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Capstone 1

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## **Case Study 2: How can wearable technology surpass luxury wear and reach the casual fashionista's everyday wardrobe?**

### **Abstract**

Fashion and Technology have a newfound intersection in the expanding market of wearable technologies. Fashion and technology both follow a pipeline; beginning at high class, luxury products and eventually trickling down to affordable products for the everyday buyer. Take Apple, for example. When they release a new phone, it costs upwards of one thousand dollars. Let's call this iPhone A. Only the most elite can purchase iPhone A. When iPhone B, C, D, E and so on are released, this iPhone A becomes more and more outdated and its price lowers. The price of the phone continues to lower until it becomes affordable by the middle class citizen. Most people cannot purchase the newest technology when it first comes out, rather, they have to wait for iterations to release for that technology to reach an affordable level. This same pipeline can be applied to fashion. Garments are created that no one would realistically wear in their everyday lives. These garments are bizarre and elaborate and are typically only worn on the runway. Fashion designers take these pieces, use them as inspiration, and create pieces of clothing that can be sold in stores. These sellable garments are typically extremely expensive and are sold only in high end stores. The next level of fashion designers use these pieces as inspiration to create a product that can be sold

in more affordable stores. The last step is department stores receiving these pieces of clothing when they are out of season and can be sold much cheaper than the original. The recent merger of these two markets has created an entirely new market that seems like fashion as consumers wear the products, but tends to be primarily focused on technology. The expectation of fashion focused wearable tech is not being met, and therefore proves the lack of companies focused on fashion first with the technology aspects following.

## **Background**

The wearable technology market is currently creating products in which technology takes precedence over fashion. The majority of wearable tech products on the market today use some kind of sensors, embedded into everyday products like watches, shoes, headbands or necklaces that provide different forms of feedback to the user (Arthur). Most of these products are focused on the technical feedback first, before creating something one would want to wear solely for fashion. These companies believe that since their products are offering technical capabilities, the consumers will care only for these capabilities and will put fashion aside for usability. A 2016 IDC survey showed that “Americans who planned to buy a wearable in the following six months said retailers needed to put a major focus on aesthetics rather than just technical features.... Companies clearly need to focus on the aesthetics of their product – perhaps more so than the features.” (Arthur).

Companies are currently falling into two categories: technology focused or luxury wear. These categories are vastly different as “[l]uxury and non/luxury customers have different needs when they evaluate wearable technology” (Arthur). Luxury shoppers want snob appeal, while the average shopper is more likely to want a versatile piece that can be worn with multiple fashion aesthetics. The only fashion forward options on the market are high end luxury wear that focus on branding the wearer and cost a

fortune; two things most everyday shoppers do not desire. This pigeonholes the everyday middle class consumers into weighing usability over fashion.

There are a few companies that do listen to the everyday consumer's needs for versatility in fashion, like FitBit's changeable and customizable bands. This is an example of a company using fashion to enhance the technology, based on the feedback given from customers, which is the most important rule to keeping a successful clothing line (Bhardwaj). There are little to no companies on the market today that not only create fashion forward affordable products, put also are fashion first, and use technology to enhance the fashion.

## **Analysis & Findings**

Humans use fashion to express themselves. Each person has formulated an eclectic, personalized wardrobe based on what they are drawn to, and what they want others to see them as. Fashion is creative and expressive. Most wearable technology companies are currently hyperfocused on technology providing some sort of feedback to market these products to consumers, while disregarding fashion. Existing products on the market that are focused on the technological usage include fitness based companies like Sensoria Fitness Socks, which provide feedback on how your foot falls when you walk or run or Nadi X yoga pants that vibrate to tell you where to correct your yoga pose. On a social level, Snapchat has created *Spectacles*, which are sunglasses that take pictures and videos through small cameras on the glasses frames and send them to your phone. A more health based product is the Siren smart socks, which measures the temperature of one's foot to detect ulcerations (Stephenson). There are, however, some companies are considering both fashion and feedback, like the fitness based company, OMSignal, who has created a sports bra capable of tracking your fitness data. They offer fun smart sports bra patterns and color options. The typically technology centered company Samsung has even jumped into the wearable tech

market, releasing prototypes that include a belt that lets you know when you're gaining weight and a golf shirt that tracks swings (Arthur).

