



INTEL SMARTWATCH CASE STUDY REPORT

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With the rapid increase in sales of smart watches, Intel is trying to re-enter the smartwatch industry. Intel conducted a survey to help them put together an strategy to relaunch itself in this highly competitive market.

Q1. How many distinct and meaningful segments are present in the market? Please determine the number of distinct segments present in the market as represented in the current respondent sample.

Answer:

Segmentation of market refers to dividing potential customers into groups who have similar performance expectation or needs from a product, but the groups differ based on customer characteristics or demographics (Palmatier & Sridhar, 2021)

Using R, Cluster analysis (Individual customers are clustered based on their preferences in to given groups) is performed on the results of the survey conducted by Intel, to determine number of distinct segments in the market, so Intel can come up with effective marketing strategies.

The Elbow curve of the survey data shows that we can have 4 cluster with minimal loss of information.

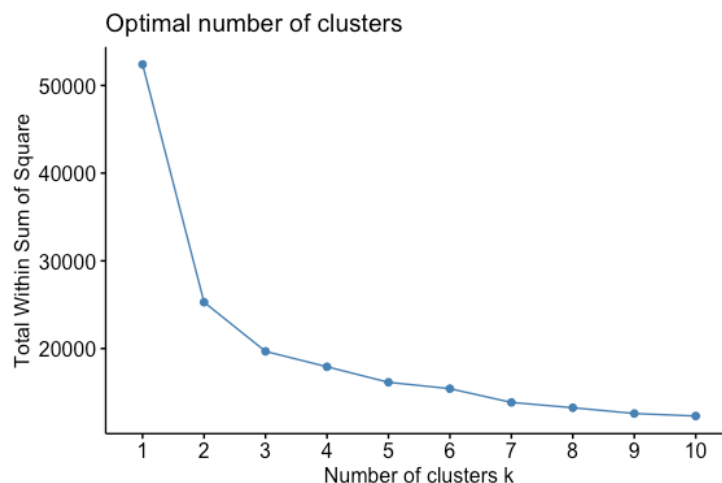


Figure1: Elbow curve

The Dendrogram generated gives us a better understanding of the **4 distinct and meaningful segments of the market**. Dendrograms height axis represents the dissimilarities between the cluster

For the give data, the output of the cluster analysis is as follows:

Cluster size

1	2	3	4
284	340	177	199

Percentage

1	2	3	4
28.4	34.0	17.7	19.9

According to the analysis, cluster 2 has the highest percentage followed by segment 1, whereas clusters 3 and 4 are mostly similar.

