

BEMM463 Marketing Analytics 2024-

25

- Module code: BEMM463
- Module name: marketing analytics
- Candidate number: 055445
- Word count: 1750

As a marketing analyst for the Intel relaunching its smartwatch again in the competitive market, a vital task is to find out the customer pain point. The marketing issue or the pain point that needs to be resolved can be identified by looking into certain factors such as the customer's basic needs followed by the requirements to fulfil the needs and then their desires.

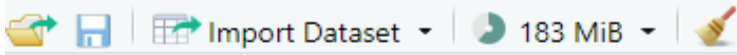


Locating the issue and offering answers with product and services is the job of the market analyst here. The problems can be analysed by observing human activity in their daily lives, through first-hand experiences, direct knowledge from research on crowd sourcing, segmenting customer into groups, feedback and reviews. Additionally, a marketing analyst can point out the problems through secondary research sources.

Intel, grooming its new smartwatch for a new launch, can effectively segment the market by grouping its customers based on their product requirements, the purpose of use of smartwatch in their daily lives and services provided by the brand they are investing on. For better analysis of a product in the market and decision making, K mean cluster analysis can be implemented through R, SPSS or excel to build combinations of customer segments through clusters.

Based on the data analysis, the data file or the data set contains 12 variables and one thousand observations. Before determining the number of distinct segments present in the market, a market analyst standardises the data to have a mean of zero and a standard deviation of one. The Euclidean distance is calculated in R and hierarchical clustering is executed to visualize the data in a tree-structured form known as cluster dendrogram. The marketing analyst then understands its contents and

structure of the data and further proceeds the operation by doing the k-mean cluster analysis to determine optimal number of clusters and cutting the dendrogram into required number of clusters. the number of clusters being four and the majority of observations seems to be in cluster 2 which is 35.3%, followed by cluster 1 which is 26% of customers. The last process is to size the segment and find the mean value of the variables in each cluster so that best possible and meaningful segments can be obtained.

By deeply analysing the dataset, it has been found that the number of distinct and meaningful segments formed by 1000 observations and 12 variables presented in the market are four along with four clusters differentiating each group of customers from one another. The proof of the data can be seen in the image below.

Environment	History	Connections	Tutorial
 Import Dataset ▾ 183 MiB ▾ 			
R ▾  Global Environment ▾			
hc.w	List of 7		
segments	4 obs. of 12 variables		
\$ cluster	: int [1:4] 1 2 3 4		
\$ ConstCom_mean	: num [1:4] 3.98 5.37 4.42 5.66		
\$ TimelyInf_mean	: num [1:4] 3.6 5.35 4.14 4.54		
\$ TaskMgm_mean	: num [1:4] 3.28 4.67 4.15 5.57		
\$ DeviceSt_mean	: num [1:4] 2.71 4.79 4.1 4.65		
\$ Wellness_mean	: num [1:4] 3.26 3.75 5.25 6.41		
\$ Athlete_mean	: num [1:4] 3.04 2.7 5.43 4.85		
\$ Style_mean	: num [1:4] 3.71 3.56 4.64 6.09		
\$ AmznP_mean	: num [1:4] 0.264 0.701 0.604 0.971		
\$ Female_mean	: num [1:4] 0.496 0.489 0.72 0.618		
\$ Income_mean	: num [1:4] 2.78 3.65 3.21 4.02		
\$ Age_mean	: num [1:4] 39.1 39.3 28.7 31.7		
Smartwatch	1000 obs. of 12 variables		

Based on data analysis:

The four identified segments from the analysis would be termed as the health and fitness conscious customers, the professionals and tech-Savvy customers, the mountaineers/hikers(beginners) or sports activity-focused customers and the casual customers. The identified four segments are explained below with preferred features as the variables in the data along with the highest mean values: -

