple (6.3%) and Samsung (5.2%), but significantly weaker pronounced for value and fitness-oriented brands such as 1.7% Huawei, 0.4% Garmin, and 0.1% Fitbit. Lower privacy levels (e.g., basic data collection with minimal anonymity) score negatively, as seen by utilities of -6.3% for Garmin and -5.8% for Samsung.

However, more advanced health monitoring features also carry influential weight with considerable variability across brands. AI-enhanced health monitoring features score moderately high for brands like Apple, 4.0%; Samsung, 4.2%; and Fitbit, 7.0%. Slightly less advanced features, such as comprehensive health tracking (ECG, blood oxygen, and sleep tracking), are relatively more emphasised within Apple, Huawei, and Samsung. Basic health features consistently underperform, with utilities such as -9.8% for Apple and -9.3% for Garmin.

For the smartphone connectivity level, although with overall low decision weight, Apple, Garmin, and Fitbit express an inclination towards using an additional app to reach full compatibility across brands and devices. On the contrary, Samsung and Huawei are expected to offer seamless integration without the requirement for an additional app and are willing to sacrifice compatibility with other brands. Minimalistic design and aesthetics is the preferred level for the majority of brands, with the strongest being Samsung at 3.5%, Garmin at 2.9%, and Huawei at 2.6%. For Apple and Fitbit, the premium accessory design and aesthetics is emphasised with 2.5% and 2.2% respectively (Appendix D.5 – D.9).

Segmentation analysis reveals notable generational differences in preferences between Generation Z, Millennials, and Generation X. Price remains the most influential factor for all age groups, especially for Gen Z and Millennials. For example, Apple's lower price point of 199€ is strongly emphasised for Gen Z (19.1%) and Millennials (20.0%) compared to Gen X, who are additionally less price sensitive at the 299€ price point (18.4% compared to 16.8% Gen Z) (Appendix D.16). Moreover, Gen Z and Millennials consumers show the strongest inclination toward innovative features, such as comprehensive and AI-enhanced health monitoring, with the highest combined utilities for Garmin and Apple compared to Gen X, who is satisfied with less advanced features like ECG, blood oxygen, and sleep tracking (e.g. 4.5% for Apple, 2.7% Garmin) (Appendix D.17). Moreover, for Apple, Gen Z and especially Millennials place more value on premium accessory design considerations while Gen X prefers Sport-Focused aesthetics (Minimalistic design dominates across all age groups for the remaining brands). At the same time, Gen X is more concerned with seamless connectivity to the smartphone without an app for Apple, while younger age groups demand full compatibility across brands at the cost of an additional app. The importance placed on higher privacy levels significantly increases from younger Gen Z to Millennials up to Gen X for Apple and Samsung. For example, Gen X places 10.7% (Apple) and 11.7% (Samsung) (Appendix D.18) towards the

full transparency level. However, in contrast, for the sport-oriented Garmin, full transparency scores a strong utility of 12.9%, which makes it the only preferred level for Gen X.

Segments based on physical activity levels further differentiate preferences. High-activity users exhibit a strong preference for extended battery life, as seen in Garmin's seven-day battery life, achieving 8.1% utility, and Fitbit scoring 10.0% for similar durability, while for Apple, 4-7 days (7.0%) is sufficient (Appendix D.19). Additionally, this segment's decision weight lies significantly more on the AI health monitoring features, especially for Apple, which has 4.6%, and Fitbit (6.5%). Meanwhile, occasional users place greater emphasis on mid-range features; for example, Apple's comprehensive health tracking achieves 4.0% utility among this group, reflecting a preference for practical functionality without unnecessary complexity as an allrounder smartwatch. For Garmin, Samsung, and Fitbit, the level preferences for the most advanced AI capabilities remain stable across active and less active groups, indicating an expectation of functionality for fitness-oriented smartwatch product portfolios (Appendix D.20).

Differences also arise between current smartwatch users and non-users (Appendix D.21). Current Apple smartwatch users exhibit a stronger preference for advanced functionalities such as AI-predictive disease management (4.1%) and 4-7 days battery life (7.8%). However, non-smartwatch users exhibit a weaker preference for functionalities but lay with 10.3% significantly more decision power in full transparency settings for privacy and data sharing compared to current Apple smartwatch users (8.0%). Furthermore, non-users are more price-sensitive, with the highest utilities for the entry-level 199€ price point (20.2%).

3.2.3. Description: Conjoint Insights for the elderly use case

Comparing brand preference changes from the "Elderly Change: Yes" to the "Elderly Change: No" segment, Apple's significant drop from 31.3 to 19.3 suggests a gap: while Apple

is still the preferred brand, it is seen as slightly less suitable for elderly-specific needs. It still exceeds the runner-up Garmin (5.0), while the remaining brands express negative preferences.

Brand	Elderly Change: Yes	Elderly Change: No	Delta Δ
Apple	31.3	19.3	12
Samsung	-0.1	-4.1	4
Garmin	7.2	5	2.2
Fitbit	-12.5	-4.6	7.9
Huawei	-27.6	-7.2	20.4

Table 2 Median Brand Preferences by Willingness to Change the Smartwatch Feature Setup for the Elderly Use-Case

Thus, focusing on Apple's attributes tailored for elderly use can be complimented by the feature rankings for elderly use cases (Q6): Emergency alerts (e.g., SOS button, automatic fall detection) rank highest for Gen Z and Millennials followed by ease of use (e.g., large buttons, simplified interface), and remote health monitoring (e.g., heart rate, ECG, Blood Pressure) (Appendix D.22). Considering attribute level preferences, entry-level pricing of 199€, followed by 299€, remains the most critical driver of preferences, achieving the highest utilities across all segments with 20.8% and 19.7%, respectively.

Full transparency of data sharing and privacy practices emerges as the second critical factor, as shown by its utility increase from 8.0% ("Elderly Change: Yes") to 12.7% utility in the "Elderly Change: No" segment. Functionality as a crucial consideration for the elderly use case reveals a 5.1% utility for a battery life of four to seven days. Similarly, advanced health monitoring (e.g., ECG, blood oxygen, and sleep tracking) provides the highest utility (3.7%), while AI-enhanced features like predictive disease management are moderately appreciated (3.2% utility in "Elderly Change: No"). Lastly, a premium accessory aesthetic (2.1%) or a sport-focused design (1.6%) provides the only positive utility for this segment, while the connectivity to the smartphone attribute itself holds lower importance, the preferred level is "additional app required but full compatibility with other brands." (0.5%) (Appendix D.23).

3.2.4. Interpretation: Conjoint Analysis Findings

The conjoint analysis provides insights into attribute and feature preferences of consumers in the smartwatch market (RQ4) by further distinguishing between demographic segments across age, physical activity level, use case, and current users vs. non-users (RQ5): The findings highlight the attributes of price, longer battery life and high data privacy as the overarching baseline expectations across brands and segments. The strong price sensitivity observed across the sample suggests that pricing remains one of the most influential levers for driving consumer adoption, particularly at the entry-level (€199–€299) and mid-range (€499) tiers. Prices exceeding 799€ with significantly negative utilities at €1000+ indicate a general aversion to luxury pricing tiers regardless of brand.

Data sharing and privacy ranked as the second most important attribute, reflecting heightened consumer awareness and concern about how personal data is handled, particularly in the context of health and fitness monitoring. More than 7 days of battery life is preferred for functional-oriented smartwatches, while for Apple, as an all-purpose watch, the level of 4 to 7 days is sufficient. Meanwhile, the varying preferences for attributes like advanced health monitoring, design, and smartphone compatibility provide further opportunities for differentiation, addressing the demand for usability and functionality. For example, consumers across all brands expect advanced technological capabilities to be the baseline, while for all-rounder and value-focused smartwatches, AI capabilities are less demanded compared to more functional and fitness-oriented watches.

These conjoint findings imply important trade-offs between attributes. In combinations where AI-enhanced health monitoring is included, the price is usually kept low (€199–€299) or battery life is limited to 4–7 days. This suggests that consumers are willing to trade off slightly longer battery life for advanced health features but remain price conscious. Additionally, full transparency settings consistently appear in combinations priced under €499. Higher-priced

combinations featuring this attribute decrease in utility, suggesting that while privacy is highly valued, it cannot entirely offset the deterring effect of higher prices. Nevertheless, enhanced privacy with controlled third-party sharing also appears in several top configurations, suggesting that moderate levels of control and anonymity can also be enough when paired with other desirable attributes like advanced health monitoring.

Comparing attribute preferences across brands, the finding that data sharing and privacy are the most emphasised attributes among Apple users reinforces the demand among Apple's privacy-conscious consumers seeking secure, premium-quality devices that align with its established positioning as a lifestyle brand. Samsung, as the potentially strongest competitor in that category, expresses similar preferences, however, struggles to differentiate itself in attributes such as health monitoring and design, revealing that Samsung users prefer functionality at an affordable price point over premium aesthetics. Contrarily, stronger preferences for health monitoring features and battery life among Garmin and Fitbit users support their reputation as performance-oriented brands tailored to active users. However, Fitbit with a higher price sensitivity, indicating that Fitbit's appeal lies in affordable, health-centric products rather than luxury or privacy-centric features. Huawei's budget-conscious users expect functional features within an integrated ecosystem due to higher emphasis on the connectivity to smartphone attributes.

RQ5: While Apple is clearly Gen Zs preferred brand, Garmin's higher rankings for Gen Z compared to other age groups reveal the active lifestyle preferences of this segment, implicating the need for more functional setups. In particular, Gen Z demands more compatibility across brands and devices and is willing to accept the inconveniences of an additional app. Contrarily, Millennials, and especially Gen X, express reduced brand affection for both brands. Gen X, in particular, seeks greater peace of mind regarding data sharing and

privacy practices, while Gen Z already demonstrates slightly more flexibility in privacy requirements.

The findings of this work prove that more functional positioned brands like Garmin and Fitbit align better with the high-activity level segment while occasional active users lean more heavily towards Apple. Also, slightly elevated preferences within the health-monitoring use case segment compared to the fashion accessory use case underline these different brand positionings in the smartwatch market. It reflects the need for reliable performance in fitness-oriented use cases, with Garmin and Fitbit positioning towards active segments and Apple users showing a more general-purpose application with both functional and aesthetic appeal, while Samsung and Huawei do not really position towards a specific niche.