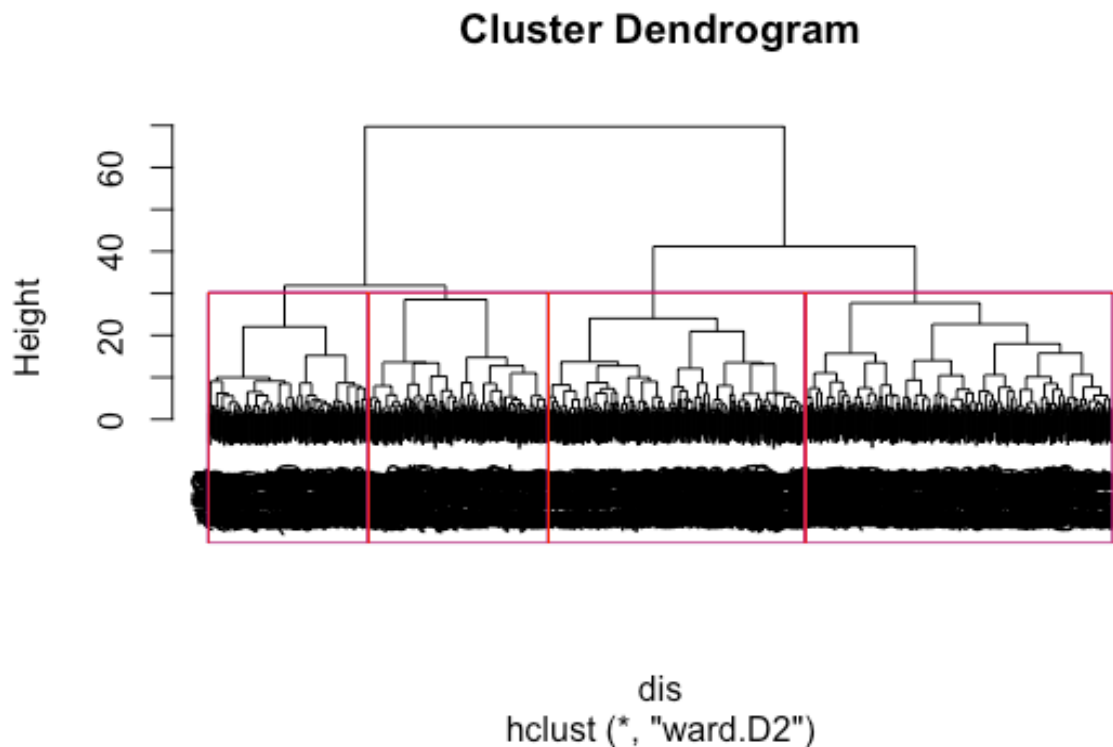


Figure2: Dendrogram

Q2. How would you describe each identified segment? Please provide a detailed description of each identified segment using the variables in the data set (e.g., their mean values). Based on the segment characteristics, create a name for each segment that captures the essence of what makes it unique.

Answer:

After segmenting all the surveyed people into 4 clusters we take an average across all 12 defining variables in each cluster to get an overview of the characteristics of each segment.

Mean Values for Clusters												
cluster	ConstCom_M	TimelyInf_M	TaskMgm_M	DeviceSt_M	Wellness_M	Athlete_M	Style_M	AmznP_M	Female_M	Degree_M	Income_M	Age_M
1	3.823944	3.323944	3.239437	2.443662	3.281690	3.257042	3.626761	0.2711268	0.5563380	1.098592	2.640845	38.54930
2	5.126471	5.008824	4.267647	4.385294	3.705882	2.726471	3.708824	0.5911765	0.4529412	1.402941	3.470588	39.38235
3	5.576271	4.531073	5.621469	4.548023	6.310734	4.853107	5.994350	0.9491525	0.5536723	1.689266	3.892655	31.50282
4	4.391960	4.226131	4.140704	4.271357	5.316583	5.542714	4.758794	0.5929648	0.7839196	1.226131	3.381910	28.14573

Table1: Mean value of clusters

Cluster 1 is made of people with an average age of 38.5. This cluster contains approximately 55% of women, mostly with an undergraduate degree as their highest level of education. Very few people in this cluster have amazon prime account. Constant communication was relatively important to this segment of people but extremely necessary for all, with a mean value at 3.82 for the cluster. On a scale of 1-7, style is only at an average of 3.62 and a mean of 3.32 is the importance of receiving a timely updates for this segment. Wellness and athlete take an even lesser mean value of importance with device sturdiness having least importance.

In conclusion, this segment is made of middle aged group of people with an annual household income between \$40 - \$70K and who are not very Tech savvy. This cluster of people does not seem to be interested in smart watches in the immediate future and only a few are actively searching for smart watches to invest in. I would name this segment '**working class non techies**'

Cluster 2 is made of people with an average age of 39.3 and contains more males than female and 40% of the people in the cluster have a master's degree and the rest have a undergrad degree and are in the income range of \$71-100K. More than 50 % of people in this segment have an Amazon prime account, which suggest they have an active online presence

For people in this segment, constant communication and timely information are of primary importance with average scores of 5.12 and 5 respectively. So they wish to receive notifications of messages and emails, as well as to be notified of traffic, weather, and other relevant information. They are fairly interested in the watch's life and ability to recharge with an average importance of 4.38 to device sturdiness, but not very keen on have the most stylish watch with style mean score at 3.7. This segment of people actively depend on technology to facilitate day to day tasks, with their rating for task management at 4.2. Many of them in this segment are more interested in getting wellness notification(average rating at 3.7) regarding sleep schedules, etc. they are least interested in athletic challenges or goals setting feature by the watch(rating at a mean of 2.7). Considering all these factors and ages and income of the people in this cluster, it can be safely concluded that they are older adults of around age 40 who well settled and are working in professional jobs that require them to have quick access to email, messages and optimise time usage with technology making them more quick to accept and adapt as well as afforded a smart watch. I would name this segment of people '**UpToDate - adaptable techies**'.

