Fitness Trackers: Fit for the future

An analysis of the health of fitness trackers using an experience measurement model and text analytics technique developed by Blueocean

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The performance of fitness trackers in FY ‘16

Fitness trackers were speculated to be the next big category of consumer devices after smartphones. Smartphones have always had the capability to measure basic fitness parameters, such as counting of steps and number of calories burnt. However, companies such as Fitbit and Garmin capitalized on this growing fitness consciousness by launching bands, watches and other forms of wearable devices that not only track these basic parameters, but also track key metrics in activities such as cycling, hiking and swimming.

While sales of fitness trackers grew several fold until 2015, the growth sharply reduced in 2016. Analyst houses such as eMarketer and IDC downgraded their predictions for 2017 and beyond, based on this unexpected drop in sales.

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<th>Performance of wearables in 2016</th>
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<td>Initial projected growth</td>
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<td>eMarketer</td>
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Sources: Fitbit gets another holiday bump and much-needed breathing room, TechCrunch, Dec, 2016; IDC via Yahoo Finance, March, 2016; IDC, June, 2016

Sources:

1. It’s confirmed: Wearables are the ‘next big thing’, CNBC, Sep, 2015
2. U.S. wearables market is doing much worse than expected, TechCrunch, Dec, 2016
3. eMarketer Slashes Growth Outlook for Wearables, Dec, 2016
4. The wearables market outlook for 2017 is not pretty, Yahoo Finance, Dec, 2016

Source: IDC Worldwide Quarterly Wearable Device Tracker; Projected sales based on a regression model developed by Blueocean
While it is observed that sales fell in 2016, there is no clear understanding on why this was so. Fitbit has undoubtedly been the market leader since its launch in 2009\(^5\). Shipments grew steadily until 2015, but began to fall in 2016, probably contributing to the decline in the overall market. While it still has the highest market share, Fitbit’s share has reduced, possibly owing to strong new entrants such as Apple Watch, Garmin, and countless smaller players such as Polar. eMarketer and others have speculated that growth isn’t going beyond the early adopters\(^3\), mainly because of the lack of clear use cases for them, as there are several functionalities that overlap with smartphones.

However, not all fitness tracker sales are declining. Devices from players such as Garmin and Xiaomi, have, in fact, sold much more than the previous year.

Sources:
5. The story of Fitbit: How a wooden box became a $4 billion company, Wearable.com, Sep, 2016
Analysis of ratings on Amazon.com: Net Experience Score

In order to determine the reasons behind the declining sales of fitness trackers, we decided to dig a little deeper and understand the user experiences of devices launched by Fitbit and other major players.

We analyzed the reviews and ratings of devices from the four largest manufacturers of fitness trackers – Fitbit, Garmin, Apple and Xiaomi, on Amazon.com.

In order to quantify the overall user experience, we devised a metric, the ‘Net Experience Score’ (NES). NES is determined by calculating the proportion of buyers during a particular period who gave ratings of 4 and 5 stars and subtracting from it the proportion of those who rated 1 and 2.

For e.g., in the charts below, the NES for Garmin Vivofit 2 is showing a gradual increase over a period of 21 months, and that of Fitbit Charge HR is showing a gradual decrease over a 23-month period.
We repeated this exercise for all the devices and made an interesting discovery. Devices with increasing NES saw rising sales, while a declining NES trend also displayed falling sales.

A summary of our findings is given below:

It is seen that improving experiences seem to have had a positive effect on sales for Garmin and Xiaomi, while negative experiences may have been detrimental to the sales of Fitbit. Fitbit Charge 2 is a relatively new device, having been launched only in Sep 2016, due to which its NES trend differs from the rest of Fitbit’s devices.

Analysis of reviews on Amazon.com: Major themes
Using text analytics techniques developed in-house, we then proceeded to analyze the reviews of all the above devices and determine which themes stood out. The themes generated as a result of our technique, from 4 and 5 star reviews of Fitbit Flex, are as shown in the network map here.

