

Love or Arranged? Relationship of “Wearable” and “Technology” from 2014 to 2016

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The Industrial Revolution triggered a paradigm shift for the apparel industry, which changed the clothing and textile discipline from home-focused to industry-focused. Similarly, in this information era, many believe that recent innovations have pushed us to the cusp of another type of industrial revolution via emerging technologies (Anderson, 2012). The wearable technology (WT) market is expected to increase from U.S. \$14 billion in 2014 to over U.S. \$70 billion in 2024 (Harrop, Das, & Chansin, 2014). Industries like health informatics, electronics, and engineering are looking to collaborate with the fashion industry to integrate the wearable component into the technology component (Raj & Ha-Brookshire, 2016). Gartner (2015) proposed five distinct phase of the emerging technology hype cycle: the innovation trigger, the peak of inflated expectations, the trough of disillusionment, the slope of enlightenment, and the plateau of productivity. From this view, the WT industry is at the peak of inflated expectations. However, due the rapid growth and newness of the WT industry, research on the phase of the WT industry lifecycle and its effect on consumer is limited.

As an initial attempt to gauge the phase of WT evolution in the most recent three years (2014-2016), this research was designed to explore: (a) the changes in the major trends and (b) evolution patterns within the WT domain. For this purpose, the researchers examined the first 20 news articles that populated the Google ‘news’ section when “Wearable Technology” was searched for each of the years 2016, 2015, and 2014. Using the applet available on the ‘Wordle’ website, which is often used to visualize the common themes in a text for qualitative research (McNaught & Paul, 2010), the entire text contents of these articles were used to create word clouds for each year. The number of occurrences of the words and their usages in the text were analyzed to discover themes for the research. Each word cloud was then interpreted based on the major themes and relevant literature (See Figure 1 for the results).



Figure 1. Results of World Cloud of Wearable Technology in 2014, 2015, and 2016

The results showed that, first, the major shift in WT trends from 2014 to 2016 was from healthcare to active wear. This trend is consistent with the fact that more companies are investing in smart devices, targeting mass consumers in retailing and entertainment scenes rather than

focusing on a specific niche market (PricewaterhouseCoopers, 2016). Second, the maps showed that WT has shifted from “digital” in 2014 to “wear” in 2015 and then to “fashion” in 2016. In 2014, the words that described the WT trend were ‘paradigm’ and ‘shift,’ suggesting that the sector was evolving and going through a major change. In 2015, words such as ‘competition,’ ‘created,’ and ‘surge’ indicated that many companies had found their product ideas and that rivalries were developing in the market. In 2016, words such as ‘team,’ ‘collaboration,’ ‘experience,’ and ‘knowledge’ showed that to succeed in the market, companies involved in WT were looking for collaboration with and knowledge from different sectors. Third, a trend from Maslow’s hierarchy of needs was also noticed. The results showed a shift from the lower-levels of human needs (physiological and safety) to the higher ones (love, esteem, and self-actualization). That is, in 2014, companies working on WT focused more on finding solutions for illness, health, and care, while in 2015 and 2016, the esteem and self-actualization related terms—e.g., image, fashionable, style, look, and impact—became prevalent. Moreover, the term ‘need’ was strong in 2014, whereas the term ‘want’ was clearly visible in 2016.

The results indicate that the rapid growth and change in emerging technologies has the potential to affect both the clothing and textile domain and its consumers. The result also implies that technology and fashion are now collaborating even more and closely. Google’s work with Levi’s, Intel®’s with Chromat, and Ralph Lauren’ with Omsignal are a few examples of such collaboration. Therefore, this collaboration trend must also be carried into academia to produce successful future workforces. It seems inevitable that, with the advent of WT products in the market, there will be a new type of fashion consumer who not only seeks aesthetics and fit, but also functions and technology. The curriculum must be ready for such consumers.

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