In the wearable technology market, one end of the spectrum is missing; companies that put fashion first and use the technology embedded in the clothing to enhance the self expression of fashion. Technology enhanced fashion could respond to the wearer's surroundings or preferences so it can become a piece that is an extension of the user's true self. Embedding technology in textiles would create more fashion forward garments, rather than placing bulky, visible, sensors in clothing. Fashion focused wearable tech was first explored in the early 2000s, but never made it past the high fashion stage as it was overshadowed by the excitement of performance based feedback technology. An example of one of the first iterations of fashion based wearable technology was created through a collaboration between Swarovski and Nick Knight. The piece included laser beams reflecting through crystals and onto the wearer's surroundings, calling to the similarities between ancient sun worshipping and contemporary celebrity status (Seymour). More recent smart textiles include the University of Manchester's National Graphene Institute and Cute Circuit's dress. The dress is made out of a smart textile called graphene, which changes the color of the dress based on the wearer's breathing patterns (Draper). Another more recent example of example of technology embedded in textiles is the company Pireta, whose electronics can be integrated into any kind of fabric so seamlessly that the wearer wouldn't even notice, making them - what they call "truly wearable" (Bell).

We see the beginnings of a fashion focused area in the smart textiles on the market. You could call to question how these textiles can be made with enough ease and affordability that they can be placed in everyday clothes. In rebuttal, the company Pireta claims that "its textile tech can be applied to finished garments or fabric on the roll, making it suitable for both niche and mass markets" (Bell). There is a gap in the wearable tech market where affordability meets fashion. Consumers desire products they can wear that they can use to express themselves. At this point, bridging the gap

in the wearable technology spectrum would involve creating a company that uses existing smart textiles that thinks; fashion first!

## **Relevance to Work**

### **Sophie**

We see the need for companies to focus on fashion over technological usage to round out the wearable technology market. This hole in the wearable technology industry provides for an opportunity for me to create a fashion focused wearable technology. This relates directly to my capstone project by proving the need for the piece I desire to make. I would like to create a piece of clothing focused solely on fashion and use embedded smart textiles to enhance the self-expressiveness and individuality of the wearer. The piece is intended to be worn by people around 18-25 years of age in a casual, fashionista friendly setting.

### **Elsa**

The ideas mentioned in this case study regarding the need for wearable technology to be fashion-first creates an interesting concept to be applied to other work. With the digital world expanding at an exponential pace, it is easy to fall into the pattern of putting the technology or the digital feedback first. When, as seen in the case of wearable technology, it can detract from the qualitative value of the product. This is an important question to keep in mind when designing new physical electronics. It is important to wonder: what is this giving the user? Why does the user need this? Can they still express their individuality when using this new product? None of these questions have a single right answer, but in order to maintain value for the general user, it is important to have the answers in mind. If products are going to be accessible to all users, they should be able to see the value in them using it, and they should be able to still be themselves while using the product.

## **Sara**

While the world of technology grows and begins to become enmeshed in every industry, I am curious when it will lose its flashy qualities and transition into a more understated type of improvement. The wearable tech industry is the epitome of this concept for me. I have been personally interested in how to transition away from this flashiness, and I am working towards incorporating textiles into my art, so the information regarding fashion forward, tech secondary will inform my work to be a subtle technologist. In its current state, I could not personally imagine wearing most pieces of wearable tech due to its clunky, and obvious qualities. That is, it is *obviously* a wearable tech piece. I am interested in the capabilities and enhancements of wearable tech, and I think a lot of the feedback can be quite interesting. Once there is a middle of the road strategy that is subtle, and simple, that works understated wonders, I would be interested in not only wearing, but using this as a material in art.

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