

BMSW4003

Digital Skills and Research Methods

Assessment 1: Research Skills for Healthcare

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Introduction

In this world, technology is everywhere now and the necessity of keeping pace with technological advancements is significantly increasing day by day (Burr, Taddeo and Floridi, 2020). Regarding this, the use of technology, the importance of tools and techniques of digital technologies, the relevancy of digital technologies in professional development, and some other aspects have been discussed in this report focusing on the healthcare sector.

Technology in Healthcare

Technology has had a venerable influence over the medical ground expanding almost all processes and practices of healthcare. One thing is, without technological developments in healthcare it wouldn't be that easy to save innumerable patients throughout the world (Colbert, Yee and George, 2016). Also, the way technology has improved our quality of life is straightly so praiseworthy. Most importantly, technology has significantly reduced the cost of healthcare and the level of wastage as well.

Use of Contemporary Technology in Healthcare

Nowadays, technological advancements are being highly used as blessings in different sectors like diagnostic purposes, administrative activities, and care support.

Diagnostic Purpose: Now technological tools and types of equipment are largely involved in the diagnostic process and performance. Diagnostic medical equipment and supplies enable clinicians to evaluate the different perspectives of one's health to ensure a better diagnosis and appropriate treatment plans (Buckingham, 2017). It helps clinicians to find out the errors quickly. Since healthcare professionals need to know and apply a vast amount of information that is nearly beyond their cognitive capacity, technology makes it possible to cover these challenges in diagnosis.

Administrative Activities: Health information technology is a very essential element of healthcare administration and care supports. It is greatly used in day-to-day activities including recording patient's information, modern coding, communication with doctors, the billing process, etc. (Spante et al., 2018).

Care Support: In general, the care support of patients includes the entire process of healthcare. Modern technology has developed the ways of care support by introducing breakthrough procedures, ensuring safety as well as privacy, minimizing adverse drug reactions, reducing possible medication errors, and developing a compliance system (Lee and Mirchandani, 2017).

The Use of Technology during COVID-19

COVID-19 is such a worldwide pandemic that has been compared to the Second World War and the great depression regarding its influence on human behaviour (Shreffler, Petrey and Huecker, 2020). It has forced the world to maintain quarantine rules and physical distancing that has changed the normal human life and accelerated the embracement of digital technologies more

than before. The same goes for the healthcare sector, where the application of technological advancements is comparably higher.

According to Vargo et al. (2021), There are several types of research providing their results already that the countries being successful to maintain the mortality rate lower had implemented all their strategies like surveillance, testing, contact tracing, and strict quarantine effectively through using different digital technologies. Countries like China, the USA, Singapore, and Taiwan used machine learning, data dashboards, and migration maps for tracking disease activities (Budd et al., 2020). Technologies like Artificial Intelligence, thermal cameras, digital thermometers, and various web-based toolkits are getting used for screening purposes (Vargo et al., 2021). Some countries like Germany and South Korea used GPS and Mobile based Apps to find out individuals having contact with an infected person. Also, technology has been used in clinical management; diagnosis and serving virtual care for patients as well (Whitelaw et al., 2020). For example, Australia, Canada, and Ireland used AI and telemedicine platforms for their clinical management.

Digital Communication, Collaboration, and Participation

Digital communication, collaboration, and participation altogether refer to the way one interacts with others through digital means. These are some very essential and effective tools and techniques that enable efficient healthcare. **Digital communication** enables healthcare providers to use accurate forms of communication and engagement tools to meet individual preferences (Spante et al., 2018). Such communication pattern increases the acknowledgement and care to others point of view. Also, it helps understanding other's diverseness, sensitivity, and all other statements properly which is a very important responsibility for every healthcare provider. There is no other way to ensure the most responsible and appropriate treatment without digital communication (Whitelaw et al., 2020). Since there are so many health workers, staff, nurses, and doctors performing a combined duty together, maintaining collaboration with communication is also very necessary. **Digital collaboration** is generally used in developing a beneficial relationship with everyone both in the physical and virtual healthcare system (Lee and Mirchandani, 2017). Again, all the tasks and responsibilities in a healthcare institution are highly interrelated where one accomplishment depends on anyone else's reporting. **Digital participation** is used here to maintain an up-to-date network for every professional need (Whitelaw et al., 2020). Hence, these three elements foster ethical, sensitive, and positive

behaviour in a healthcare institution which therefore ensures the most efficient care for every patient in fact (Colbert, Yee and George, 2016).