The analysis of all reviews (more than 50,000 of them) of the largest players in this category, Fitbit and Garmin, revealed the following top 10 aspects that users like and don’t like about these devices:

### Top 10 reviews

**Garmin 4 and 5 Star Reviews**
- Step count seems reasonably accurate
- Band/ Watch is comfortable to wear all the time
- App is good and easy to use, connects easily with phone
- Helps track exercise, calories burnt, sleep, fitness, and weight loss goals
- Reasonably good battery life
- Heart rate monitor seems to work well
- Ability to get text, call and other notifications from phone
- GPS seems to work well
- Good for tracking activities such as running, cycling, swimming and biking
- Waterproof

**Fitbit 4 and 5 Star Reviews**
- Helps track exercise, calories burnt, sleep, fitness, and weight loss goals
- Heart rate monitor seems to work well
- Band/ Watch is comfortable to wear all the time
- Reasonably good battery life
- Step count seems reasonably accurate
- Bought for family/ friends as a gift and they love it
- Ability to get text, call and other notifications from phone
- App is good and easy to use, connects easily with phone
- Band has good features and design
- Easy to set up and sync
Garmin 1 and 2 Star Reviews

- App sync issues/bad app
- Heart rate/sleep/general activity monitoring issues
- Battery/battery life issues
- Step count issues
- Issues with customer service/support/returning product
- Device worked only for a short time
- Defective wristband design
- Nowhere near accuracy of chest strap
- Screen too dim, hard to read
- Issues with tracking swimming laps and other fitness activities

Fitbit 1 and 2 Star Reviews

- Issues with customer service/support/returning product
- Step count issues
- Battery/battery life issues
- App sync issues/bad app
- Heart rate/sleep/general activity monitoring issues
- Issues with warranty/return policy and replacement of band
- Defective wristband design
- Nowhere near accuracy of chest strap
- Device worked only for a short time
- Tapping screen to access time works sporadically

Our analysis of the reviews also revealed that there are mainly two categories of fitness tracker users: one who has had no experience with such devices; and another, for whom fitness tracking is a priority and who has already been using wearables such as chest straps, to track heart rate.

The proportion of these users could vary for different players. For instance, we found that Garmin users also fall into similar categories, though there seem to be more users in the second category than the first. In the above list, we can see that the themes ‘Good for tracking activities such as running, cycling, swimming and biking’ and ‘Waterproof’, appear among the top 10 themes in reviews with the highest ratings by Garmin users, but do not figure among the highest rated reviews by Fitbit users. Also, ‘Bought for family/friends as a gift and they love it’ shows up in the top 10 themes among Fitbit users who’ve rated 4 and 5 stars, but not among Garmin users. A 2016 survey by Gartner also found that 34% of fitness trackers and 26% of smartwatches are given as gifts.

Insights drawn from our analysis

The first category of fitness tracker users is quite happy with the basic parameters - step counts, sleep tracking and calories burnt, especially during the initial days. As can be seen from the highest rated reviews, they believe that step count and heart rate ‘seem to be accurate’. However, we found that as their familiarity with these devices increase, so do their expectations. They realize that even basic functions such as step counting are not nearly as accurate as they would like them to be.

"I bought this for my husband as a “just because it’s on sale” gift. He loves it! He has worn it while swimming in the pool and it still functions perfectly. His only complaint is that it does not track steps accurately - he took an 18-mile hike last weekend, and it only counted 12 miles for both the hike and just walking around the house before and after. This seems like a huge deal, but from what I’ve read online it sounds like none of these trackers are accurate, but they work well for goal setting.”

Garmin Vivofit user

Sources:
We found that the second category of users had hoped that fitness watches/bands would eliminate the need to wear the cumbersome chest straps, but were also disappointed with the lack of accuracy of these devices. This is reflected in the theme, ‘Nowhere near the accuracy of chest strap’, occurring often among the lower rated reviews of Fitbit’s and Garmin’s devices.

