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EMT-678-WS: Big Data Technologies

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**Class 1—Executive Summary and Chapter 3 of the Mckinsey Report**

This reading assignment consisted of two different sections from a textbook titled *Big Data: The next frontier for innovation, competition, and productivity*. The title does a good job of giving the reader an idea of what is to come as the Executive Summary section wastes no time in that exact argument. To summarize the summary: big data is a highly pervasive concept and has made itself essential in every business and industry; big data is important today and will likely be more important in the future; and, not all sectors are properly positioned to leverage the benefits of big data. To examine these related but distinct concepts, the authors choose to examine five sectors of the global economy, and the impact big data has had on them and the impact they predict big data will have on them in the future.

The five sectors the authors examine are: health care in the United State, public sector administration in the European Union, retail in the United States, global manufacturing, and global personal location data. All of which, when aggregated, accounts for close to 40 percent of global GDP. I work at a company which creates machine learning vision models using medical image data and so I found the section on the US Healthcare system particularly interesting. To be more specific, the company I work for only works with Clinical Data; yet the textbook identifies three other “data pools” within the U.S. Healthcare system which my company has little to no interaction with; those being: Pharmaceutical R&D Data, Activity (claims) and Cost Data, and Patient Behavior and Sentiment data. The author makes a good argument for the multiplicative and synergistic value which could be generated in overlapping these distinct data pools. One conceivable model (or likely many models working together) could help identify, intervene, diagnosis, and prescribe treatment for a patient just through following some data stream which the patient leaves behind. Such a model could *dramatically* improve not only the life of that individual patient, but the lives of every individual operating in the American Healthcare system. This is because when diseases and ailments are caught early, they tend to be cheaper to treat, meaning resources can be allocated more efficiently throughout the entire system.

The remaining sectors which the author examines are used in comparison to one another to illustrate how some sectors not only stand to gain more from big data but are also better poised to more quickly leverage this advantage.