Big Data has long been an area of interest for me, given my awareness of the significant volumes of data generated through my professional activities, personal information, social media usage, and even my hobbies. However, I have not previously been able to fully grasp how increasing societal connectivity influences our daily lives. This module has significantly deepened my understanding of the generation, processing, protection, and sharing of data across multiple systems. In reviewing my engagement with this module, I will employ Robert Greenway's Four F model to systematically analyze and express my reflections on these experiences, including collaborative teamwork and the development of my e-portfolio—a vital component of my academic progress which, until now, had not received adequate attention.

I will begin this reflection with the first F: Facts. This module is a combination of a big theoretical component designed to understand key principles in big data such as data normalization, governance laws, and data engineering best practices, with a challenging practical component focused on the design and implementation of data architecture, SQL and python programming.

I will commence this reflection by addressing the first F: Facts. Throughout the duration of this module, I was introduced to a comprehensive blend of theoretical frameworks and practical applications fundamental to the domain of big data. The theoretical segment provided an in-depth exploration of essential principles, such as data normalization techniques, regulatory frameworks and governance laws governing data use, as well as established best practices in data engineering. Complementing these theoretical concepts was a robust practical component, which challenged me to design and implement data architectures tailored to real-world scenarios. This involved not only conceptualizing effective system structures but also engaging directly with technical tools and programming languages, notably SQL and Python. Through hands-on tasks and project-based assignments, I developed a better understanding of how large volumes of data are organized, queried, and transformed to support decision-making processes within organizations. This approach has significantly enhanced my appreciation of both the strategic and operational aspects of big data, equipping me with

the knowledge and skills essential for effective participation in the increasingly data-driven landscape of modern society.

The next factor I will address in this methodology concerns my feelings throughout the module. This module has presented considerable challenges, particularly regarding the practical components, as I have overlooked certain aspects such as maintaining my e-portfolio and developing my Python proficiency. The Unit 4 assessment, which required the creation of a Python script for data cleaning, was initially challenging due to limited familiarity with different Python versions, variations in library installation, and the correct execution of variables. It was imperative that I quickly update my knowledge to avoid the possibility of falling behind, which understandably led to some anxiety. Additionally, I found the lecture cast difficult to follow, which impacted my understanding of the process. It would have been beneficial to have access to supplementary resources outlining alternative methods, such as using Pandas, to accomplish these tasks. As previously mentioned, the e-portfolio had been somewhat overlooked, as it was not mandatory until now. I did not fully appreciate the value of documenting my work in this format until a recent job interview, during which this topic was discussed. After successfully developing and shaping it, I found the experience to be both rewarding and therapeutic. It enabled me to effectively communicate my newly acquired knowledge to others and showcase my enhanced capabilities in a more polished manner.

Regarding the third focus of the model, the findings, this module provided significant opportunities to compare various subjects, such as data governance. I was able to evaluate the GDPR in relation to both Mexican law, which has recently undergone changes due to government decisions, and U.S. law. The differences among these frameworks were particularly notable. The GDPR demonstrates a higher degree of effectiveness compared to similar legislation in both the United States and Mexico and given current legislative trends, substantial changes do not appear imminent. This finding stood out to me given my professional background at an American company where we collected customer information from both the US and the EU. Although proper use and protection of information were ensured in both regions, it was clear that EU

legislation imposed more stringent requirements. After reviewing this module, these differences are now much clearer to me.

In considering the final phase of the methodology, Future, it is important to adopt a practical perspective on past experiences. Python represents a valuable asset for numerous professional projects, as it provides a free and flexible platform capable of efficiently processing large datasets with accuracy and speed. To further develop my proficiency in this area, I intend to continue my training using resources supplied by both the university and my employer, ensuring that these skills are readily accessible when designing new architectures. Additionally, participation in the group project offered a valuable opportunity to deepen my understanding of the requirements associated with various data architectures, emphasizing the need to consider not only software and hardware components but also the end user. These types of projects will become increasingly prominent in my work, so the expertise gained from them will be highly valuable moving forward.

In summary, I consider this module to be the most engaging and relevant to my professional pursuits thus far. The subject matter directly aligns with the work I am currently involved in, enriching my understanding and enhancing my capabilities. Although the challenges presented throughout the module were at times demanding and required considerable effort to overcome, they ultimately provided invaluable opportunities for intellectual growth and practical skill development. The stress experienced during the process was outweighed by the satisfaction of acquiring novel approaches to problem-solving and innovative ways of thinking. As a result, I now feel better equipped to navigate the complexities of data-driven environments and to apply newly acquired knowledge to both current and future professional endeavors.

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