**LITERATURE SURVEY**

**Abstract:**

Data Analytics is currently a buzzword in both academia and industry, with the term being used to describe a broad domain of concepts, ranging from extracting data from outside sources, storing and managing it, to processing such data with analytical techniques and tools. This thesis work thus aims to provide a review of current big data analytics concepts in an attempt to highlight big data analytics’ importance to decision making. Many companies are using big data analytics to analyse the massive quantities of data they have, with the results influencing their decision making. Many studies have shown the benefits of using big data in various sectors, and in this thesis work, various big data analytical techniques and tools are discussed to allow analysis of the application of big data analytics in several different domains.

**Keywords:** Big data, big data analytics and tools, decision making, big data applications.

**Literature survey:**

Big data analytics has a massive impact on retail industries, improving the customer experience and reducing fraud (Wamba et al., 2017).

The retail sector is of major importance in modern society, as almost everyone nowadays buy their basic needs. Predicting demand for items allows retailers to offer better services to customers (Singh et al., 2015; Lekhwar et al., 2019), and retailers can use customers’ billing data to gather information for business intelligence. A Hadoop distributed file system (HDFS) tool is using to store, process, and analyse such data to allow the extraction of more information (Singh et al., 2015).

Big data analytics provides these organisations with more information on market decisions and help in segmenting customer based on their characteristics. Social media analytics can also be used to inform companies about what their customers prefer. Applying sentiment analysis to such data provides the organisation with early warnings when the customer turns to different products, allowing action to be taken by the organisation (Elgendy, N. and Elragal, A., 2014).

Organisations have used segmentation of customers for many years, but this is now assisted by complex big data techniques such as real-time micro-segmentation which offers better-targeted advertising (Manyika et al., 2011; Elgendy and Elragal, 2014). Organizations can also gain better targets for social marketing by understanding customer behaviors and predicting market sentiment trends (Russom, 2011; Elgendy and Elragal, 2014).

Retailers are thus using data analytics in order to address new challenges and find opportunities based on increases in market expectations, competition, and volatility. In many companies, additional accuracy, clarity, and insight can be provided by the adoption of data analytics techniques, and such intelligence can be extended toward industry supply chains (Hofmann et al., 2018).