Increased brand preference levels for Apple and Garmin for current smartwatch users compared to non-users indicate stronger brand loyalty and adoption once they are familiar with the brand's smartwatch products. Contrarily, Samsung and Fitbit brand preferences turned slightly positive within the non-smartwatch user segment, which could imply initial brand affection. Still, once they are actual product users, they might experience dissatisfaction. For current Apple users, functionalities play a crucial role in the users' minds. In comparison, non-users placed higher weight on data sharing and privacy, revealing the barriers of perceived privacy concerns for potential new Apple customers. Thus, particularly potential new customers for Samsung and Fitbit need to be convinced by seamless user experiences, while privacy and data sharing are more important to new Apple users. These segment differences could indicate that price- and privacy concerns are potential purchase barriers for consumers who do not currently own a smartwatch, whereas, for loyal customers who already own a smartwatch, this perspective shifts as they are convinced by the functionalities and slightly more willing to pay a higher price, especially for Apple.

Lastly, **RQ6** assesses changing consumer preferences for smartwatch attributes and features when considering a purchase for elderly users shift notably compared to personal use cases. While price remains a key driver for both groups, it holds slightly less weight for the elderly use setup, indicating a more budget-conscious approach. In contrast, full transparency for data sharing and privacy practices emerges as significantly more important among those retaining their setup, indicating its critical role in elderly-related decisions. Practical features like extended battery life and advanced health monitoring remain stable across groups, similarly for design and aesthetics consideration with an overall lower priority. These differences suggest that the elderly use case demands a more functional and reliability-oriented product design, highlighting the need for tailored attributes such as enhanced usability and data security. Although Apple is still the preferred brand, it is seen as slightly less suitable for elderly-specific needs, representing a clear market tension with an opportunity for Apple to strengthen its reputation and tailor its offerings towards this niche. By adapting to these contextual shifts in priorities, we outline in the following sections a feasible go-to-market approach that leverages insights from of this research

4. Conclusion

4.1. Discussion

The discussion provides an interpretation of the results of the analyses and a comparison with the literature. This section presents insights into how consumer perceptions and acceptance factors influence the market for wearable health technology. By synthesizing and summarising the key findings from both analysis methods, the discussion aims to highlight the implications for product development and marketing strategies, particularly for targeting different generational groups.

Consumer Perceptions and Usability

The literature shows that younger consumers prefer advanced features such as AI-driven health information, while older users favour features that offer tangible, immediate benefits (Jerath et al. 2023). The conjoint analysis confirms these preferences, demonstrating that older respondents prioritise health features that directly impact their well-being, such as fall detection and emergency alerts. These findings highlight the necessity for developing smartwatches that align with the usability requirements of older users, offering immediate health benefits and a user-friendly interface. The conjoint analysis additionally revealed that Generation Z and Millennials are more inclined towards AI-driven health features. In contrast, Generation X, while still interested in health monitoring, places greater emphasis on ease of use and simpler technologies. It is noteworthy that this indicates that Generation Z may attach greater significance to health monitoring features than older generations, thereby contributing to the apparent complexity of generational preferences. The perceptual map further supports these insights, as Accessibility Across Generations, defined by Elderly Support (loading = 0.74) and Cross-Generational Usability (loading = 0.74), highlight the growing need for intuitive

designs that cater to older users without alienating younger consumers. These findings reinforce prior literature suggesting that effective designs must accommodate usability preferences for diverse demographic groups (Jerath et al. 2023; Talukder et al. 2020).

The Role of Caregivers in Adoption

The role of caregivers is particularly important in enabling older people to adopt wearable health technology. As Talukder et al. (2020) argue, family and social support have a significant impact on older users' willingness to use new technologies. In such cases, caregivers often assist elderly users in navigating the complexities of wearable technology. This emphasises the necessity for brands to develop products that not only address the specific requirements of older users but also ensure straightforward usability and provide the requisite support to family caregivers. The features of emergency alerts, SOS buttons and remote health monitoring are suitable for both the end user and the caregiver, thereby increasing the likelihood of adoption and trust in the devices in question.

Furthermore, the findings of this study reveal that Accessibility Across Generations, encompassing attributes such as supporting elderly users' health and ease of use across diverse age groups, emerges as a critical dimension shaping consumer perceptions of smartwatch brands. Remarkably, this dimension holds comparable importance to more traditionally emphasised factors such as Emotional Appeal—characterised by attributes like Sophistication and Excitement—and Functional Practicality, which includes attributes like value for money and trustworthiness. This significant emphasis on generational accessibility, as a factor equally influential as emotional and rational considerations, represents a novel contribution to existing research. Previous studies have not contextualised the relevance of accessibility within a multidimensional framework as explicitly, nor have they highlighted its role as a determinant of brand perception in the smartwatch industry.

Design and Aesthetics

The aesthetic appeal of wearable technology is a significant factor influencing its adoption. For younger users, the concept of "fashnology" – the fusion of fashion and technology – has become a pivotal factor influencing their choices, with design being a critical consideration (Choi and Kim 2016). These findings are supported by both quantitative studies conducted in this research. The conjoint analysis indicates that Generation Z and Millennials place a premium on stylish and customisable smartwatch options. In the case of Apple, the preferences of Generation Z and Millennials are primarily oriented towards premium accessory aesthetics and design, in contrast to those of Generation X, who tend to favour sport-focused aesthetics. In contrast, minimalistic designs are preferred across all age groups for other brands, with the exception of Apple. The perceptual map findings further validate these observations, as it identifies Emotional Appeal as a key dimension shaping overall perceptions of smartwatch brands. Attributes loading on this dimension such as Sophistication (loading = 0.85) and Excitement (loading = 0.80) underscore the importance of aspirational branding.

For brands like Apple, which score high in this dimension, it captures the aspirational qualities that resonate with younger consumers, aligning with the concept of 'fashnology' highlighted by Choi and Kim (2016). However, as Fang and Chang (2016) note, aesthetic considerations can also mitigate stigma for older users, making balanced designs—such as those incorporating both sporty and premium elements—critical for cross-generational adoption. The elderly frequently encounter stigma when utilising medical wearables (Fang and Chang 2016). The Guardian Smartwatch addresses this challenge through its balanced design, which incorporates both sporty and premium elements. This is consistent with the findings of Hsiao (2013), who demonstrated that aesthetic considerations can reduce stigma and enhance cross-generational appeal.

Health Monitoring and Safety Features

Implementing health monitoring features such as fall detection, heart rate monitoring and emergency alerts was identified as important. This influences the acceptance of wearable technology, especially among older users (Olsen 2020; Lima et al. 2022). The transition from fitness tracking to more comprehensive health monitoring is well documented in the literature (Collier and Randolph 2015; Liu et al. 2021). The perceptual map confirms these findings, demonstrating that health support features is an important attribute across multiple dimensions. Support for Elderly users, including specific health features and safety features like fall detection, has emerged as one of the key attributes belonging to the Accessibility Across Generations dimension, which is significantly influencing consumers' brand perception. The conjoint analysis corresponds with the literature and the perceptual map results, indicating that older users highly value features such as fall detection and emergency alerts for their immediate health benefits. Despite the importance of these health features, the conjoint reveals that price remains the most important factor in purchase decisions across all brands and segments. This is in line with Jung et al. (2016), who note that consumers tend to prefer the functionality of a smartwatch but also consider price to be a determining factor. In the conjoint, while health monitoring features are important, price continues to play the most important role in the purchase decision.

Privacy and Data Security

Previous literature has emphasised that privacy concerns regarding personal health data remain a major barrier to the adoption of wearable health technologies across all age groups, as noted by Chandrasekaran et al. (2020) and Kapoor et al. The conjoint findings of this work add nuance to this as they reveal a generational divide: Gen Z and millennials are more willing to trade privacy for enhanced features, while older users prioritise data security. This discrepancy underlines the shifting attitudes towards data sharing, influenced by generational familiarity

with digital ecosystems. The perceptual map also highlights privacy (load = 0.62) as a key attribute within the functional purpose dimension, supporting the literature's call for transparent data sharing practices to build trust, particularly important among Gen Xers and Millennials. To address these concerns, brands should focus on clear data sharing policies and intuitive privacy settings to build trust and increase adoption, especially among Gen Xers, who are more cautious about data security.

Barriers to Inclusive Adoption

The extant literature identifies economic and design-related barriers that limit the adoption of wearable technology, particularly among low-income and older populations (Lima et al. 2022; Chandrasekaran et al. 2020). The Accessibility Across Generations dimension from the perceptual map highlights the unmet need for user-friendly designs that cater to older users. Attributes like Elderly Support (loading = 0.74) suggest that brands could enhance adoption rates by simplifying interfaces and emphasising inclusivity. These findings support prior literature highlighting the importance of intuitive design and affordability in overcoming adoption barriers for older populations (Lima et al. 2022; Chandrasekaran et al. 2020). This research offers partial support for this, indicating that affordability is a significant factor for Gen Z buyers acting as caregivers. While both Gen Z and Millennials tend to favour lower price points (e.g., €199), they demonstrated a somewhat higher willingness to pay for devices that offer reassurance and enhanced functionality for their family members, particularly for more functional brands such as Garmin and Samsung. However, when considering devices for elderly users, consumers demonstrated a reduced willingness to pay above €499 compared to purchasing for themselves, indicating that a price barrier persists in the elderly use case. This illustrates the complex relationship between price sensitivity and the perceived value of these devices in caregiving contexts, which could be investigated further in future research.

Brand Ecosystems and Integration

Existing literature underscores the importance of brand ecosystems in promoting consumer loyalty and increasing product value (Gawer and Cusumano 2014; Lima et al. 2022). As the perceptual map shows, Apple in particular benefits from its strong ecosystem, which appeals particularly to younger consumers. However, this study's findings highlight a potential disadvantage of closed ecosystems, especially for older users who may struggle with cross-brand compatibility. Interestingly, Gen Z is willing to accept an additional app to facilitate compatibility between Apple and Garmin smartwatches. Especially when purchasing for older family members. This suggests that while Apple's ecosystem is attractive to younger consumers, it may not be as compelling for older users. Further, this underscores the literature's suggestion for improved interconnectivity to increase inclusivity and facilitate wider adoption (Romero-Perales et al. 2023). Although the literature suggests that brand ecosystems facilitate adoption, our conjoint analysis found that the utility of this attribute was generally low across all brands and segments. Once again, this highlights the complexity of consumer preferences.

