

Ethical and legal issues concerning predictive analytics



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Predictive Analytics is used by companies and governments to interpret and analyse data and make predictions about future events. It has a wide array of uses in multiple industries. Every year adoption is growing, and new applications of the technology appear. There are however many ethical and legal issues such as how to handle user’s private information. Government legislation is another hurdle that the industry is facing. For Example, GDPR in the EU has brought in sweeping rules relating to the protection of personal data. This heavily limits what can be done with a user’s personal data.

Predictive Analytics requires a large amount of data to be gathered. All laws regarding the use of personal data must be followed. GDPR was adopted by the EU in 2018, the regulation brought in sweeping new rules to “enhance the data protection rights of individuals” (European Council 2015a). GDPR governs how data is collected, how it can be used and how it must be protected. As a controller or processor of personal data, companies or organisations must put in place “appropriate technical and organisational measures” to meet all requirements of GDPR (European Council 2015b). There are even more restrictions on what can be done with sensitive which includes race, political opinions, religious beliefs, health-related data, trade union membership, genetic data or sexual orientation. With sensitive data a condition must be met to be used such as: The user explicitly consented that their data could be used, the data was made public by the individual, the vital interests of the person are at stake etc. (European Council 2015c). GDPR heavily limits the harvesting and processing of user data. From a user’s perspective it is very positive as it gives the user new basic rights for the digital age. From a data analytics perspective it brings many challenges. With users having to consent to each use of their data along with consent specifically for marketing purposes, the pool of data for analytics will decrease (DATACONOMY 2018). One way of avoiding the restrictions on user data is to anonymise the data, according the GDPR “The principles of data protection should therefore not apply to anonymous information” (European Council 2015d). While anonymous data may provide less useful information it can be harvested and processed with significantly less restrictions allowing much larger amounts of data to be gathered. Data analysts must adapt and find new ways to gather enough user data while following all rules and regulations.

The ethics of predictive analytics is often discussed. Predictive analytics relies on algorithms to support human decisions. Profiling can occur by classifying individuals into groups based on race, gender, social status etc. while offering or restricting special treatments or services to individuals or groups (Martin 2014; Newell and Marabelli 2015). This can result in the social impact of discrimination (Zuboff 2015). Another ethical problem is people may not be sufficiently aware of what happens to their data after it’s collected. Data can be aggregated from many different sources which can create a new image of an individual based on the data. Another problem is the monitoring and surveillance of individuals behaviour. “Organizations then continuously observe and monitor individual’s behaviours can offer personalized services and products, which also implies that these individuals are no longer exposed to all options and choices available on a market place.”

Predictive analytics is increasingly being used in retail. Retailers produce a huge amount of data. It is a struggle to convert all this data into useful insights. Predictive analytics can be used to improve marketing and customer engagement, create more effective floor plans and product placement, and optimise pricing and promotions.

Machine learning in healthcare is growing rapidly. It can be used to improve patient care, chronic disease management, hospital administration and supply chain efficiencies (Health Catalyst 2019). “Big data analytics has the ability to go beyond improving profits and cutting down on waste, to be able to predict epidemics, cure diseases, improve the quality of life and reduce preventable deaths “(Bernard Marr 2016). Predictive analytics in healthcare has huge future potential, there are however many organisational, social and policy barriers. Organisational barriers include healthcare professionals and organisations resistance to changes in their work process caused by data capture (Yang, Z., Ng, B. Y., & Kankanhalli, A. 2012). Social barriers include privacy concerns around the use of personal data and wearables that enable personal data analytics. People’s personal data relating to healthcare is very private and the ethics of how to use the data is a much-discussed topic. Policy barriers include data protection laws such as GDPR.

The future of predictive analytics is very promising it has uses in nearly every industry and has the potential to improve human lives. It also has the potential to be used for nefarious purposes by governments and organisations. It must be controlled by laws and regulations and a balance between usefulness and ethics must be found.

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