Intel Smartwatch Case Study

Number of Clusters

The total of the 1000 customer data collected needs to be divided into meaningful segments. Each customer is considered as a segment in this model and is grouped in such a way that when two or more customers are grouped together, there is minimal loss of information. In a similar way the all the customer information in merged until no more merging can be carried out without the loss of information, thus, forming clusters. From the below figure for the elbow curve, which is coded using R to find the optimal number of clusters for the problem, it is observed that there no much loss of information after three clusters. Hence, **the optimal number of clusters considered is three.**

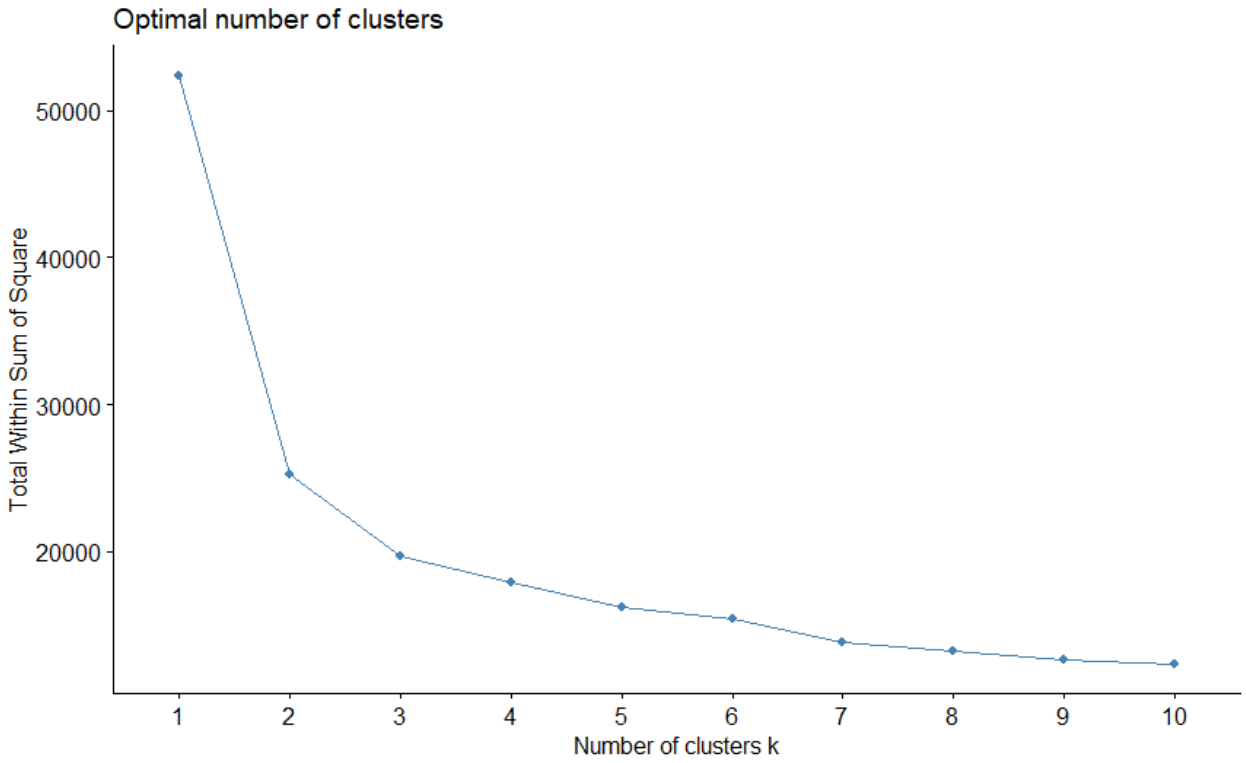

Figure 1 – Elbow curve to find the optimal number of clusters

Explanation of the clusters

The size of the clusters is 218, 461 and 321. The clusters are named according the average age of each customer cluster as GEN Z - Fitness Freaks, Xennials and Millennials.