Generational Differences in Adoption Patterns

As noted by Chandrasekaran et al. (2020), wearable technology adoption varies significantly across generations, with younger users favouring features like fitness tracking and gamification, while older users prioritise health monitoring and safety. Our conjoint analysis confirms these generational preferences and highlights a critical intersection: younger generations often make purchasing decisions for older family members. While the perceptual map does not segment results by age group, its broader findings highlight the importance of Emotional Appeal and Functional Practicality as drivers of consumer perceptions across the smartwatch market. These dimensions suggest that brands must strike a balance between aspirational branding and practical features to appeal to diverse consumer groups. Addressing gaps in Accessibility Across Generations, as shown in attributes like Elderly Support (loading

= 0.74), offers a clear opportunity to align with the priorities of younger caregivers and older users alike. By bridging these needs, the Guardian Smartwatch aligns with generational priorities, addressing the concerns of caregivers and providing utility for elderly users.

4.2. Managerial Implications

The results from the perceptual map analysis and choice-based conjoint analysis provide a comprehensive understanding of how consumers perceive smartwatch brands and the attributes that drive their preferences. By integrating these findings, this chapter offers tailored, data-driven recommendations for each brand. Together, these analyses reveal actionable opportunities for each brand to enhance their competitive positioning and align their strategies with consumer demands. The following sections outline three key managerial implications for each brand, providing a strategic roadmap and actionable recommendations to optimise their product offerings, marketing initiatives, and overall brand perception.

To contextualise these findings, Michael Porter's Generic Strategies framework is employed to clarify managerial implications. This framework delineates three primary strategies for achieving competitive advantage: cost leadership, which focuses on becoming the lowest-cost producer in the industry; differentiation, which involves offering unique products or services that customers value; and focus, which targets a specific market segment, with an emphasis on either cost minimisation or differentiation within that segment. By integrating these strategic perspectives with consumer insights, this chapter offers tailored, data-driven recommendations for each brand. (Ali and Anwar, 2021)

Apple

Currently, Apple is positioned as a premium brand with strong preference scores across all demographic segments and strong Emotional Appeal, leading in attributes such as excitement and sophistication, but it underperforms in cross-generational accessibility and

Functional Practicality. Applying a categorisation across the dimensions of Porter's generic positioning framework, Apple should continue positioning itself within the differentiation strategy. To broaden its market appeal, it is recommended that Apple addresses both emotional and functional consumer needs. Apple can do this by emphasising data privacy and increasing affordability for entry-level smartwatch models while enhancing elder-friendly features.

1. **Market Emotional Appeal:** For premium brands like Apple, the challenge lies in maintaining their innovative appeal without deterring value-conscious consumers, especially Gen Z and new smartwatch users. Reinforce campaigns that emphasise excitement and sophistication through exclusive designs and aspirational messaging, highlight Apple's prestige and innovation to maintain its dominant Emotional Appeal. For Apple, sport-focused and premium accessory designs align with its positioning as a versatile all-rounder, appealing to consumers seeking aesthetics and performance.
2. **Expand Functional Practicality:** To improve the weak perception of consumers towards Apple's Functional Practicality and high demand for privacy and durability, particularly among mid-range buyers, the brand should promote features like data privacy for sensitive health data and durability. Advanced features like AI health monitoring and offering occasional promotions to address entry-level pricing points at 199€ and 299€ can improve Apple's perceived value while preserving the premium brand image. Setting battery life to 4-7 days for satisfying practical and functional needs and placing marketing messages in everyday real-world scenarios, such as multi-day outdoor use or travel, can reinforce an image of a reliable all-rounder lifestyle device to strengthen the preference across all demographics. For GenX in particular, Apple's marketing communication should highlight user-friendly and fully transparent privacy settings with seamless ecosystem integration,
3. **Enhance Accessibility Features:** Despite its appeal as an allrounder watch, Apple's suitability for the growing elderly use cases is less pronounced, and Apple is not perceived

as a cross-generational brand, as the perceptual map results show. To improve the appeal to the growing market of elderly users, tangible health monitoring benefits, such as improved well-being and preventative care, including SOS button and fall detection features for elderly users, could position Apple's smartwatches as indispensable health tools for all generations.

Samsung

Samsung operates in a competitive middle ground, holding a balanced position by performing positively across Emotional Appeal, Functional Practicality, and cross-generational accessibility, appealing to a wide demographic. However, it struggles to establish a strong, differentiated identity against competitors. Following a broad differentiation strategy by emphasising versatility and trustworthiness will reinforce its position as an all-rounder and trustworthy brand that offers a broad portfolio which caters effectively to diverse consumer segments.

1. **Leverage Balanced Positioning:** In the perceptual map, Samsung is the Nr. 1 player with the highest average overall rating across all dimensions. The brand's reputation is consistently in the mediocre positive, with no compromises made and no dimension where it excels. For Samsung to keep its competitive advantage ahead of Apple, it needs to reinforce its positioning as a versatile brand that appeals to a wide demographic. Showcasing compatibility within its broad Android ecosystem particularly features such as cross-device syncing and enhanced productivity tools with seamless functionality, could attract users. Samsung should market its smartwatches as high-value alternatives to premium brands like Apple by highlighting usability and advanced health features, creating inclusive messaging for diverse users.
2. **Strengthen Accessibility Campaigns:** Samsung should strengthen its competitive edge in the underserved elderly segment by promoting features like elderly support and cross-

generational usability through campaigns targeting older audiences, highlighting advanced health monitoring and user-friendly design.

3. **Boost Functional Practicality:** For Samsung, as a trusted and established player, proactively addressing privacy concerns in their marketing through transparency in data handling could act as a conversion driver for non-smartwatch users. They perceive privacy risks as a barrier to entry, and this underlines the relevance of trust-building and emotional campaigns to enhance a premium image with accessible pricing at the higher end. Develop and market rugged designs and reliability-focused features to appeal to active users, reinforcing Samsung's credibility among performance-driven buyers.

Garmin

Garmin is recognised for its Functional Practicality and value for money, primarily appealing to niche markets such as athletes and outdoor enthusiasts. Expanding its focus differentiation strategy to include urban users by highlighting durability and data privacy can attract a new consumer segment seeking practical and reliable smartwatches, thereby broadening its market reach beyond its traditional niche.

1. **Promote Value for Money and Trustworthiness:** Functional and fitness-focused brands like Garmin must reinforce their image of technological innovation at an affordable mid-range price point (499€) to strengthen their cost-effective positioning for performance-driven buyers. To keep Garmin's core user group, high-activity users, loyal, the brand should highlight its core competencies: Advanced AI-enhanced tracking features and a long battery life of more than 7 days. In addition, expanding market share to urban users presents a significant growth opportunity. This involves retaining its fitness-oriented appeal and addressing high-functional lifestyle needs, including privacy and everyday health support. Marketing campaigns should showcase Garmin's long-standing reputation for reliability

and durability in real-world scenarios, such as urban commuting and casual use, to attract a more diverse demographic.

This marketing approach could target younger, price-sensitive segments like Gen Z and first-time smartwatch users by emphasising the device's exceptional value for money, robust performance, and suitability for varied lifestyles. Highlighting Garmin's industry-leading data privacy and health-focused functionalities, which appeal across all demographics, would further establish the brand as the ideal choice for practical, health-conscious individuals.

- 2. Expand Beyond Niche Markets:** Garmin's trusted reputation for accuracy in tracking functionalities and exceptional reliability positions the brand to successfully broaden its appeal beyond its traditional focus on athletes and outdoor enthusiasts. By expanding its offerings to target more casual urban users, Garmin can reach new demographics that value versatility and everyday practicality. This can be achieved through marketing campaigns emphasising Garmin's ruggedness and durability in real-world scenarios, such as professional use, urban commuting, and travel. These attributes resonate with a broader audience and demonstrate that Garmin's features extend beyond niche applications to suit modern urban lifestyles.
- 3. Leverage Privacy and Data-Sharing Practices:** Highlighting Garmin's superior data protection capabilities - known to be far better than those of its competitors - can appeal to privacy-conscious users, particularly in urban and professional environments. In addition, integrating features such as payment protection into the smartwatch would address consumer preferences for secure, multi-functional devices and strengthen Garmin's relevance in broader markets and general users. By promoting its superior data protection, minimalistic design, and practical functionalities in a way that resonates with casual and

urban users, Garmin can capitalise on its strong foundation to expand into untapped markets.

Fitbit

Fitbit is known for its simplicity. It performs well in Accessibility Across Generations, but it underperforms in Functional Practicality and Emotional Appeal. Enhancing product durability, perceived trustworthiness and crafting emotionally resonant marketing can elevate its aspirational value, supporting its cost leadership strategy by addressing consumer desires for robust and emotionally engaging products.

1. **Leverage Simplicity to Strengthen Accessibility Across Generations:** Fitbit's strength in Accessibility Across Generations aligns with its cost leadership strategy by catering to both younger and older consumers with straightforward and affordable solutions. As conjoint findings confirm demand for intuitive, health-focused features for Fitbit, the brand should continue emphasizing its simple and user-friendly health features, such as fitness tracking and heart rate monitoring, while tailoring campaigns to highlight these benefits for caregivers and elderly users. Targeting users who prioritise simplicity and affordability over luxury by reinforcing Fitbit's value as an accessible yet affordable health device can solidify its position in cost-conscious markets.
2. **Strengthen Cost Leadership as the Entry-Level Smartwatch:** Fitbit's relatively simple interface and affordability make it well-suited for first-time smartwatch buyers or casual users. Fitbit should highlight this accessibility in its messaging, positioning itself as the ideal starting point for individuals new to wearable technology at a lower price point of 199€.
3. **Elevate Emotional Appeal with Resonant Marketing Campaigns:** To address its lower performance in Emotional Appeal, Fitbit should focus on crafting emotionally resonant marketing campaigns that connect with consumers on a personal level. Marketing

campaigns could emphasise how Fitbit removes the noise and complications of modern technology, helping users focus on what truly matters - health, well-being, and peace of mind. A tagline such as "Fitbit: Life Made Simple" or "Fitbit: Simplify Your World" could resonate deeply, reinforcing the idea that Fitbit is a tool for creating a more centred and uncomplicated lifestyle, fostering trust and aspirational value. This approach can complement its cost leadership strategy by demonstrating that affordable products can also deliver meaningful and engaging experiences, enhancing Fitbit's overall brand perception.