Cluster 3 consists of people who show great interest in almost all the features a smartwatch has to offer. With a mean age of the cluster at 31, and most of them hold a masters degree which explains the high average household income around 100K. This segment consist of adults people who may be work in a relatively fast pace jobs such as healthcare or as a software engineer. They give a high importance to wellness feature offered by the smart watch, to be reminded to take breaks or keep track of their sleeping or walking habits and would see a smart watch as investment towards self-care, which explains the average score of importance for wellness being highest in this cluster with 6.3 on a 7 scale. They also give style high importance, an mean score of 5.9, given that people in this segment would want to wear their smartwatch

throughout the day and even at work, they would want a fashionable watch which can pair well with their outfits. Being from an working background they also would give high priority to constant communication and timely updates with mean important scores of 5.5 and 4.5 respectively as they would appreciate checking emails and messages on the go and would depend on reminders and updates regularly. They try to utilize their time as efficiently as possible by automating their daily tasks which explains the high importance given to Task management with a score of 5.6. More than 50% are athletic and prefer a long lasting smartwatch which are indicated by the Athlete attribute and DeviceSt scores of 4.8 and 4.5 each.

This segment is made up of 50 % females and almost all in this segment have an amazon prime account indicating they are comfortable with online shopping and abreast with latest apps. This segment of people would be very excited about a smartwatch which can keep track everything for them and enjoy the experience of sorting everything through their watch more than ever. Hence I would name this segment the '**Tech enthusiast**'.

The cluster 4 is the youngest cluster among all clusters with an average age of 28.1 and this cluster is made of mostly of females who are holding undergraduate degree and just taking of in their career or perusing masters. They have an average household income of \$71-100K and more than half of them have a amazon prime account.

Since this segment consist of young adults Wellness and athletic features of a smart watch are of high importance to them therefore they rated them with importance of above 5. Assuming they are students or freshers at work they prefer to stay in vogue, so it places a great importance on the style of the watch , hence the style was rated at an importance of 4.7. device sturdiness is rated at 4.2 indicating this segment place importance on not losing or damaging their smartwatch easily and prefer once with safer and better battery life. Given the social media and Internet era, the millennials would place great importance on receiving constant updates and messages, which is the reason why the ConstantCom and TimelyInf attributes are both rated at an importance of 4.3 and 4.2 on a 7 scale. Most of the young adults like singing up for auto renewals and also need quick access to their to-do list or calendar which is the reason they rated task management at 4.1 importance's. Given the characteristics of this segment 4, I would name them '**Young Techies**', since they already know what exactly to expect from a smart watch and would purchase one.

Q3. Which segment should be targeted by Intel? How should Intel position themselves to compete strongly in the targeted segment(s)? Please provide a detailed discussion of each identified segment, based on the attractiveness of the segment for Intel and the strength of competitors' offerings (e.g., Samsung, Apple, etc.). Explain the factors that you used to rate the attractiveness of each segment and Intel's competitive strength.

