A Market Evaluation for Wearable Technology

Wearable technologies are a variety of devices that have multiple utilities in which people can physically wear such as clothing or accessories. Over the years the utilities and capabilities from wearable technology have become more advanced allowing for a larger variety of uses and applications. Recently, new smart watches have begun to turn the gears of the wearable technology industry. Certain devices are excelling while others are falling short in this market. Why isn’t wearable technology more popular? Why haven’t consumers latched onto this market and what are the key determinants of whether or not a purchase is made? What technical aspects of this technology will excel in this market? Consumers are most likely price sensitive to this type of product and concerned about the return on their investment in expensive gadgets. In order to answer these questions, we must first explore the history of wearable technology and its implications for today’s market.

The first piece of wearable technology invented in modern history was the traditional watch. The traditional watch had two utilities: mechanical time keeping and later on, fashion. This is the start of the wearable technology evolution. Watches then transitioned from classic watches with gears to digital watches with lithium batteries and lit numbers. Unlike classic watches, the digital watches were centered on practicality rather than fashion.

The differing preferences of fashion and practicality are a key trade off in wearable technology today. Throughout the recent decades wearable technology has been used for a variety of situations, each new invention has provided newer capabilities and utilities. A couple decades after the digital watch, two inventors began inventing devices to be used for purposes other than keeping track of time. In 1961 Edward Thorp invented a “wearable computer” that
allowed a player to cheat at roulette giving the wearer a 44% edge in the game. In 1972 Keith Taft invented a computer to gain advantage in black jack, the computer was worn in the shoe, it was called George. (Knoblauch, Max) Later in the 20th century, Steve Mann began inventing wearable devices, which included computational photography, high dynamic range imaging, and wearable computing. (Racoma, J. Angelo) In the early 2000s multiple wearable devices were invented such as the Bluetooth headset, Poma PC, and the C-series. The C-series was a digital pacemaker while the Poma PC was a cassette player installed on a headset. (Knoblauch, Max) This history of wearable technology provides a few major themes, or important aspects such as fashion, utility, price, and practicality.

Along with these important themes, new wearable technology devices with a wide range of capabilities are hitting the market. Most of these new devices are underdeveloped and need more capabilities in order to catch on with the market, however they are certainly on the right path. One example is the Aeros shape shifting sports bra, which made its debut on the runway at New York’s fashion week this year. This sports bra is a completely new idea for proper support and health tracking for women athletes. The sports bra is unique because it shapes to each individuals body to give the right support and fit while being able to open special vents when it detects high temperature or perspiration. (Billington, James) Wearable Solar is another company advancing the wearable technology market. Wearable Solar has invented clothing that has solar panels, which can store energy from the sun and then use that energy to charge a smart phone. (CNBC) Another example of new wearable technology is used primarily in the health care industry to better assess patients’ needs and their current states. Hexoskin and Heddoko are two companies that make clothing to measure a patients’ body
temperature, perspiration, movement, heart rate, blood pressure, and breathing pattern. This new type of technology has so many positive implications for the medical industry and for regular consumers to be able to track their health and to stay in good health. Similarly, a new company called Pixie Scientific is creating diapers for babies, which can tell parents a multitude of health information. The diapers analyze urine data and can detect any concerns in which the parents can send that data directly to the pediatrician. (Cannon, Tim) These examples listed are potential candidates to change the wearable technology industry; it is going to take further development and usage situations to push these products into the mainstream market.

Watches are the current product that seems to be advancing in the market with new utilities and applications for consumers. The smart watch industry has become extremely popular for consumers as more and more people are taking advantage of the health tracking benefits in which they offer. Fitbit invented by James Park and Eric Friedman in 2007, has had enormous success and is extremely popular for fitness conscious consumers. The Fitbit is a perfect example of fashion, utility, price, and practicality working together in a single product (hence the amount of success it’s had). Another example is the Pebble watch, invented in 2012, where it was made public on the well-known website, Kickstarter. (Knoblauch, Max) The Pebble and the Fitbit have helped to pave the way for newer smart watches that have come about with companies like Sony, Samsung, and Apple. Some examples of these new products are the Sony Smart Watch, the Samsung Gear, the Apple Watch, and the Motorola Moto. Capabilities of these watches range from heart rate tracking, temperature, email, text, social media notifications, weather apps, photos, Bluetooth calling, and many more. The market however is not showing any major growth around these watches or other wearable technology. Are these
current capabilities not enough? What are the most important features for consumers in regards to these wearable devices?