Huawei

Huawei positions itself as an affordable, feature-rich smartwatch provider but faces challenges with negative Emotional Appeal and data privacy concerns. To enhance its cost leadership strategy and appeal to value-conscious consumers, Huawei should rebuild its Emotional Appeal and emphasise data privacy to improve consumer trust. Given that price is the primary driver for Huawei's target market, offering competitively priced devices that ensure data security can significantly boost sales. However, investing in advanced features may not yield substantial returns, as consumers do not currently perceive Huawei as a prestigious or highly functional brand. Therefore, maintaining a cost-effective positioning is the most feasible approach

1. **Rebuild Emotional Appeal:** Invest in branding initiatives that enhance Huawei's reputation as a more exciting brand to improve the negative perception of Huawei's Emotional Appeal. For Huawei, an emphasis on innovation and quality that resonates emotionally with consumers significantly influences consumer decisions, as shown by the conjoint analysis.
2. **Focus on Functional Attributes:** Highlight affordability, practicality, and privacy protection in campaigns to resonate with value-conscious consumers. Consumers in this segment are less interested in advanced or AI-driven health monitoring. Instead, they seek

reliable basic features such as heart rate monitoring, step counting, and sleep tracking. The brand should avoid investing heavily in high-end functionalities and instead position itself as a value-driven option, presenting Huawei as the “smart choice” for budget-conscious consumers who want sufficient functionality without overspending

3. **Target Underserved Markets:** Leverage Huawei's cost-effective positioning to dominate emerging markets where affordability is a primary driver. Simultaneously, it gradually builds a perception of being not just a cheap alternative but increasingly a serious quality alternative in more developed regions to expand market reach and competitiveness. This can be achieved by offering region-specific products that cater to local preferences and purchasing power, thereby increasing market penetration and brand loyalty.

4.3.Limitations and Recommendations for Future Research

This chapter will shed light on the limitations of this research, and thereby, it will provide recommendations for future research. It is important to bring attention to the limitations, as they will provide knowledge and guidance for future research regarding the topics discussed. The limitations of this research are centred around sampling methodology, survey design, analytical frameworks, and the broader contextual scope of the smartwatch market. Furthermore, the identification of the limitations within this study will be linked with the recommendations for future research endeavours that can refine its approach by addressing these issues to provide more robust and generalisable insights.

4.3.1. Sample Profile Constraints

The sample profile consists of predominantly younger, tech-savvy individuals (mostly Gen Z and Millennials), with older generations and non-European participants underrepresented. This demographic skew limits the study's applicability to older populations and non-Western markets, where smartwatch adoption behaviours and preferences might differ.

The overrepresentation of younger respondents (e.g., 71.6% aged 18–27 in the conjoint analysis) reflects a demographic that is more familiar with wearable technology and, therefore, does not fully represent the needs and preferences of other key consumer segments, such as Baby Boomers or Generation X.

Additionally, geographic representation was concentrated in Europe, particularly Germany (54.7% in perceptual mapping and 80% in conjoint analysis), with participation mainly from other regions in Europe. Notably, only 2% of perceptual map participants and 1% of conjoint analysis participants were from outside Europe. This regional focus may not capture cultural, regulatory, and market-specific nuances outside Europe. Similarly, the reliance on academic and digital recruitment channels such as personal networks, such as those of students at NOVA School of Business and Economics and the Survey Circle platform, limited socioeconomic diversity, reflecting the preferences of higher-income, educated participants while excluding less tech-savvy or lower-income groups who might prioritize affordability and basic functionality.

Future studies should adopt more inclusive sampling methods. This could involve partnerships with healthcare networks, senior organisations, or community groups to engage older adults and low-income populations. Additionally, recruiting participants from underrepresented regions such as Asia, Africa, and Latin America would allow for a more globally representative understanding of smartwatch adoption. Broaden recruitment channels to include participants from diverse socioeconomic strata, such as outreach through local communities or public organisations. Longitudinal studies that track evolving preferences across diverse demographics would provide deeper insights into behavioural changes over time.

4.3.2. Methodological Constraints

Next to the limitations of the sample profile, methodological constraints should be stated as limitations of this research. The research combined two analytical methods, choice-based

conjoint tasks and perceptual mapping, which were two separate studies, both including demographic questions. Even though the duration of the surveys was aimed to be reduced by splitting the analysis methods into two separate ones, the duration of the two surveys may have introduced cognitive fatigue among participants, especially as they progressed through complex conjoint exercises. This could have impacted the accuracy of responses, particularly for attributes presented later in the survey.

The focus on seven attributes in the conjoint analysis (e.g., price, health tracking, battery life) excluded emerging benefits that gain importance, such as sustainability, as the surveys focused on the main attributes mentioned in the preliminary interviews.

Additionally, the predefined generational categories (e.g., Gen Z, Millennials) assumed homogeneity within groups, potentially oversimplifying nuanced differences driven by factors such as life stage, income, or lifestyle. For instance, Millennials aged 28–43 may exhibit significantly different preferences depending on whether they are career-focused or family-oriented. Future studies should consider using adaptive surveys or streamlined questionnaires to minimise cognitive load while maintaining data richness. Moving beyond predefined generational categories to incorporate psychographic and behavioural traits, such as attitudes toward health, technology readiness, and purchasing motivations, could yield more nuanced insights. Expanding the attribute set in conjoint analysis and perceptual map to include features like environmental sustainability would reflect evolving consumer priorities.

4.3.3. Industry Selection and Scope Constraints

This research specifically examined smartwatches, excluding other wearable devices such as smart rings, fitness trackers, and smart glasses. These alternative devices share overlapping functionalities and target similar consumer segments. However, by limiting the scope to smartwatches, the study does not address how consumers perceive these alternatives

or how they may interact as complementary or competing devices within the broader wearable technology ecosystem.

Due to the preliminary research and deductive approach, the decision was made to focus on a select few of the most prominent brands in the smartwatch industry: Apple, Samsung, Garmin, Fitbit, and Huawei. By prioritising these key players, other emerging or niche brands with potentially disruptive innovations were excluded. This focus introduces a technology maturity bias, as the findings primarily reflect consumer perceptions of well-established technologies. Consequently, the study does not provide a comprehensive view of the entire smartwatch industry or insights into the impact of nascent brands and technologies that may be reshaping market dynamics.

Future research should expand its scope by including a broader range of wearable devices alongside smartwatches to explore whether these alternatives function as substitutes or complements in consumer decision-making. Additionally, incorporating smaller and emerging brands would provide a more nuanced understanding of how early-stage innovations influence consumer perceptions and competitive positioning. Longitudinal studies could further address the static nature of this research by tracking changes in consumer preferences, technological advancements, and market positioning over time. By adopting a more holistic and temporal approach, future studies could better understand the wearable technology ecosystem and its evolving consumer landscape.

4.3.4. Time Constraints

A significant limitation of this study is the time constraint, a common challenge in academic research that influenced the scope and depth of the analysis. The restricted timeframe limited the opportunity for a more extended survey period, which could have increased the sample size and improved the diversity of demographic representation. A larger and more heterogeneous sample, particularly for underrepresented groups such as older generations and

non-European participants, could have provided deeper insights and more robust findings. Additionally, with extended timelines, the study could have included a broader set of variables and attributes, further enriching the analysis and its implications.

The temporal nature of the research reflects its limitation as a static snapshot of consumer preferences at a specific moment in time. Rapid advancements in artificial intelligence and sustainability continue to reshape consumer expectations and market dynamics. The inability to account for these evolving trends constrains the relevance of the findings as market conditions and consumer priorities shift over time.

The reliance on stated preferences through survey methods, rather than observing actual consumer behaviours such as purchase decisions or usage patterns, also introduces a potential limitation. Stated preferences may not fully align with real-world actions, which can impact the applicability of the findings. A relevant example for an usecase that should be investigated further in observational studies is the complex relationship between price sensitivity and the perceived value of smartwatches in caregiving contexts, in order to identify at which price point consumers would buy a device for someone else than themselves.

Another limitation is the perceptual map's lack of differentiation between generational cohorts, as this was performed in detail with the conjoint analysis, and the limited time and page count of this research didn't allow for five perceptual map analyses for each generational group. This prevents a nuanced understanding of how brand perceptions vary across distinct age groups, limiting the ability to draw age-specific insights about brand positioning or attribute importance and only showing the consumers' perception across generations.

Future research should address these constraints by decoupling timelines from academic requirements, allowing for more extended data collection periods to increase sample size and demographic diversity. Longitudinal studies are recommended to capture evolving consumer preferences, market trends, and the impact of technological advancements and sustainability on

consumer behaviour. Combining survey methods with observational or experimental research, such as simulated purchase scenarios or real-world usage tracking, would help validate stated preferences against actual behaviour. Additionally, conducting separate perceptual map analyses for distinct generational cohorts would uncover nuanced differences in brand perception and attribute importance, enhancing the depth and applicability of future findings.

4.3.5. Additional Recommendations for Future Research

This section highlights additional research areas to complement the limitations and recommendations discussed. These include deeper exploration of specific attributes, focus on emerging consumer segments, and usability testing to enhance smartwatch adoption insights.

Deepening Attribute-Specific Research: Future studies should investigate sub-dimensions of attributes such as “style” and “functionality,” exploring how these concepts vary across demographics and use cases. For example, defining what “stylish” means to different age groups or how “functionality” aligns with health-focused features could inform targeted product improvements.

Focus on Emerging Segments and Usability Testing: Ongoing research into the shifting preferences of younger generations like Gen Z is vital, as is expanding into emerging markets to understand regional differences. Real-world usability testing, particularly with elderly users, can identify barriers to accessibility. Co-creating solutions with these users and testing prototypes in realistic settings would offer actionable design insights.

Feasibility of Production and Design: Future research should also assess the feasibility of integrating recommended features while maintaining affordability. Collaboration with technical experts and designers to evaluate production methods, materials, and costs will ensure that proposed innovations are both practical and cost-effective.

In conclusion, this study has significantly contributed to understanding consumer perceptions within the wearable health tech industry, particularly the smartwatch product

category, by identifying key attributes valued by consumers and providing actionable insights for both academia and industry. However, the research is not without limitations, leaving considerable room for future research guided by the recommendations outlined. By addressing the identified limitations and extending the scope of the investigation, future research can provide a more comprehensive understanding of how consumers perceive the wearable health technology industry, particularly the smartwatch product category. This will deepen insights into the key attributes that shape consumer preferences, enabling the industry to better cater to diverse demographic needs and evolving market trends. Such advancements will not only enhance theoretical understanding but also inform strategic decisions for product development and marketing in the wearable tech sector.

Just as Peter Drucker's words remind us that shaping the future lies in our hands, this thesis closes with the hope that its insights into consumer perceptions of wearable health technology will inspire not only the creation of smarter, more inclusive devices but also a future where technology truly empowers lives across generations.

