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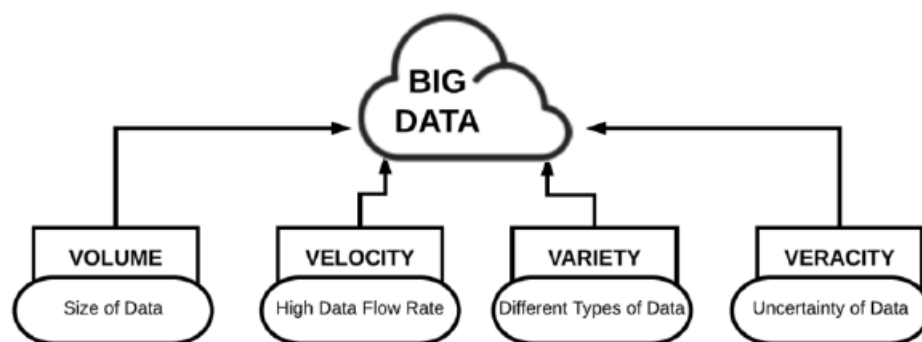
Source: Google Scholars

Big Data in fashion industry

KEYWORDS: Big Data, Internet of Things, 4Vs, Fashion Data, recommendation system, knowledge-based recommender system, customer

The Internet of Things represents the driving force of the Forth Industrial Revolution and as such, it is a combination of big data, analytics and physical technologies.

The symbolic name of Big Data refers to the substantial quantity of data that is defined by four Vs: **Volume**, **Velocity**, **Variety** and **Veracity**:



The four V's of big data

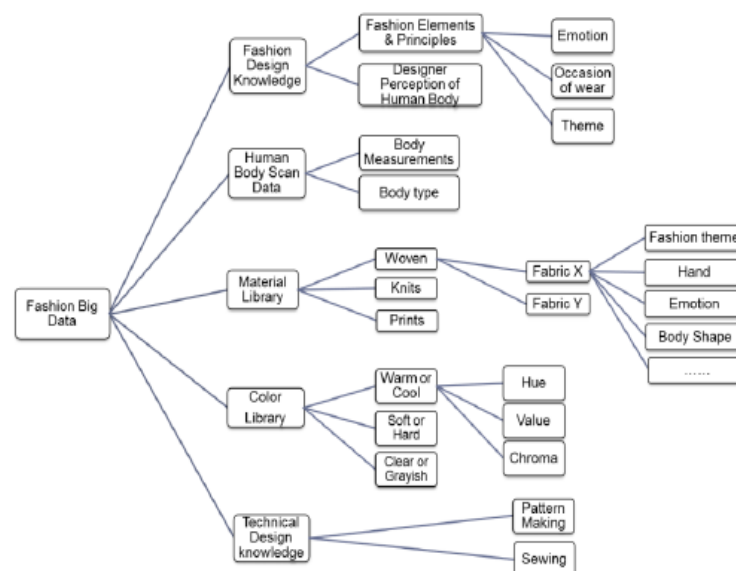
Data analytics handles the analysis of the enormous amount of data, which are then converted into information.

The significance of Big Data is increasing constantly in all domains, in fashion industry as well, especially in trend forecasting, supply chain management, analyzing customer behavior.

With the constant change in demand of the customers, the mass customization has become the trend in the industry, which implies the increased use of new technologies. However, there are some challenges related to adjusting the production process as its complexity increases

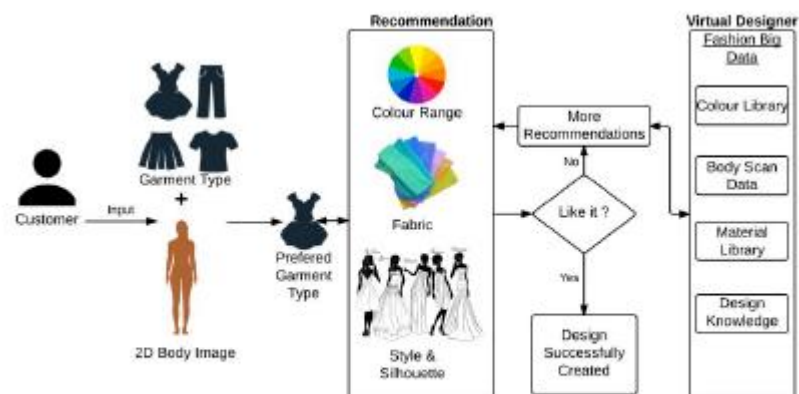
with the level of customization. Moreover, in order to satisfy the demand of personalized clothing, fashion companies use the so-called recommendation systems, which offer customer recommendations during the process of designing using the filtering method based on the ratings given by the clients. One of the biggest issues is the starting point – new clients – where there is not enough of data to form a recommendation and the offered product might not be satisfying. Therefore, the recommendation system transformed into knowledge-based recommender systems which resolves this problem by using the data related to fashion industry, such as customers' analyzed behavior, shopping preferences and the behavior of the people with similar choices or demographics. However, since Big Data is still at the nascent stage in fashion industry, the systems are not as perfected as they have potential to be, especially if they were based on the knowledge related to garment design integrated.

Big Data in used in fashion industry is called Fashion Data and it is broadly classified in five categories, referring to its nature: **Material**, **Fashion Design**, **Body Data**, **Color** and **Technical/Production Design**. Here is the example of how the system could process and connect them :



The proposed solution is the system which would combine the knowledge-based recommender system (the above-mentioned Fashion Data) and a search engine, so that the customer can write their query helped with the recommender system in

order to get the product to their liking. This option would help eliminate all the cold start issues.



An overview of the proposed system