Digital Identity, Well-being, and Safety

Since digital identity, well-being and safety are some responsibilities for digital professionals to keep securely, the same goes for the digital citizens too to ensure the security and protection of shared data. Digital technologies everywhere, especially in the healthcare sector, should be used in such ways that ensure personal well-being and safety (Spante et al., 2018). **Digital identity** requires an individual to be able to understand that the information he or she is sharing may have existed in the various public domain and to determine the pros and cons of presenting personal information online (Buckingham, 2017). As healthcare must keep some essential information of a patient, it is a must to run the process in such a way that supports both professional and personal reputation. **Digital well-being** requires understanding the value of balancing online with other parts of life and determining different types of bullying in social media (Burr, Taddeo and Floridi, 2020). In this case, the person should be known with the strategies of dealing with this bullying like blocking, reporting, etc. **Digital safety** requires one to know the basic rules for providing data and the governance of that data. It is also necessary to know how to create a secure password, how to maintain it, and what the reason behind encryption-based communication is (Spante et al., 2018).

The Use of Digital Literacy for Professional Career Development

The term 'Digital Literacy' is treated as an essential skill for professional career development now, as it refers to the ability to identify, evaluate, create and communicate information through digital technologies (Spante et al., 2018). To be more specific, the necessity of understanding digital transformation has been increased than before. Thus, with the expansion of the pattern of usage, other related responsibilities like online security, safe communication, and digital ethics have been increased also.

There are a lot of reasons why digital literacy is used in professional career development. First of all, business organisations worldwide now want to enhance the capabilities of their workforce and make them more competent as well as productive (Attaran, Attaran and Kirkland, 2019). Companies now prefer to hire those candidates, who have attended different courses, workshops, and training on digital literacy more not to be left behind. Also, digital literacy enables one to strengthen teamwork by adopting technology for collaborative working. Also, this helps workers

to mitigate the generation gaps. Moreover, digital literacy helps an individual to feel more confident in their workplace which further increases job engagement, performance, and satisfaction (Whitelaw et al., 2020). These all help organisations to increase their productivity and profitability and so most of the organisations provide retraining facilities to their employees for their professional development.

The Relevance of Technical Proficiency for Information and Data Handling

Technical proficiency generally means having the skill or expertise of performing various digital tasks that is greatly related or relevant to the information and data management process (Colbert, Yee and George, 2016). Since companies use a huge amount of data to support day-to-day activities and overall objectives, it is important to have the technical skill to perform the task better. Technical skills include skills like data analysis, project management, common operating system, etc. Industries running their business operations based on data and information may not be able to be successful without sufficient technical skills. For example, in healthcare, technical skills are required for medical billing, coding, recording, sonography, and certifications, etc. that are information-based (Attaran, Attaran and Kirkland, 2019). Consequently, the relationship between technical skills and information and data management is very obvious.

Conclusion

Digital technologies have a large influence on the pattern of living, learning, working, participating, etc. and now where everything is getting more improved (Attaran, Attaran and Kirkland, 2019). In the healthcare sector also, technologies are being used for diagnosis, administrative, and care support purposes. Among all these things, it is also very important to ensure secure digital well-being and safety for the sake of organisational and personal issues and reputation (Burr, Taddeo and Floridi, 2020). Technology is such a blessing that can be used for both good and bad practices, ensuring the appropriate use of it is the first responsibility indeed.

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