5. Bibliography

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6. Appendix

D- Conjoint Analysis Appendix

Appendix D.1: Attributes and Levels of the Conjoint Analysis

Attributes	Levels
1. Brand	Apple Samsung Garmin Fitbit Huawei
2.. Health Monitoring Features	Basic (Heart Rate, Step Count) Advanced (ECG, Blood Oxygen, Sleep Tracking) Comprehensive (Advanced features + Stress Level, Blood Pressure) AI-Enhanced (Predictive disease management, Generative AI-driven insights)
3. Battery Life	Up to 24 hours 2-3 days 4-7 days More than 7 days
4. Connectivity to Smartphone (Synchronization)	No app required (but limited compatibility with other brands) Additional App required (but full compatibility across brands)
5. Data Sharing and Privacy	Basic Data Collection (Minimal Anonymity and Control) Standard Privacy Settings (Limited Anonymity and Basic Control) Enhanced Privacy with Controlled Third-Party Sharing (Moderate Anonymity and Control) Full Transparency (High Anonymity and Full Control)
6. Design and Aesthetics	Minimalistic (Simple, Sleek, Lightweight) Sport-Focused (Rugged, Durable, Silicone Bands) Premium Accessory (Luxury Options: Leather, Stainless Steel, jewelry oriented) Customizable and Trendy (Interchangeable bands, Color options)
7. Retail Price	199 € 299 € 499 € 799 € 1000€+

Appendix D.2: Screening Questions before Conjoint Block

Question ID	Question	Answer Options
Q1	Do you currently use a smartwatch?	Yes, No (Screening)
Q1.1	If yes, which smartwatch brand do you use?	Apple, Samsung, Huawei, Garmin, Fitbit, Other
Q1.2	If yes, how often do you wear your smartwatch?	Daily, Several times a week, Once a week, Less frequently than once a week
Q2	Would you be interested in buying a new model for yourself or a smartwatch for others?	Yes, No (Screening)
Q2.1	If not, why are you not interested?	Price, Design, Complexity, Lack of Features, Privacy, Annoyance, Other

Appendix D.3: Demographic/Segmentation Questions after Conjoint Block


Question ID	Question	Answer Options
Q3	Rank the following smartwatch use cases in order of importance to you.	Health monitoring (e.g., heart rate, sleep, ECG); Fitness tracking (e.g., steps, calories, workout tracking); Communication (e.g., calls, messages); GPS/Navigation (e.g., for example device location); Watch (to tell time or set a timer); Fashion Accessory (Design and aesthetics)
Q4	Would you consider purchasing a smartwatch for an elderly family member?	Yes, No
Q4.1	Conditional: If you answered yes, would your preferred smartwatch setup and feature priorities change when considering a purchase for an elderly person (e.g. a parent/grandparent)?	Yes, No
Q5	Rank the following features by importance if purchasing a smartwatch for an elderly family member.	Remote Health monitoring (e.g., heart rate, ECG, Blood Pressure); Location tracking (e.g., GPS, geofencing); Emergency alerts (e.g., SOS button, automatic fall detection); Ease of use for elderly (e.g., large buttons, bigger screen, simplified

		interface); Battery life; Communication (reminder for medication, call with family members)
Q6	Which smartphone brand do you use?	Apple, Samsung, Google, Huawei, Xiaomi, Oppo, Other
Q7	Where do you currently reside?	Austria, France, Germany, Italy, Netherlands, Portugal, Spain, Switzerland, Other
Q8	What is your age?	18-27, 28-34, 35-43, 44-59, 60-78, 79+
Q9	What is your gender?	Male, Female, Other/Prefer not to say
Q10	How often do you engage in physical activities?	Daily, Several times a week, Once a week, Less frequently than once a week
Q11	Do you currently have or have you had medical conditions?	Yes, No, Prefer not to say
Q12	Do you think a smartwatch can play a role in monitoring your health?	Yes, No


Appendix D.4: Sample Description – Conjoint Analysis

Characteristics	Total Sample Size (N=155)	Sample % Count
Gender		
Male	59	38.10%
Female	95	61.30%
Other/Prefer not to say	1	0.60%
Age Group		
Gen Z (18-27 years)	111	71.60%
Millennials (28-43 years)	35	22.60%
Gen X (44-59 years)	8	5.20%
Baby Boomers (60-78 years)	1	0.60%
Current residency		
Germany	124	80.0%
Austria	10	6.5%
France	7	4.5%
Portugal	5	3.2%
Switzerland	3	1.9%
Netherlands	2	1.3%
Others	4	2.6%
Current Smartwatch Ownership (Screening Question 1)		
Yes	89	57.4%
No	66	42.6%
Smartwatch Purchase Interest (Screening Question 2)		
Yes	137	88.4%
No	18	11.6%
Physical Activity Level		
Daily	16	10.3%
Several times a week	99	63.9%
Once a week	27	17.4%
Less frequently than once a week	13	8.4%
Consider purchasing a smartwatch for an elderly family member		
Yes	115	74.2%
No	40	25.8%

Appendix D.5: Apple Relative Attribute Importance and Part-Worth Utilities

	Attributes	Relative Importance	Part-Worth Utility	Levels
	Health Monitoring Features	15.9%	-9.8% 3.7% 2.2% 4.0%	Basic Advanced Comprehensive AI-Enhanced
	Battery Life	14.3%	-8.5% -2.5% 7.0% 4.0%	Up to 24 hours 2-3 days 4-7 days More than 7 days
	Connectivity to Smartphone (Synchronization)	5.4%	-0.8% 0.8%	No app required Additional App required
	Data Sharing and Privacy	18.2%	-4.8% -10.5% 6.3% 9.0%	Basic Data Collection Standard Privacy Settings Enhanced Privacy Full Transparency
	Design and Aesthetics	11.2%	-2.8% 1.6% 2.5% -1.2%	Minimalistic Sport-Focused Premium Accessory Customizable and Trendy
	Price	35.0%	19.4% 17.3% -1.5% -10.4% -24.8%	199 € 299 € 499 € 799 € 1000€+


Appendix D.6: Samsung Relative Attribute Importance and Part-Worth Utilities

	Attributes	Relative Importance	Part-Worth Utility	Levels
Health Monitoring Features		12.6%	-6.2%	Basic
			1.1%	Advanced
			0.8%	Comprehensive
			4.2%	AI-Enhanced
Battery Life		15.8%	-9.5%	Up to 24 hours
			4.8%	2-3 days
			-0.4%	4-7 days
			5.1%	More than 7 days
Connectivity to Smartphone (Synchronization)		6.1%	2.3%	No app required
			-2.3%	Additional App required
Data Sharing and Privacy		20.1%	-5.8%	Basic Data Collection
			-10.1%	Standard Privacy Settings
			5.2%	Enhanced Privacy
			10.7%	Full Transparency
Design and Aesthetics		10.5%	3.5%	Minimalistic
			0.3%	Sport-Focused
			-4.6%	Premium Accessory
			0.8%	Customizable and Trendy
Price		35.1%	15.1%	199 €
			17.7%	299 €
			2.7%	499 €
			-11.8%	799 €
			-23.7%	1000€+


Appendix D.7: Garmin Relative Attribute Importance and Part-Worth Utilities

GARMIN	Attributes	Relative Importance	Part-Worth Utility	Levels
	Health Monitoring Features	14.1%	-9.3% 0.6% 5.8% 2.8%	Basic Advanced Comprehensive AI-Enhanced
	Battery Life	17.3%	-9.7% -6.1% 7.0% 8.8%	Up to 24 hours 2-3 days 4-7 days More than 7 days
	Connectivity to Smartphone (Synchronization)	4.6%	-1.1% 1.1%	No app required Additional App required
	Data Sharing and Privacy	14.8%	-6.3% -3.2% 0.4% 9.0%	Basic Data Collection Standard Privacy Settings Enhanced Privacy Full Transparency
	Design and Aesthetics	13.9%	2.9% -0.6% -0.6% -1.6%	Minimalistic Sport-Focused Premium Accessory Customizable and Trendy
	Price	35.3%	21.5% 15.8% 3.0% -17.5% -22.7%	199 € 299 € 499 € 799 € 1000€+

Appendix D.8: Fitbit Relative Attribute Importance and Part-Worth Utilities

 fitbit	Attributes	Relative Importance	Part-Worth Utility	Levels
Health Monitoring Features		16.4%	-8.0%	Basic
			2.1%	Advanced
			-1.1%	Comprehensive
			7.0%	AI-Enhanced
Battery Life		14.7%	-5.6%	Up to 24 hours
			-3.0%	2-3 days
			-1.1%	4-7 days
			9.7%	More than 7 days
Connectivity to Smartphone (Synchronization)		5.1%	-1.2%	No app required
			1.2%	Additional App required
Data Sharing and Privacy		13.8%	-2.8%	Basic Data Collection
			-5.6%	Standard Privacy Settings
			0.1%	Enhanced Privacy
			8.3%	Full Transparency
Design and Aesthetics		11.8%	-1.1%	Minimalistic
			-0.6%	Sport-Focused
			2.2%	Premium Accessory
			-0.4%	Customizable and Trendy
Price		38.3%	21.8%	199 €
			18.5%	299 €
			7.5%	499 €
			-19.8%	799 €
			-28.1%	1000€+

Appendix D.9: Huawei Relative Attribute Importance and Part-Worth Utilities

 HUAWEI	Attributes	Relative Importance	Part-Worth Utility	Levels
Health Monitoring Features		15.4%	-11.0%	Basic
			6.0%	Advanced
			5.7%	Comprehensive
			-0.7%	AI-Enhanced
Battery Life		17.1%	-10.6%	Up to 24 hours
			-4.7%	2-3 days
			7.6%	4-7 days
			7.7%	More than 7 days
Connectivity to Smartphone (Synchronization)		7.6%	2.8%	No app required
			-2.8%	Additional App required
Data Sharing and Privacy		15.5%	-3.3%	Basic Data Collection
			-6.6%	Standard Privacy Settings
			1.7%	Enhanced Privacy
Design and Aesthetics		11.8%	8.2%	Full Transparency
			2.6%	Minimalistic
			-2.3%	Sport-Focused
			1.5%	Premium Accessory
Price		32.7%	-1.7%	Customizable and Trendy
			17.2%	199 €
			17.1%	299 €
			0.9%	499 €
			-13.1%	799 €
			-22.1%	1000€+