We infer that the biggest reason why fitness tracker sales have decreased is that the novelty has slowly worn off. Adopters, early or not, have realized that this technology is still quite nascent and is yet to provide results that are accurate. Their lack of confidence in the technology is reflected in the decreasing NES values of Fitbit’s devices and the occurrence of very basic functionalities such as ‘App sync’ and ‘Step count issues’ as the top themes from the lowest rated reviews. Garmin, while facing similar problems, has managed to provide tracking for a wider range of activities, and even has specialized trackers such as Forerunner (targeted at runners), which is probably why user experience with their devices has been better than with Fitbit.

What can fitness tracker manufacturers do to revive interest in their devices?

The fact that one of the biggest selling points of fitness trackers is that it makes for a great gift, is already known to the manufacturers. This is evident from their recent advertisements. While this is an interesting use case to capitalize on, it is perhaps not sustainable in the long term. The abandonment rate of fitness trackers is 30%, according to Gartner.

For fitness trackers to ‘cross the chasm’ and have their products increasingly adopted by the ‘early majority’ and beyond, we believe that they need to be seen as makers of robust devices that accurately track a whole range of fitness-related activities and are worth holding on to. Users are increasingly becoming accustomed to the idea of fitness trackers and they are no longer objects of curiosity. Manufacturers need to upgrade their technology and position their products as reliable companions for users to achieve their fitness goals and make an impact in the lives, rather than just being novelty items, which provide data that is interesting, but not worth taking seriously.


“I purchased my Fitbit from the store for $121.99. I’ve had this for a full week, and I will be returning this item. I do high intensity workouts, like boot camp, body combat and martial arts. The heart rate monitor is so off, and the calories burned are off as well. My heart will be beating out of my chest and my Fitbit would read 128 or 130 beats per minute. I purchased this heart rate monitor to see if I need to step my workouts up to 165-175 beeps per minute, but this will kill me due to the poor very low beat per minute readings. My polar chest strap is so more accurate, I just hate the chest strap fat bulge. I’ll be going back to the old-fashioned chest strap.”

Fitbit Charge HR user
What does the future for fitness trackers look like?

We believe there are broadly two avenues of growth for fitness trackers:

**Improving user experience:** The integration of cognitive technologies such as machine learning and artificial intelligence will be core to providing users of fitness trackers an improved experience. These technologies can help advance data accuracy for different types of exercises and activities based on the different surroundings, for instance, varying temperatures and elevations, that they are performed in. Additionally, there is scope to improve the interaction experience with users. Rather than providing data that gets consumed only when users want, trackers should be capable of providing important data to users and giving feedback on their health in a more proactive manner. For instance, if the device detects that a user has not undertaken any physical activity for two days, the device can suggest that the user goes for a walk at a suitable time based on the user’s calendar and the weather outside.

**Newer and more impactful use cases:** Fitness trackers of the future could also serve as early warning systems for personal health, detecting symptoms of illnesses, which most of us would otherwise hardly notice or choose to ignore, thus having a direct impact on health and longevity. There are opportunities for specialized use cases such as critical care (for e.g. providing real time health information to diabetics enabling them to take instant action) and elderly care.

Fitness trackers are still a budding technology, and like all such technologies we may witness disruptions and use cases that haven’t been thought of or conceived as yet. With several possible avenues for growth, it would be interesting to see how this category shapes up in the coming years.

Sources: 7. Wearables Could Soon Know You’re Sick Before You Do, Wired, Jan, 2017
About Blueocean Market Intelligence

Blueocean Market Intelligence is a global analytics and insights provider that helps corporations realize a 360-degree view of their customers through data integration and a multi-disciplinary approach that enables sound, data-driven business decisions.

Since we live in a highly dynamic and multi-dimensional world, we believe the most effective business decisions come from a synthesis of data streams and not from one-dimensional sources.

Using our 360 Discovery approach, we ensure the comprehensive use of all available structured and unstructured data sources, enabling us to bring the best to bear against each engagement. Strong decision support is enabled through a combination of analytics, domain expertise, engineering and visualization skills brought together in harmony.

Leading companies have benefited from our partnership with financial growth, 360 views of their markets and competition, and improved customer acquisition, satisfaction and retention.

For more information or to request a consultation, please email info@blueoceanmi.com or visit us online at www.blueoceanmi.com.

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