	1	2	3
CLUSTER SIZE	218 - 21.8%	461 - 46.1%	321 - 32.1%
NAME	GEN Z - FITNESS FREAKS	XENNIALS	MILLENNIALS
CONSTANT COMMUNICATION	4.7	4.45	5.02
TIMELY INFORMATION	4.09	4.26	4.46
TASK MANAGEMENT	4.29	3.81	4.67
DEVICE STURDINESS	4.42	3.58	3.82
WELLNESS	5.5	3.38	5.01
ATHELTE	5.57	2.86	3.99
STYLE	5.02	3.7	4.67
WHETHER OWN AN AMAZON PRIME ACCOUNT?	0.75	0.45	0.6
FEMALE	0.7	0.51	0.56
DEGREE	1.29	1.29	1.41
INCOME	3.52	3.06	3.47
AGE	26.76	40.73	33.97

Table 1 – Cluster analysis for the problem

Traits of cluster 1 – Gen Z Fitness Freaks:

- In the cluster 1, which comprises of 21.8% of the total sample with 218 members, the average age is around 27 years. This cluster mainly comprises of young adults and people

who are well versed with the smartwatch technology. Further, the members of this cluster seem to be moderately educated (1.29) with at least an undergraduate degree.

- In this cluster, the majority are females (0.7). As females in general tend to give fair importance the to the look and feel of a product, the maximum importance to the style of the smartwatch is given in this segment (5.02).
- This cluster has the highest income (3.52) as compared to all other clusters. Also, this cluster has the highest number of Amazon Prime users as compared to the other two segments (0.75).
- In this cluster, the customers tend to give more importance to the fitness related features of the smartwatch such as Wellness (5.5) and Athlete (5.57).
- They tend to give moderate importance to the features related to constant communication (4.7) and task management (4.29).
- The members of this cluster tend to give least importance to the features giving timely information (4.09) compared to the other two clusters.

Traits of cluster 2 – Xennials:

- The cluster 2 is the largest cluster as it comprises of 461 samples constituting 46.1% of the total sample data. The average age of this cluster is the highest at around 41 years. The level of education of the members of this cluster 1.29. which means that they at least have an undergraduate degree, same as seen in cluster 1.
- Since the average age of this cluster is more than 40 years, the members in this cluster are people who were born before the age of smart devices and got to experience them probably in their mid-20s. They might not be familiar with the technical aspects of the devices neither would they be well versed with the modern services like web streaming or online shopping. Hence, this cluster has the lowest number of people with an amazon prime account (0.45).
- The gender in this cluster seems to be almost equally distributed between male and female (0.51).
- This cluster has the has the lowest income (3.06) compared to the other two clusters. This may be due to the fact that most of these members are nearing retirement age or would

have already retired. Also, they tend to give minimum importance to the design and style of the device (3.7) compared to the other two segments.

- The members of this cluster have given least importance to the features that can manage their tasks (3.81) and the features related to constant communication (4.45) when compared to the other two clusters.
- Further, they have given moderate importance to the features related to timely information (4.26) such as pop-ups and remainders.
- As the people in this cluster are the oldest, it is pretty obvious that most of them might not have an active lifestyle on a daily basis. Hence, the members of this cluster have given least importance to the features related to fitness and exercise compared to the other two segments with wellness 3.38 and athlete 2.86.
- Finally, they have given least importance again to the sturdiness of the device (3.58).

Traits of cluster 3 – Millennials:

- The cluster 3 constitutes the remaining 32.1% of the sample with 321 members. The average age of this cluster is seen to be around 34 years. Hence the members of this cluster have sound knowledge regarding the smart watch technology as it was introduced around the time, they were young professionals. Hence, they tend to give fair importance to the look and feel of the product (4.67).
- This cluster also has almost equal distribution of gender (female – 0.56). Also, they tend to have almost equal income with the cluster 1 (3.47). the members of this cluster have the highest educational qualifications (1.41).
- Compared to the cluster 2, more members have an Amazon Prime account (0.6) in this cluster. However, it is less than the number of samples with a prime account in the cluster 1.
- The members of this cluster tend to give more importance to the features related to wellness (5.01). they also tend to give moderate advantage to the features related to fitness (3.99) compared to the other two segments.
- As this cluster of members are fully working professionals, they tend to give the most importance to the smartwatch features related to maintaining constant communication (5.02), timely information (4.46) and managing tasks (4.67).

