In Chapter 1, **Exercises section: 20**

*20. What are the major shortcomings of many data management systems? Which do you think is the most significant shortcoming?*

Some of the shortcomings of the data management systems are

1. Redundancy – Biggest issue with data is same set of data attributes gets replicated across various data sources or data management systems. For e.g. customer information could be stored in the CRM data store, sales systems and customer care data stores, so when customer requests to update its information it does not necessarily update data in all systems.
2. Lack of control – Data is scattered all over, in an organization, be it on personal computers, emails. Data is stored everywhere and there is no clear centralized data store for all kinds of data.
3. Poor Interface – Interface though which data gets extracted would not be very user friendly, then in that case end users shy away from the data management system due to lack of appropriate interface.
4. Delays – Typically for senior executives to see the data, it has to channel through developers to managers and then to higher managers, this causes delays which in turns impacts the business decisions.
5. Lack of reality – Customer information could be scattered across various systems, so when existing customer present the new opportunity for organization, person who is working on that opportunity has to scramble through various systems to gather all the data which is time consuming and could result in lost opportunity. So presenting unified view of the customer to person working on the opportunity is key to the success.
6. Lack of data integration – Data is scattered and generated in various formats Structured/Unstructured/Semi structured and organization struggle to integrate and consolidate various types of data.

According to me the most significant shortcoming in the current timeframe is lack of data integration. Organization have various systems which generate structured data in relational databases, but this data is not collated and aggregated together for data analytics. As data is scattered across all systems there is inherent delay in business decisions. As data is not aggregated there is a less opportunity for any data science activities.

In Chapter 2, Exercises section: 12, 14, and 24

*12. What is information satisficing?*

* Managers and executives have to make business decision in fairly short amount of time and their decision are based on the data. Organizations typically have huge amount of data, but the these decision maker do not have enough time to collect all data points, analyze all data and then come to conclusion, so instead of looking for data points from entire available data they consider certain amount of data and conclude to decision which will yield satisfactory results.
* Managers stop the search for satisfactory decisions, instead of looking for the best-possible (optimum) solution.
* This leads to poor quality of decision making, which could impact the business.
* Reasons for information satisficing
  + Organizations have huge amount of data, which is spread across spectrum of data stores, there is no consolidated, aggregated data store for catering to the business decisions.
  + Lack of appropriate tools related to BI (Business intelligence) and data analytics.
* In case if there is consolidate view of the data across organization and better tools to access the aggregated data then it can accelerate the delivery and processing of right information to managers. This will lead to managers opting for best decision rather than the satisfactory one.
* Managers will be able take full advantage of the information available to them.

*14. Give some example of common information delivery systems.*

Common example of information delivery systems

1. Email
2. Instant messaging tools (Slack, Skype)
3. MIS – Management information systems.
4. Search engines (Google/Bing)
5. Web sites (Blogs/Articles)
6. Social media sites (Twitter/Facebook/LinkedIn)
7. Voice mail
8. Image processing systems
9. Computer aided designs (CAD)
10. Expert system.
11. Mobile platform apps.
12. Streaming services like YouTube.

*24. Why is organizational memory like a data warehouse? What needs to be done to make good use of this data warehouse?*

Components of organizational memory are

1. People
2. Tables
3. Documents
4. Multimedia
5. Images
6. Graphics
7. Audio
8. Video
9. Knowledge
10. Decisions

All these components are gathering vast amount data in various formats. This data is getting stored huge quantities within organization forming a warehouse.

Now the main challenge with this collected data is that it is scattered across organization. So first thing that needs to be done is collate data in common data store. Typically this is done by implementing data warehousing solution for structured data. Data from the various database management systems is collated and pushed to data ware houses. Once the data is pushed then various business intelligence and analytical tools are used to analyze data and come up with data points to support future business decisions. Data ware housing solution is traditional approach, but with advent of phone, social media there is lot of unstructured data and traditional ware houses do not support unstructured data, so the concept of building data lake is gaining popularity.