1. Under the health and fitness conscious segment involve customers who would look for features that would provide them with calls and messages and email notification facilities (5.598) that would help them stay connected to both at home and at work. A clear bright screen displaying the time and the temperature is a must, deliver timely information (5.199) on traffic and routes updates like google map and navigators, calendars and event reminders, news and updates on sports, economics, etc. Additionally, they would have options to place order for their requirements while engaged in other task through amazon (0.992), make to-do list (5.674) or notes and have a voice assistant like google assistance to manage the task. The smartwatch should be smart enough to work well with strong battery backup (4.719) and not to be damaged easy with waterproof features. Fitness freaks (6.439) would look for tools that would track their sleep habits, walking steps, breathing analysis. These customers can be both male and female (0.727), athletic in nature (5.483), mostly educated (1.984) middle-aged citizens (below 40 mostly) and salaried person for whom style may not be a factor but the product should do the needful. These kinds of customers are mostly in cluster 1 with a high percentage of 35.6% than the other three clusters having 27% of consumers in cluster 2, 23% in cluster 4 and rest 13% in cluster 3. In the table below are the important features for this segment and the variables are mentioned with their mean values:

cluster	ConstCom_mean	TimelyInf_mean	TaskMgm_mean	DeviceSt_mean	Wellness_mean	Athlete_mean	AmznP_mean	Female_mean	Degree_mean	Income_mean	Age_mean
1	3.882022	3.578652	3.219101	2.662921	3.331461	3.098315	0.4016854	0.4915730	1.064607	2.755618	38.60112
2	5.376812	5.199275	4.670290	4.673913	3.869565	2.862319	0.4855072	0.5036232	1.554348	3.568841	39.01812
3	5.598485	4.666667	5.674242	4.719697	6.439394	4.750000	0.9924242	0.7272727	1.984848	4.053030	32.48485
4	4.597458	4.088983	4.262712	4.148305	5.351695	5.483051	0.6610169	0.6610169	1.110169	3.351695	28.45763

2. The professionals and tech-savvy segment attract buyers who are looking for smartwatch with seamless connection to internet, unstopped notifications and quick alert by emails, calls and messages from workplace as their first priority (5.60). A clear display of screen showing time, temperature, calendar reminders and clock alarm falls under their second priority with added features like traffic updates, navigating routes with less traffic jam, time to time weather and climate updates, news updates on business, economics, sports, stocks, etc (4.84). Professionals cannot survive without time management tools that help their work make easy. So, they seek gadgets that can do task like making to-do list in notes, google voice assistant for quick input, adding events/meetings/schedules in calendar, etc (5.58). A good battery supports saves a lot of time and helps to focus on work with no disturbance of recharging the gadget again and again (4.55). Professionals, nowadays, are quite health and wellness conscious (6.436) and prefer using tools to analyse their sleep hours, heart rates, tracking walk steps each day. Some professionals are athletic (5.363) who like to have route mapping while jogging, managing calories intake, etc. From professional features, fitness track, style preferences (6.070), online amazon prime features (0.82) to all demographic data, this segment of heterogenic customers seeks for all features while investing on a smartwatch. The analysis shows 35.3% of customers like all of the features along with amazon prime as an added one and are mostly in cluster 2, 26% of the observations in cluster 1, 24.5% in cluster 3 and 14.2% in cluster 4. This segment of customers has salary in

between \$60k-\$100k and aged around 30's, mid 30's and below 40's.

In the table below are the important features in this segment and the variables are mentioned with their mean values:

RStudio

File Edit Code View Plots Session Build Debug Profile Tools Help

Go to file/function

Addins

Smartwatch - Assignment.R x Smartwatch x dfz x df_final x segments x

Filter

	cluster	ConstCom_mean	TimelyInf_mean	TaskMgm_mean	DeviceSt_mean	Wellness_mean	Athlete_mean	Style_mean	AmznP_mean	Female_mean	Degree_mean	Income_mean	Age_mean
1	1	3.873077	3.426923	3.300000	2.719231	3.319231	3.161538	3.715385	0.1192308	0.5269231	1.053846	2.665385	38.60000
2	2	4.997167	4.844193	4.189802	4.079320	3.600567	2.810198	3.589235	0.6685552	0.4985836	1.430595	3.413598	39.34561
3	3	4.583673	4.146939	4.326531	4.269388	5.383673	5.363265	4.914286	0.7346939	0.6040816	1.097959	3.465306	28.81224
4	4	5.605634	4.739437	5.584507	4.556338	6.436620	4.830986	6.070423	0.8239437	0.7394366	2.000000	3.838028	31.90845