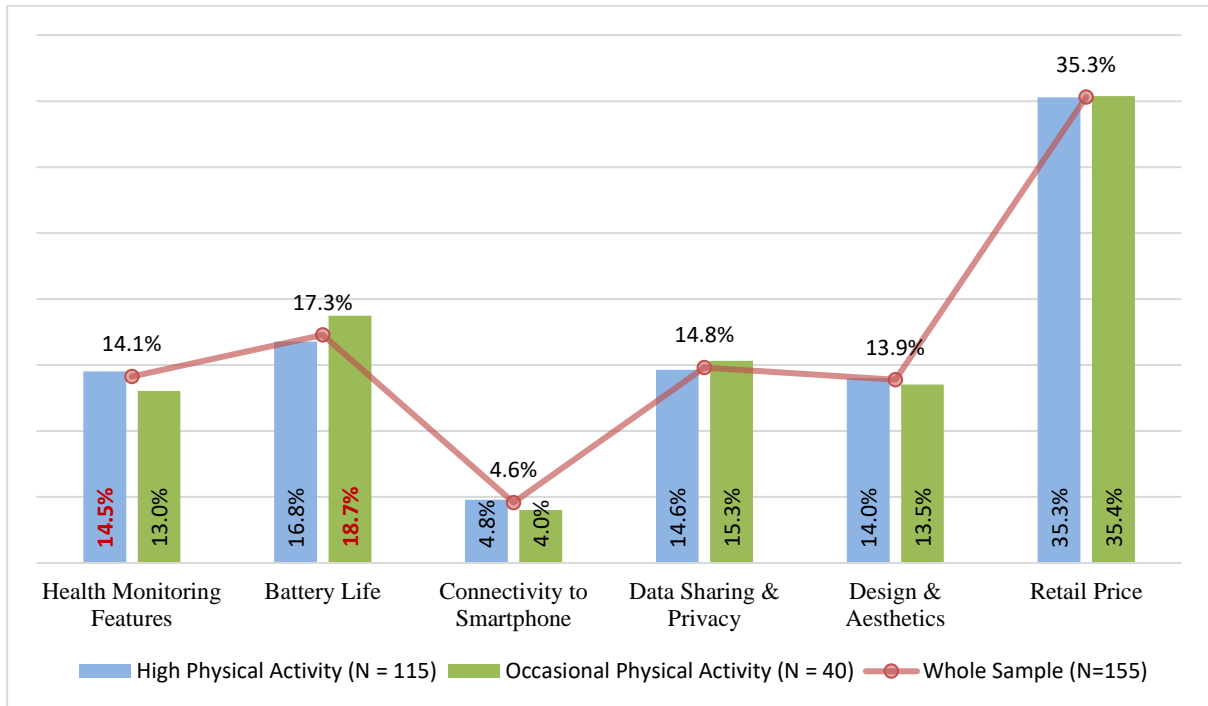
Appendix D.10: Median Brand Preferences by Age Segments

Brand	Gen Z	Millennials	Gen X
Apple	33.7	28.4	26.8
Samsung	-1.4	2.2	-15.6
Garmin	7	2.2	0.9
Fitbit	-2	-1.2	-0.6
Huawei	-14.9	-20.4	-7.8

Appendix D.11: Median Brand Preferences by Physical Activity Levels

Brand	High Physical Activity	Occasional Physical Activity
Apple	32.9	41.9
Samsung	-5.3	0
Garmin	6.3	0.9
Fitbit	2.5	-3.5
Huawei	-23.9	-15.8

Appendix D.12: Garmin Attribute Importance across Physical Activity Levels



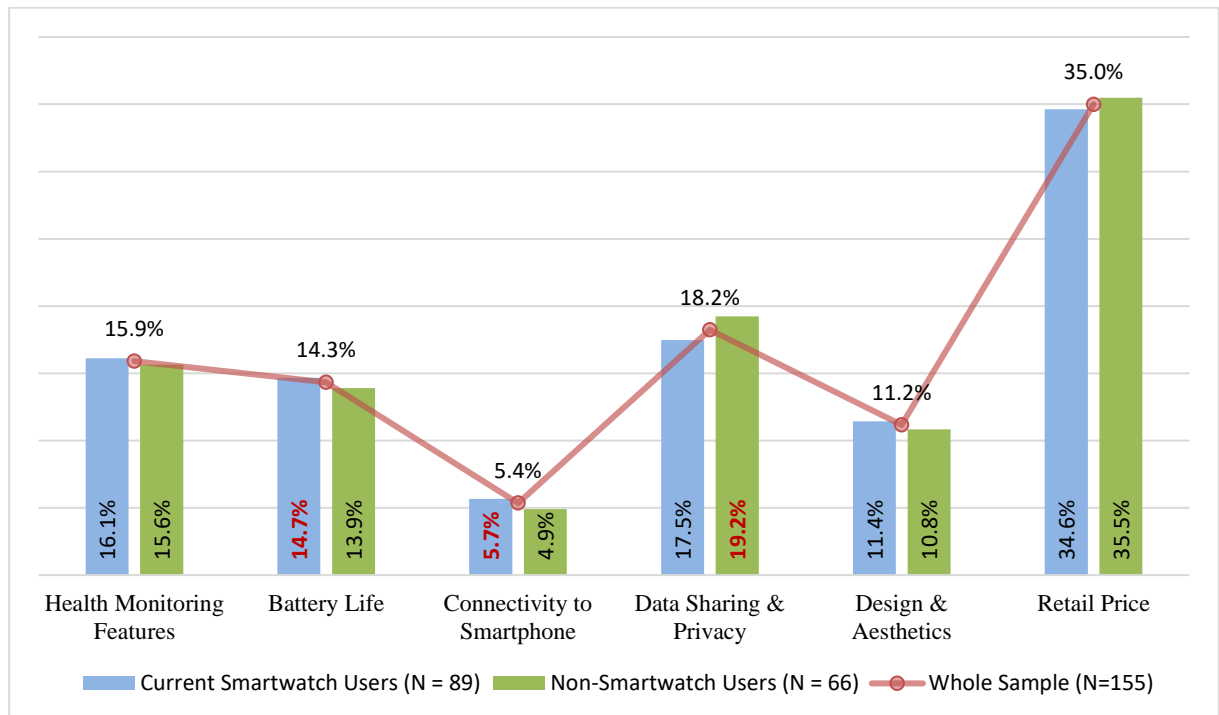
Appendix D.13: Median Brand Preferences by Use Case Preferences

Brand	Health Monitoring	Fashion Accessory
Apple	39.4	47.2
Samsung	-2.4	-7.2
Garmin	3.1	0.9
Fitbit	-13.1	2.6
Huawei	-18.6	-24.7


Appendix D.14: Median Brand Preferences by Current Smartwatch Usage

Brand	Current Smartwatch Users	Non-Smartwatch Users
Apple	33.4	29.5
Samsung	-5.3	0.1
Garmin	5.5	2.5
Fitbit	-4.6	2.4
Huawei	-20.7	-20


Appendix D.15: Apple Attribute Importance Current Smartwatch Users vs. Non-Smartwatch Users




Appendix D.16: Apple Part-Worth Utilities across Age Groups

	Attributes	Gen Z	Millennials	Gen X	Levels
Health Monitoring Features		-10.0%	-9.1%	-9.2%	Basic
		3.7%	3.2%	4.5%	Advanced
		2.8%	0.1%	2.3%	Comprehensive
		3.5%	5.8%	2.3%	AI-Enhanced
Battery Life		-8.8%	-7.4%	-7.1%	Up to 24 hours
		-2.4%	-2.9%	-2.4%	2-3 days
		7.0%	7.4%	6.2%	4-7 days
		4.2%	3.0%	3.3%	More than 7 days
Connectivity to Smartphone (Synchronization)		-1.1%	-0.1%	0.8%	No app required
		1.1%	0.1%	-0.8%	Additional App required
Data Sharing and Privacy		-4.6%	-5.1%	-5.1%	Basic Data Collection
		-10.3%	-10.3%	-13.7%	Standard Privacy Settings
		6.0%	6.8%	8.1%	Enhanced Privacy
		8.9%	8.6%	10.7%	Full Transparency
Design and Aesthetics		-2.6%	-3.5%	-3.4%	Minimalistic
		1.4%	1.9%	3.8%	Sport-Focused
		2.2%	3.8%	0.9%	Premium Accessory
		-1.1%	-2.2%	-1.3%	Customizable and Trendy
Price		19.1%	20.0%	18.3%	199 €
		16.8%	18.3%	18.4%	299 €
		-1.1%	-2.0%	-4.5%	499 €
		-9.6%	-12.4%	-10.9%	799 €
		-25.1%	-23.9%	-21.3%	1000€+

