

“Digital Analytics in Professional Work and Learning”: Case Analysis

“Digital Analytics in Professional Work and Learning” by Richard Edwards and Tara Fenwick discusses how digital analytics has evolved and reflects on its benefits and challenges. To start, the article goes into details on the benefits of analytics in different fields. For example, in healthcare, predictive analytics make precision medicine possible. Healthcare workers have the ability to analyze unique factors of a patient, including genetics, behavior, and demographics to predict successful treatment plans (Edwards & Fenwick, 2015, p. 218). Digital analytics are used to identify diagnoses in healthcare. It is predicted that up to 80% of future diagnosis will be established using computers (Kholas, 2012). New medical products are using digital analytics; Edwards and Fenwick (2015) provide *Remotoscopeas* as an example, which uses analytics to diagnose ear-infections at home (p. 217).

In professional settings, people analytics can be used to predict and determine success of a potential or current employee. Software algorithms can be used to predict the stock market. Online legal services, like “Cube-Legal”, are using digital analytics to provide clients with legal advice, making it not necessary for people to even meet with or hire a real-life lawyer. Urban planning can benefit from digital analytics to help predict what makes the most productive, innovative, and efficient cities (Edwards & Fenwick, 2015, p. 218-219).

While digital analytics can increase productivity and make predictive analytics possible, there are some real concerns. Edwards and Fenwick reflect on the negative impact of digital analytics on professional practices. The issue comes when people start viewing automated and information systems as their own decision makers. The article uses the example of a Swedish car company that introduced an electronic purchasing system. While this did support productivity and efficiency, it created new roles and hierarchies within the company. With this, it risked workers’ current roles. There was also concern with the increase of dependence on these electronic systems and decrease of independence in the workplace. Edwards and Fenwick (2015) believe that when companies introduce electronic systems and digital analytics into their

workplaces, they only focus on the positive outcomes, without taking into consideration these risks (p. 215-216).

Big data is of great consideration when it comes to digital analytics. Big data refers to “data that are collected in massive volume, working at high velocity, and are characterized by diverse variety, exhaustive scope, fine-grained resolution and indexical identifiers” (Edwards & Fenwick, 2015, p. 216).

Essentially, big data consists of large and complex datasets that require standardization and digital analytics. The article identifies three ways in which big data can be collected: directed data, automated data, and volunteered data. Directed data consists of “intentional surveillance” taken by humans.

Automated data is measured through “embedded sensors in objects.” Volunteered data consists of personal information provided by people online (Edwards & Fenwick, 2015, p. 216-217).

Edwards and Fenwick (2015) emphasize the principles and responsibilities associated with digital technology and big data. The article discusses how it is important for professionals to understand the problems that can emerge with digital analytics (p. 221). As previously discussed in the example with the Swedish care company, professionals have the tendency to only focus on the positives of digital analytics without fully understanding the negatives. Larger problems can evolve if professionals do not fully understand and help counter problems and challenges that digital analytics can present.

As also discussed in the example of the Swedish car company, there is concern that professionals may become too reliant on computers and technology. Professionals need to view digital technology and analytics as a guiding tool rather than a decision-maker. While companies can evolve and grow with digital analytics, these technologies should not be replacing workers’ current roles, but rather assisting and advancing them. This is important for a few different reasons: first, digital analytics is not always perfect and can have errors. It is critical that professionals review results of digital analytics to identify potential inaccuracies.

Next, algorithms in digital analytics can create biases. To avoid biases, professionals must monitor algorithms and reset or revise them when needed. The article (2015) brings up the example of using digital analytics in a school setting to predict which students may succeed in different classes. Schools

can use digital analytics to match students up with teachers or for projects (p 221-222). It is concerning to think about biases that can arise from this. For example, algorithms may start grouping students based on demographics, such as race or gender. Knowledge of the result of predictive analytics may also create personal biases amongst professionals. For example, a teacher that knows that a particular student is predicted to fail may not give as much attention to the student as another student who is predicted to succeed.

In addition, context is always important and decontextualization can lead to larger issues (Edwards & Fenwick, 2015, p. 221-222). Digital analytics cannot always understand the context and complexities of the school system. The teacher would need to understand that digital analytics is not always accurate and can have biases, and therefore must use his/her own discretion.

The same idea is relevant to the example of healthcare providers using digital analytics to diagnose and treat patients. As one can imagine, the human body is complex and human discretion with medical diagnoses and treatment is essential. While digital analytics can be helpful in expediting diagnoses and prescribing treatments, medical professionals must not use these outcomes as definite diagnoses and treatments. Another article, written by Patrick A. Salvi, reflects on how technologies can create a large risk for misdiagnoses. Salvi emphasizes how healthcare professionals can rely too heavily on outcomes of digital analytics, missing other important signs or symptoms (AI Misdiagnosis, 2024). Healthcare providers must understand the possibility of inaccuracies, biases, and decontextualization and use their own discretion when forming a diagnosis and treatment plan.

These examples apply to all professions and areas, emphasizing the central theme of the article: people must not become reliant on digital analytics and should only view it as a tool rather than a dictation of their own work.

References

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