3. The mountaineers/hikers(beginners) or sports activity-focused customers are those for whom smartwatches are a huge help while hiking, climbing slopes, biking, paragliding and doing other adventurous activities since they combine essential functionality into a single, portable, and durable tool. For constant communication (5.66) and timely updates from the basecamp seamless connection and internet of things is a must. Real-time data of atmosphere, weather and climate updates (5.35) are the next essential features this segment of customers will look for along with google apps to navigate locations, track routes To and Fro, voice assistant facility for quick task managing (5.56) operations, amazon for ordering tracking and hiking kits and other first aid kits. The smartwatch must be water resistant and strong battery powered one (4.78) for this segment of users as they often pass by difficult situations in the rain, while crossing small water bodies, hiking through the forests and woods, tracking on places with no basic facilities to connect to. Next vital feature they look for is wellness (6.41) and safety tracking for analysing their heart rates, tracking sleep rates, any sign of overexertion since all this information would help them adjust their routine based on terrain difficulty. Hikers and bikers are quite sportive and athletic (5.43) and so should be their smartwatches. It should provide multi-sport performance tracking features, tools for athletic and fitness goals, provide route mapping and guidance, etc. Even though customers

look for convenient, user-friendly objects, style preferences (6.09) cannot be compromised on. A stylish smartwatch generates a style statement for this segment of users or buyers with a low likelihood to purchase from amazon (0.97) that gives access to easy online purchases. The demographic data holds the number of male and female buyer aging around 30's to below 40's with maximum mean value of female(gender) 0.72 out of all four clusters and majority with salary between \$71K to \$175K. In the table below are the important features in this segment and the variables are mentioned with their mean values:

RStudio

File

Edit

Code

View

Plots

Session

Build

Debug

Profile

Tools

Help

Go to file/function

Addins

Smartwatch - Assignment.R

Smartwatch

dfz

df_final

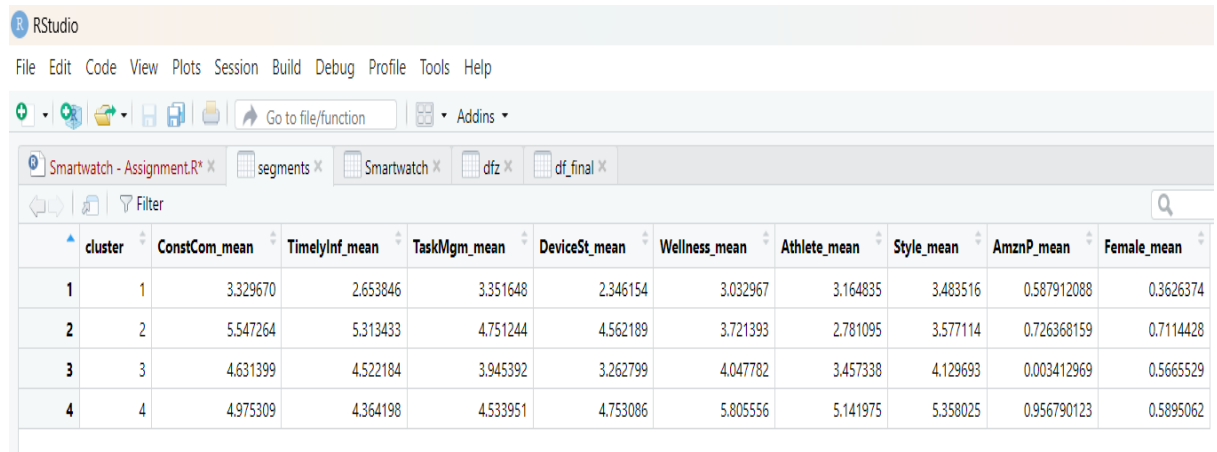
segments

Filter

	cluster	ConstCom_mean	TimelyInf_mean	TaskMgm_mean	DeviceSt_mean	Wellness_mean	Athlete_mean	Style_mean	AmznP_mean	Female_mean	Income_mean	Age_mean
1	1	3.975741	3.603774	3.277628	2.714286	3.261456	3.043127	3.711590	0.2641509	0.4959569	2.778976	39.05391
2	2	5.367965	5.350649	4.666667	4.787879	3.753247	2.701299	3.562771	0.7012987	0.4891775	3.649351	39.34199
3	3	4.422222	4.137778	4.146667	4.102222	5.248889	5.431111	4.644444	0.6044444	0.7200000	3.213333	28.65778
4	4	5.664740	4.543353	5.566474	4.647399	6.410405	4.849711	6.092486	0.9710983	0.6184971	4.017341	31.73410

- The casual customer segments emphasize on aged people with family as their financial support, children and tuition going students and those who wants smartwatches for style statement combining technology and trend with fashion. It is seen from the segment data that the prime requirements would be constant connections and timely communication (5.547) to their family, guardian, friends, teachers and neighbours around. For both senior citizens and children, time and weather updates (5.313) are needed. Parents can keep track of their children through Google apps (4.751), location navigator, tracking the route, etc. So, the customer will want the smartphone to be strong, stable and convenient with a long-lasting battery (4.753). The casual consumers, irrespective of age, will look for smartwatch with features and tools related to fitness & wellness(5.80) providing heart rate analysis, monitoring sleep pattern, walking and jogging steps and track routes, children in sports activities would need features related to athletic

goals(5.141) with style(5.358) as their preference. Subscription to amazon or amazon prime may or may not be so important to this segment of customers. It is just an add-on features for them. This segment of consumers can be anyone irrespective of their gender.



The screenshot shows the RStudio interface with a data table loaded. The table has 11 columns: cluster, ConstCom_mean, TimelyInf_mean, TaskMgm_mean, DeviceSt_mean, Wellness_mean, Athlete_mean, Style_mean, AmznP_mean, and Female_mean. There are 4 rows of data, each representing a different customer segment.

cluster	ConstCom_mean	TimelyInf_mean	TaskMgm_mean	DeviceSt_mean	Wellness_mean	Athlete_mean	Style_mean	AmznP_mean	Female_mean
1	3.329670	2.653846	3.351648	2.346154	3.032967	3.164835	3.483516	0.587912088	0.3626374
2	5.547264	5.313433	4.751244	4.562189	3.721393	2.781095	3.577114	0.726368159	0.7114428
3	4.631399	4.522184	3.945392	3.262799	4.047782	3.457338	4.129693	0.003412969	0.5665529
4	4.975309	4.364198	4.533951	4.753086	5.805556	5.141975	5.358025	0.956790123	0.5895062

Worth Buying it: Yes, or No?

According to the analysis, Intel's comeback to the market can be best if done partnership with Google and Amazon in the beginning. The kind of features added to it and the segment of customers being attracted to this product tells that the product will be reasonable at cost and may or may not require medical health insurer like Aetna for specific or special customers at the current state. The most targeted segment by Intel should be those customers under health and fitness conscious segment and the mountaineers/hikers(beginners) or sports activity-focused customers.

Intel has focused more on seamless connection, fitness, wellness and sturdiness of its products along with google features and access to amazon prime. Also, the features it added makes its product user friendly to buy and use comparative to its competitor's product(Apple, Samsung, etc) that sell expensive products and services to the high end customers. Intel's new smartwatch on the other hand attracts all genre of people. So, it can be given a shot.