- They tend to give moderate importance to the features related to device sturdiness (3.82).

Targeting the clusters for competitive advantage

Since the samples collected have been formed into distinct clusters based on their unique traits and behavior, it is important to analyze which of these clusters needs to be targeted by the organization and which of the cluster(s) can be eliminated. As the resources that can be spent on the product research, design and development is limited, it is not possible to concentrate on all the clusters though it might seem optimal. The value of each segment can be determined by analyzing the market advantage the particular segment has and also its competitive strength. In the smartwatch case, the major competitors for Intel are Apple and Samsung.

GEN Z – Fitness Freaks

Although there are many smart devices invented to ease up the various tasks for the humankind, the main reason for which most customers tend to use smartwatches are for tracking their fitness activities. In the samples considered, the cluster 1 – Gen Z Fitness Freaks as the name suggests are the most inclined towards the fitness related activities. They have shown maximum interest in the features that send remainders regarding a healthy lifestyle, regular sleep and hydration. Further, this cluster consists most of the female population and they tend to focus more on the look and style of the product as in how well it will go with outfits and accessories. Thus, in this segment the main parameters to be focused on are setting and features related to fitness, healthy lifestyle and product design. Even though this cluster consists only of around 22% of the entire sample, this cluster should be taken into consideration as the members of this sample are of a very young age and an attractive market for Intel. As almost all of the daily activities of this particular age group are reliable on technology and smart devices, Intel can concentrate on this cluster. These group of samples also have the highest amazon prime subscriptions. As they say that the customer is the best brand ambassador for any product, it is easy to get more customers from this cluster as technology and new launches are a prime topic of discussion among these age group.

Xennials

The cluster 2 consisting of almost 46% of the entire data has an average age of almost 41 years. Although this segment has almost equal samples of men and women, this cluster has the lowest

income among the other clusters. Also, they do not seem to focus on the features related to fitness or wellness. Further, they also seem to give least importance to the style and sturdiness of the device. They also seem to have less interest in the features related to managing daily tasks or information regarding emails or calls or any other form of communication. The samples from this cluster have the least number of people with Amazon prime subscription. Hence, even though this segment constitutes almost half of the cluster, the average age indicates that the samples from this cluster do not show much interest towards many of the features of the device. This may be due to their age factor as these customers have lived the prime years of their life without any technology and hence would prefer old-school methods. Intel can thus eliminate this segment as they

Millennials

The last cluster consists of 32% of the data and its average age is around 34 years. Hence, most of the members of this cluster are working professionals. They would prefer their assistance from smart devices to make their day-to-day tasks easy and would use the device to set up remainders and plan their day such as set remainders for important meetings or set up a grocery list. This is evident from the inclination of their interest towards the features of the smartwatch related to constant communication of remainders, task management and timely information. This cluster also has fair number of customers with Amazon Prime. Intel can focus on this segment of customers as they prefer a set of features of the device more than any other segment.

Solution summary

The given sample of 1000 customers are divided into three meaningful homogeneous clusters using segmentation and clustering. The sizes of the clusters are 218, 461 and 321. They are named as GEN Z - Fitness Freaks, Xennials and Millennials based on the traits of age of each of the cluster.

After careful analysis of the competitive advantage of Intel over its competitors such as Apple and Samsung it is evident that Intel has the advantage in the technical point of view as they have been one of the market leaders in the manufacturing of high speed and robust processors.

Intel needs to concentrate on a sturdy and attractive outer design for its product and make it look visually appealing for the GEN Z Fitness Freak cluster as they tend to give fair advantage

for the look and feel of the device. Further, the device needs to be empowered with top notch censors to provide precise information about the calories burnt during a workout or track the sleep and steps walked by the person wearing the device.

Further it needs to make a niche by designing its UI/UX in such a way that the user has the most satisfying experience while using the device on a daily basis. The Millennials cluster tend to prefer a smart device that can manage their daily tasks, both professional and personal, effectively. It should be easy to view e-mails, set-up meetings, make a grocery list, set up everyday remainders or manage monthly expenses.

The cluster Xennials can be eliminated as the are an age category that might not feel the need to have an external device like the other clusters.

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