Appendix D.17: Garmin Part-Worth Utilities across Age Groups

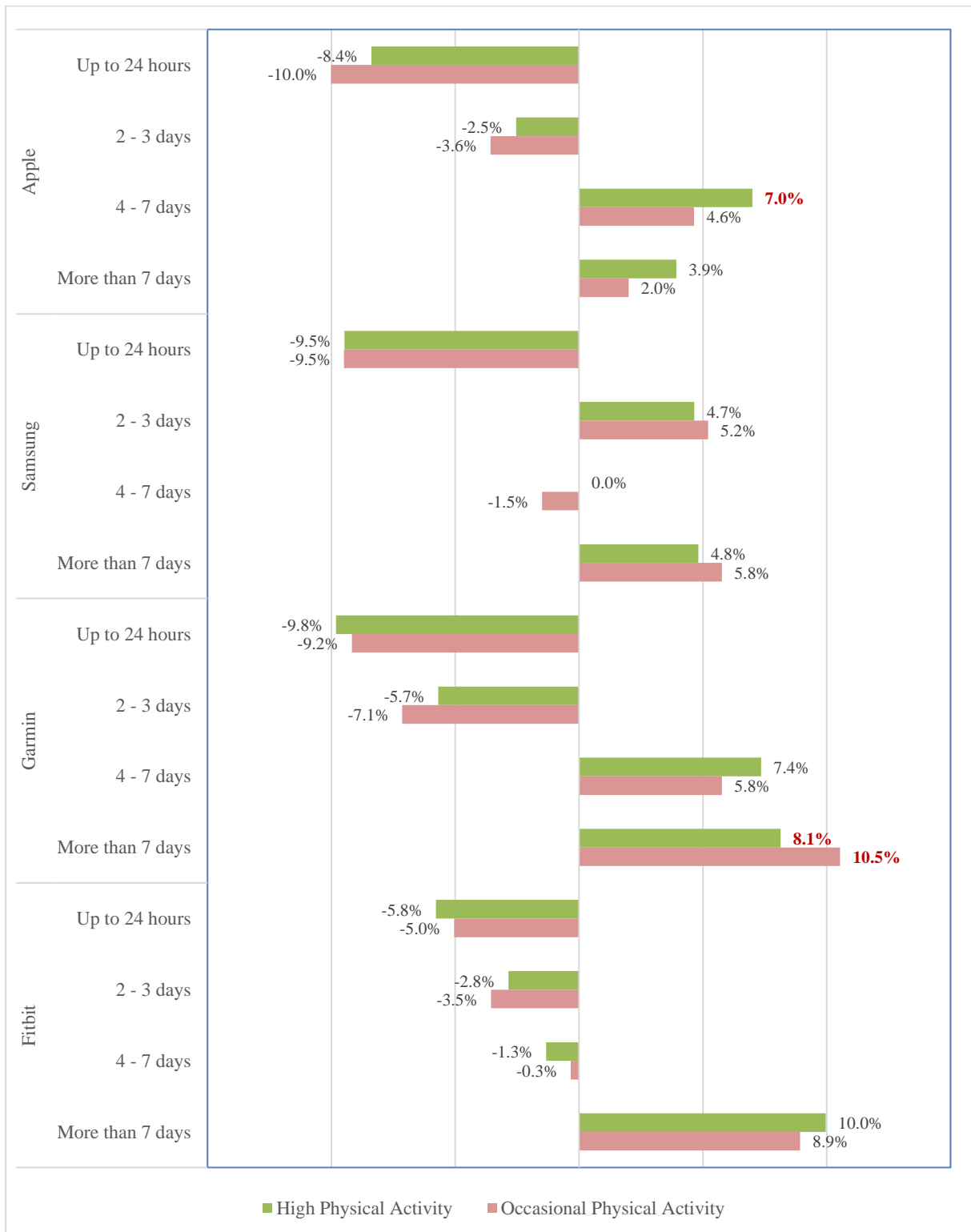
 Attributes	Gen Z	Millennials	Gen X	Levels
Health Monitoring Features	-8.8%	-10.7%	-8.0%	Basic
	0.0%	1.8%	2.7%	Advanced
	6.1%	5.4%	3.6%	Comprehensive
	2.8%	3.5%	1.6%	AI-Enhanced
Battery Life	-9.5%	-9.9%	-10.4%	Up to 24 hours
	-6.3%	-5.8%	-2.4%	2-3 days
	6.5%	8.3%	7.4%	4-7 days
	9.3%	7.5%	5.3%	More than 7 days
Connectivity to Smartphone (Synchronization)	-1.4%	-0.3%	-1.5%	No app required
	1.4%	0.3%	1.5%	Additional App required
Data Sharing and Privacy	-6.7%	-5.1%	-4.7%	Basic Data Collection
	-2.9%	-3.5%	-5.8%	Standard Privacy Settings
	0.6%	0.2%	-2.3%	Enhanced Privacy
	8.9%	8.4%	12.9%	Full Transparency
Design and Aesthetics	2.9%	2.7%	4.5%	Minimalistic
	-0.7%	0.0%	-4.9%	Sport-Focused
	-0.9%	-0.1%	-0.1%	Premium Accessory
	-1.3%	-2.6%	0.5%	Customizable and Trendy
Price	21.3%	22.3%	19.7%	199 €
	16.4%	13.6%	17.5%	299 €
	3.0%	3.2%	-0.7%	499 €
	-18.3%	-15.0%	-16.7%	799 €
	-22.3%	-24.1%	-19.9%	1000€+

Appendix D.18: Samsung Part-Worth Utilities across Age Groups

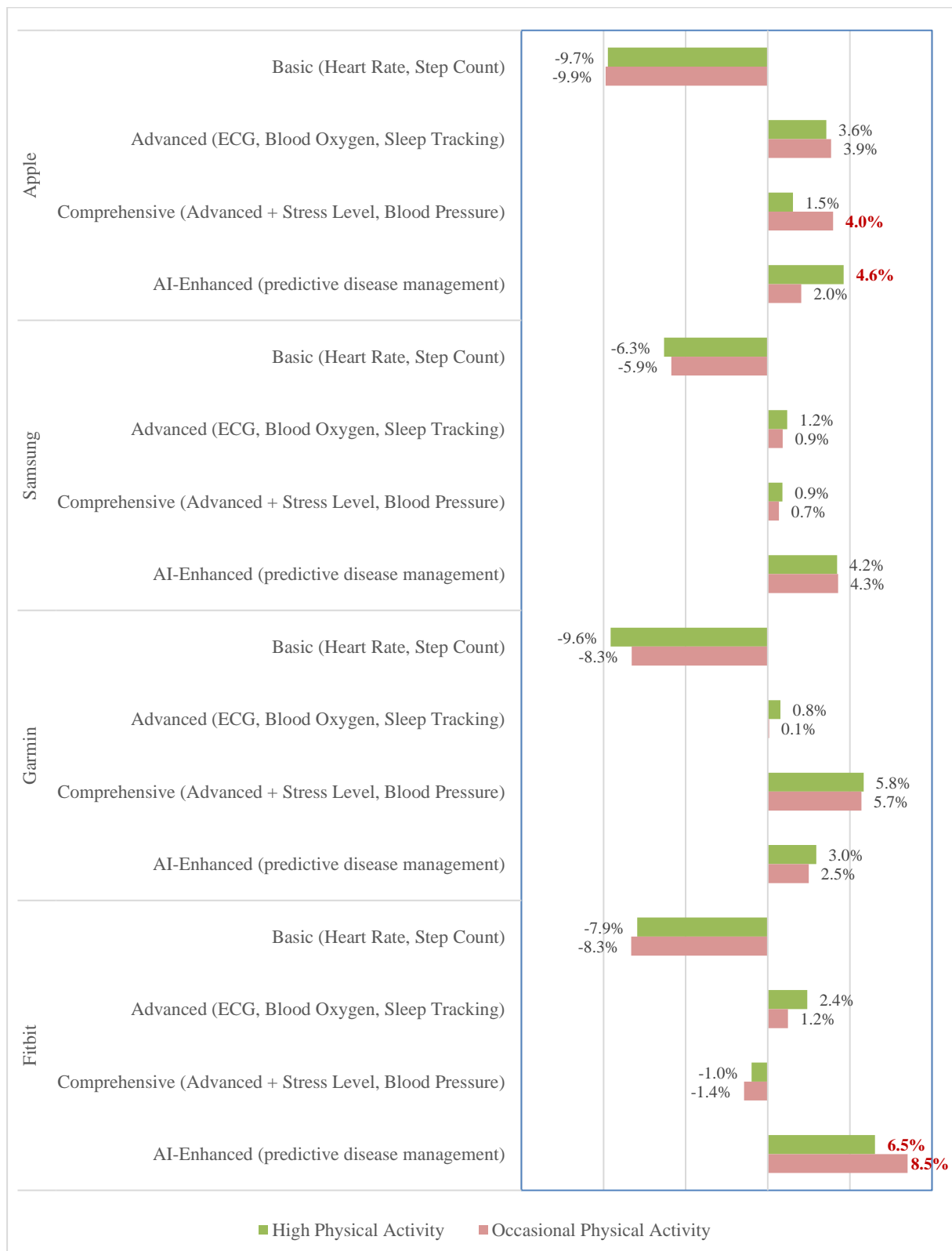
 Attributes	Gen Z	Millennials	Gen X	Levels
Health Monitoring Features	-6.1%	-6.6%	-5.6%	Basic
	1.1%	1.6%	0.1%	Advanced
	0.8%	0.6%	1.2%	Comprehensive
	4.2%	4.3%	4.4%	AI-Enhanced
Battery Life	-9.4%	-9.8%	-7.9%	Up to 24 hours
	4.4%	6.0%	4.6%	2-3 days
	-0.4%	0.3%	-2.1%	4-7 days
	5.4%	3.6%	5.4%	More than 7 days
Connectivity to Smartphone (Synchronization)	2.5%	1.8%	4.0%	No app required
	-2.5%	-1.8%	-4.0%	Additional App required
Data Sharing and Privacy	-5.7%	-6.1%	-4.9%	Basic Data Collection
	-9.4%	-12.1%	-9.5%	Standard Privacy Settings
	4.7%	6.6%	2.7%	Enhanced Privacy
	10.3%	11.7%	11.7%	Full Transparency
Design and Aesthetics	3.7%	3.0%	2.8%	Minimalistic
	0.2%	0.2%	0.7%	Sport-Focused
	-4.8%	-3.8%	-5.1%	Premium Accessory
	0.9%	0.6%	1.6%	Customizable and Trendy
Price	15.1%	14.8%	14.7%	199 €
	18.0%	16.2%	18.4%	299 €
	2.9%	2.8%	-1.2%	499 €
	-12.2%	-10.7%	-10.7%	799 €
	-23.8%	-23.1%	-21.2%	1000€+

Appendix D.19: Battery Life Part-Worth Utilities: High Physical Activity vs. Occasional