Answer:

From Table1 and after identifying the segments present in the market, for Intel to be successful, it must target segments that are technically sophisticated while having

adequate resources to afford its smart watch. Let's consider the following points for this purpose:

- All attributes for Segment 1, the **working class non techies**, are observed to have a very low mean importance score, which indicates the people in this segment are not very interested in the feature offered by a smart watch nor consider them important. They also belong to a lower income household and would not be inclined to purchase a smartwatch just to stay in touch with others since a phone can suffice for just this purpose. So, Intel should not invest resources to target this segment initially.
- Cluster 2 and cluster 3 show high interest in constant communication feature offered by the smart watch and receiving timely information too. people in cluster 2 are not very interested in the wellness or athletic features offered by a smart watch which can be attributed to the age factor of the segment, but they have high household incomes and can easily afford a smartwatch.
- However, Cluster 3 is comprising of the most educated and wealthiest segment, who are very interested in all features offered a smart watch could offer and consider a smart watch very handy and to look after their health and wellness.
- Cluster 4 consist of youngest demographic who can easily afford a smartwatch but they give high priority to the wellness and athlete aspect in a smart watch indicating they wish to use it while working out or to keep track of their fitness journey rather than use it for communication and information.

Considering these point , Intel must strongly target segment 3, the **Tech enthusiast** initially when launching and it can also target segments 2 and 4, **the UpToDate - adaptable techies** and **Young Techies** later on with a targeting marketing strategy to expand its customer base.

For Intel to compete strongly in the targeted segment it should invest in R&D of its smartwatch and differentiate them from the competition by using excellent digital technologies like voice control, internetofthings which will draw many customer to purchase the watch. Intel can leverage on such high tech features to position itself and make a successful market entry. The GE matrix of with all the segments attractiveness is :

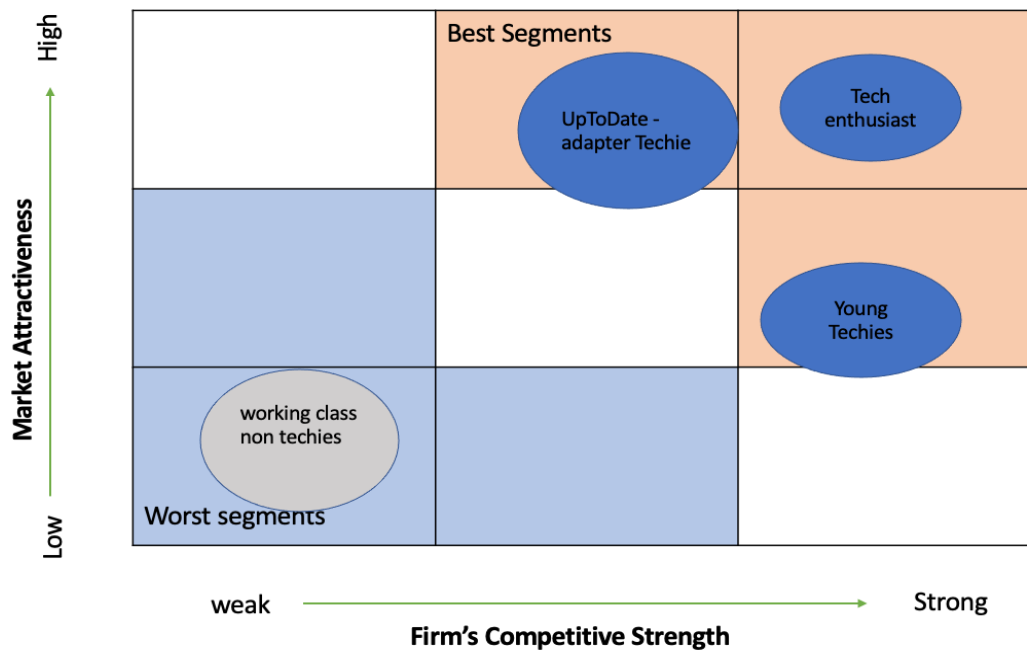


Figure3: GE matrix

SWOT Analysis of Intel:

<p>Strengths</p> <ul style="list-style-type: none"> Intel is globally established and well-funded organization. It innovated some of the best processors which are widely recognized and used 	<p>Weakness</p> <ul style="list-style-type: none"> Does not have a good reputation in smart watch sectors of market due to its first launch failure
<p>Opportunities</p> <ul style="list-style-type: none"> There is an increase in demand for accessories such as smart watches, with people needing faster access to communication and personal habits 	<p>Threats</p> <ul style="list-style-type: none"> Brands like Apple and Samsung are already well established in smartwatch market. Intel must compete with such top tier companies

Based On SWOT analysis, we can derive that Intel although a good company and a bad start in smartwatch market and must compete with already established brands in this market.