In order to fully evaluate the wearable technology market based on specific consumer characteristics we must first look at who the consumers are. The first segregation of consumers is whether or not consumers are early adopters, innovators, early majority, late majority, or laggards. Between these groups the main consumer segment for wearable technology are currently early adopters. In regards to the other four segments, the wearable technology industry has not reached these consumers successfully. Even though the early adopters seem to be catching on to these products, they are quickly abandoning them. Most consumers within this category used the products for a short amount of time and then stopped using them. According to a research study from Endeavor Partners, one third of Americans who purchased a wearable device stopped using it within six months after purchasing. (Song, Sichun) Another important distinction between consumers is the target markets within each segment. Within the early adopters segment the target market is most likely people between the ages of 18-35 who are either tech savvy or athletic. Due to the characteristics of this target market, certain aspects of wearable devices will prove more useful and important to these consumers than others. What is most important to these consumers and how could companies create new usage opportunities for newer consumers? How do the companies get consumers to use the product beyond six months?
The wearable devices previously mentioned have already been established in the market, however, more than a few seem to have under delivered on consumer expectations. Some of the main concerns from consumers are price, privacy, security, and the lack of actionable and inconsistent information. (Schooler, Laura) Price is a critical point in a consumer’s purchase decision especially with high involvement decisions such as buying expensive technology. The price of most wearable devices ranges between one hundred and four hundred dollars. Research has shown that the majority of potential buyers feel comfortable purchasing a wearable device for around two or three hundred dollars. (The Economist, Figure 1) The average price for wearable devices is above what most consumers are willing to pay at $370. (Song, Sichun) In an online survey conducted including 62 sample respondents, 41% of participants stated that price was the most important purchase influence for them when choosing from utility, price, concept, or appearance. Since there are a large amount of consumers who are price sensitive to this type of product, brands should lower their prices or offer cheaper alternatives in order to stretch their reach to the innovator and early majority market segments.
Another reason why there is a limitation to reach more market segments is because most consumers are influenced that these products are exclusive for super geeks or athletes. The source of these beliefs comes from the utility aspect of these products and the obvious ways that companies are advertising to these target markets. Consumers are convinced that these products only have fitness or small technical uses. The first way to change this is to use a repositioning strategy. Marketers can reposition their products in consumers’ minds through advertising to promote all of the different uses for this product that most consumers wouldn’t have known about. The second way to change consumers’ beliefs about the product is to change the utilities of the products, by creating more usage situations for consumers. In the survey conducted with 62 respondents, participants chose what influences their purchase decision of wearable technology the most. The results show that 48% of the participants chose utility as the most important purchase decision factor when choosing from price, utility, concept, or appearance. Since utility is the most important decision factor for consumers it is important to understand what consumers are looking to use these products for or what will increase their practicality.

According to Figure 2, consumers want more sensors in wearable devices along with comfort and more computing power. Consumers have also stressed their concern

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**Figure 2**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Percentage</th>
</tr>
</thead>
<tbody>
<tr>
<td>More sensors</td>
<td>30%</td>
</tr>
<tr>
<td>More comfortable</td>
<td>30%</td>
</tr>
<tr>
<td>Greater computing power</td>
<td>20%</td>
</tr>
<tr>
<td>More accurate, reliable data</td>
<td>20%</td>
</tr>
<tr>
<td>Improved design</td>
<td>20%</td>
</tr>
<tr>
<td>More discreet</td>
<td>10%</td>
</tr>
<tr>
<td>Nothing would increase my usage</td>
<td>0%</td>
</tr>
</tbody>
</table>

Source: Morgan Stanley

*Based on a survey of 10,500 people in Brazil, Britain, China, France, Germany, Japan and United States, August 2014
about the connection between a wearable device and a smart phone. A common need amongst consumers is the potential for cellular capabilities in wearable devices so that a smart phone does not have to be in the same vicinity, furthering the usage of the wearable device. It is important for brands to increase the capabilities of their wearable devices to reach more segments of the wearable technology market.

Fashion and appearance is another concern for consumers when making a purchase decision. Consumers are concerned with what wearing a product might say about them as well as the physical appearance of a device on their wrist or clothes. Consumers will only buy products that align with how they want to be perceived by others. For example, a person who is wearing a Samsung Gear watch could be perceived by their peers as someone who enjoys technology or doesn’t have a strong sense of fashion. Another example is someone who is wearing a Google Glass. The person wearing the Google Glass will most likely be interpreted as someone who is wealthy, interested in technology, and sophisticated. Products are simply extensions of oneself, which is why it is so important for wearable devices to become more fashionable products.

In summary there are a few solutions, which have been made on how the wearable technology industry could reach more market segments and increase consumer satisfaction with their products. The first solution is to decrease the price unless utility functions increase because the products do not have enough functions to be worth the amount they are currently set at. This solution also depends on each company’s individual pricing strategy. Some companies may want to stick with their current strategy and do not want to reach other segments of the market in order to maintain a prestigious high quality feel with their brand.
The second solution is to increase the utility of the products. A huge concern for consumers is that they feel like they won’t use it and a third of consumers who have purchased don’t use the technology anymore. (Song, Sichun) The devices should have multiple capabilities, highlighting the uses that are most important to consumers. Since consumers are looking for new technology to replace the old, devices should offer newer and different capabilities while including basic functions. For example, smart watches are not gaining a lot of momentum in the market; to fix this, smart watches should have cellular service or Wi-Fi capabilities so it is more of an independent device. Increasing one capability such as this could cause more people to latch on to these devices. The third solution is to enhance the physical appearance of the devices. Wearable technology should be customizable to different people’s personal style. Apple has excelled with enhancing physical appeal; by making the Apple Watch customizable with different style wristbands increases its physical appeal. Therefore, more consumers will see it as a fashionable accessory they are proud to wear on their wrist. In conclusion to the initial research question, “What technical aspects of this technology will excel this market?” Thus, wearable technology companies need to focus on decreases in price, increases in usage and capabilities, and enhancing physical appearances.
Works Cited