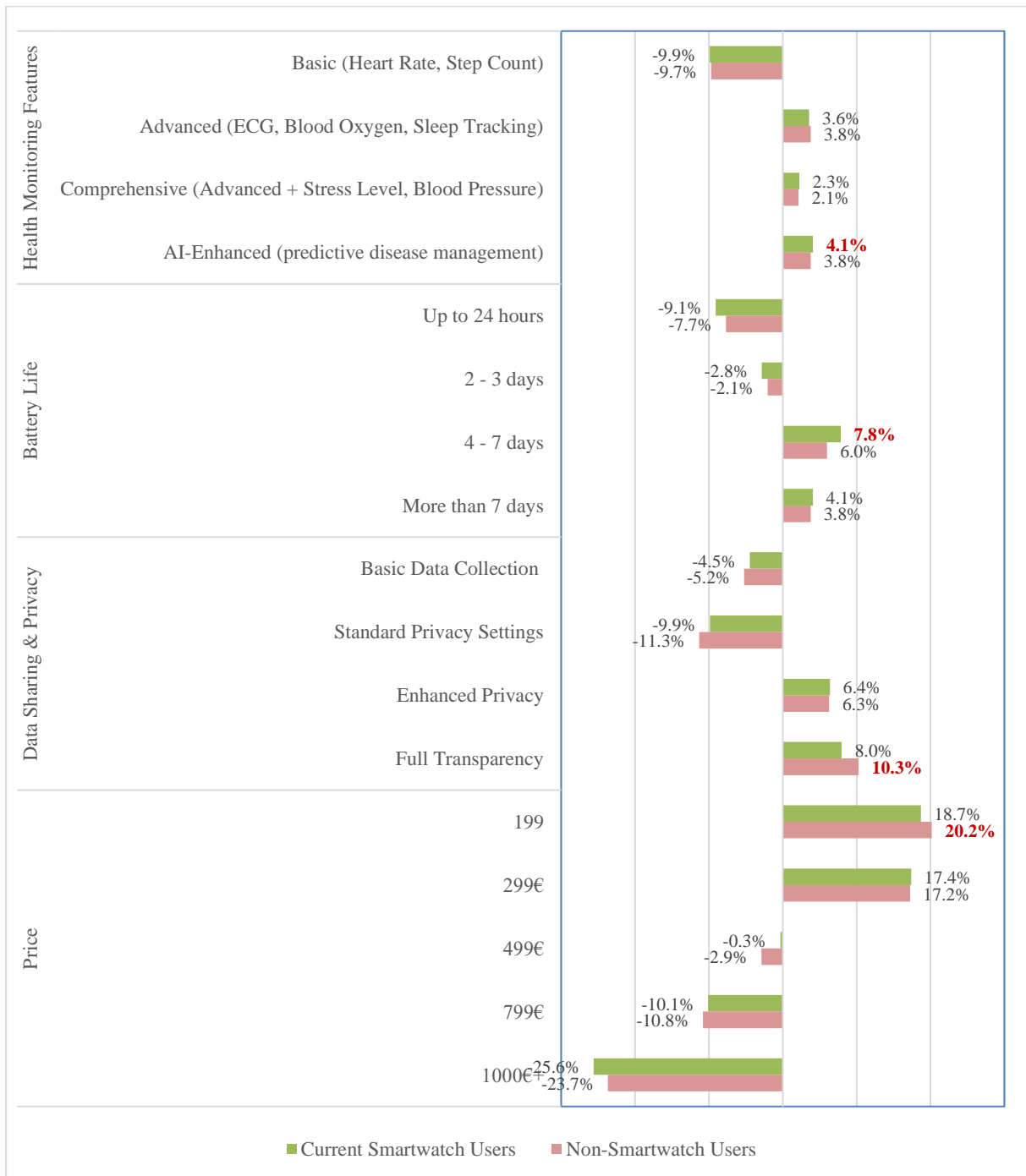
Physical Activity across Brands



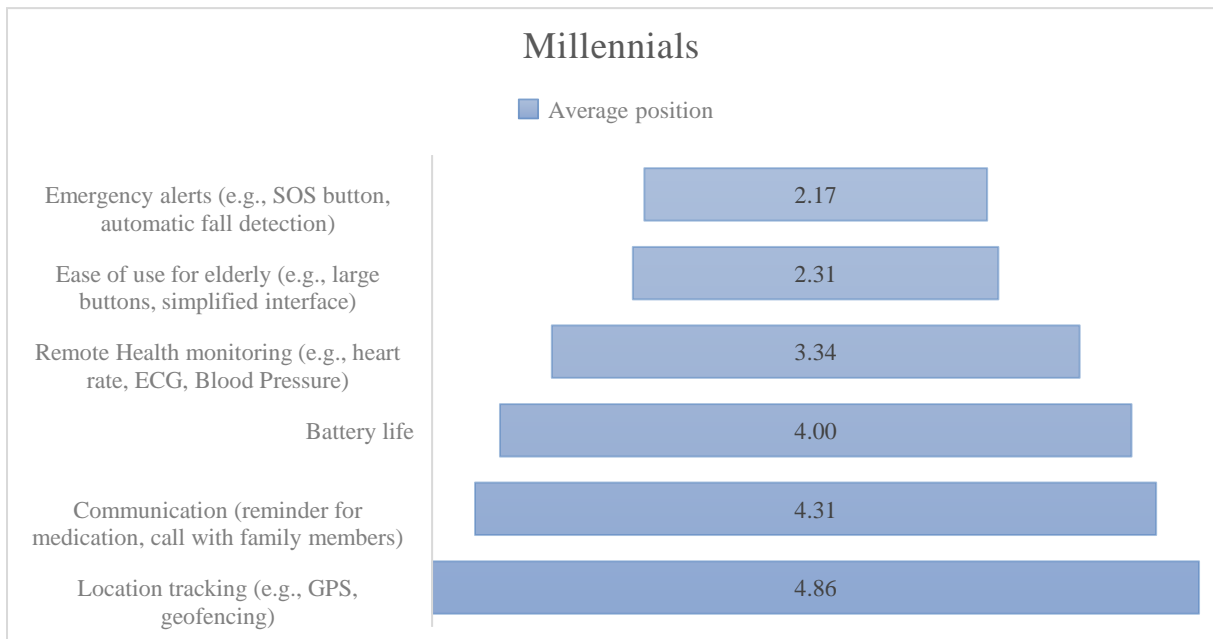
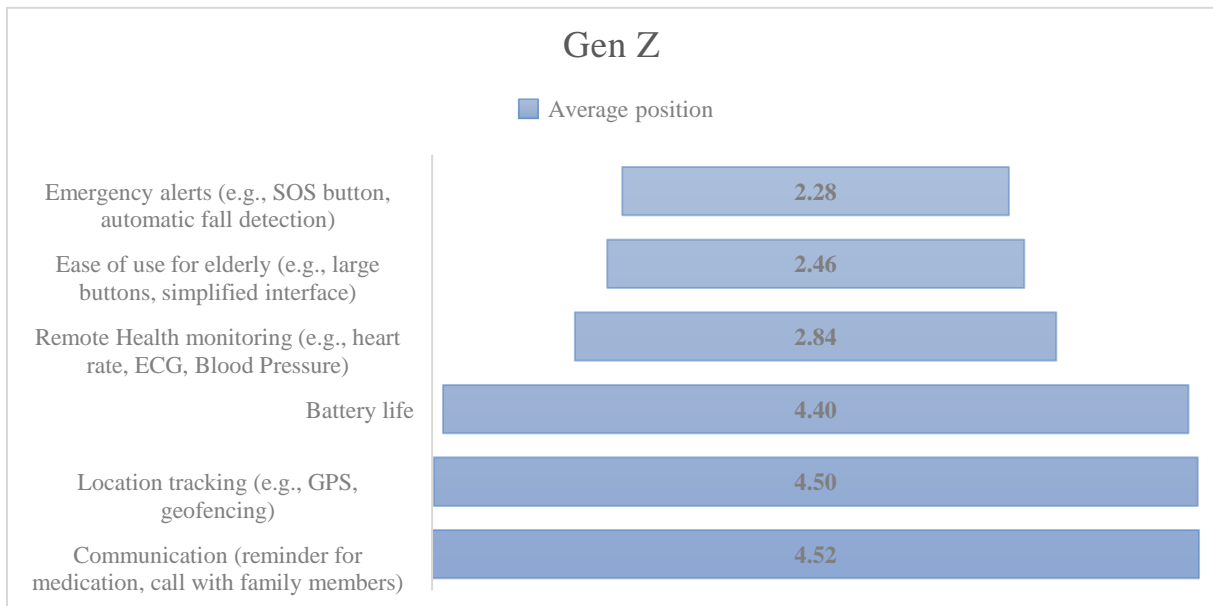
Appendix D.20: Health Monitoring Features Part-Worth Utilities: High Physical Activity vs. Occasional Physical Activity across Brands



Appendix D.21: Part-Worth Utilities: Current Smartwatch Users vs. Non-Smartwatch Users across Brands

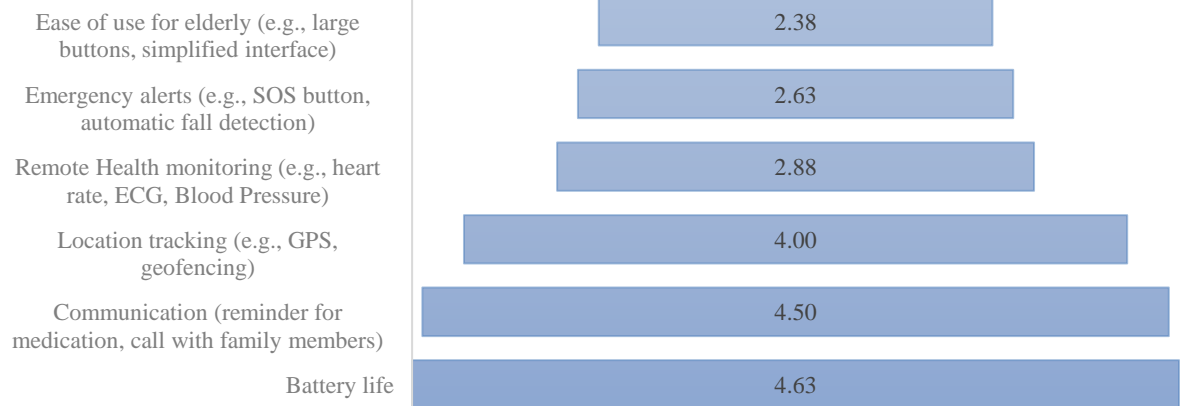


Appendix D.22: Feature Ranking for the Elderly Use Case across Age Groups




Gen X

■ Average position



*Appendix D.23: Apple Part-Worth Utilities by Willingness to change the Smartwatch Setup
for the Elderly Use-Case*

	Attributes	Elderly Change: Yes	Elderly Change: No	Δ Delta	Levels
Health Monitoring Features		-10.1%	-9.8%	0.3%	Basic
		3.2%	3.7%	0.5%	Advanced
		2.7%	2.8%	0.1%	Comprehensive
		4.1%	3.2%	0.9%	AI-Enhanced
Battery Life		-9.1%	-6.9%	2.2%	Up to 24 hours
		-2.6%	-3.2%	0.7%	2-3 days
		7.4%	5.1%	2.3%	4-7 days
		4.2%	5.0%	0.8%	More than 7 days
Connectivity to Smartphone (Synchronization)		-1.0%	-0.5%	0.6%	No app required
		1.0%	0.5%	0.6%	Additional App required
Data Sharing and Privacy		-4.6%	-5.5%	0.9%	Basic Data Collection
		-9.6%	-13.3%	3.7%	Standard Privacy Settings
		6.2%	6.1%	0.1%	Enhanced Privacy
		8.0%	12.7%	4.7%	Full Transparency
Design and Aesthetics		-3.0%	-2.2%	0.8%	Minimalistic
		1.7%	1.6%	0.1%	Sport-Focused
		2.7%	2.1%	0.7%	Premium Accessory
		-1.3%	-1.4%	0.1%	Customizable and Trendy
Price		18.8%	20.8%	1.9%	199 €
		16.4%	19.7%	3.2%	299 €
		-0.7%	-5.4%	4.7%	499 €
		-9.4%	-12.5%	3.1%	799 €
		-25.2%	-22.6%	2.6%	1000€+