Apple holds over 30% of the global smart watch market followed by Samsung and Huawei. Apple by far has one of the most sophisticated smartwatches in market which connects with user phone and has Siri, for voice assistance. It has covered all the customer needs by constantly upgrading their software with respect to customers need and has high brand equity attached to its products.

Recommendations for Intel

Partnership : For Intel to compete with Apple, it could partner with Amazon as amazon has its own selling platform and customer base which will give Intel an platform to launch its smartwatches. Amazon has launched many smart devices and Intel can make their smartwatches compatible with such devices and amazon has its own voice assistance Alexa which can be integrated into Intel smartwatches. It will give Intel an obvious edge over Apple because, unlike Apple smart watches, Intel smart watch could be compatible with any mobile devices

Targeting larger segments : Apart segments 3,2 and 4 Intel should expand to segment 1 which is second largest segment by launching a special edition smart watch for lesser price, making it more accessible to all of the customers base.

Technology: Evident from the cluster analysis, Intel should position itself to focus on its wellness, constant communication, task management attributes apart from style during development. Intel should constant update its software after launch and also provide style options. Exploring sustainable technology will help attract a new wing of customers to Intel.

References

Palmatier, R., & Sridhar, S. (2021). *MARKETING STRATEGY : based on first principles and data analytics*. Nielsen Bookdata

Annexure:

```

1  #install necessary packages
2  install.packages("readxl")
3  install.packages("tidyverse")
4  install.packages("gt")
5  install.packages("cluster")
6  #load packages
7  library(readxl)
8  library(tidyverse)
9  library(gt)
10 library(cluster)
11 #importing data from Excel
12 imported <- read_excel(file.choose('/Users/Apple/Downloads/SmartWatch Data File (3).xlsx'))
13 #Finding the optimal number of clusters through Eigenvalues
14 #Install package cluster and factoextra. And use the libraries
15 install.packages("factoextra")
16 library(factoextra)
17 fviz_nbclust(SmartWatch, kmeans, method = "wss")
18 #or
19 set.seed(6)
20 wcss <- vector()
21 for (i in 1:10) wcss[i] <- sum(kmeans(SmartWatch, i)$withinss)
22 plot(1:10, wcss, type="b", main = paste('Cluster of clients'),
23      xlab = "Number of clusters",
24      ylab = "WCSS")
25
26 #explore data set
27 names(imported)
28 summary(imported)
29 #save data set without id variable
30 df <- imported
31 names(df)

```

```

32 ##Segmentation step
33 #standardize values
34 dfz <- scale(df)
35 ## Ward Hierarchical Clustering
36 # calculate distance matrix with euclidian distance
37 dis <- dist(dfz, method = "euclidean")
38
39 plot(dis)
40 #clustering algorithm
41 fit <- hclust(dis, method="ward.D2")
42 # display dendrogram
43 plot(fit)
44 # cut dendrogram into 4 clusters
45 cluster <- cutree(fit, k=4)
46 #explore clusters
47 cluster
48 table(cluster)
49 # draw dendrogram with red borders around the 4 clusters
50 rect.hclust(fit, k=4, border="red")
51 #add cluster to original data set
52 df_final <- cbind(df, cluster)
53 names(df_final)
54 View(df_final)
55 ##Description step
56 #calculate segment size in percentages
57 proportions <- table(df_final$cluster)/length(df_final$cluster)
58 percentages <- proportions*100
59 percentages
60 #Explore mean values of variables in clusters
61 segments <- df_final %>%
62   group_by(cluster) %>%
63   summarise_at(vars( ConstCom , TimelyInf , TaskMgm , DeviceSt, Wellness , Athlete , Style, AmznP , Female , Degree , Income ,Age),
64     list(M = mean))
65 segments
66 #Create simple table with mean values
67 segments %>%
68   gt() %>%
69   tab_header(
70     title = md("Mean Values for Clusters"))

```